

INTERNATIONAL **Musician** AND RECORDING WORLD

May 1979 50p

**STEPHEN
STILLS
EXCLUSIVE**

Paul Weller

George Duke

Pat Travers

Georgie Fame

Ian Carr

**Recording the
new Bowie album**

TESTS: LOWDEN L38 GUITAR • GRETSCH BROADCASTER II KIT • FRUNT 200B BASS AMP • MULTIVOX MX440 KEYBOARD • BOSE 802 PA SYSTEM • BC RICH MOCKINGBIRD BASS • ROLAND RS505 STRING SYNTH • SUNN BETA COMBO • SPRINGFIELD PEDAL STEEL



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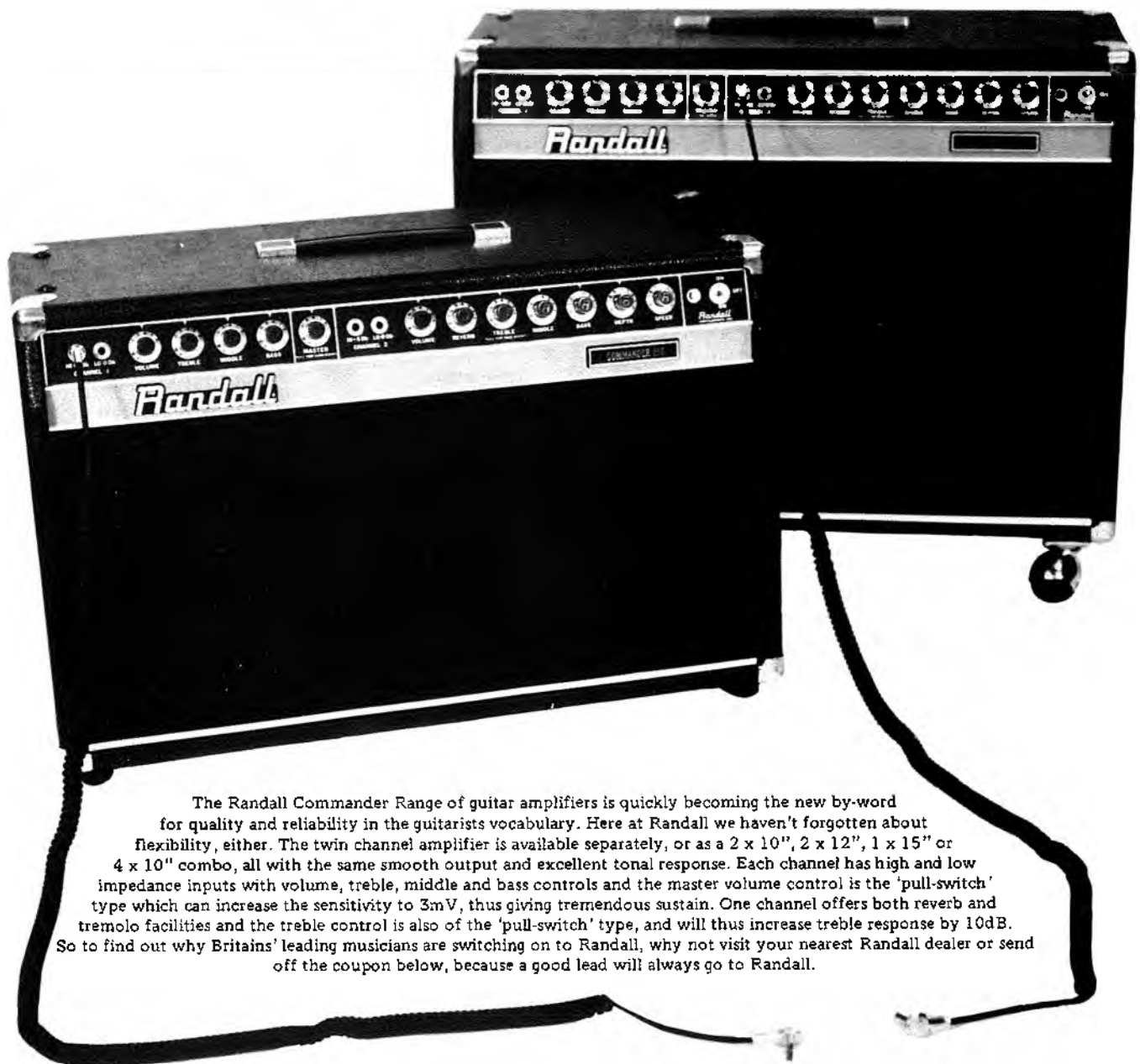
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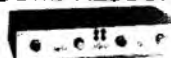


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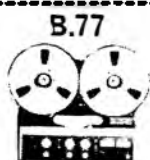
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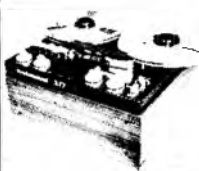


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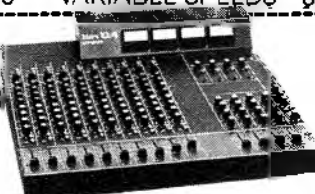


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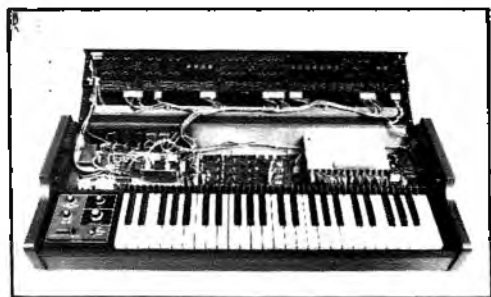
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EDITORIAL

Sorry about last month. We know you got your IM about two weeks later than usual but it wasn't our fault, honest. An industrial dispute at our printers delayed the production of the April issue... what on earth did you find to read over the Easter holiday? It was especially sad that last month's mag was held up, because it had one or two rather special offers in it. Like the fabulous competition, with £2,000-worth of PA as the prize. But that's still open (till the end of May), so if you haven't entered yet, check it out on page 29 of last month's magazine.

Another April extra was the D'Arbly Sound Workshop offer, where you could learn everything you ever wanted to know about studio recording and save yourself £15 at the same time. To give everyone a chance to get in on the act, we've extended this offer for a month, and you can find all the details on page 143.

So much for last month. This month's IM has one or two rather neat items too. Like an exclusive interview with the elusive Steve Stills. An exclusive preview of the new Bowie album - written by the guy who played piano on it. And the first in a series of features on Hi-Fi, especially for musicians.

And, of course, the usual magnificent collection of features and reviews, including our first ever pedal steel guitar review and, as far as we can recall, IM's first ever interview with a trumpeter. It's good here, innit?



VOL.5 NO.4
MAY 1979 (UK)
JUNE 1979 (USA)



"Why we'll never about our loud

Billy: *"We're not going to make as many
loudspeakers next week."*

Hans: *"What?"*

Billy: *"Well, we can't go on like this. I want to
slow-up the production line for a while."*

Hans: *"What for?"*

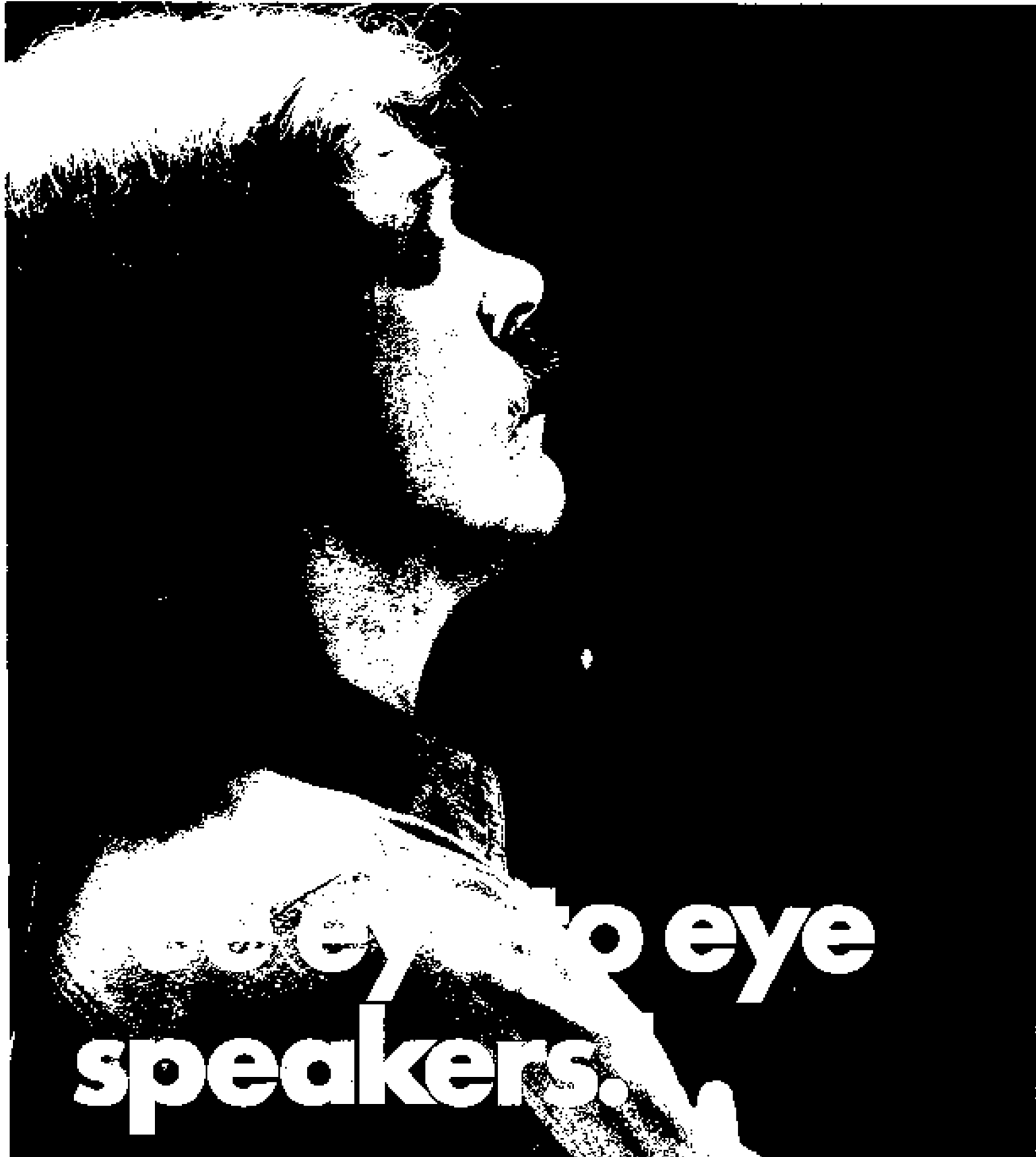
Billy: *"Remember the old days? I used to watch
every speaker come off the end of the line."*

Hans: *"Oh yeah!"*

Billy: *"Seriously, we were up till all hours but I
checked every one of them."*

Hans: *"But there was only the 12" unit and people
weren't exactly beating down the door.
Now there's the 9" and the 15" and studio
monitors."*

Billy: *"I know, but each piece must still be
checked and I want to spend more time
on the 'line.' Maybe there is another
improvement to be made."*



eye to eye speakers.

Hans: "But the factory is running very well. And I've got more orders than we can fill now. And we're getting more from all over the world."

Billy: "I rejected yesterday's output you know."

Hans: "You what?"

Billy: "Well, I just wasn't very happy with them. We can do them again tomorrow."

Hans: "OK, I know what you mean. We've got our reputation to protect. I'll phone the customers."

Billy: "They'll understand. We're only doing it for them."

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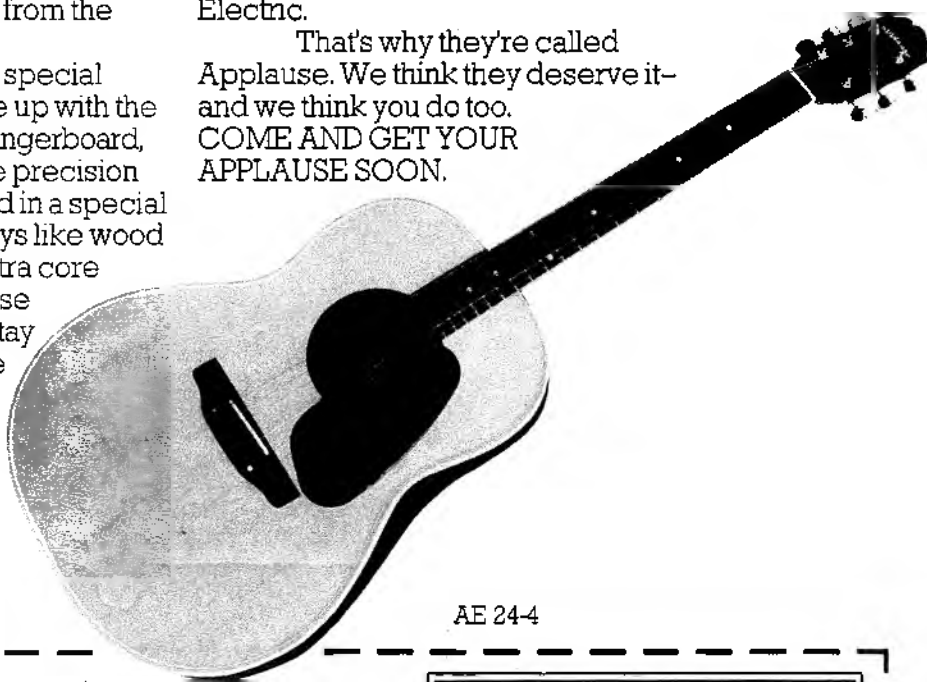
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The Marshall 4140 Club and Country Combo.

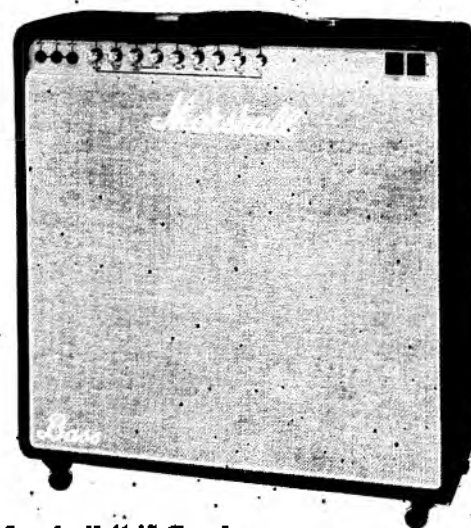
It took years of exhaustive research and development to produce this, the ultimate club musicians combo.

The powerful new 100W valve amplifier, driving two specially designed 12" (30.48cm) 80W speakers, provides two channels with a rich, smooth sound. Channel one features reverb and boost (also with controllable footswitch provided). Channel two has a flatter response for microphone or second instrument use. Handsomely finished in exclusive Brown Oak leathercloth and Straw coloured speaker fret.



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The Marshall 4145 Combo

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Letters

Ding dong

Dear Sir: Tony Horsman is wrong in his definition of the ring modulator (*Understanding Synthesizers* Pt. 11) — "so-called because it can be used to synthesize bells, chimes, gongs, etc." The ring mod describes the circuitry itself — which would be (or used to be) a balanced mixer with a diode ring. The devices used today are double balanced modulators, four quadrant multiplier ICs which are also used for frequency shifters, doublers and dividers. So most synthesizers which have ring mods are incorrect as far as the name goes. Mind you, it's only splitting hairs bothering about things like that, and the original term that has stuck is better inasmuch as it describes what the unit can sound like. Back to square one ...

G. Franklin FRC,
Canvey Island,
Essex.

Pete's buzz

Dear Sir: Having read with interest your most informative feature on Pete Shelley of Buzzcocks (IM March, 1979), may I offer some additional information as to Pete's guitars.

From Buzzcocks' early "name band" days, Pete played a Gordon-Smith Gypsy One guitar, and he is in fact pictured playing same on page 7 (Contents) of the March issue. Unfortunately this guitar was stolen during 1978 and as an interim instrument he used the Marauder, due I believe to his being unable to find another Gypsy One for sale.

However, during late 1978 he acquired his present guitar, a Gordon-Smith Gypsy Two, and he has used the Gypsy Two from then until the present time.

I hope you find the above of interest and please accept my thanks for an excellent magazine.

J.G. Smith,
Gordon-Smith Guitars,
Partington,
Manchester.

Depressing scene

Dear Sir: Since its early days IM has been an invaluable guide for everyone involved with live music in particular — though I mustn't forget the studios — but I wish to take some time illuminating a couple of depressing features of the scene up here in North Wales/Liverpool. I wonder if these problems are felt elsewhere?

Firstly, the number of local gigs for the continual stream of new talent has declined seriously. After the boom of 1977, when many pubs and clubs became interested in rock again and when there were five regular venues in Deeside/Chester, there is now only one

We welcome your comments and criticisms. Write to: *Letters, International Musician, Grosvenor House, 141-143 Drury Lane, London WC2B 5TE.*



Shelley and Gypsy

and that is not exactly thriving. They have closed their doors to rock for a variety of reasons ("not paying", "too loud", "attracts the wrong sort", "disco pays better", "change of owner", etc.). The fact remains that local bands have to travel to Liverpool or Manchester where competition for the few available gigs is intense anyway.

Leaving aside my own involvement in bands, I can say that bands such as "Hieronymous Bosch", "Zorbie Twins" and "Left Hand" who are but three of a selection of utterly competent and very original bands, have been left without much work. Without work bands become frustrated and without the means to go fully professional they must stagnate. Why write a new song/arrangement if there is no gig for a month and a half?

All these bands have large amounts of capital tied up in things essential to the good sound they produce — mixers, PA, quality instruments and amplification, not to mention the vans, etc. What a waste not to have even the measly gigs they enjoyed before. Even Hieronymous Bosch with an album deal with a small company have felt the effects of this run down of venues which are after all the lowly seedbed for future success. The consequences for those bands still in the Zenta-guitar-and-garage category are obvious. The youth club bash won't do forever! This leads to my second point.

Part of the reason why the number of gigs has been reduced may be the perennial attempts by totally obnoxious "bands" to satisfy their pathetic egos by conning a gig from

managements and landlords. These bands give live music a bad name — and I'm not knocking punk either, for at least the originators had genuine enthusiasm and a new approach but the pointless imitators have ruined the scene by their sterility and sheer musical ineptness.

If there are any garage bands out there with one Vox between them planning to be the "next big thing" at a local gig, take a tip and stay away! Save your money; learn how to play in time and in tune and come back with something worthy of the name music. Your gear has got to be good. You're competing indirectly or directly with discos who have largely been able to get a halfway decent sound. It's no use being "live" if you sound like a throttled blackbird in a tunnel full of faulty diesel engines. All bands mentioned use at least £3,500 worth of gear at every gig and it does make a difference. Let's have some pressure on club owners (how?) and let's promise we won't play if the music won't even sound fair!

K.R. Webster BSc (Econ),
Deeside,
Clywd,
North Wales.

Switched on semis

Dear Sir: Re Mr. Grove's letter in IM, March, it is not just valves that suffer when a complete sound system is switched on simultaneously. About three months ago, "switch on surge" destroyed every semiconductor in one of my PA amplifiers. To anyone outside the business, a disaster like this could be rather expensive. The surge occurred because an assistant was too lazy to turn off all the amplifiers by their own switches, but had killed the juice at the main socket.

Recently, a colleague of mine used a 15 amp relay to provide delayed switch-on for four SS500D amplifiers. These promptly welded the relay contacts! One hopes that the antisocial orange boxes will suffer the same fate ...

Contact bounce in these units will generate voltage transients up to some 10kV, though 1kV is probably nearer the mark in most cases. Needless to say, this sort of spike will rapidly destroy semiconductors, though valves may suffer no harm. For several years, all my equipment has incorporated extensive protection against mains borne transients, using snubbers and a VDR. These components cost around £1 and represent a very cost-effective insurance against the most common cause of mysterious failure — mains borne transients.

Loudspeaker thuds are a very serious problem — but provided the

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Letters

power amplifier has a split (\pm) supply, delayed switch-on, particularly of low level stages, will remove the worst of the danger.

When turning on a large system, the low level stages should always be turned on first. Items with very heavy current consumption should be turned on last of all, unless they are lighting desks, in which case turning them on before any audio gear is "on" should be the habit.

My vote of thanks goes to Ken Dibble — his speakercheck is a gift to anyone concerned with sound systems!

Incidentally, I am now the proud owner of a tractrix bass horn with a 6' x 5' mouth, loading down to 20Hz when corner loaded. Apart from old cinema horns, I've been told this monster is the biggest horn to go gigging in the UK. Perhaps other readers could comment on this monster horn's uniqueness?

*Ben J. Duncan,
B&J Sound,
Tattershall,
Lincoln.*

Bouncers

Dear Sir: On October 23, 1977 a young man named Henry Bowles was killed by bouncers outside the Bell public house in Pentonville Road, London.

It is now becoming clear that this case is by no means the only instance of such happenings and I would like to ask your readers, many of whom are musicians and therefore in a unique position to understand how music venues are run or misrun, if they know of similar cases where undue force or violence has been used or if they have any general comments about the security used in such places. If they could contact me at the address below I would be very grateful.

*Mrs. Irene Babsky,
47 Haverhill Road,
Balham,
London SW12.*

Vox valves

Dear Sir: I recently noticed a letter from P. Harley of Stallingborough regarding a Vox AC30 amp. I have quite a collection of Vox schematics dating back to the early valve units made by Jennings, and I suspect that perhaps an ECC83 was substituted for the ECC82 in the suspect amplifier. The two types have identical basings and in some cases the ECC83 will substitute, although the two valves have very different characteristics.

I advise Mr. Harley to check the various grid leak resistors in the vibrato/trem oscillator circuit for value, as well as the various capacitors for leakage. This should include the

phase inverter portion of this circuit (both sections of the ECC83).

The vibrato/tremolo circuitry of these amplifiers is noteworthy in that it was capable of providing true vibrato (frequency not amplitude change), a feature not too usually found in an instrument amplifier.

I hope that this is of some help.

*Rick Chinn,
Technical Support,
TAPCO,
Washington.*

Photo finish

Dear Sir: Thank you for the publicity you gave to our rock competition (*Buzz* last month). We thought you might be interested in the results. The final was held at the Roots Rock Club on April 22nd, when six bands competed for the handsome first prize. The judges were John Ichler, the manager of the Hope and Anchor, Paul Hodsman and Rob Hallett of Chalk Farm Studio, a representative of Red Bus Studio and Southend's own Mickey Jupp.

The clear winners were the Photos, a five-piece band from Leigh-on-Sea, who received £150 in cash, a snare drum from Chris Stevens, a voucher for gear from Honky Tonk Music, a day at Chalk Farm Studio and gigs at the Hope and Anchor, the Nashville and the Bridge House, Canning Town, among others. The prizes were presented by another of Southend's sons, an ex-Kursaal Flyer Paul Shuttleworth. The runners-up were the Vicars, a Canvey Island punk band, and the Deep Throats from Chelmsford were placed third.

Could I take this opportunity to thank all the people who made the competition possible: Honky Tonk Music for supplying the Marshall back line and Sonor drum kit, Chris Box for

his work on the PA (not an easy job with six bands per evening!) and all the staff of the club, for giving up their Sunday evenings.

I am enclosing some photos of the Photos in the hope that you can use them.

*Dennis Fewtrell,
Roots Rock Club,
Southend,
Essex.*

Billing blues

Dear Sir: The Live Music v Disco argument has been well debated in your mag over the past two months, so please forgive this letter.

I am a bass player in a semi-pro cabaret duo and I, like many other musicians, believe there is room for both live bands and discos alike. However, recently our agent booked us into a local hotel to do a gig with a disco on the same bill. Fine, no problem — until we see the advertisement in the paper. The disco gets top billing, with us as support in small print underneath.

It is my opinion that any artist or band being billed in support to a disco is an insult. Needless to say we gave notice to cancel. A bit touchy you might say, but we have worked hard for a long time to build up a good name for ourselves in this area and to any prospective booker, this advert puts us back six years. The agent was not to blame, the hotel had inserted the advert.

Although many venues are very good to live artists, it seems a little respect is not much to ask from some. Or maybe it high time the Musicians' Union was more active in Central Wales.

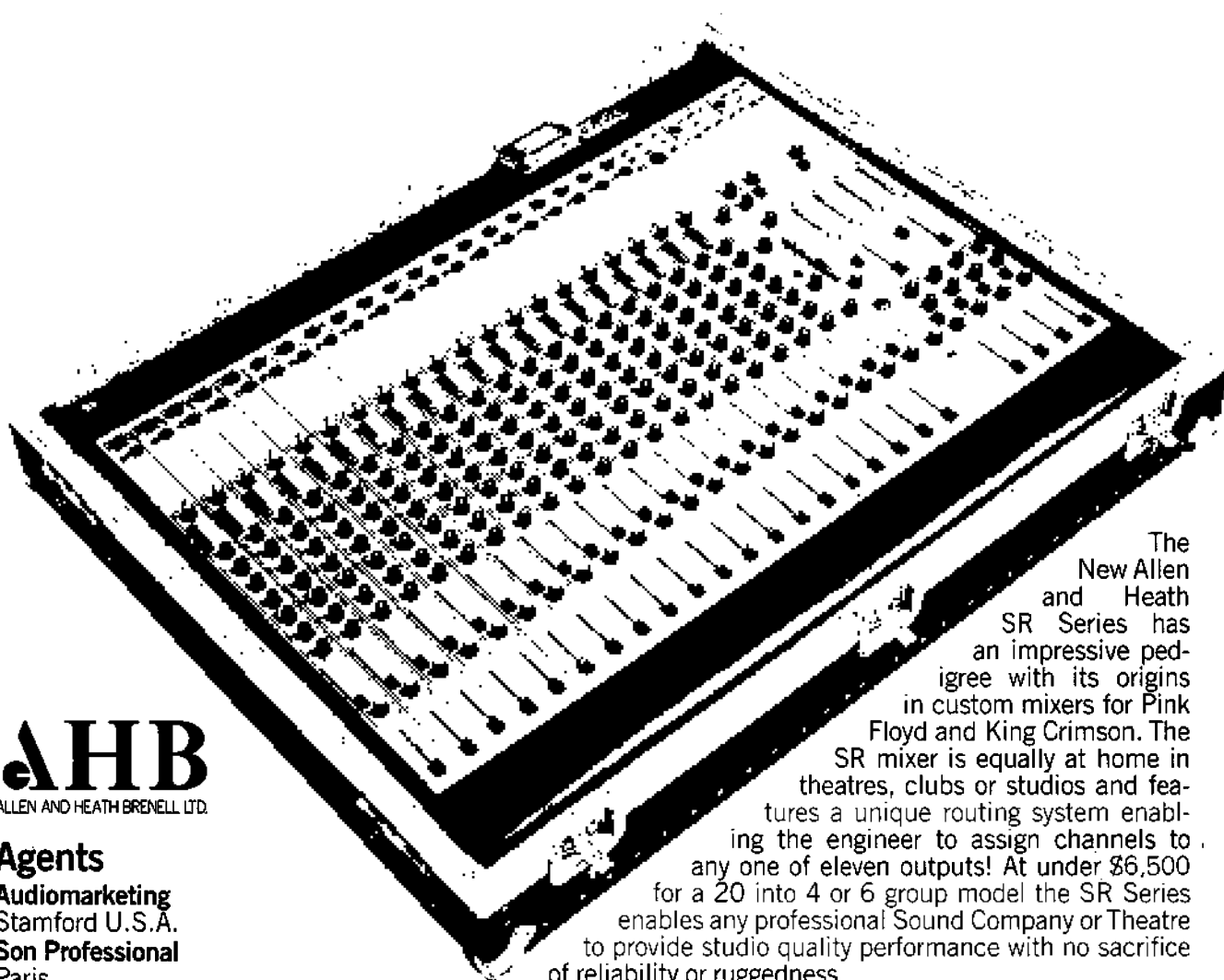
*J. Kish,
Rhayader,
Powys.*



Two Photos: Chris Baker and Lloyd Duckworth

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Buzz

What's happening in the music biz

Wild West

Are you creative? Are you into multi-media performance? Do you live in Wiltshire? If you're still nodding your head, you should get in touch with Barry Edgar Pilcher. He's a tenor sax player who's looking for musicians, dancers and creative people of all kinds to join him in projects, workshops and concerts of improvised music. If that sounds like you cup of cider, write to Barry at 1 Hospital Cottages, Couch Lane, Devizes, SN10 1EN (tel: 5976).

Getting it taped (2)

In March's *Buzz* pages we mentioned what we thought was a unique recording service offered by Anemone Sound Studios. You may recall that they will go to your gig, record your set and produce an unlimited number of stereo cassette tapes. Neat. Now we learn that another company, this time in the north of England, are doing the same thing.

The aptly-named Suitable Sound Services undertake to make a four-track recording of any suitable gig within about 100 miles of Wakefield, mix it down to stereo and produce the required number of cassettes. They envisage making between 20 and 50 tapes for the average band, at a cost of £60 to £90. Bands in the area who'd like to get it taped should contact them at 37 Sunny Bank, Normanton, West Yorks WF6 1JR.

Samson Success

It's nice to hear that a band we featured some 18 months ago, Samson, look like they're on the verge of success. The band formed in late 1977 and toured England, Wales and Italy. During 1978, they played 217 gigs, culminating in a December tour as support to the Ian Gillan Band. Although the group disbanded temporarily, founder member Paul Samson soon recruited Barry Purkis (ex-Iron Maiden) on drums and started recording an album with John McCoy producing and playing bass, plus Colin Towns on keyboards, both from the Gillan band. Paul has recently brought in ex-Steamhammer bassist Chris Aylmer and the band are back on the road doing a major tour of clubs and universities while future tours of Europe and Japan are being finalised. The album was recorded at Kingsway and should soon see the light of day. So it looks like Samson may well be giant.



Basil & Co.



Paul Samson

Balls Up

We recently received a hilarious "press release" from the amazingly-named Basil's Balls Up Band. They're a six-piece from South London who have been gigging regularly around the London pub, club and college circuit. They describe their music as "a unique blend born of an inability to play rock 'n' roll, jazz, funk or country music properly" and their influence and material range from Woody Herman, through Chuck Berry, Herbie Hancock and the Ozark Mountain Daredevils to Frank Zappa. They describe their show as "good family entertainment (for the liberated family)" and can be contacted, at your own risk, on 01-653 4965.

Welsh Bill

A band currently making waves in North Wales are Bill the Murderer. Their present line-up comprises Dave Tatum (vocals), Steve Aldridge and Pete Downes (lead guitars), Pat Cramer (keyboards), Ian Cramer (bass) and Dave Pendrey (drums). They recently financed and produced a single *I'd Find You b/w Spring Rain* in the hope of generating some record company interest. Although based in North Wales, they gig as far away as Manchester, Leeds and Blackpool - not bad as they are still semi-pro. Dave Pendrey can be contacted at 65 Plymouth Street, Shotton, Deeside, Clwyd.

Vye not?

Yet another outfit from Leeds (the city that brought you the Mekons, Gang of Four and Tony Currie), the Vye are a hard working five-piece who have been gigging round the country in search of that all-elusive break.

The line-up is Dave Albone (drums), Andy Tillotson (keyboards), Rick Eager (lead guitar), Simon Hollis (bass and sax) and Dale Hargreaves (vocals and rhythm guitar). They describe their music as "post punk", and have gigged at London's Nashville as well as the local rock spots in Nottingham, Middlesbrough and Manchester. Anyone interested in booking them should ring Leeds 650734.

Blue Jokes?

This month's Buzz seems to be the month for pop/cabaret bands as we've heard of a band called Blue Ice who are a semi-pro outfit based in



"Post punk" Vye

Nottingham who include a lot of comedy in their act and hope to soon perform with Little and Large, no less. On half of their songs, they swap their associated instruments (shades of the Dubliners) and are soon to do a series of charity concerts in Nottingham. For further info, telephone Nottingham 632317.

Ex-Deluxe

Ducks Deluxe were, without doubt, one of our finest pub-rock bands of a couple of years ago. They regularly gigged around the same circuit as Brinsley Schwarz, Dr. Feelgood, Ace and the rest of the top pub-rock league. When the band split, ex-members of Ducks Deluxe went on to form bands like the Motors, the Tyla Gang and the Rumour. Bassist/vocalist Mick Groome got an offer to join a CBS band called Key West and

stayed with them for 18 months before recently splitting and re-forming a group called Eve, based in Hemel Hempstead. The band are currently gigging around the Home Counties and are writing material for a hoped-for album deal. Their music is very Sixties-influenced and they describe their own material as a cross between the Beatles and the Who. Any sharp businessmen should contact Hemel Hempstead (0442) 58256.



Hemel Hempstead hopefuls: Eve

Fulham Jazz Fest

Latest news from the Jazz Centre Society is of a new festival, jointly organised by the London Borough of Hammersmith and Fulham and the JCS. It is now finalised for mid-May and aims to cover the whole spectrum of jazz, from traditional to avant garde.

Three venues are being used: Hammersmith Town Hall, King Street, St. Paul's Church, The Broadway and Riverside Studios, Crisp Road, for lunchtime events. A further selection of more informal sessions are planned around local pubs and in the open air. All three main venues are within easy reach of Hammersmith tube station and various bus routes.

It is a four-day event, from Wednesday 16th to Saturday 20th and the line-ups include top jazzers like the Gary Burton Quartet, George Melly and The Feetwarmers, Stan Tracey, Kenny Baker, Don Lusher, the Midnite Follies Orchestra, Semuta, Art Themen and Tony Coe.

Reflections of Hull

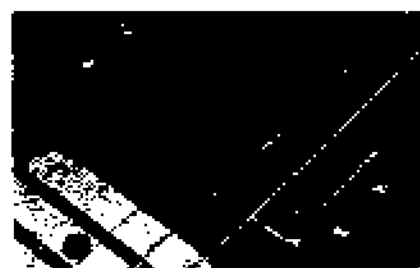
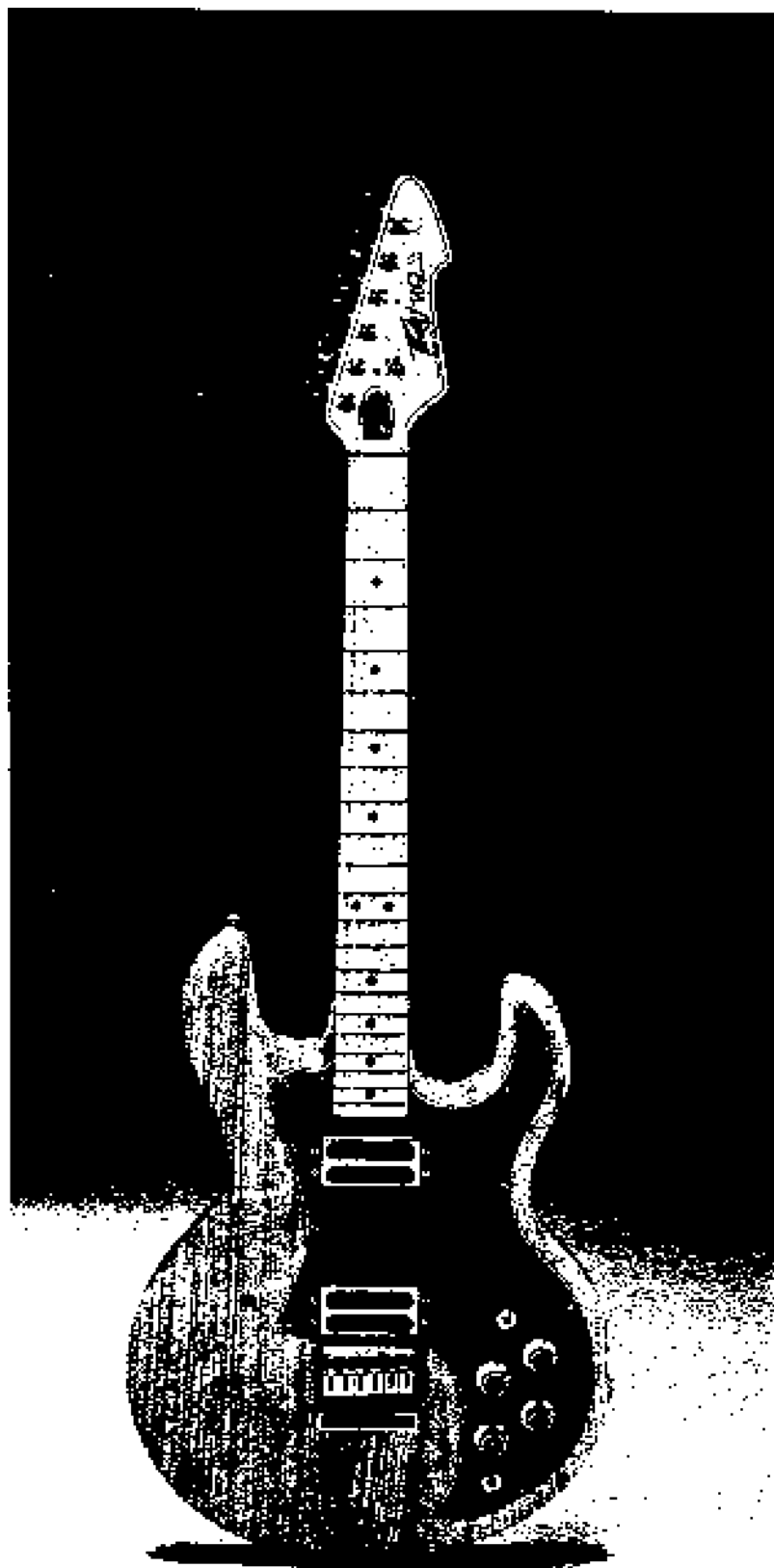
A band called Reflections from Hull are currently gigging around North Humberston and are reputedly building up a fair reputation in that area, although they have only been together for five months. Like many newer bands, Reflections have recognised the unique sound of the Farfisa organ and feature it extensively in their set, which includes a mixture of old Beatles' numbers through to the Real Thing's godawful *You To Me Are Everything*. Rob, Mike, Martin and Bob (don't you just love Christian names?) can be contacted on 0482-854536.

What's happening in your area? We have it on good authority that there's a lot of music happening outside London, but because we're all so dedicated to the task of bringing you IM every month, we scarcely get the chance to leave our office and hear it. You can help us fill these pages by sending us news, gossip and info on new bands in your part of the world. And don't forget the Stolen Instruments File. If you've been separated from the tool of your trade, let us know the details and we'll circulate the details. Write to "Buzz", International Musician, Grosvenor House, 141-143 Drury Lane, London WC2.



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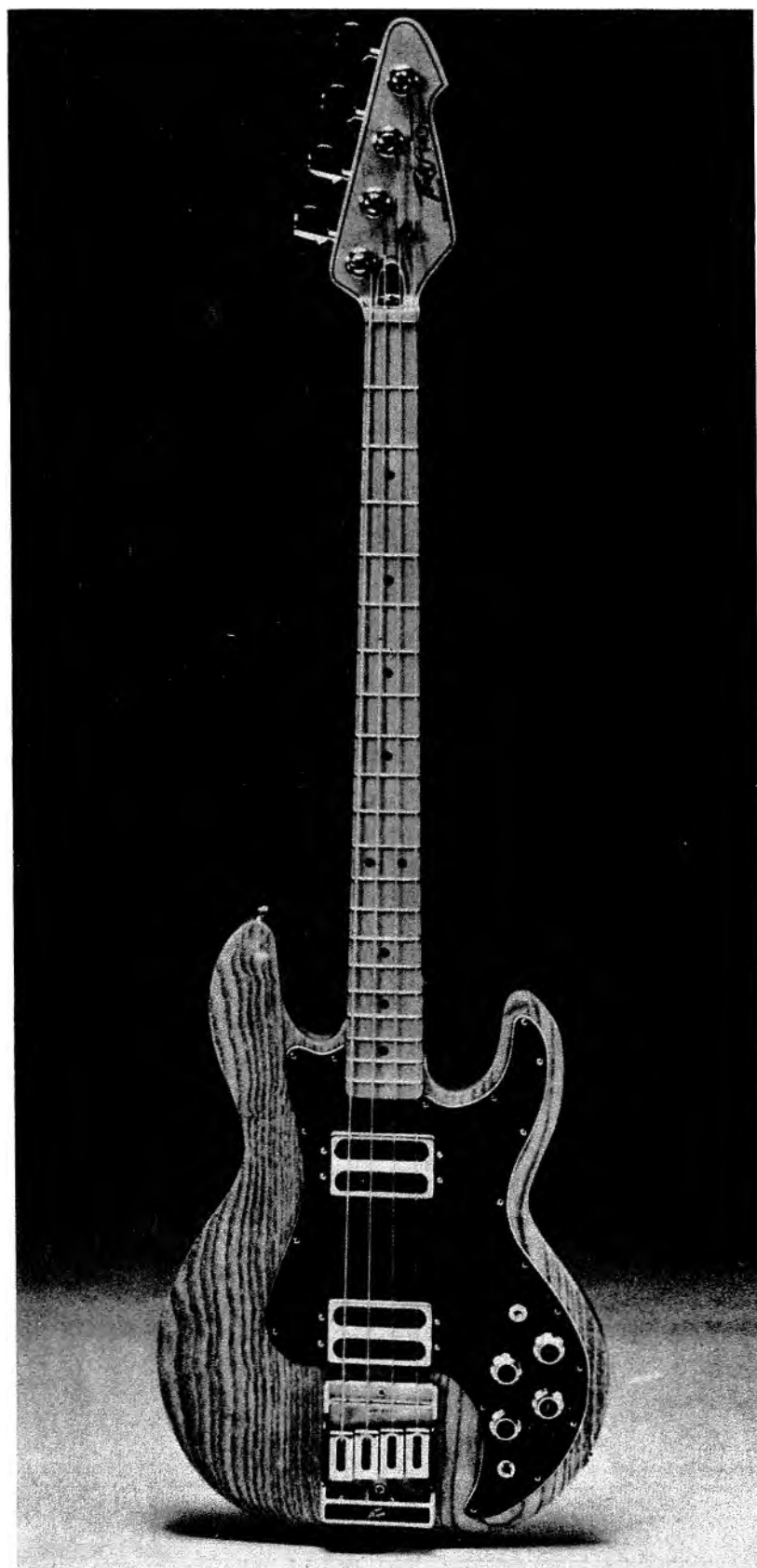
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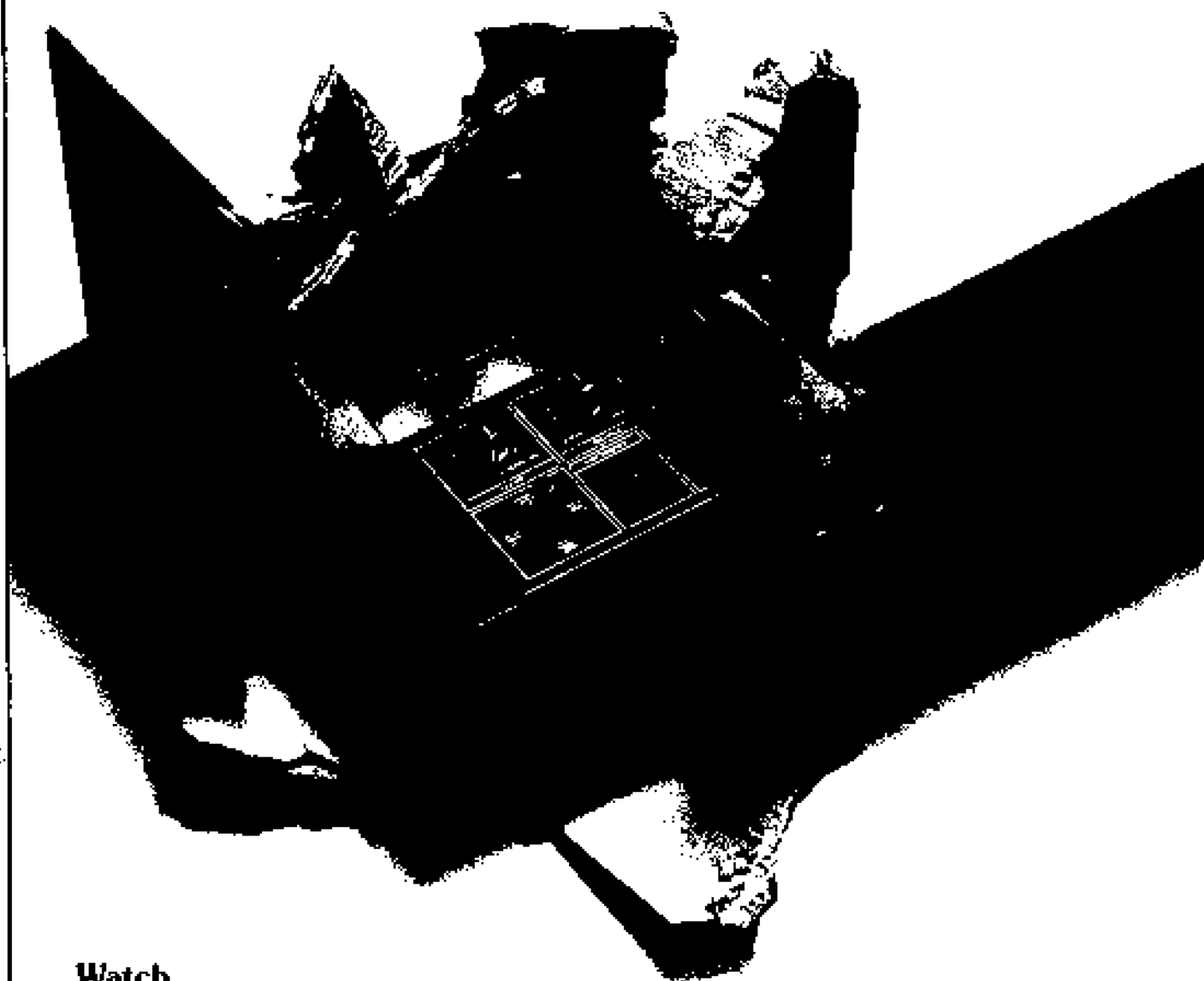
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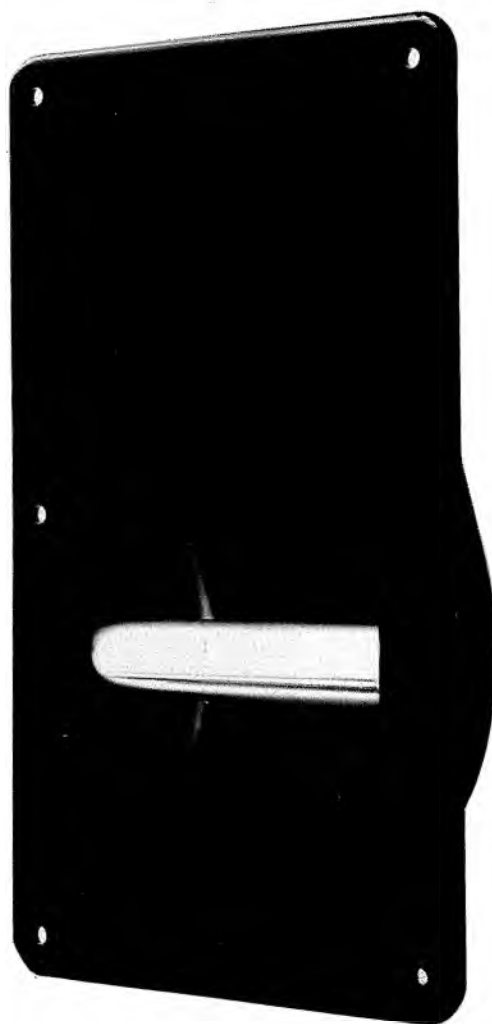
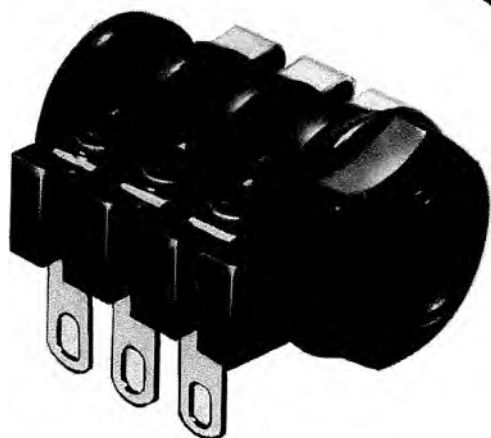
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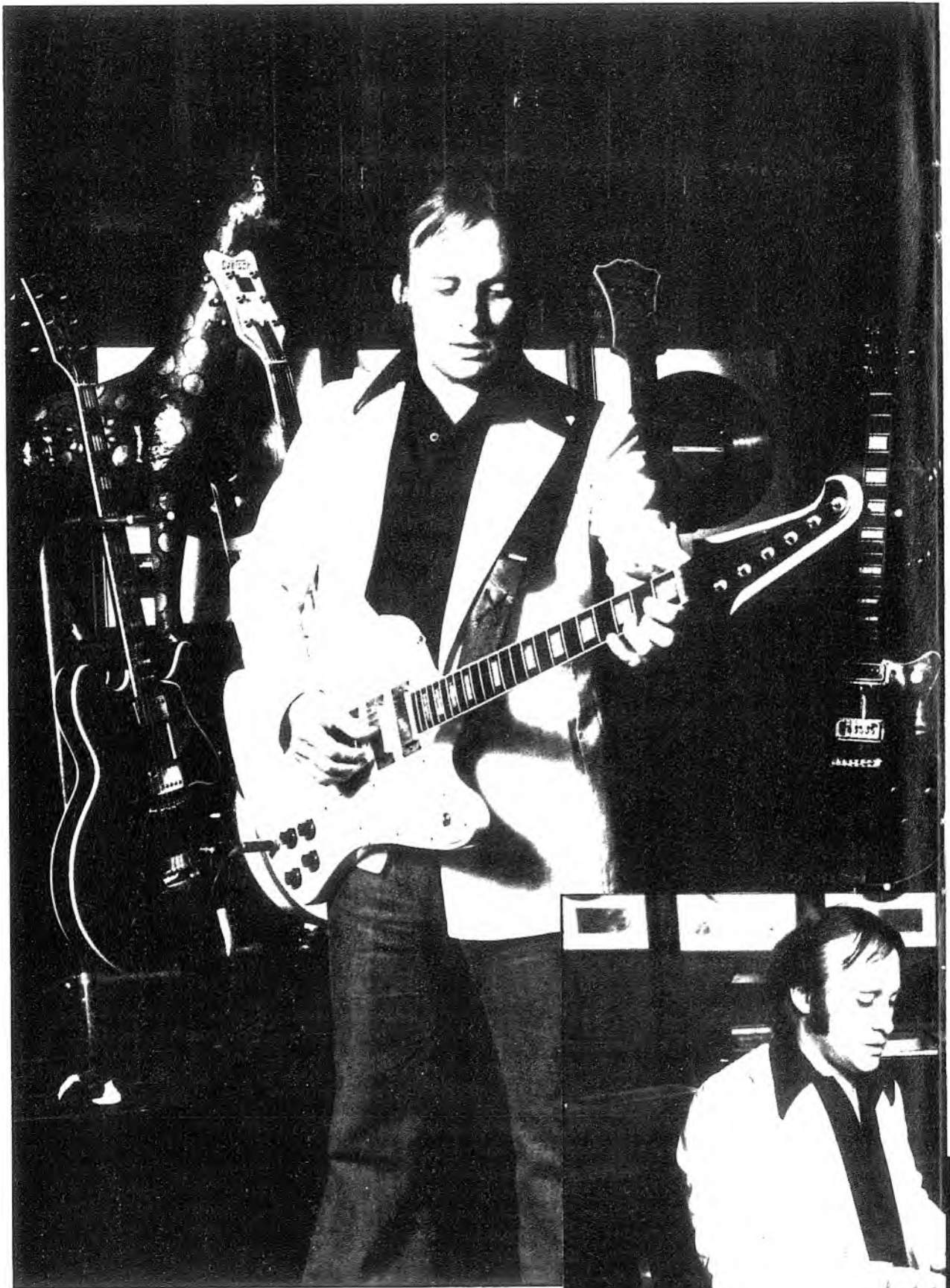
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STEPHEN STILLS

BY STEVEN ROSEN

Discussing the music of Steven Stills is really an examination of the fundamental history of American rock and roll. Through his affiliations with the Buffalo Springfield, Crosby, Stills, Nash & Young and Manassas, he has worked with such luminaries as Richie Furay, Jim Messina, Neil Young, David Crosby, Eric Clapton, Jimi Hendrix and many others.

So, when one refers to Stills, one is talking about a man who has had a strong hand in shaping the music we hear today. It is senseless to try to analyse the music and words he has written. Songs like "For What It's Worth" and "Love the One You're With" have become virtual standards, outlining the importance of his music once again.

Stills, as much of his music reflects, is a quiet man. He rarely talks except through a guitar, and when he does it is a special moment. In the following conversation he describes his special guitar playing techniques and recording methods.

When and why did you first start playing? Tell me about your first guitars and that whole early period.

I started out as a drummer when I was six and I had my first job by the time I was eight. I was always in school bands and stuff like that. I picked up the guitar somewhere along there — I must have been eight or nine. My first guitar was a Kay, then I had an Epiphone, a Guild 12-string acoustic/electric guitar, and a strange electric monstrosity like Muddy Waters used to play — with all the

knobs and stuff. It was a Silvertone or something like that. I played a little bit of bass in a band with a Fender Precision. I've always used a Fender Precision. I sang in choirs and folk groups, did plays in school and took some piano lessons. Went to a Catholic school and when I finished my lessons, I was pounding away at that good old boogie woogie music at the age of 11. This old priest on a retreat stuck his head out the door and said, "Oh, don't stop, I was just going to remind you not to break the piano." He used to sit outside reading his prayer book and listen to me play. I used to listen to the Gregorian chants which gave me some sense of harmony.

Did you ever have guitar lessons?

Not with the guitar, but with everything else. I gave guitar lessons. As soon as I learned a couple of chords from some friends, I took off. I started hanging around with a couple of servicemen from McDill Air Force Base and some of the Marines that were stationed in Latin America. Most of the music that I use, I learned from black guys.

Were you listening to records of other guitar players?

Oh yeah. I was listening to a radio station called WLAC from Nashville. It's a big soul, R&B and gospel station — covered the whole south. I used to listen to that all the time. *What was your first real introduction to rock?*

I was playing rock 'n' roll during the mid '50s. The first rock 'n' roll show I saw was Buddy Holly and the Tides, those kind of bands. I was living in Gainesville, Florida and there were all these great black showbands playing in fraternity houses. I had lots of friends and we'd go wherever the best band was playing. I was listening to Little Walter and Little Willie John. B.B. King was out there, Freddie King was around, Chicago blues players, people like that. I still remember the lyrics of some Jimmy Reed songs. It was always impossible to pick up the lyrics. I was working in rock bands before the Beatles came out. Jimi Hendrix was a year younger than I am. He and I started hanging out together when he came over for Monterey. We went over to my place at the beach and played for two days. We must have made up about four albums of songs.

Do you think you actually learned from him? Would he sit down and show you actual things?

Yeah. He gave me a left-handed Stratocaster that somebody had given him, because he said Stratocasters played better upside down — which is why he never used a left-handed

Stratocaster, he always used a right-handed one upside down.

Then he played on that one track on your first solo album (Old Times Good Times).

Yeah. He played on that and I played on a couple of his songs. I don't know if they ever credited me in the liner notes, but I played on about two or three of his tracks.

Was Springfield the first band where you thought your playing was taking shape?

Well, Springfield was mainly a band that I formed, it just sort of came together by accident. Richie Furay and I were trying to get a band together just to practise songs. We ran into Neil and this bass player [Bruce Palmer], got a drummer [Dewey Martin] and went to town. *What kind of instrument were you using in the Springfield?*

I had a Twin Reverb with a Showman bottom cabinet and I used the reverb to run both of them.

What kind of guitar were you using?

I was using a Guild, then I got a Les Paul. I got a three-pickup model and had the middle pickup taken out. *Why?*

Made the other two more powerful. It was a very powerful guitar.

Were you using those guitars on the album?

Yeah. Gretsches, too. Lots of them. *You've always used a lot of hollow-body guitars.*

Yeah, for the most part. Then I got the feel of the solid body guitar. Never could use Fenders. Couldn't get the feel for them. Now I use Firebirds. Eric Clapton lent me one of his. It used to drive him crazy because he couldn't keep it in tune, so I hit upon the idea of putting banjo pegs on it. I bought three of them and had banjo pegs put on all of them.

It worked?

Yeah, it really works fine now.

Have you had any other work done to them, rewiring?

No, not a thing. As little as I can possibly do.

What is it about them that you like?

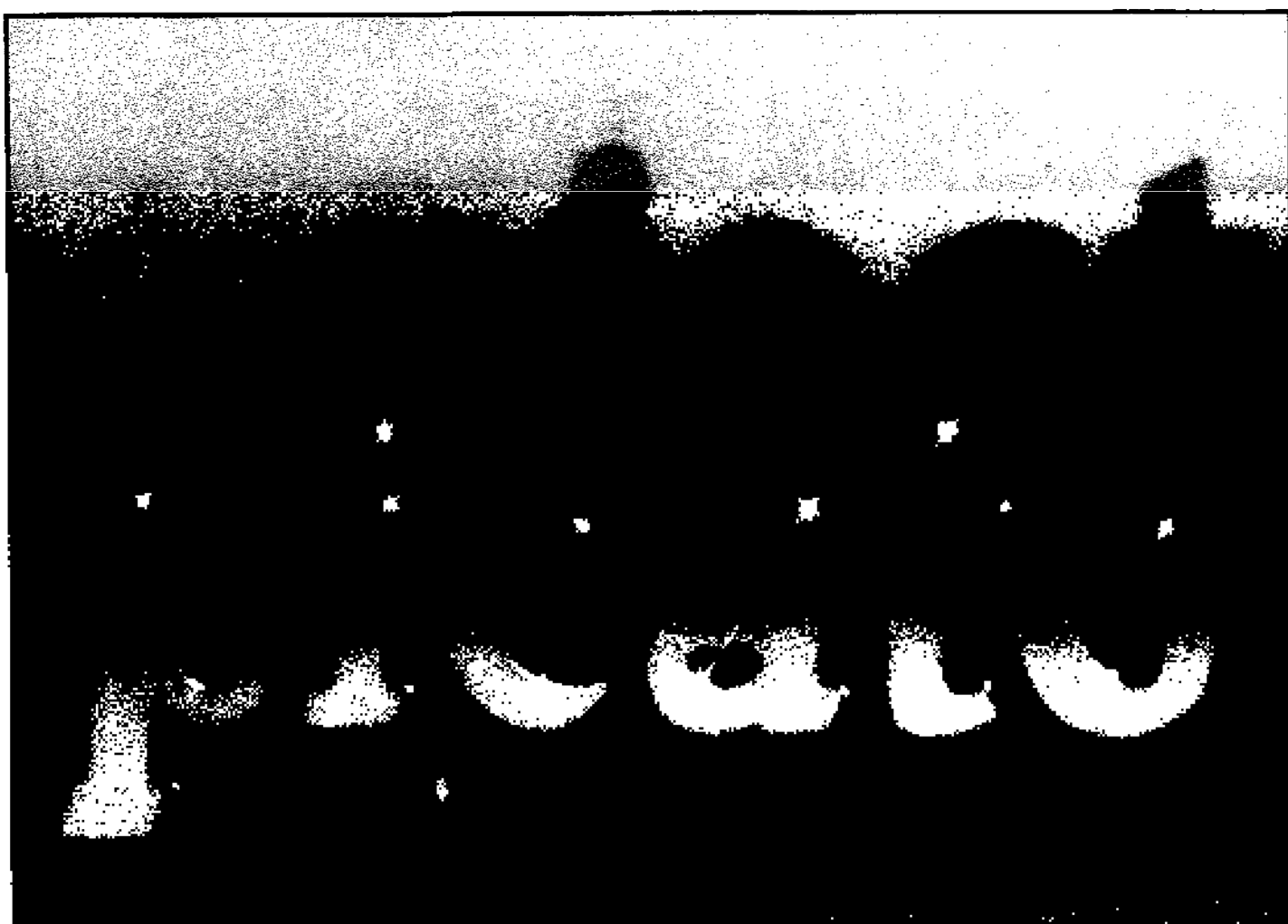
The touch. It hasn't got the "fretless wonder" feel. It has a broad fret that's cut fairly deep so I can dig in pretty well. If I keep them smooth and clean, then they go as fast as I need to go.

On the first Springfield album, it said on the sleeve notes, "Stephen Stills 2nd lead guitar, Neil Young lead guitar." Was that accurate at that point?

Yeah, I suppose so. I was trading leads with him.

You think he rubbed off on you or vice versa?





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I'm sure he did. And I'm sure it was vice versa.

You like playing with other guitarists?

'Most lead guitar players can't play rhythm'

Yeah, if they're good. The trouble with most lead guitar players is that they can't play rhythm. I know about five and they all play real good rhythm: Eric, Donny..... Donny Felder and I played in a band together in high school in Gainesville, Florida in '62

What about Townshend?

Townshend's great, but he's into a whole other bag. I love to play with Joe Walsh, Don Felder, Eric and George Terry, the guy that plays with Eric. Somehow the best guitar players I know can play really good rhythm.

When did you start collecting guitars?

After Crosby, Stills & Nash my guitar collection really began to grow by leaps and bounds. I started to buy everything within sight — put the money right back into my instruments. I bought the greatest Hammond B3 organ known to man. I just called up the dealer in New York and said, "I want a B3 that can kill." I told him to take all the settings and turn them all the way up. He gave me some beefed-up drivers because I kept blowing them. Paid cash for it — the whole shot, it was like \$4,100 and I haven't played one to match it since.

What kind of guitars were you using with Crosby, Stills and Nash?

Same ones. I just tried to eliminate as many devices as possible. I used a Vox pedal and a wireless. I've put a wah-wah into my system now but I don't use it that much. Used to use one all the time, then I got away from it.

So you're just using the two Gibson Firebirds on stage now?

Yeah. I've got a double-neck that I keep in back.

What kind?

The old black Gibson double-neck with a 6-string and a little mandolin short string. It's really good. Then I've got a prototype Gibson 12 and 6. I'm having it reworked right now. I've almost got an entire collection of pre-war Martin D-45s.

What acoustics do you use on stage?

I use a Herringbone D-28 and a D-45. I try to leave my D-45s at home, but I just can't play anything else, so I take my old ones with me and buy a seat on the airplane.

What kind of amps are you using?

I bought five or six Marshall



100-watt tops and a whole bank of speaker cabinets, all of them with those Celestion speakers, the good stuff. I figured out which one I liked best and then I did what Jimi did. Went up to this crazy character in Brooklyn, took all my tops and we went inside and picked out the one I liked the best, listened to the capacitors and resistors and everything and whatever was missing we put back in and whatever was there but needed replacing, we took out, so they're all the same. They don't sound quite the same, but they're all virtually the same. *So you use just one stack?*

I use the top cabinets, two of those on the floor, side by side. I don't use the bottom cabinet because it would be too loud. This works out to be just the right volume.

So you just use one head?

Yeah, I use one head and those two top cabinets. It works pretty nice. *What kinds of settings do you normally use on the amp?*

With a flick of a finger, I want to be able to put it into distortion and then turn it down where it gets that crystalline clarity to it. *Your guitars have always had that kind of sound?*

Yeah. It's really a question of the guitar and amp being on 7 or 8 and I just use the volume knob to about 8, then it's really crystal clear. Then I flip it up to 10 and it's a muddy sound. *Do you ever use a guitar pick?*

No, never have.

Was it like that when you first started playing?

I used fingerpicks. Found it

impossible to play lead guitar with fingerpicks, so the result is an enormous callous.

Have you ever heard of other guitar players doing that?

Well... except for guys that play classical style — that's the way I play bass — I haven't seen anybody do that, no.

Do you find you're able to get enough speed with your fingers?

I have to be very careful, otherwise it turns to slop. But, yeah, I can pretty much get enough speed. I can use flat picks, but they just don't do it for me.

Did studying scales help you?

I never do that. I work at finding a new scale, but licks turn into lines, which turn into runs, which turns into nausea.

So you don't practise?

I can't practise by myself. It's boring. I practise with the band playing, then I'll play what I know.

Are there any examples on record that showcase your fingerpick style?

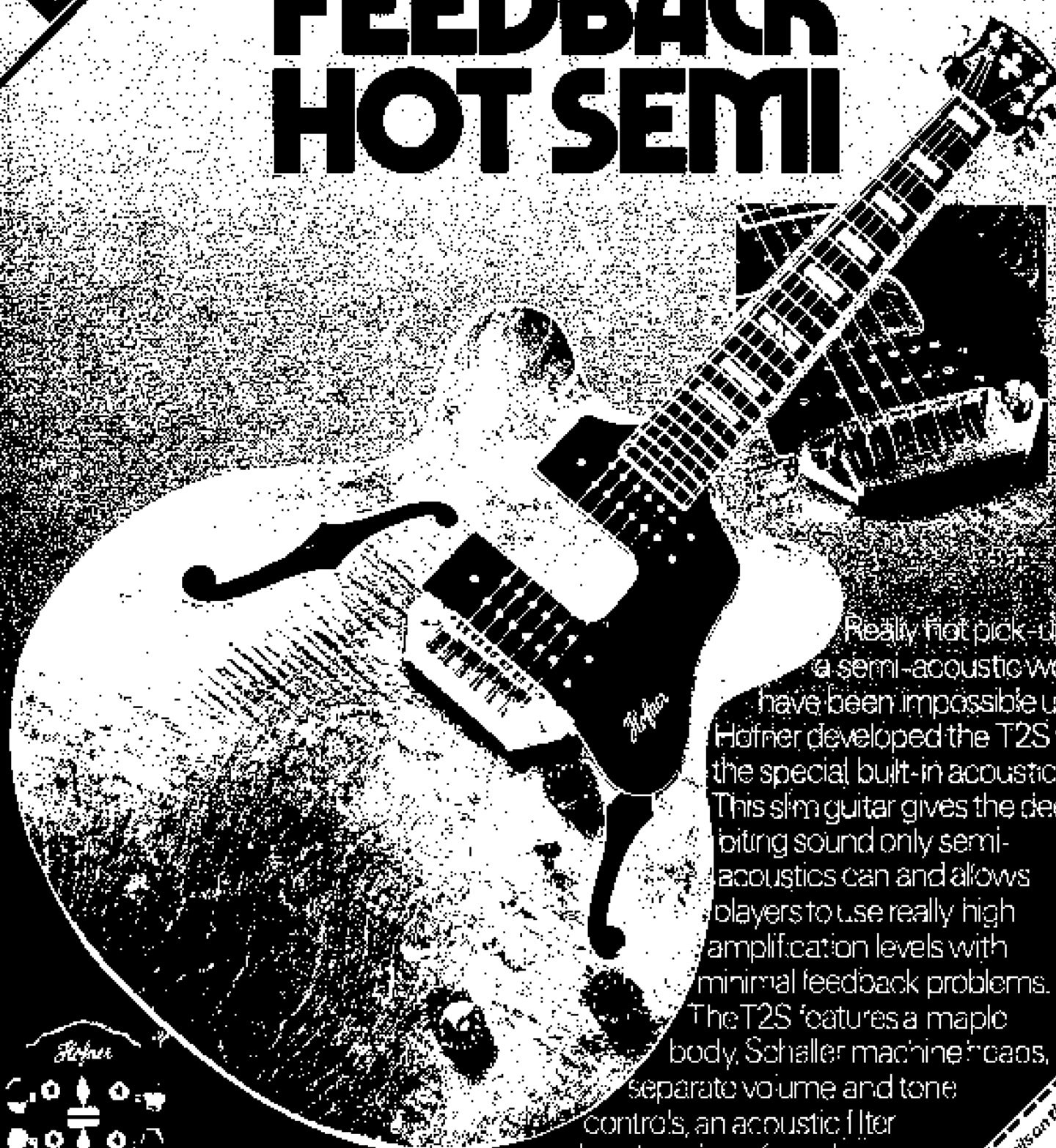
Thoroughfare Gap is a perfect example. A classic example.

Do you use any special techniques in the studio to record your guitars? Your acoustic guitar sound is always distinguishable.

Yes, but it's called privileged information. I'm not at liberty to say. A non-denial denial. A lot of it has to do with electronic techniques. It's very, very simple and we've been using them for years, but more than 90 per cent of it has to do with my touch and the particular instruments that I use. You don't take a 50-year old guitar, ➤

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do that to it and have it just come out singing like that. Try it with a brand new one and it won't sound like the same instrument at all.

Does it take you more than one run-through before you come up with a solo track that you're pleased with?

No more than three. Unless the band's untogether, then it gets to the point of diminishing returns. I have a starting and an ending point and I try to leave myself free. I don't plan my guitar solos. I compose the structure around which my guitar solo will revolve, but other than that, it's whatever falls off the fingers, because the accidental stuff is what makes it. It's really silly to sit there and learn this guitar solo over and over and over. That's one of the things Jimi taught me. You don't do that — when you do, you start becoming pedantic. You may have a whole melody, but that's not jazz. Jazz is free-form. You may have a starting scale or a scale you want to lead the band back into and that's their cue. But what happens in between, man, has got to be "everybody being in tune with everybody." If I'm at two and we want to go to three, I want the drummer to kick the six/eight in. Six is great to play to. Everybody can make that change right there. Everybody looks at each other and says "yeah" and there it is. Or you can be playing in four and be in a shuffle. That's the kind of stuff I look for, that's the kind of adeptness I look for. I just try to form the structure if we're getting into a jam. That gives me the ability to sing different kinds of melodies, or melodies with a different singing style.

But the electric guitar is my favourite, because I can do more with it. I can get the same sensitivity that I can get out of an acoustic guitar. I can turn it down just as soft. I can fingerpick on either with the light gauge rock and roll strings, it just requires a lighter touch. But the acoustic guitar will never be replaced. I'm at the point where I can certainly adapt what I want to do from the acoustic guitar to the electric guitar, but not vice-versa. You've got to be able to play the blues on the acoustic guitar before you can get that kind of control on the electric. Otherwise you go crazy, because the acoustic guitar is limiting. It's a big, stiff instrument and it's great for fingerpicking.

There are guitars where because of the chording technique and the attack on the G string when you play a D chord, it'll get out of tune. So I use a Gretsch with the biggest strings, a wound third string. Solves the whole problem. Once they start putting pickups on my 50-year old guitars rather than using the damn micro-

phone, I don't care if it's the Forum or Yankee Stadium, once they start doing that, I might as well play on the electric guitar, where I know what's going to happen. The difference in sound is not that great. They put an eight-ounce piece of plastic in the sound-hole of my 58-year old Martin D-45 — which is worth about \$15,000-\$20,000 — to make it sound good in the hall. And I said, "Hang on. Wait just one minute here. You've got this all wrong. Your job is to reproduce *that* sound in the hall, the sound of *that* instrument." I paid \$6,000 for a guitar that was not really worth it, but they only made 125 before World War II. I have two of the best that they made. It's as simple as that. The sound man's job is not to mess with that. Find a little contact pickup if you want, but use it in conjunction with the microphone. In the studio, I use a Neumann 87 or a Telefunken, or an AKG, or a 546, or all four to reproduce the sound of this particular guitar. There are some other devices used the way I set my limiters. What kind of limiters I use, what kind of equalization, how much Poltec and how much of that, those are my main trade secrets. Where the trick is, which all the engineers and producers lose sight of, is that you have to reproduce a guitar.

Does direct-to-disc interest you at all?

Yes, except for human error. The costs can be enormous.

Are there any particular recorded solos you've done that stand out in your mind?

The best solos I've done have been live. On the last CSN tour, there were three or four places where I got standing ovations for my guitar solos. I didn't believe it the first time and it had to happen a few more times before I felt it wasn't a fluke. I don't know if I've ever done anything outstanding. The one that comes to mind is *Questions*, the original version of *Questions, Fishes and Scorpions, Go Back Home and Black Queen*, electric. I don't know if that's been recorded. I thought that Bill Graham was recording it when I did the gig with Dylan in Houston, because I really just burned it down. I don't know, in the last year and a half, my guitar playing has grown to a point where I can't tell any more. But what I've done on record is definitely not up to where I get to on stage. On *Thoroughfare Gap*

there's some good solos — *Not Fade Away* has a nice sound. There's a good solo on *Low Down*, because it's live. Actually, all the guitar solos on the album are done live. That's the latest deal, to do the guitar solo while we're doing the track. If I screw it up, if there's a chance to punch in where a string fell off my finger, I'll do it, but other than that, I really like to go for it live. Sometimes I'll edit between takes to maintain that live quality. *How did you feel about your playing on the live album (Stephen Stills Live)?*

Not that stupendous. I haven't really been captured live yet. I've had to deal with a lot of different elements, other people in the band, me oversinging and so on. I laid down my money and did the four days at the Roxy and from what I've heard — you can hear the beginnings of this chest cold I have and it's a little raw and raggedy — but the band is powerful and my playing is real clean and I don't think I missed anything. I didn't miss a bend or a lick the whole weekend. In one respect, that can mean being overcautious and I'm certainly not the master of my instrument yet, but that's what I want to be. One can only hope to attain the state where they can really fly and not miss, because there's a certain place where mistakes are just not part of your universe. Mistakes become so subliminal, people don't notice them. You don't make mistakes, you don't screw up.

How long ago did you start playing slide?

I've been trying to learn slide for about six years. Joe Walsh first taught me the touch, but it's still hard for me and I'm just getting to where I can be more consistent, because slide guitar can be the most wonderful sounding guitar in the world, or the worst. I'm still very paranoid about my slide playing. I know what I want to play, but I'm not a master.

What kind of slide do you use?

I use a glass one. I have a particular setting on the white Firebird that works for slide. I put it on the front pickup and take the top down to about 3 or 4 and the level down to about 8 or 9. The trick with slide is that the intonation comes when you get the contact of the slide right on top of the object fret. The movement becomes fluid rather than real jerky. Everybody can do that but it's hard to do it fluidly. People I know have picked it up naturally and gotten down to it right away. I've tried many times and failed miserably. I really want to do a great slide solo in the studio and it just comes out like shit, unadulterated crap. It's embarrassing, but you just keep going at it until it gets there.

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*The Jam's mastermind
talks at 45 rpm to*
DAVID LAWRENSON



Paul Weller ain't no guitar hero. He doesn't come across as the New Wave's answer to Jimmy Page or Steve Howe — neither would he want to be.

Paul and his group the Jam hark back to simpler days when pop music reigned supreme, and a good two minutes 50 said more than a whole stack of concept albums.

Although the Jam came to prominence on the New Wave, you can be pretty sure that they would have been successful whatever the musical climate of Britain happened to be. They had an energy and style which proved difficult to ignore, plus the considerable talents of Mr. Weller.

I wasn't exactly over-enthusiastic when I first saw the band playing a London club two years ago, but since then they have earned my respect with a succession of good singles and albums. Paul Weller, barely 21, has shown himself to be an important figure on the contemporary music scene, particularly through his songwriting.

In fact, it was as a means to write songs that he first picked up a guitar. "With me it wasn't so much playing the guitar as a way to write songs really, more like a means to an end. The first three chords I learned to play, I wrote a song.

"My first good guitar was a Rickenbacker which I bought for £80. It was a real old one with a short scale neck. I bought it because it looked good — I didn't like the look of all the other guitars but this had a certain look about it. For me that's half of it, more than the sounds or actual capabilities or whatever.

"When we first got signed up by Polydor and had a bit of money to spend, I went out and bought every Rickenbacker I could find in London. I like guitars, I do like possessing them. But I suppose even now they are a means to an end. I'm interested in sounds you can create from a guitar, not so much what you can do on a fretboard. There are so many great sounds, like using the feedback stuff on the last album — that I find quite interesting."

Paul combined his Rickenbacker with a couple of Vox AC30s on stage, but has recently switched to Roland amps. "Vox are great for the studio but they just don't re-create the sound live, they haven't got the power behind them. I've started using Rolands, which I think are 125 watts, so you can get a bit more balls behind you. I use the Rolands with the Jazz Chorus effect, which has that kind of phasing effect that is quite good and I use that on stage. But as far as other effects go, I like the idea of stripping away all that crap. I think you can create some great sounds on the actual physical instrument alone."

The thing that attracted attention to the Jam as much as their music was their image. The whole Sixties Mod appearance ensured much publicity, but Paul explains that it was a little more than just a publicity gimmick.

"Image goes hand in hand with the music. I personally really got into mod clothes, mod music, so it was natural for▶▶



me to be in a mod band in a sense. It sounds really clichéd, but before the punk thing there was nothing happening, nothing to relate to whatsoever. I'm not into your technical rockers like Yes, Genesis or Led Zeppelin, for me it was wanting to discover an actual youth culture which for me didn't exist. The only alternative youth culture was discos, which I really didn't dig either. So it was like starting something up of my own in a sense, then when the punk thing happened it was great.

"As for mod music it was a question of re-discovering it — for me it was the first time of hearing it. Like the first Who LP *My Generation*. The first time I heard that, I thought, 'What's all this about?' It was like a totally new sound. It may have been nostalgia, but for me it was totally innovative with the guitars slashing through, and the production. It just reeks of youth, the whole thing, that whole image."

From the outset he saw songwriting as the most important aspect of his music and began to try to build his own youth culture with songs which reflected his life and that of many other teenagers. Sure, it sounds corny, but in numbers like *In The City* you can see what he is getting at.

"Melody is very important to me, as a way of communicating more than anything else. A good melody is a form or plane of communication which everyone can relate to. I've always been a Beatles fan and I also liked the old Tamla and rock steady stuff. When I first started writing, it depended on what I was into that week. If I was listening to Otis Redding all week long, then I'd write an Otis Redding type song, and so on.

"I wouldn't say I'm a prolific songwriter. It sounds sort of corny but I have got to be inspired to write something. I can't really sit down and bang one out, I'm not a tunesmith in the old Lennon/McCartney tradition. I write on acoustic guitar mainly at home and I've sat for hours trying to knock out a song, but it really is a waste of time. I have to be inspired.

"It's got to be something in everyday

life, like people inspire me. There are so many ironies in life and I'm really in a fortunate position to sit back and observe things. Being in the band really enables you to do that. Being caught up in this business for a start is pretty routine at times, but not as routine as going to a factory from nine to five. All you are surrounded by is the music business, and I ain't going to write about that.

"Obviously, when we started off two and a half years ago there was that anger of wanting to prove ourselves. I thought we had some great songs, like *In The City*, which I could sing with conviction at the time — but I really can't now because it would be dishonest if I did. I've got to find a way of writing about things which really do inspire me, but also remain honest to my fans and myself.

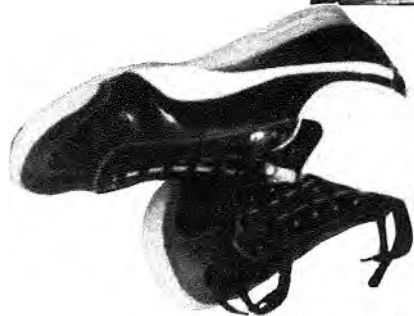
"I used to start with a tune, but now maybe I'll use a set of words, it's harder writing lyrics than tunes. Also I find that I've written a song in the past and don't think I've said enough about the subject or got to the heart of what I wanted to say originally, so I've gone back to that. There's three songs on individual albums where I still don't think I've said enough, or what I wanted to say.

"Unless a song's got some heart in it, it's pretty pointless anyway, so lately I've been starting to get the words together first. If I believe in a set of words, then I've got enough conviction to go and put a tune to it."

Paul is still in love with the idea of singles and still gets a kick out of buying new ones as well as being involved with Jam product. Lyrically, he is aiming for a complete story on a 45, something which he has come close to on the *Down in the Tube Station at Midnight* single.

He is conscious of the tag the band have got as just a Sixties nostalgia outfit — a label he disputes: "I can't really see it. I mean we're really inspired by certain aspects of the Sixties, really superficial things like clothes and music, but we updated that stuff, it's not revival. How can you revive something you don't remember in the first place? I'm just as inspired by Seventies people, contemporary bands and Bowie. I draw on influences from everybody really."

"I think we are doing something different, like the *Mod Cons* album and the *Tube Station* single. That was a totally new sound, I've never heard that sound before. I don't think there's Sixties influence in that. If



there is, then the Seventies are there as well, and the Eighties — where do you stop?"

The Jam are one of the few three-piece outfits on the scene today, and considering that many of the four- and five-piece bands find it necessary to supplement their line-up with extra musicians as their music becomes more complex, it would seem that the Jam might have their share of problems.

Paul explains: "A three-piece has still got that Cream stigma attached to it and always will have, but we've got an entirely different approach. We have difficulties, yeah, like the new single (*Strange Town*). We've been trying to learn to play that live. It's got its drawbacks but when you actually achieve something, it's much nicer if three of you have done it without horn sections or an extra guitarist or keyboards.

"Also, the songs take on different dimensions, in some sense, live — which is quite interesting. I suppose bringing in extra musicians could open a lot of doors for us, but things are really compact between the three of us and we'd probably lose something along the line."

With his playing he prefers to play rhythm and believes he has evolved his own particular style which verges on playing lead anyway. Paul cites Wilko Johnson as the first Seventies guitarist to make an impression on him through his clipped chords style of playing.

Compromise is pretty much of a dirty word in the Weller vocabulary, particularly where his music is concerned. "Out of all the original bands

we are the ones who have stuck by our word. A lot of other bands make really big compromises — which they don't have to do. It's like getting a big American producer in, just to seal up the American market. What's that really about?

"As far as we're concerned, if people accept us there, great — but I'm not going to tour there six months of the year. It's such a conservative country, I'm not willing to make the compromise. It's easier for someone like Costello because he's always had that Americanised sound."

He feels that the band were lucky in some ways when they signed to Polydor because the A&R guy who signed them, Chris Parry, worked closely with them for about a year producing their records and acting as a kind of co-manager. Chris has since set up his own label, but the band now have almost complete control of their records, promotion, etc., together with their producer Vic Coppersmith.

Paul was a great believer in the New Wave revolution which carried the Jam into the limelight, but he feels that even this has stagnated into the world of the superstars once again. "To me the music scene has returned to what it was before. I mean, some people may find it very idealistic but I believed in all that — not anarchy, but a real musical revolution. I really thought it was going to happen, but it hasn't. We're still trying to fight it, but it's changed back to the bands who want to be stars and the kids who want to be stars.

"A great ambition for me is to think that everywhere you go and play there's going to be a bunch of kids who will pick up some guitars and start their own group. I mean that's ambition for me. With most groups you've got your megastars and your fans, but we're really trying to work out something more intimate than that.

"We've got a great relationship with our fans, especially at live gigs, which are obviously where we get the chance to meet. The last tour was great, the first time that I really got a charge out of going out and playing. I like fans coming round to see me, the kids ask intelligent things so I've got respect for them as people rather than just record buyers. You should really go out and interview them because you would find out more about the Jam than I could tell you.

"Obviously music's for everyone, but actually creating music is really for the young — and I'm talking about under-21s." So where does that leave our 21-year-old Mr. Weller? "Don't know, but eventually we want to get a label together and sign new bands. That would be good, because we'd be putting something back into the business."

He remains convinced that anyone who wants to succeed in the music business can, if the determination is there. He still sees himself as a fan who made good. "I always knew what I wanted to do, but it's accessible to any kid if he wants to do it badly enough, I believe in that. To me it's conviction, if you are convinced you can do it, then I don't think the actual technical skills really matter, that comes later anyway. If you think you're going to do it, then you will."

Idealism it may be, but compared to some of the rantings of his fellow New Wave artists, Paul Weller sounds mighty convincing — even sincere — in his thoughts about his group, his music and his fans. But what really clinched it for me was when I asked him if he wanted to be a guitar hero, he replied, "Nah, not really. Anyway I have enough trouble with my ego as it is!" Ah, such honesty.



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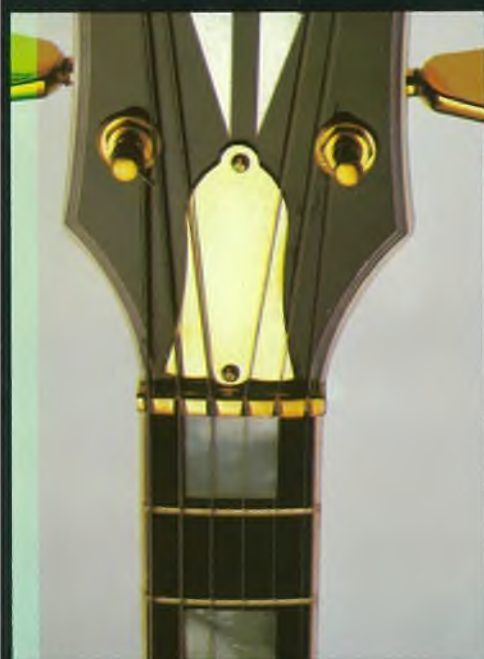
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BY JEFF PIKE

GEORGE DUKE

is in charge

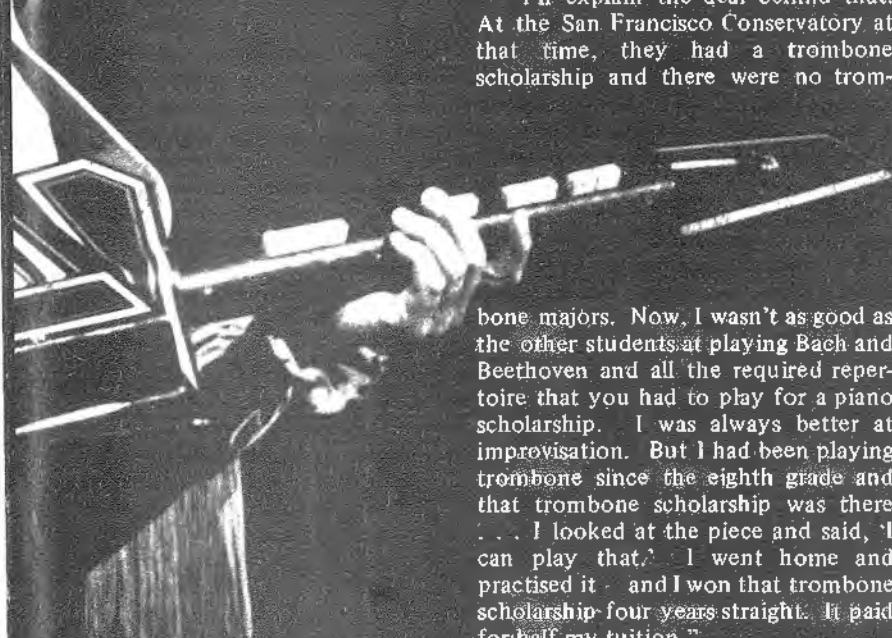
The George Duke Band have been nibbling at the hem of the British singles chart with a good-time funky song called *Party Down*. It has received plenty of airplay on the stations the housewives listen to, and has set Travolta lookalikes lurching round the disco floors throughout the land. But George Duke's eight-piece ensemble is not a disco band. Nor is it a soul band. Or a rock band or a jazz group or an Afro-Latin free-improvisation workshop. It's all of them.

Duke himself has played piano professionally in all those areas, from bossa nova to bebop, from gospel to rock 'n' roll. He's studied classical music, too. Now he's reached the stage where he simply doesn't recognise the boundaries. "Listening to a concert or an album by the George Duke Band is like an unguided tour of contemporary music. They hopscotch from one style to another in the twinkling of an offbeat.

Duke is an exciting performer on all his keyboards. But he's much more than just that: composer, arranger, singer, producer, perhaps above all bandleader. And that's a job he takes seriously: "It's difficult because you're dealing with personalities and you have to be a father and a leader at the same time, to be able to offer suggestions without intimidating someone. Everyone I have in this band, as far as I'm concerned, is a star. They're all excellent musicians; stylistically, they're comprehensive. They can play Latin, Brazilian, jazz, rock, funk, blues and like it. And that's the kind of musician I like."

There's something inevitable about the fact that George Duke, for all his talent on his instruments, should wind up *leading* his own band. His larger-than-life personality needs to be in charge of things. And it's no real surprise to learn that his first musical inspiration came from the greatest bandleader jazz has ever known. "My mother took me to a Duke Ellington concert when I was around five years old, and I proceeded to go crazy. It really affected me. I don't remember exactly everything that went on, except that I saw this guy playing the piano, directing this band in a church. He had on a different outfit and everything. I told my mother, 'Look, I *know* I can do that. Get me a piano!'"





Mrs. Duke obliged. Little George started taking lessons and in his teens started playing piano in church. "That was the first experience that really turned me on as far as improvisation goes. I was playing very simple, gospel-orientated little things and ... touching people. It scared me to death the first time that happened — playing something that made people shout. That did something to me ..."

He still likes to make people shout. And clap their hands, and join in the chorus. He likes to *move* people. But in his teens he drifted away from gospel music to explore rock, Latin music and jazz. By the time he was 16, he was leading his own trio in a San Francisco club. He also went to college to study — trombone.

"I'll explain the deal behind that. At the San Francisco Conservatory at that time, they had a trombone scholarship and there were no trom-

bone majors. Now, I wasn't as good as the other students at playing Bach and Beethoven and all the required repertoire that you had to play for a piano scholarship. I was always better at improvisation. But I had been playing trombone since the eighth grade and that trombone scholarship was there ... I looked at the piece and said, 'I can play that.' I went home and practised it — and I won that trombone scholarship four years straight. It paid for half my tuition."

He never intended to wind up as a professional trombonist ("but I didn't let *them* know that") so he also majored in composition: "I thought it would be better if I had some sort of theoretical background to help me with orchestration and that kind of thing."

Which all suggests that he had a firm intention of being a pro musician, a bandleader, even. "Well, in your college days you never really know if you can make a living at it. You're never sure. I was playing at the Half Note all the time I was working on my Bachelor's — as a matter of fact, I was working with Al Jarreau at that time — but I still wasn't convinced. I had to get away from that club to see if I could book myself other places to really become convinced that I could earn a living."

The first step towards convincing himself came after college, when he

moved down the road to the Both/And club and started working regularly with jazz musicians. The second step came when Jean-Luc Ponty arrived in town and Duke hustled to record and tour with him. They went on the road as the Jean-Luc Ponty Experience with the George Duke Trio. That was pretty near to the big time: near enough, you might think, to make up George's mind for him. But he still wasn't convinced. "I met a load of people then and played a lot — but I was still teaching school as well. There was still that war within me between professional music and teaching."

The clincher came when Frank Zappa collaborated with Ponty on an album and invited Duke to play keyboards. A week later, he asked him to join the Mothers of Invention. "That was when I decided to be a professional musician. For one thing, I was making more money at it — you know, the big rock 'n' roll group. I had never been exposed before to thousands of people in the audience, limousines, not having to set up my own equipment, groupies, the whole bit. It was something new to me. But I liked it!"

Only trouble was, he didn't like the music too much. At that time, Zappa was purveying two distinct styles — wild, zany rock and intense neo-classical stuff. It all left young George rather confused. "First he had the sexist, crazed rock 'n' roll humour. That's what bothered me. I was like a sore thumb in the middle of all this craziness. I couldn't figure out why I was there. When I asked Frank, he said it was because it was odd. That's why he liked it. Then he also used to play music that was more akin to Varèse and Stockhausen, kinda contemporary classical music, which I used to like. It was much nearer to what I was doing at school."

"But I wasn't accustomed to that kind of radical change. We'd play a Stockhausen-type piece, then follow it up with some Fifties rock 'n' roll stuff. It used to baffle me. Frank was one of the first people to do that sort of switch and I was always confused. Since then, that type of approach has affected the way I view my music now. It's not in the same area, but it's the same approach, being multistylistic, playing different styles of music in the same show, on the same record."

He was rescued from his bafflement by Cannonball Adderley, who invited him to join his group in 1970. "I just couldn't pass up that opportunity because he'd been one of my heroes for years. That's where I grew up ►►

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musically. It was a great learning experience. I took Joe Zawinul's place in the band — so I was scared to death. But I went in there determined not to sound like Joe, to put my own personality into the thing. I learned a lot from Cannon. Part of the reason why I could go back with Frank after I left Cannonball was that I had learned to be myself on stage, to just relax and — why not play some funny music sometimes?"

It was around 1973 that he went back with Frank, joining what, to many, was the finest, most musical, most creative Mothers line-up ever. It was a period when Zappa was arranging his music meticulously for the band, but always leaving room for the appropriate improvisations, and George Duke's current work shows how much he learned from that stint under Frank's direction.

He has something else to thank Zappa for: the synthesizer. Amazingly, he had never played one until then. He'd stuck with just piano, electric and acoustic. "I fought against playing synthesizers. It was too hard to learn . . . Oh man, I'm gonna have to play this thing, with all these knobs? It was like an aeroplane cockpit. I wasn't interested in starting all over and learning to play *Frère Jacques* on the thing.

"But Zappa bought one and put it in front of me. He just left it on top of my Fender Rhodes and made sure it was always switched on and said, 'You just play it when you feel like it.' So every now and then I would thump it and it would make a sound."

Curiosity finally got the better of him and he started to take the synthesizer seriously — thought he claims it took two years to become even halfway comfortable on the instrument. Even now, though he uses half a dozen different synths, if you ask him if there are any he hasn't got to grips with yet, he'll chuckle and admit "All of them. Right now, I'm most comfortable with the Minimoog and

the ARP Odyssey. I haven't got the Oberheim down the way I would like it yet. But I'm working on it. I also like the Prophet a lot. I know it's a state-of-the-art instrument but it's got problems on the road because it's digital and digital things on the road don't tend to hold up very well. But in the studio it's great — and it's *fast* because it has 40 programmes. On stage, I'd rather use an Oberheim. I've never had a fault with it. It's very roadworthy."

Despite his modest protestations of incompetence, Duke has grown into one of the foremost exponents of the synthesizer. He uses them creatively, wittily, sometimes outrageously, but always as an integral part of the band sound. Frank Zappa didn't realise (or perhaps he did) what he was starting when he plonked a synth on top of George's Fender Rhodes.

George stayed with the jazz-orientated Mothers for three years. But the time came for a change. "When Ruth Underwood was sacked and Chester Thompson left to join Weather Report, I felt the band lost something really important — the whole family atmosphere. I began to miss that so I felt I had to leave. Billy Cobham was there, ready to go, and I said, 'Hey, let's do a band.' He said, 'Yeah.' So we got together."

The Cobham-Duke quartet lasted for a year. They toured the world, made albums and played some very impressive jazz rock. But although he had fun doing it, George Duke soon became dissatisfied. "I began to change musically. There were other things I wanted to do. I became a little disenchanted with the whole jazz rock spectrum.

"It seemed to me like a lot of people were becoming a little egotistical musically, playing a lot of notes over a rock beat. I see it this way: jazz started out as a bar-room music, with whores and pimps around. It was dancing music, it was gut level, bottom music, right? It was never pure. It was fusion music, with two diverse cultures as well as musical styles coming together to make jazz. And I think it has become *more* fused all this time. It seems that in the jazz musicians' quest to have the music taken seriously, they lost all the common people, because in the Thirties, when it was dance music, *everybody* danced to it.

"I wanted to see the dance come back to music. I wanted to see the fun come back. I got tired of having to go on stage looking like this (*frowns*) and not being able to smile or move around on stage."

Duke certainly moves around on stage now. Even when he's playing synthesizer, thanks to a unique instrument he calls the Funkosizer. It hangs

round his neck and gives him the scope to prance, pose and possess the stage like the most flamboyant lead guitarist. It's a role he plays magnificently, partly because he patently enjoys showing off, partly because he doesn't see why the rest of the band should have fun leaping around while the keyboards player is locked inside a fortress of instruments. "I got tired of being walled in, so I took all my keyboards and had them recased in Plexiglass and silver, so you can see the guts. I put some lights inside them to make them visually interesting and I try to arrange the stage so that there's nothing in front of me. Then of course with the Funkosizer round my neck, I can walk around, go talk to somebody on the other side of the stage . . ."

The idea of the portable synthesizer is not new. It's the sort of instrument that could have been designed with an extrovert like George Duke in mind. In fact, this one was. "It was designed for me by Wayne Yentis, a guy who does a lot of keyboard modifications in LA. He has worked closely with Tom Oberheim on certain projects. He said he could design an instrument for me that was very portable, very light, that would have all the controls in a neck like a guitar's. It took him about a year to make it and it's a great instrument. You've got all the low frequency oscillators, the pitch control, your octave switches, two octaves up, two down, all of your modulation controls and a pitch wheel — all there in the neck."

There's something irresistibly *jolly* about seeing big George Duke striding around the stage with a synth round his neck, rapping with his band, stomping his feet, wailing funky synth solos and playing to the gallery. The rest of the band obviously enjoy it too. "That's the whole thing. The whole element right now is just *fun*. I think it's possible to have fun and play good music at the same time. I don't consider that I'm playing disco music. The funk music that I do play has no relation to disco because the approach is totally different. Disco is designed for dancing, funk is for the body *and* the mind. But it's fun and that's what I like about it.

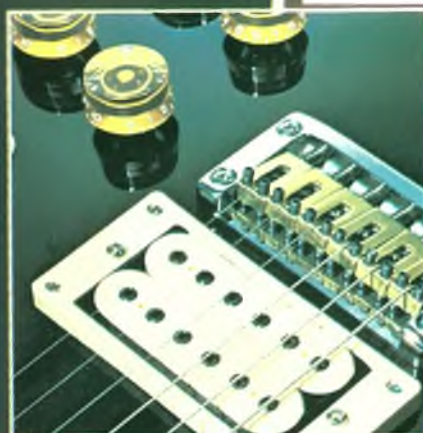
"The music I'm playing now, I find immensely more satisfying than everything I've done in the past. Not only because I can play more of my own material and have it played the way I like to have it played, but because I've really got a family situation going here. This band is not just me, telling them what they are going to do. It's a collective personality that's directed, more or less, by me. I come in to the rehearsal with the charts, give the music to everybody and say, 'Here's the song. Let's see where it goes from here.'"

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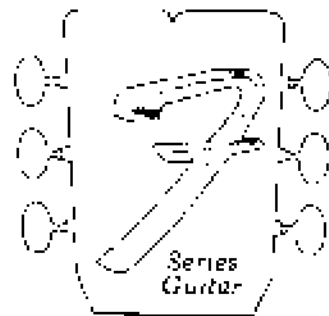
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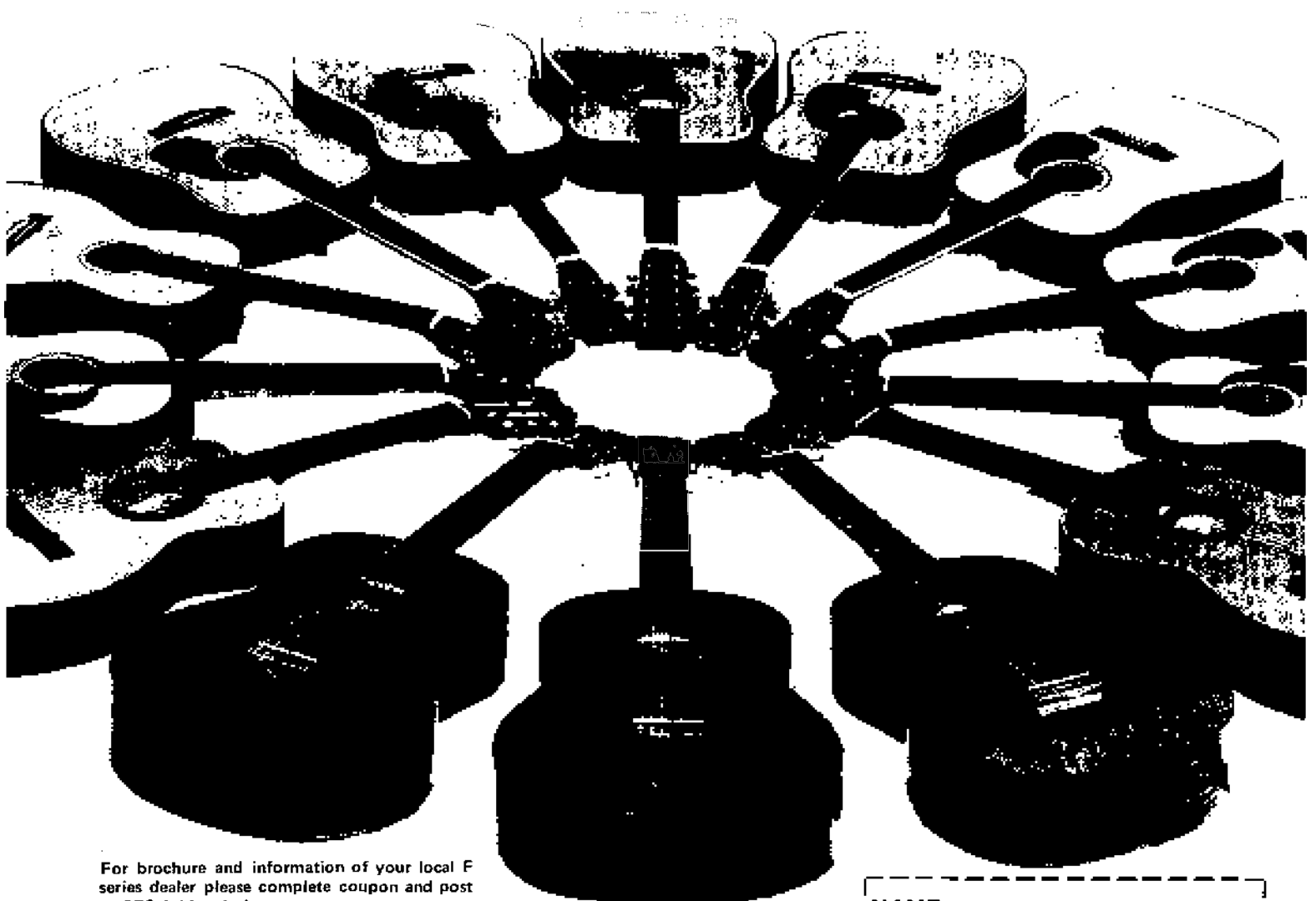


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Budget Guitar Review

This is not our usual sort of guitar check. To emphasise the point, you will notice that we have a new title. It does not mean that our usual Guitarchecks are coming to an end, or that there has been any change of approach or policy. In fact, this issue also carries a review of a superb acoustic, made to very high standards, which will be judged according to the same high standards. However, many readers have asked to see some reviews of inexpensive guitars, to help them sort out the better or more suitable instruments which come within their limited budgets.

I am frequently asked to examine and report on some of the best guitars available in the world today, but I have not forgotten that as a schoolboy I built and sold home-made radios to earn a few pounds for a junk-shop guitar. I have very clear memories of that instrument. It was almost unusable, probably because it was almost unplayable. It is my firm belief that it only managed to leave the factory in a wheelchair. That guitar set back my progress by several years, and I would like to protect other beginners from the same fate.

We also have many readers who are certainly not beginners, but who cannot or do not wish to spend outrageous sums of money on musical instruments. Beautiful materials and the best workmanship are very pleasing but they are not essential.

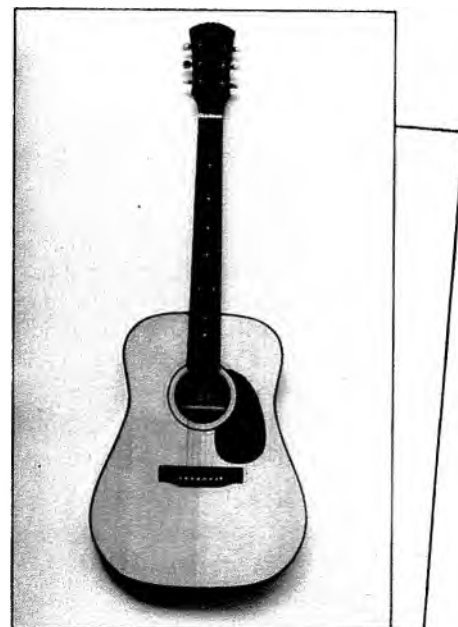
Obviously, most of the cheaper instruments are not going to be as well made or as pleasing as the best and most expensive instruments. If I review them by the same standards, I would appear to be unfairly critical of the cheaper ones. If I use two different sets of standards, there is a considerable risk of confusion to our readers and ill-

feeling from manufacturers. So the review standards used for our Guitarchecks will continue unchanged. In addition, we shall from time to time carry a Guitar Review such as this one, on a small group of less expensive instruments. You should remember that these are not top quality instruments and I shall not assess them as harshly.

You must expect to find and accept minor cosmetic blemishes on cheaper instruments. You must also expect to find a certain proportion with serious faults, such as bad fretting or warped necks. I see no reason why you should have to accept such instruments, and if you should be offered a lower or middle-priced guitar at a big discount, because it has a serious construction or alignment problem, you can be fairly certain that the cost of putting it right will be at least as large as the discount.

All large-production instruments, but particularly some of the lower priced ones, may be subject to variations between one production batch and the next. Guitar reviews are no substitute for common sense and careful shopping around. In many cases, you may do better by shopping around for the best individual instrument, rather than the lowest price. I think this applies particularly to the cheaper instruments, because you are not likely to save very much anyway, and you will certainly find some instruments better than others. I would suggest that if you want to buy an inexpensive guitar, and you expect to be allowed to try out several examples in the shop before choosing one, you will be more welcome and you will probably receive better service if you find a time which suits you and the shopkeeper.

feels high, because the string slots in the nut are not as deep as they might be. The first string, particularly, is rather high above the first few frets. Steel string nuts are more tricky to adjust than those on classical guitars. This is the sort of thing you could ask a helpful shop to do for you. It should take less than five minutes and would make the guitar easier to play



on the lower frets (which is where most self-taught beginners play most of the time).

Without a nut adjustment, I would rate the playability as fairly good, and better than I would expect for a steel-string guitar at this price. With a nut adjustment, I would rate the playability as very good for this kind of guitar. The neck is just a little on the thick side but this really doesn't feel like a cheap guitar. The frets seem quite well finished and the fingerboard has bound edges, with dots on the front and edge.

The machine heads are standard open-gear types and work smoothly, and the strings do not creak in the nut when they are tuned. The bridge is made from an unspecified black-painted hardwood. It appears to be firmly stuck down to the guitar front and the bridge-pins and saddle are reasonably well fitted. The plastic saddle is quite thin, and its slot is a little too wide. Samples of this guitar with a fairly high saddle could have trouble with the saddle leaning over and/or bending.

As you would expect at this price, the front, back and sides are made from laminated woods. The neck and the outside veneers of the back and sides look like one of the eastern woods similar to mahogany, finished in a middle brown glossy lacquer. The front of the guitar is finished with a nice matched-front spruce veneer with clear gloss lacquer. This is a laminated

Madeira A14 Jumbo, C6 Classical, and EG300 Electric

This month's group of "honest cheapies" contains three guitars from the Madeira range. They happened to arrive all at the same time, and I thought there would probably be something for everyone. The first item is a model A14 steel-string Jumbo acoustic. Price about £38 including VAT.

You may wonder what sort of a Jumbo costs £38. In fact, not at all bad, and I would have put the price nearer to £48 on a quick guess. When the guitar arrived, the neck was straight and the action fairly low.

After a few weeks tuned up and hung on the wall, the neck was not so straight, and the action too high for my comfort. Fortunately the neck has an adjustable truss rod. A suitable key is supplied with the guitar, and after about two quarter-turns clockwise I had the neck almost straight and action a little lower. It would be difficult to lower the action much at the bridge end without becoming involved in a bit of careful woodwork and some black shoe dye. Fortunately, my sample doesn't really need much adjustment at this end. The action

soundboard, but the tone of the guitar indicates that it is certainly not rubbish.

Like many cheaper steel-string guitars, this one appears to have a slightly sour second string and better bass on some notes than on others, but generally the tone also is rather better than I would have expected. On tone quality and overall sound I would rate this guitar as reasonable by any standards, and outstandingly good at this price.

The inside construction is clean, but one could hardly call it accurate. You can't have it all perfect for £40. As long as the guitar continues to sound good, I suggest you just don't look inside. Modern glues will work quite well even with rough joints.

Although the tuning and intonation are generally good, the notes are a little bit out on my sample by the time you get up to the 10th or 12th fret. If you intend to use all the fingerboard and not just the bottom end of it, check before buying.

Overall rating: Good value — very good value with a few minutes' skilled adjustment.

Typically, check for: Ease of playing at both ends of fingerboard. Fretted notes against harmonics at the 12th fret. High saddles may tend to lean over. This usually becomes worse and may affect tone and tuning.

Guitar number two is a Madeira C6 Classic. Price about £34 including VAT. This seems to be made with roughly the same woods and finishes as the model A14, expect that the front of this C6 classic has a light golden yellow colour. This has become one of the conventions for certain types of classical guitar, although most of the cheaper instruments have been coloured rather generously and one has a suspicion that they would probably glow in the dark. By comparison, this instrument has a subdued and quite reasonable colour.

If you are planning to buy a classical guitar, it is likely either that you are going to have "proper" lessons or alternatively that you want a simple guitar whose strings will not hurt your fingers. Almost any nylon-string guitar with a reasonable action will meet the second requirement. My sample of the C6 is well adjusted and has a pleasantly low action. It is unlikely that you would find any guitar easier on your fingers. It also has a tone which is bright, well balanced and quite loud, when the strings are strummed in a fairly elementary way. The guitar is well-made and relatively robust. Unless you treat it very badly, it is not likely to give any trouble. I think that takes care of requirement two. Full marks as an inexpensive guitar for campfires, infant-school teachers, absolute

beginners, parish hymn-singing groups, folk singers, and other worthy causes.

The first-mentioned requirement, that of someone who intends to have proper classical guitar lessons, is a little more complicated. Many guitar teachers consider that guitars suitable for serious lessons, even for a beginner, must have certain dimensions or measurements corresponding to a sort of international standard for classical guitars. Except for small children and adults with unusually small hands, this is generally a very sound principle.

I don't really need to go into all the details, but I think one could say that this review sample meets all (but one) of the requirements for an inexpensive and "correct" classical guitar, suitable for a beginner who wishes to learn to play properly. It has a nice action, it has a reasonable tone, it has all the right sort of measurements. Unfortunately, my sample does not quite play in tune towards the upper end of the fingerboard with any of the strings in the fitted set. It is quite normal, although not ideal, for some of the strings on a classical guitar to be noticeably out of tune at the octave. Most classical guitar music is written so as to avoid these problem areas. Even so, the position of the bridge usually has to be a compromise between conflicting requirements. On this particular guitar, either the entire set of strings is very strange or the bridge compromise leaves some room for improvement. I think at least the top string should be roughly correct at the octave and on this guitar it is not. Other samples may be better in this respect. Don't go away thinking you should avoid this Madeira guitar because it has a tuning problem: it is not unique. You are likely to encounter this problem in occasional batches of guitars under many different brand names. Sometimes bad strings can cause the same problem. If in doubt, find a shop you can trust, and then trust them. Failing that, ask your guitar teacher. Better still, ask both of them.

For playability and general construction I would like to give this guitar a rating of "good" but the mild intonation problems must bring this down to "fairly good". Either the strings or the bridge need some changes. For tone quality and overall sound it clearly deserves a "good" rating. The bass is better than the treble, but this may well improve with playing.

Overall rating: Good value for money. Thoroughly recommended for casual players, and (if checked for 12th fret accuracy) for serious beginners. There are a few other guitars which offer similarly good value for money. You may find them if you shop around very carefully, but I don't think you would actually find *better* value in this



sort of guitar.

Typically, check for: Fretted notes against harmonics at the 12th fret if you intend to play more than a few simple chords.

Guitar number three is a Madeira EG 300 solid-body electric. Price about £150 including a hard case and VAT.

I appreciate that £150 is quite an increase on the £30 to £40 of the previous two guitars. However, I think this guitar offers relatively as good value for money as the A14 Jumbo. This is a good illustration of the principle that the cheapest good electric is usually much more expensive than the cheapest good acoustic. As prices go at the moment, £150 is a small price for a reasonable quality electric guitar and a hard case. Of course you *can* buy an electric guitar for half that amount. You can also buy an acoustic guitar for £10 or £15, and you can't expect much from either instrument. Electric guitars are more expensive. This is not the most tidily-finished guitar I have ever seen, but it does seem to have all the essentials. If you know of a better new guitar for the money, I would like to hear about it.

As you will see from the photo, the EG 300 is a double-cutaway, solid-body guitar, with a 22-fret fingerboard, two humbucking pickups and the usual complement of controls and switches. Apart from the second cutaway, it is a quite standard sort of electric guitar and even the double-cutaway idea is becoming increasingly common on various brands of guitars imported from the East. The neck is a separate item and does not go right through the body. However, the neck joint is cunningly arranged to approach the look and feel of a "heel-less" neck. You don't quite have the advantages of a much more complicated and expensive design, but you will probably find it easier to get up to the top frets.

If you consider the price of this guitar, and allow for the fact that this includes a hard case, you will appreciate

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Budget Guitar Review

that the makers must have cut a few corners somewhere. I think they have probably cut the right corners. For £150, you get a reasonable fretting job, workable (but slightly sloppy) machine heads, a maple neck with what seems to be a rosewood fingerboard, large pearloid block inlays, an adjustable bridge, the usual selector switch and volume and tone controls and two DiMarzio pickups. You also get a solid body, with a carved front which actually is a carved front and not a hollow plywood construction.

Someone is bound to write in to ask which type of DiMarzio pickup is used on this guitar. I should like to answer this one before we receive a deluge of letters on the subject. If you look carefully at the advertisements in this and other music publications, you will see that DiMarzio pickups are available as separate boxed items in several varieties. You will also see that DiMarzio pickups are supplied as standard or optional equipment on several makes of guitar. Some of these pickups fitted by guitar makers correspond closely to the separate, boxed pickups on sale in the shops. Others are "specials" designed and made to meet the requirements of a particular guitar maker. These "specials" will usually be quite similar to one or other of the standard, boxed DiMarzio units, but there may be slight differences in tone or output. At this level I think it is really a matter of individual taste. Also pickups designed for certain guitars may work best on those guitars. If you want to know what the result sounds like, go and play one. If what you really want is to learn about pickups, hang on for the IM pickup survey — it is coming.

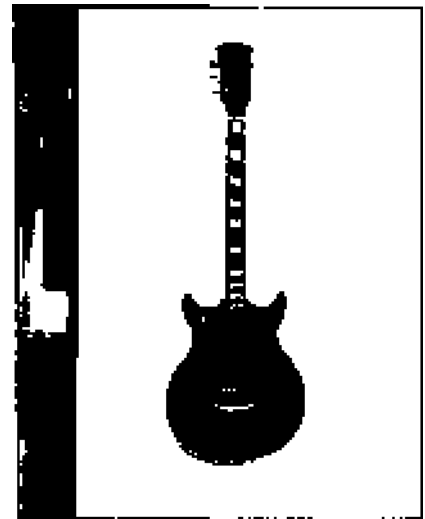
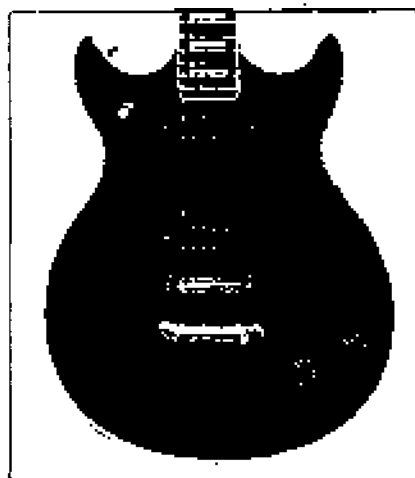
The overall sound of this guitar is warm and mellow. There are indeed rhythm and treble pickups, and there is a large difference between the sounds you will get from them, but overall, it is a mellow sound rather than a bright and metallic one. The sustain is not particularly long, in most positions, but the notes seem to have that odd property of almost building up in volume before dying away. To my ears, this sort of sustain fits with the sound of the pickups and sounds good. Of course this is only a matter of individual taste again, but I have played a guitar which had a similar sort of sustain and was fitted with rather aggressive, harsh-sounding pickups. The combination produced a sort of ringing sound on each note, which eventually produced a sort of ringing sound in my head. Not nice. (I know rock is not supposed to be nice, but I don't think it is supposed to give you a pain in the head, either.) Perhaps you follow what I meant about certain pickups suiting (or not suiting) certain guitars. You can ring the changes but you may get more

"ring" than you bargained for.

I think these pickups suit the guitar and produce a sound which has a distinctive character. As they come fitted as standard, and you don't have any choice, that is all you need to know. I like the sound, but if you really want something with a bit more bite, you would get a good contrast with a parallel-wired DiMarzio "Dual sound", or perhaps a Mighty Mite "Vintage", in the bridge position. On the whole, I would suggest you leave the guitar alone until you have found out what it can do. The smaller MXR equalizer will usually make one guitar sound like three different ones anyway.

I think that covers the guitar's good points. Now for the less good points and even the plain bad ones. First, the neck on my sample is not really straight. The guitar plays well enough with a moderate action, but buzzes in places with lower settings. The neck is not far wrong and appears to be stable: a light fret-filing should solve the problem. As I have explained, cheaper guitars are likely to vary a lot, so there is no certainty that you would be offered one with a poor neck. Our recent articles on buying and adjusting cheaper guitars include some simple and fairly reliable tests for neck straightness, which you can easily carry out in the shop.

Secondly, my sample is made from decent wood, and has a pleasant if not amazing red finish. The finish is generally good except for the white bindings around the edges. It is normal to spray over these and then to scrape off the unwanted coloured lacquer at a later stage. On my sample, the scraping is erratic and rather crude in places. This does not look attractive, but it has no effect on the guitar's performance. You might consider whether you would rather pay a lot more money for the same quality of guitar but with neater bindings. This is a budget guitar and I would rather have the money spent on good pickups than on pretty binding. However, if they could just use a sharp potato peeler next time...



The bindings on the edge of the fingerboard are quite well finished but the outer corners are sharper than I would like. This probably does affect the guitar's performance a little. You could easily remove the corners with an emery board and you would probably find the neck more comfortable.

Some of the machine heads have a bit of play in the gears. If you know how to get the best out of machine heads (by always tuning up to a note, from below) you will have no trouble. If you just "turn the knobs until it sounds right", you may need to buy better and more expensive machines.

Finally, the bridge on my sample cannot easily be adjusted up and down on the treble side. There is a screwdriver slot, but the adjustment is stiff and it is essential to use the largest screwdriver which will fit properly. It would be a sensible move to take the vertical adjustment apart and apply some grease. (I have found an excellent lubricant for die-cast and/or plated parts is "Wool Alcohol Ointment, BP" which can be bought from some dispensing chemists. It looks like sticky grease and 100gm is not expensive.)

Overall rating: A good working musician's instrument in the lower price range. Good sound. Appearance not quite as good as performance. Probably unbeatable value for money at present prices, as long as you check your instrument carefully.

Typically, check for: Neck straightness. Any lacquer cracks around neck joint on new instruments (don't accept). Any string buzzes, with a low action, which can be heard through an amp. (Most solids are a bit buzzy without an amp. What matters is the amplified sound.)

That completes the Madeira trio. If other importers have similar groups of instruments which they feel offer good value for a variety of tastes and requirements, I would be happy to give them proper consideration.

Stephen Delft

Basscheck

B.C. Rich Mockingbird Bass £750 inc VAT

Without doubt, the B.C. Rich range of electric guitars epitomises the expression "axe" when a musician refers to his guitar or bass. The Mockingbird shape especially is very reminiscent of a lethal medieval hatchet, and is either sensationally show-stopping in appearance, or crude and tasteless, depending on the individual. I personally admire the individualistic approach of this small, specialised firm of quality guitar makers, on sticking their necks out (no pun intended) and providing an instantly recognisable range of products, even if I'm uncertain of my own feelings about the slightly bizarre shapes.

I must admit that when I first stumbled on a B.C. Rich, in a store window in New York, I was immediately drawn to it, with mixed feelings of awe and disbelief, whispering under my breath, "What the —'s that?" This is probably the reaction they hoped for when designing their guitars and, in this sense, they definitely score.

With the Mockingbird bass guitar under review, apart from the body shape the main distinguishing features are its double octave scale (a feature of all B.C. Rich electric guitars) and a combination of the special Dual Sound pickups, the extremely comprehensive active and passive control and selection circuitry. The complete instrument is handmade, apart from the electronics and hardware, and the workmanship and finish is excellent. I especially like the one-piece "neck-through-body-to-the-tail" concept of construction. It provides rigidity as well as easier access and playability to the highest fret positions, as no "heeled" joint impedes your technique at the body-neck area of the back of the guitar. A beautifully sculptured, smooth increase in the gentle slim contour of the back of the neck at this point is the only sensation apparent to the thumb when sliding

the left hand up to these stratospheric (for bass) musical regions.

The long-scale neck is one-piece maple, with a rosewood fretboard, and features 18% nickel frets, an internal truss rod, and diamond-shaped mother of pearl inlays. Its reasonably slim cross-section and relatively narrow finger-board present a potentially fast and easily playable neck. However, the extra (double octave) length and extreme cutaway body features seem to me to be the dominant contributors to a disturbing balance drawback. The whole instrument is overwhelmingly neck-heavy and I found the considerable left arm support necessary to keep it at the required angle was off-putting to my left-hand technique. It seems that, in this instance, appearance has taken priority over balance because although the body is made from solid maple, its weight and design are not sufficiently complementary to the neck for the centre of gravity of the instrument to be correct for comfortable "standing up" playing. Played in a sitting position, however, the bottom, sharp, curved horn fits comfortably on the right thigh and the guitar balances nicely at this point.

Now, I'm pretty sure this instrument isn't designed purely for session players or seated musicians generally, as it has all the visual attributes of a phallic, eye-catching, shit-kicking, concert rock 'n' roll instrument. So this balance criticism is pretty important.

I like the subtle head shape, with its attractive rosewood veneered face, and stylish mother of pearl "R" logo inlay. The head face is matched by parallel strips of the same material, each side of the central body-neck, one-piece strip at the junctions of the two outer body sections. The Grover Imperial machines are smooth and positive, and the kinked, wavy machine head surfaces not only present easier

Jim Rodford is a versatile and experienced bass man. His professional career started with the Mike Cotton Sound, and progressed through Argent to Phoenix. He has recently joined the Kinks as their regular bassist.



"feel" to the fingers, but also complement the slightly weird vibe of the instrument as a whole.

The bridge is the tried and tested – and extremely functional – Badass model with the ball ends of the strings anchored in pass-through holes in the tailpiece. String length is easily adjustable by four anchored screws through individual string saddles, with the screw heads located under the ball-end slots in the tailpiece. String height is adjusted by two screws at each end of the saddles by means of an Allen key. In theory, this is ideal but, as I've mentioned before in previous reviews, it's all too easy to mislay an Allen key and, in an emergency, far harder to find one to fit your particular gauge than a simple, slot screwdriver. As it happens, the action on this particular bass was set rather high for my liking, and I couldn't adjust it, because no Allen keys were provided. Now I realise this is quite trivial but is a good example of what can happen.

The pickups are specially wound, high-output DiMarzios. Each pickup is split into two, both halves housing four pole-pieces each, like double Fender Precision pickups. On this particular bass, B.C. Rich offer what they call their standard circuitry which boasts both active and passive output and tone controls. The wiring layout is very comprehensive and versatile, but simple to suss at the same time. A Standard Circuit number diagram is shown and you will observe that the pickups are not only individually selectable, but the wiring also allows what they term Dual Sound from either the front two or the back two. In other words, the Dual Sound switches split either pair. The phase switch puts each set, or individual double pickups, out of phase with the other. But this effect, like all the subtle sound changes obtainable from this instrument, is greatly heightened, and in my opinion only effectively useable, when the active, or pre-amped circuitry is switched in via switch 3. (A standard PP3 battery powers the circuitry.) The pre-amp volume knob 3a is particularly useful here, giving much needed extra control to the output and tonal boost of the active circuitry. The six-position Varitone switch, is, I think, self-explanatory, and is useful when quick, preset tone changes are required. The overall master tone pot (8) overrides everything, allowing endless tone permutation possibilities.

A fairly lengthy familiarisation process is necessary before the full potential of the instrument becomes apparent, in relation to the individual, and often vastly different, sound concepts of bass players generally.

Testing it at Konk recording studios, I found the complete spectrum of various sounds obtainable far more audibly discernible than in a live situation, due of course to the exacting high-fidelity perfection of studio equipment.

I also gave it a live test while sitting in with a loud five-piece funk-rock band, Cahoots, at my local rock pub. Soundwise, I obtained everything I could ever need and much more, and when the active circuitry was flicked in, awesome power added new dimensions to my technique, and the tonal mixtures I was playing around with. Luckily, the pre-amp volume knob allows you to monitor and preselect the output boost of the active circuitry, to lessen the likelihood of blowing up your speakers. The Sunn amp and 4 x 12" speaker cab I used

handled it well, but I feel a lower quality rig would not be able to handle the full potential of this instrument in terms of both output and discernible tonal variation. In this sense, and in view of the price, this instrument has got to be aimed at the pro.

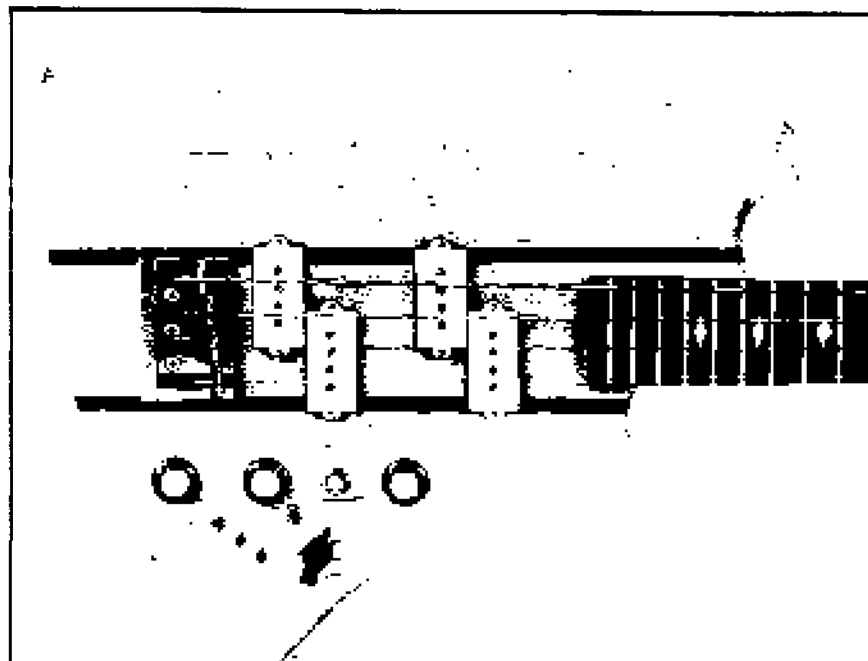
The all-round quality and finish is superb, including the fairly new Straplock system, which is provided as standard. The balance aspect does really worry me though, as I found that playing around the first position, in the key of F for instance, was extremely uncomfortable. My left arm soon began to ache, and holding the neck at the required angle impeded my left hand technique greatly. It seemed that the only way to balance it comfortably was to rest the right forearm in the upper inward curve of the body, while employing finger style technique. Many bassists, including John Entwistle for instance, play this way, and for them, the balance problem is solved, as the natural downward weight and pressure of the right arm counterbalances the neck weight. This form of fingerstyle technique is by no means universal though, and for those of use who tend to arch our right hands into a high bridge, leaving the forearm and elbow clear of guitar body contact, this balance problem is unacceptable in my view.

For the less critical, fine-tone change requirements of live work, some of the sound selection choices (such as the out of phase facility and roughly half of the Varitone positions) seemed relatively ineffective and unnecessary. But at least pretty well every conceivable choice is available, and I congratulate EFR Guitars of London, a small home-based operation who specialise in rare American guitars, for taking a gamble, in being the only importer in the UK of these fine, individual instruments.

I personally have grown to admire the shape of this particular product, and the disturbing effect it seems to have on not only other musicians, but punters also. It's probably the ultimate chick-pulling axe, if you're into that. And if they can get the balance problem sorted out, then in my book, it will become one of the First Division, choice contenders at the top end of the bass guitar world market.

Jim Rodford

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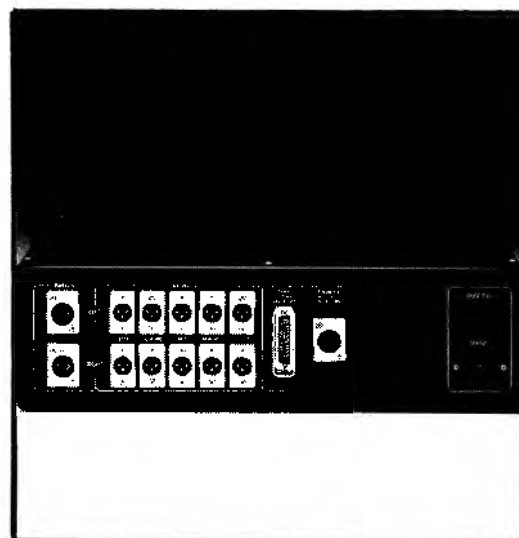
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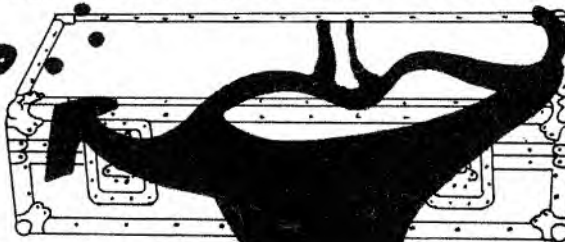
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Guitarcheck

George Lowden L38 Around £800

(Subject to change)

Whenever possible, I try to keep expensive acoustic guitars hanging on the wall for a while before I review them. That way, I can keep an eye on them and gain a better idea of how they are going to develop. You will appreciate that guitars in the lower price-ranges may sometimes go seriously wrong after a bit of use. It is not an ideal situation, but I don't think anyone would be very surprised about it: such guitars are often made down to a price and occasionally things go amiss. It is also possible (but thankfully, less common) for very expensive, finely made guitars to go wrong, in the same way that a finely-tuned racing car engine will occasionally over-reach itself. That is why I like to watch them for a few weeks and play them occasionally during this time. I do not always have the time or opportunity for such close observation, but I do try to include at least the really expensive top-of-the-line instruments offered by various makers.

Unfortunately, if I provide more information on the way a guitar may develop some of our readers may wrongly assume that it is a bad guitar. If they do so, they are completely missing the point. If I find, or suspect, any serious problems in a review guitar, I shall say so distinctly. If it only needs little adjustments after a month or two, it may help you to know

about them, but it does *not* necessarily mean that there is anything wrong with the guitar. In fact if that is *all* which needs doing, to bring the instrument to its optimum performance, you can be more confident that it will perform reliably in the future. Some dealers make a point of asking customers to return their guitars for a quick (and free) check after two to three months and I think this is generally a sensible arrangement.

This Lowden L38 guitar has given me a few surprises while it has been on the wall. First, it started out as the most expensive guitar from that maker and sounded loud but rather uninteresting when compared to some less expensive Lowden guitars. Then it improved a bit with playing, but still sounded as though it had an exaggerated and badly blended tone. Finally, after about three months, it suddenly came to life and now sounds louder and better than any of the others. When I played this guitar with only thumb and fingernails, and with old and slightly dull strings, it could clearly be heard from the far back room of a flat to the front door. Now admittedly, I live in a quiet part of town, but between the back room and the front door is a corridor with two bends and a long passage lined with heavy winter clothes. Although made of conventional materials, this L38 appears to have the sort of projection which is often associated with round-back guitars. It also has a rich, full sound in the bass which usually only comes from very good and very well played-in American guitars. Bearing in mind that it is neither old, nor American, nor properly played in, I think this is a very promising beginning.

I doubt whether the photograph can really do justice to this guitar. It is made from ebony, mahogany, cedar and the sort of Brazilian rosewood which is often called jacaranda. The finish is so transparent that the colours of the woods seem more intense than usual. I think we have all become accustomed to seeing finishes on new guitars which are convenient for the makers, but not perhaps the best possible for tone or appearance. I happen to know a bit of inside information about the finishing process used on Lowden guitars: it involves a large amount of hard work on each instrument. If you want to know more, you will have to ask someone at the factory, but don't be too hopeful about getting a straight answer.

The body and soundboard are finished with a high gloss on this guitar and the neck has a sort of semi-matt sheen. Lowden necks generally seem to be finished this way but the bodies can be either full gloss or satin finish. In this case the high gloss suits the strong figuring in the rosewood and the abalone shell inlay around the front. I like satin finishes on guitars, but I think abalone inlay really needs a transparent high gloss surface if it is to look its best.

The edges of the body are lined front and back with flamed sycamore or maple bindings. There is no inlay up the centre of the back, but there is a small striped bit where the sides join at the bottom, by the ebony strap button. (No plastic buttons on this guitar.) The figuring on the two halves of the back does not quite match, but it is so dramatic and eye-catching



that one does not at first notice the slight difference in patterns. The centre joint fits perfectly all along, and with wood like this, there is no possibility of "faking" a poor joint. This is not only a question of appearances or the maker's pride. There is quite a lot of strain on the back and front of a solid-wood guitar in changing climates. If either the front or back centre-joint is not perfect, it is likely to open up after a few years.

The centre-joint in the front of the guitar does not look quite as good. The joint itself is fine, but what looks like a wide glue line to the naked eye, appears under a magnifying glass to be a minute smear of glue along one side of the joint. It is not quite up to the usual standard, but on a guitar which sounds as good as this, I am not going to argue.

Around the edge of the guitar front and around the soundhole there is a decorative inlay made from coloured wood strips and pieces of multicoloured abalone shell, fitted together into a continuous strip. This Lowden has real abalone shell, not plastic. With the plastic "pearl" becoming better, and some of the real stuff looking rather dull, it is sometimes difficult to tell the difference. There are even some guitars which manage to use real shell and plastic imitation on the same instrument. If you could see the inlay on this Lowden in its real colours, you would not mistake it for plastic — and you would never again be impressed by the dull-looking imitations. Once again, there is no secret production method. It is just many hours of careful, precise work. There is a place for subtle and quiet-looking guitars and there is a place for bright and eye-catching guitars. That is what we have here. Guitars do not always have to be in grotesque bad taste to be noticed on stage. If you take one of these fancy Lowdens out on stage, it will certainly be noticed. Under a spotlight, it looks as though it has been inlaid with lines of green fire and the unusual fingerboard inlays are large enough to remain interesting when seen from a distance. I suppose this is really a showman's guitar. The decoration does not make it sound any better, but if you are going to have a fancy guitar, it is very nice to see one which has been done properly. Of course, there are some American guitars with nice pearl inlay-work, but they are considerably more expensive.

The scratchplate on this guitar will be unfamiliar to most of our readers. It is made of two thin layers of wood, the outer one matching the back and sides of the guitar — a nice touch. It is optional and can be removed if you don't like scratchplates, but it will take a lot of wear off the front of the guitar. On this sample, the adhesive backing is not as adhesive as it might be and the scratchplate is beginning to lift up in places. I believe this problem has now been solved, as the scratchplates on more recently-made Lowden guitars hold on like determined limpets.

The neck is laminated from layers of mahogany and jacaranda wood, which continue right round into the delicately carved heel. The neck shape seems to me a good comfortable compromise between traditional "triangular" necks and ultra-slim electric ones. It feels very smooth and it is blended nicely into the edges of the fingerboard. The intonation at the 12th

fret is near-perfect with the strings fitted at the moment. This is a set of Guild light-gauge phosphor bronze with a substituted brass-wound light third of the same make. This was originally done because I broke a string while returning from an open tuning. After the strings had aged a bit I noticed that the brass-wound third seemed to give a better transition between the plain second string and the bronze-wound fourth string. You may wish to try this on some other guitars to find whether it is applicable to them, too.

The tuning accuracy has a lot to do with the design of the bridge (see photo.) I would respectfully point out that I have been using this split saddle system on my own guitars for many years and I believe I was the first person to do so in the UK. Since then it has been taken up first by some of my early students (who simply thought it was a good idea and used it) and by George Lowden, who had the decency to ask first. I appreciate the courtesy, but I got the basis of the idea from seeing the work of a man called Lundberg, who was working in California some years ago. Does anyone know the address of a guitar maker called Lundberg?

There is not much more to say about the guitar. It works well, it is made beautifully inside and out, it sounds good to the player, and it projects to an astonishing degree. Oh yes, it doesn't like being damp!

Conclusion

One is often irritated to see elaborate decoration on bad guitars, where money could perhaps better have been spent on improving the tone or playability. In contrast, here is a very good guitar with good and tasteful decoration. It is an expensive guitar, but most of the cost has gone into wood and workmanship. Its excellent performance justifies the additional time and money spent on decoration. There are a few instruments of comparable quality available, but they are generally available with some difficulty and at a higher price than the L38.

Stephen Delft

Measurements on Lowden L38

Serial No. 0089

Scale length 649mm

String spacing at bridge 56mm

String spacing at nut 38mm

Fingerboard width at nut 44mm

Depth of neck at 1st fret 22mm

Depth of neck at 10th fret 25mm

Heel starts at 10/11 fret

20 frets on fingerboard:

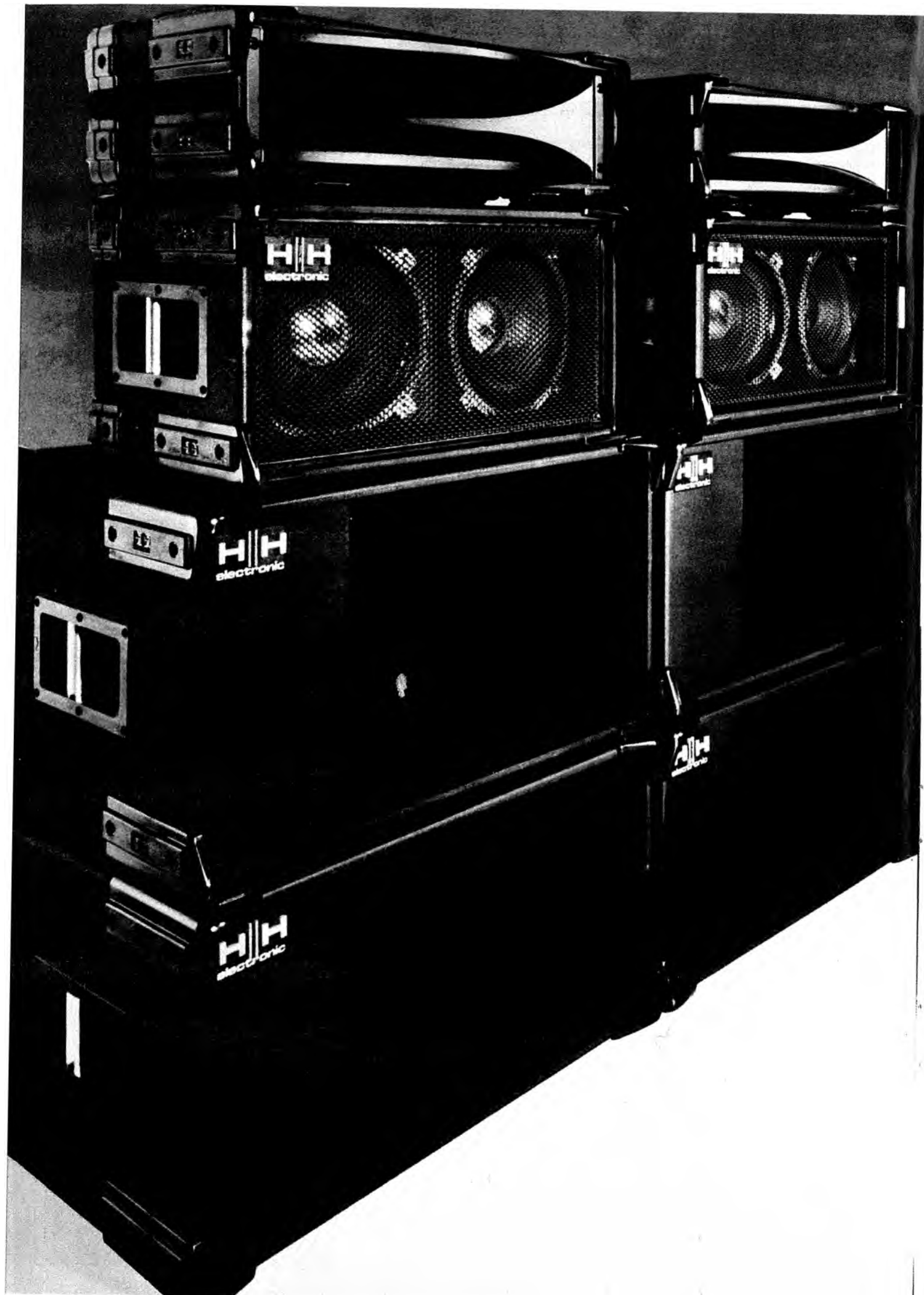
body joins at fret 14.

Action as supplied 2mm treble/
2.5mm bass.

A slight adjustment to the bridge saddles would make the action better for me, but the 12th fret measurements would end up the same as before.

Stephen Delft is a maker and repairer of guitars and other instruments, and a member of the Institute of Musical Instrument Technology. He is also a more than capable performer on the guitar.





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Listen to any conversation between pedal steel guitarists and you'll frequently hear them talk about the pro's and con's of Shobuds, ZBs, Emmons, MSAs, etc. All these are American-made steel guitars, and it's not difficult to see why such names dominate the market. The instrument grew-up in America and has always been associated mainly with country music. So, whenever people in Britain saw American country artists, they almost invariably saw a pedal steel in the line-up from one of the main manufacturers in the USA. Along with this, the only steels available in numbers in this country for a long time have been the few major American makes.

As the pedal steel has increased in popularity among British musicians in the recent few years, those same well-known names have become the names to be seen with if you play pedal steel. Of late, one or two more American makes have been appearing over here in small numbers and it remains to be seen whether they will also catch on.

But why shouldn't pedal steel guitars be made in this country as well? In theory, there's no reason at all and, in fact, they have been made. But, so far, it has never been a big enough market on which to base a business, set up a factory, and all the other associated hassles. The few times attempts have been made, the limitations, usually financial ones, have meant that it's very difficult, if not impossible, to set up for quantity production on a long-term basis. So it's all the more interesting to see a company, in Great Britain, getting under way not only producing pedal steels, which is difficult enough, but also taking on the formidable task of selling them in direct competition with the American ones.

The Springfield Guitar Co. is based in Scotland but you can obtain their pedal steels through outlets in Kirkcaldy, Manchester, Maidstone and Belfast which means that you won't have too far to go wherever in the UK you live. Jim Kerr of Springfield's has been kind enough to supply this twin-neck 10-string

model for review.

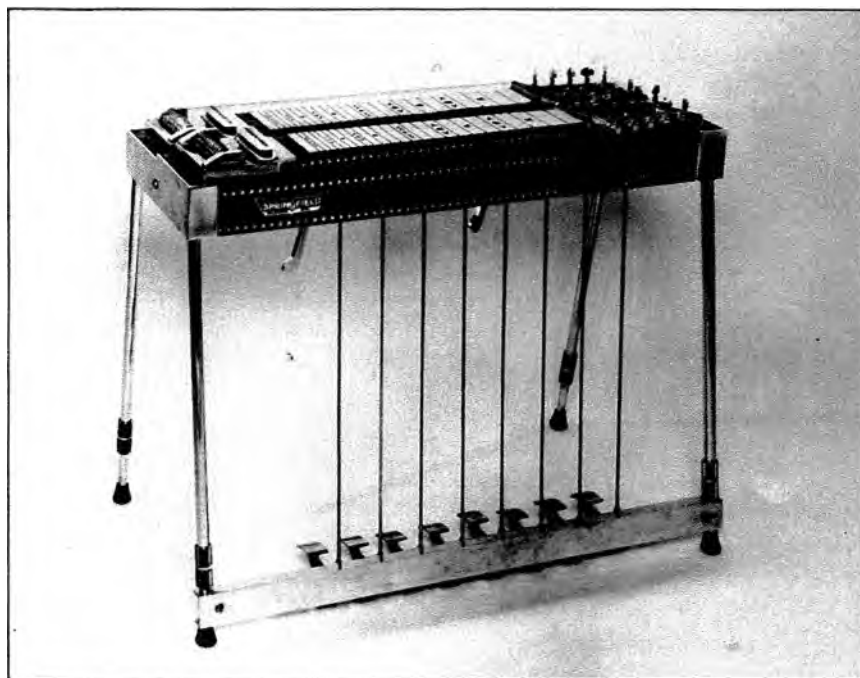
The Springfield has a well proportioned look about it, and does not break too much with tradition where general style is concerned. The review model is of Australian Walnut finished with a synthetic lacquer. This gives quite a pleasing gloss finish over the darkish colouring of the wood and should withstand knocks fairly well as, I am told, the lacquer is one specially recommended by Berger to remain flexible and not get brittle. Still looking at the top of the instrument, all the main metal parts are of nicely polished, machined aluminium. Wherever possible, no screw or bolt heads are visible, which gives the steel a nice clean appearance at the changer end of the guitar.

The quite large 3/8" (diameter) changer spindle is mounted at each end in a very beefy-looking aluminium block, a good thing as far as strength is concerned, although for my personal taste I think it would perhaps look more pleasing if the blocks were "streamlined" a bit more. The levers attached to the changer spindle are neatly made with grooves to accept the string end beads instead of pins over which to hook them. The radius of the top surface of the levers over which the strings pass is not too small, so string breakage due to fatigue at this point should not be a great problem.

The changer is in fact an all-pull type with each lever split into two halves. One half of the lever is straight and rigid, and when this is pulled by a rod underneath, an increase in tension, and therefore a raise, takes place. The other half is jointed again as it passes through the body and, when the bottom part of this is pulled, the top part moves the opposite way and the string lowers in tension. A row of coil springs, one for each string, balance out the string pulls on the lowering levers, and the raise levers just rest against part of the end-plate.

Normally, what happens on most steels is that the changer levers have adjustable stop screws which pass through the end-plate and terminate in screw heads, Allen key heads or similar, in order to "tune" the raises and lowers; but this is where this instrument parts company with convention, because the changer itself has no adjustable stops at all. The reason for this can be found if we go to the other end of the mechanism. The floor pedals are attached to the pedal bar in the normal way and are then connected to levers on the cross-shafts in the undercarriage via polished stainless steel rods. These rods hook into a hole at the top and attach by a snap-on ball and socket swivel joint at the bottom. (The snap-on type joints are not very satisfactory but are being replaced at the moment by the more usual springloaded quick-release type.)

Now refer to Photo 2. The travel of each lever on its cross-shaft is arrested very positively by a fixed heavy steel stud on the mounting plate. To each cross-shaft are fixed cunningly – designed adjustable levers, one for each raise or lower, which connect by copper-plated steel pull-rods to the changer levers. What happens is that you push a floor pedal or a knee lever to its stop and then reach underneath (the guitar is the right way up for this) to make its adjustment. When you turn the adjusting knobs (easy to do by hand), the effective length of the lever is increased or decreased according to whether



you move the attachment point further or nearer to the pivot, and this is what governs the degree by which a string is raised or lowered. The big talking point amongst players will almost certainly be whether it is acceptable to reach underneath to adjust the pedal travels as opposed to doing it at the endplate. Having lived with this steel for a couple of weeks, I personally didn't find this aspect too difficult to cope with, with a bit of practice. I have had it pointed out to me that it would look bad on stage to be seen groping about underneath to make adjustments, but I like to think that a mechanism should stay "in tune" at least throughout a gig, and this one did that OK. On the whole, it's a very cleverly designed system and it works well. There are plenty of adjustments available so that you can get a long or a short pedal travel. Also an important point is that it's relatively easy to set up multiple raises and lowers; in fact, this model would accept a triple raise and a double lower on each string. When more than one string is acted on by one pedal, the movements are automatically "synchronised", i.e. they start and arrive at the same time even though the lengths of travel are different.

Well, that takes care of the guts; now back to the outer appearance. The Japanese machine heads are smart and efficient (they look similar to Schallers), being attached to a machined aluminium head-piece. It's interesting to note that this has a centre section which supports the ends of the string rollers. The finish of this centre piece is not to my taste being a kind of milled, overlapping circle pattern. I'd prefer to see it polished or maybe decorated with Formica or a wood insert to match the body. From the machine heads the strings pass over the roller nut. Each roller is of brass and mounted on a 3/16" diameter steel spindle. Nicely made, this assembly, and it seems to work smoothly. Following the strings along we come to the fretboard. This is of Formica with a pale grey pattern in it; the fret lines are blue and the familiar position markings are of a black arrow type design. The whole lot is lacquered over. I was not impressed by the appearance of the fretboard; the mixture of blue, black and grey did nothing for the instrument, and the method of fixing it, with six small round-head screws, made it look even more untidy. However, Jim Kerr tells me that the fretboards are made up to just about any design, colour or material to order, so that should get over that problem, especially if the board could be glued rather than screwed.

The pickups, made specially for Springfield's by an independent British supplier, use 1/4" diameter magnets and are neatly constructed with a white plastic top and bottom plate. Each pickup is mounted 2.7/8" from the changer, on a height-adjustable, insulated baseplate; a good point, as the transmission of any mechanical noise is thus minimised. These particular pickups are single coil only, to special order, but the standard practice is to fit twin coil ones which are controlled from a toggle switch near the right-hand end of each neck.

The floor pedals are the only cast aluminium parts on the instrument, and are fairly large, the biggest I can recall seeing, actually. They have a shiny tread area, as opposed to most other steels

which have some sort of roughened pattern for grip. However they worked perfectly well and I personally didn't have any trouble with feet slipping. The legs are of 3/4" diameter aluminium tubing. They function well enough in that they support the instrument fairly rigidly. However, I feel that it could improve the general looks of the guitar if they were slightly thicker and possibly chromed as well, which would presumably mean they would have to be of steel.

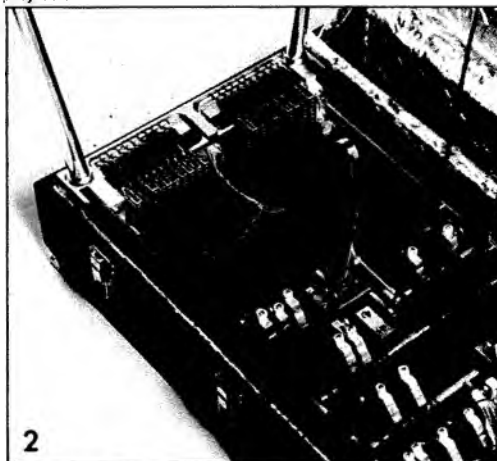
Now the sound. Played at normal level in an average room, the pickup produces a very bright crisp sound, especially on the mid-range notes. At the bottom end, there is plenty of "bite", but perhaps not quite enough depth. The highs are clear without being too harsh. As the volume is wound up, as it would be on a gig with other instruments, the sound takes on a rather different character. It seems to mellow somewhat and loses some of its presence, so that what seemed a very "toppy" sound at low volume is now much warmer. For my taste I would like to hear a "thicker" sound at the higher volumes. I must emphasise that this is the way I hear it, and someone else's description may well differ to mine as personal taste comes into it, as does the effect of different amplifiers, different techniques etc. The twin-coil pickups, normally fitted as standard, could well change things anyway. You should, as always, try one and make your own judgement about the sound, for your own particular use.

This is a good-looking and sounding instrument which I think should stand comparison with the American equivalents. I think that the few detail changes I have suggested would improve its appearance still further, and I am only talking about appearance. Mechanically, I could find no snags and the steel should be easy to put in tune and keep there. The method of tuning the pedals is one over which there will be a lot of argument for and against, but it has to be stated that it functions satisfactorily. The sound is difficult to sum up concisely, as always; but I would say it is fairly smooth and sweet, not particularly "bassy", and for this reason I have a sneaking feeling it would be best complemented by a valve amplifier rather than the solid state one I tried it with. Price-wise, it is on the whole cheaper than its American rivals, although only marginally so in some cases. It remains to be seen whether the margin is enough to win some buyers over. It probably has the advantage on availability too. I hope it does succeed because, with Jim Kerr's policy of continual improvement and refinement, time should prove it an excellent instrument.

Dave Hayward

Dimensions	
String spacing (at changer)	11/32"
String length	24"
Body length	36.5/8"
Body width	12.1/16"
Height from floor — tailored to individual requirements.	
*Can be tailored to order.	

Dave Hayward has been playing guitar for over 12 years and pedal steel for over four. As a dedicated "steelie", he splits his time between session work and gigging with a popular British country band called Al Barrett's Linemen.



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You may well have heard of us, (Our free 'n' easy on wheels is famous throughout the length & breadth of lower Hamogate). The idea is that we come to your house with the gear of your choice for you to try out before you buy. This way you can be sure that anything ordered is right, before you take delivery.

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Hope to see you soon,

Stuart (the lovely one), John (Aylesbury's answer to Man. Utd.)

Don (the man who made home rule for Scotland an absolute necessity)

+

Den who wants to play for Queens Park Rangers.
(he's got the socks already).

Synthcheck

The MX-440 string and brass ensemble is the latest instrument to be added to the Multivox range of synthesizers. It is a Japanese product built along the now familiar string synthesizer concept, i.e. two basic voicings at 8' and 4' fed to modulators inside the instrument to imitate the effect of massed violins and cellos.

The ensemble has a five octave C-to-C keyboard, although with the option of 8' (string 1) and 4' (string 2) voicings, the pitch range of the ensemble is six octaves. The lower two octaves (bass) are split from the upper three (normal), and each section has its own set of controls enabling the player to balance left hand against right.

The controls run along the front panel about two inches away from the back of the keyboard, within easy reach of the playing hand. The layout is sensible and clear, with white lettering on a black background. Rocker type switches for voicing and two-inch slide controls for variable functions are supplied. The controls for each section are Brass (at 8'), String 1, String 2, Volume Soft and Slow Attack.

The Brass sound is basically the same as string 1 but with a different EQ. Both brass and string sounds have a tone control (common to the Bass and Normal sections of the keyboard), which especially for the brass can change the sound drastically. (The brass sound has a fairly well defined resonance frequency, which can be moved higher or lower by the Tone control rather like a wah-wah pedal.) The string tone control acts as a treble cut and boost similar to treble controls found on conventional amplifiers. The Volume Soft tab reduces the volume of each section by approximately 10dB, and is just about right, enabling bass lines or treble lines to dominate.

Slow attack increases the attack time (the time taken for the sound to build to maximum) from almost instantaneous (tab off) to about one second (tab on). This effect does not work for legato playing, as the slow attack has to be triggered by releasing the previous note (i.e. if a chord is played the slow attack works, but if that chord is held, subsequent notes played have instant attack).

There are two Sustain controls, one for the bass section and one for the normal (treble) section. This lets the sound "hang over" after the note is released. Used tastefully, in slow passages for instance, it can be quite effective, but in faster passages, the notes blend together in a terrible mish-mash of sound. Unlike some string ensembles, this unit does not have "sustain suppression," which goes some way to alleviating the problem of one note running into the next, by suppressing previous sustained notes.

Three push-buttons at the right hand side of the unit control the depth of modulation. In the off position the sound is flat and somewhat dead (sounding rather like a harmonium). Ensemble 1 has the effect of a moderate phasing, while ensemble 2 is the familiar full ensemble sound. These controls are common to both treble and bass sections and brass and string sounds.

Vibrato can be added (pitch modulation) which, when used with ensemble off or ensemble

1, produces the effect of a string quartet, especially if used with delay (the vibrato comes in a few seconds after the note is struck). Both delay times and vibrato depth are variable although the vibrato speed cannot be changed.

There are separate quarter-inch jack outputs for bass and treble sections as well as a gate output socket, enabling the ensemble keyboard to trigger other synthesizers. A pitch control is provided (although its range is less than a semitone) enabling the ensemble to be tuned to other instruments. This, along with a mains on/off switch and indicator LED, completes the spec. for the machine.

The unit comes built into a smart black carrying case with a detachable lid which covers the keyboard. The sound of the unit is OK, being on a par with others in its class. With judicious use of amplifier tone controls, echo and reverb, a reasonable string sound can be achieved, especially if care is taken over chording, etc.

The brass sound can be improved upon if a graphic equalizer is used to boost the top end, but because the strings and brass are mixed internally this destroys the string sound. For a little extra expense, a separate pre-ensemble brass output could have been fitted allowing external mixing and EQ of "straight brass" sounds and modulated (ensemble) string sounds. But we can't have everything, can we?

Dave Simmons

**Multivox
MX 440
£599 inc VAT**

Dave Simmons is a musician and a technician. His musical background grew from learning piano and organ as a child to playing the massive synthesizer part in David Bedford's "Odyssey". His technical training in practical and theoretical electronics has led him to become a partner in a highly specialized company undertaking all types of synthesizer modification and servicing.



Aria

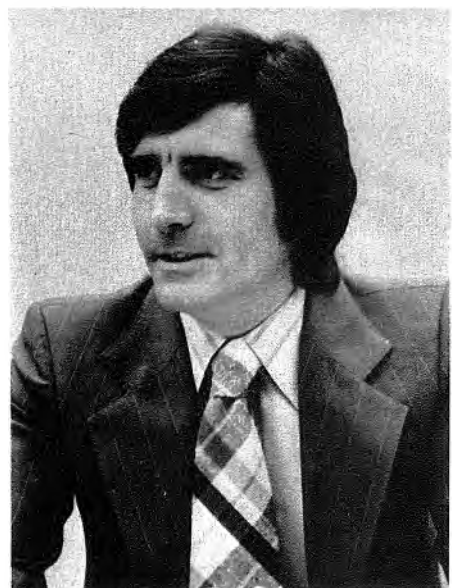
Excuse us for repeating this feature from International Musician April 1978. Over the last year our efforts to supply good guitars at prices medically approved to prevent hernia of the wallet seem to have been successful . . . We have received hundreds of compliments from musicians . . . but no reports of wallets wearing a truss.

Familiar faces behind GIGSVILLE

Nothing can replace experience and, in the music business, it's gratifying to find a company run and exclusively staffed by musicians. At Gigsville, the fact that all of the personnel are still very much in touch with music underlines their philosophy of providing knowledgeable service to both dealers and musicians.



Pete Tulett, Managing Director



Terry Mabey, Director

In a market that is already definitely over-subscribed, it is important to ask "Why bring yet another line of guitars onto the market?" The answer is quite simple, really. Gigsville was created to offer Aria guitars and accessories in the U.K. because the people behind it couldn't resist the opportunity of supplying the best value for money in a product-rich industry.

The same dedication and care that go into manufacturing Aria products has been carried over in the U.K. The Gigsville team, situated in a warehouse boasting 5,500 square feet under roof near Heathrow Airport, are very busy carrying through their plans to set up a nationwide network of dealers to sell Aria guitars: Gigsville are making it possible for musicians to obtain absolutely top quality instruments at prices everybody can painlessly afford. As an added bonus every guitar despatched from Gigsville is personally set up and tested by one of the most respected technician/musicians in the business.

A company, however, is only as good as the quality of its staff and at Gigsville the professionalism of the personnel keeps pace with the superb quality of Aria instruments.

Managing Director Pete Tulett's last business gig was as Sales Director for Rosetti (EMI Ltd.). Like the rest of the Gigsville team, Pete is also involved

with the playing side of the music business and "does odd gigs on drums whenever time and adrenalin permit". Pete says that founding Gigsville in December 1977 at a time when it had just been announced that there had been 10,112 failed businesses in the UK that year might seem a bit optimistic, but the sales of Aria are already proving that it was the right decision.

Terry Mabey, Director, continues the tradition at Gigsville by keeping his hand in at the odd gig. He became a professional drummer at 15 and gained wide experience from touring with Gary "U.S." Bonds and Gene McDaniels. Terry was drummed with a variety of groups during the formative years of rock and roll.

He entered the music business as a U.K. representative for Simms-Watts Amplification and later moved to Hohner where he became Special Projects Manager for their drum line.

As a professional guitarist who also teaches, John Small will be able to apply his extensive experience gained from previously managing a leading London music store. John is Gigsville's Sales Office Manager and will have direct contact with the shops and dealers to extend that top-quality service so important to Aria and Gigsville.

You'll never find an Aria guitar delivered to a dealer's shop in an unplayable condition. Johnny Joyce is the Quality Control Manager. As a professional known throughout the industry both for his music and his craftsmanship in repairing guitars, John is personally setting up every Aria guitar before it leaves the warehouse to ensure that the instrument on the shelf will display all of the qualities that Gigsville is determined to supply to musicians via the dealer.

This is the Gigsville team, dedicated to a line of guitars and accessories they feel offer the best value for the money in the U.K. The importance of the Aria line will be enhanced by Gigsville who will be offering a professionalism and quality of product that is refreshing in the music industry.



John Small, Sales Office Manager



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SB 600	£184.90
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JJ 12	£205.90
9300	£68.50
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LC 430	£157.80
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TS 500	£184.90
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16"x16" Floor Tom Tom. All with 9-ply shells.

Metal shell Snare Drum. All drums fitted with Remo heads.

Heavy duty cymbal and boom stand, quick-release Snare Drum stand.

Hi-Hat and Bass Drum pedals.

Colour finishes: Metallic Maroon, Metallic Brown, Silver, Black.

Extract from 'International Musician'
Review of the ARIA DO 5501 Kit

'The Tom Toms have a solid, thick sound, and tuned up or down retained an authoritative positive feel. Aria would seem to have their fingers firmly on what's wanted by drummers today (thick shells and heavy hardware) and as such, the kit does represent good value for money.'

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Frunt 200B bass amp £210.60 inc VAT

This specialist amp – designed for bass or organ – comes from Soundout Laboratories Ltd, of Surbiton, Surrey, a firm well known for their range of professional power slaves, speaker cabinets, mixers, etc, which are used by many studios and touring bands. At first sight, the Frunt 200B looks an interesting construction. It's very simple in line and build and has a performance which sometimes outclasses amps with more sophisticated circuitry. When it was displayed recently at the Frankfurt Fair, it generated a lot of interest among the professionals.

Construction

The Frunt 200B amplifier's physical dimensions are 60cm (width), 39cm (depth, including the carrying handles) and a height of only 15cm. The front panel is very straightforward and easy on the eye with a single ¼" jack input followed by an array of six rotary controls: Distortion, Presence, Treble, Middle, Bass and Channel Volume. All potentiometric controls are calibrated in white contrast on black background, and marked -10, 0, +10 for the EQ section and 0 to 10 for Distortion and Volume sections. Power on/off function is provided by a large red neon illuminated rectangular black plastic switch.

At the back are two ¼" jacks acting as speaker outputs. At this point I should mention the little note placed next to the speaker outputs, giving power ratings as follows: 200 Watt – Ref. 4 ohms; 130 Watt – Ref. 8 ohms; 80 Watt – Ref. 15 ohms. This I presume was printed at earlier design stages as the amp I have is effectively rated at slightly higher levels i.e. 210 watts when using a 4 ohms load. Also on the back we have the Echo send/return sockets and, naturally, a slave out jack.

Other rear panel features are the AC mains supply (three-pin earthed type Euroconnector) followed by a handy voltage selector (110/120/220/240V AC) and lastly a mains protection fuse holder, which unfortunately was completely unmarked, but a simple glance inside proved it to be a T6.3A/250V glass 20mm fuse element. Perhaps a little more information on the outside

would not come amiss for those bassists who wouldn't think of looking inside.

Both top and bottom parts of the enclosure are coated in black vinyl chipboard and the sides are formed by purpose made aluminium heatsinks, very large and painted red, fitted so as to act also as carrying handles.

For those of you interested, a few lines about the heart of the amp, the internal electronics. For once, the company provided quite a lot of schematic diagrams and consequently made my job of reviewing the amp that much easier. Perhaps some overseas manufacturers might take note of this and become as generous as Soundout with their literature. They happily publish everything you could wish to know, without restrictions or commercial secrets. The pre-amp stage is built symmetrically around five transistors (three BC237, one BC477 input, one BC307) with a minimum of components. This is followed by a simple distortion circuit generating variable THD levels relative to the level of the input signal and/or the Distortion (gain) control. Harmonic distortion is introduced by a highly original and simple overdrive circuit employing a pair of 5.1V Zener diodes. This really works. Look at the spec table and you will see the resultant change from a continuous 0.01% THD for the "pure" power amp stage to 0.2 – 7% THD (Distortion control at 5) or 17 – 23% THD (Distortion control at 10).

Now the power stage. This part is built around a large heatsink and a single sided fibre-glass PCB containing virtually everything needed for the power stage – including part of the power supply, i.e. smoothing two 4700µF/63V DC ITT electrolytics plus a bridge rectifier. The power supply mains insulation transformer is naturally placed separately and Soundout have used a modern toroidal device wound on its primary side for 110/120/220/240V AC 50/60Hz operations.

Most of the small components are of high professional grade and nicely soldered to the relevant PCBs. Wiring is multi-coloured and extremely tidy. All looms are finished with RS type lacing cord and generally first impressions

Mark Sawicki M.Sc. (Eng.) is a consultant in electronics who also designs and builds electronic equipment.



Finally the sound test, for which a bass guitar and an electric organ was used. The Distortion mode of operation confirms my measurements as predicted. It is easily controllable and can be adjusted to suit your requirements. The tone control EQ circuit, with both bass and organ, seems to be quite efficient and does its job satisfactorily. The important point for any amplifier if a non-combo design is the output stage protection against short/open circuit conditions. Here, this works beautifully and both pairs of output transistors (two 2N5631 and two 2N6031) look as safe as houses, even during my barbaric short circuit test, performed at full drive in the region of 200 watts.

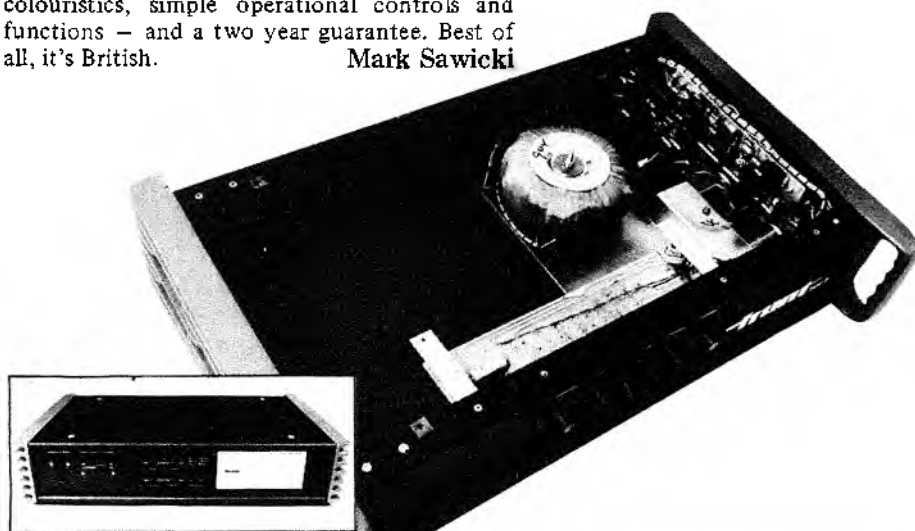
Conclusion

So here we are with nearly 220W RMS/4 ohms (at onset of clipping) power available at

just over £200 complete with distortion (from 0.05% to 23% THD), a four-band EQ, nice patching facilities, a multi-voltage operation and a good gutsy bass sound that certainly impressed me. Faced with the crazy price spiral on the audio market, 88p per RMS watt is realistic indeed. The Frunt 200B is a handsome new face on the market with simple bi-tonal colouristics, simple operational controls and functions — and a two year guarantee. Best of all, it's British.

Mark Sawicki

Mark Sawicki



PARAMETER	RESULT	TEST CONDITION	COMMENTS
Specific power output	210 W RMS 120 W RMS 90 W RMS	Onset of clipping into 4 ohms Onset of clipping into 8 ohms Onset of clipping into 16 ohms	Better than specified. Manufacturer claims: 201W RMS into 4 ohms, 120W RMS into 8 ohms. Power bandwidth: 10Hz — 20KHz.
Input sensitivity	Approx. 0.2 mV RMS Approx. 20 mV RMS	Ref. Distortion control full on Ref. Distortion control off	1 KHz Quite sensitive but still OK. The input sensitivity levels vary from 0.2 — 20 mV RMS depending on setting of the Distortion control. The power amp stage gain is approx. 32.5dB, Ref. 1KHz.
Input impedance	Approx. 47k ohms	Ref. 1KHz	Will suit most electric bases.
Tone controls	± 20dB ± 15dB ± 1.0dB ± 15dB	Presence @ 3KHz Treble @ 2.5KHz — 20KHz Midbass @ 500Hz — 2.5KHz Bass @ 20Hz — 200Hz	Except for the Presence control, the 200B amp uses specially designed third order active band pass filters provided for a wide range of High/ Mid/Low frequency equalization.
Total harmonic distortions THD	Approx. 0.2% THD Approx. 0.25%	Ref. 200Hz to 1KHz V = 20V RMS Distortion control in OFF Ref. 200W RMS/4 ohms Ref. 500Hz, V = 60V RMS Distortion control in OFF Ref. 300W RMS/4 ohms Ref. 500Hz, V = 60V RMS Distortion control in OFF Ref. 200W RMS/8 ohms Ref. 500Hz, V = 60V RMS Distortion control in OFF Ref. 100W RMS/16 ohms Ref. 500Hz, V = 60V RMS Distortion control in OFF Ref. 200W RMS/16 ohms Ref. 500Hz, V = 60V RMS Distortion control in OFF	In the power amp section, the THD is claimed to be 0.1% @ 200V and 4 ohms. From these results you may see that the 200B amp operates as a true mono device, a "clean" sound just 0.25% THD as per power amp stage figure to reduce harmonic distortion due to phase relationships in the compression coil. 1% "variation" in the 100V bias (relative to 100V) will vary frequency response slightly. THD like most measurements specifies "worst case" conditions only, does not
Frequency response (power and stereo only)	20Hz	100V RMS 4 ohms	Well suited to power/PA
Power supply	100V RMS	100V RMS	100V RMS
Output impedance	4 ohms	4 ohms	4 ohms
Input impedance	47k ohms	47k ohms	47k ohms
Power supply	100V RMS	100V RMS	100V RMS
Output impedance	4 ohms	4 ohms	4 ohms
Input impedance	47k ohms	47k ohms	47k ohms

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Drumcheck

Gretsch Broadcaster II Kit £882 inc VAT

(Non-wooden finish)

I bought my first Gretsch set in 1962 and as I remember it was one of the first in Britain. When I first bought it, I used it constantly for cabaret because of its small size and inherent wooden sound with a few overtones; it was ideal for a situation where tonal quality and not volume were the consideration. Don't get me wrong; Gretsch drums certainly have plenty of volume too, but the rule with them is the bigger the drum, the bigger the sound. Because of its quality recording sound, eventually my beautiful little Gretsch set was consigned to be studio and used strictly for record dates for the next 10 years.

During the Fifties and early Sixties, they reigned supreme as the jazz set. Almost everybody in small group modern jazz has used a Gretsch set at one time or another. (The company were the first to produce a 20" bass drum with disappearing spurs and consolette tom holders — all of which became *de rigueur* for the modernists). The drum's pinpoint sound was perfect for modern jazz where every instrument needed to be heard clearly and separately, even though it was played ensemble. In this contained environment the overtones of Ludwig or Slingerland were unacceptable. For big band jazz the opposite was true: exactly what the drummer needed was the overtone sound of Ludwig or Slingerland.

Of course there are exceptions. It really wasn't until the emergence of Joe Morello that anything other than Gretsch appeared to be used by the superstars for small combo applications.

I remember Chico Hamilton in the film *Jazz on a Summer's Day* playing his single-headed Gretsch kit with beaters. It absolutely floored me because up until then the only single-headed sets I had seen were the very cheapest outfits made in Britain. Here was an expensive American set with single

heads that sounded fantastic. I once read in *Downbeat* (which I'm sure I bought only for the drum advertisements) that Chico Hamilton had just taken delivery of a new Gretsch outfit in Cadillac Green with completely gold-plated metal-ware. My mind boggled at the thought. I met Chico in the Percussion Centre in New York but just didn't seem to be able to steer the conversation around to my "teenage-fantasy" kit. The Gretsch logo was also the inspiration of much awe in me. I distinctly remember scratching it on my desk at school.

As you can see by my opening paragraphs, I have had a love affair with the "Great Gretsch Sound" over the past 20 years or so and am always pleased to be given the opportunity of evaluating Gretsch products.

The kit in question this month is the Broadcaster II. It's a double mounted tomtom set which in my (and possibly your) catalogue has the new bass drum pedal, but the old hi-hat, snare drum and cymbal stands. However, I have seen the future kit which has new "Giant" stands.

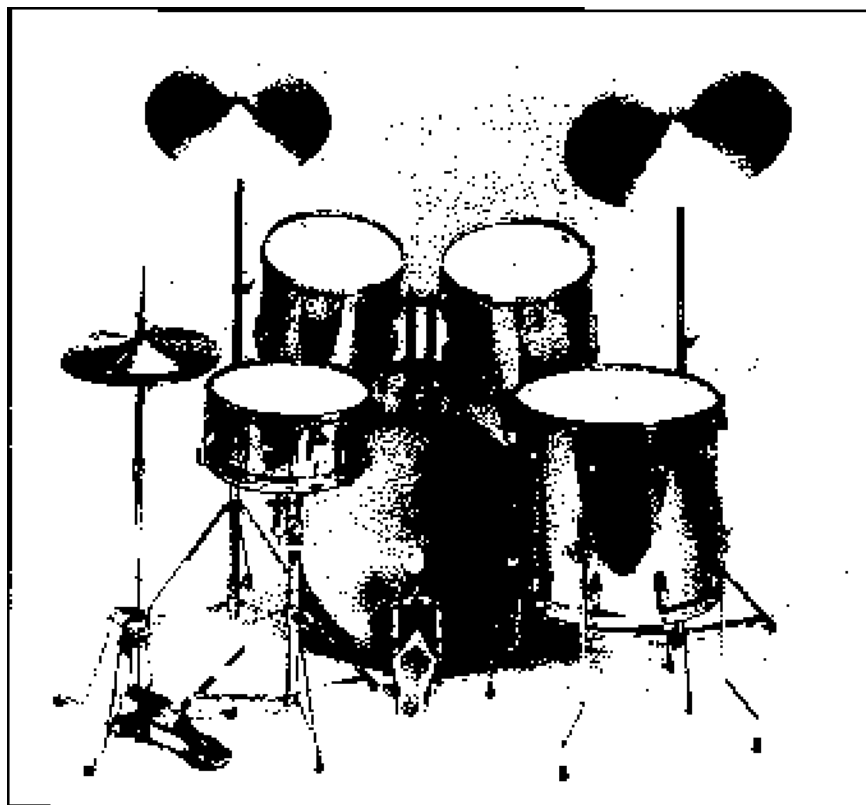
Anyhow, Broadcaster II has 14 x 24 bass drum, 9 x 13, 10 x 14 and 16 x 18 tom-toms and a 5 x 14 metal shell snare drum.

BASS DRUM

Gretsch's 24 inch bass drum has a six-ply electrically bonded hardwood shell (maple mostly, but sometimes mahogany) with their unique matt-grey, slightly absorbent interior finish. This coating produces a slightly warmer sound which I think is particularly suited to more modern rock applications. This bass drum doesn't boom, it simply has a beautifully rounded compact sound, ideal for miking up. I tried the drum without its front head and the sound was punchy but well defined and ultra-suitable for recording.

The 24" drum has 20 nut box casings, timpani type tuners and claws. These spring-loaded but strangely unpadded nut boxes are ostensibly the same as before, but to my jaded eye are not quite the same. Gretsch's claw-hooks are more solid than any other manufacturer's — they seem to be formed from heavier-gauge material. There are now different, disappearing style spurs fitted which are made of substantial tube and have a rubber tip with an optional spike underneath.

The tubes are kept steady with a largish wing bolt but they can be pushed right inside which could be inconvenient. (Gretsch are bringing out some new bass drum stabilisers in the very near future which could possibly cure this problem). An adjustable strip damper is fitted to the bass drum devised long ago by a drummer (I presume) called Jimmy Pratt. This device relies on a parallelogram principle to adjust its pressure against the playing head and is variable via a large thumb-screw. This damper is positioned slightly differently nowadays and goes from bottom dead centre up to about two o'clock. It used to go from two o'clock down to four o'clock so probably didn't give as much coverage. (At the Frankfurt trade show I saw a small bass drum with an adjustable Pratt damper for *each* head.) All the non-wooden-finish bass drums have metal hoops finished off with a plastic insert which for me is not ideal. Their best hoops are the solid maple ones which



are thoughtfully provided with a Cyclops front bass drum anchor secured to the hoop by a metal plate.

TOM-TOMS

The 9 x 13, 10 x 14 and 16 x 18 inch tom-toms all had a very clear, solid, wooden sound which hasn't changed at all over the years. This is due, in part, I believe, to the counterhoops which Gretsch favour. All drums are fitted with these single-flange, edge beaded, die cast hoops. As an experiment I fitted triple flange pressed steel hoops to a Gretsch drum some time ago and the sound changed in a subtle way. It didn't seem to have quite so much depth — a somehow thinner sound. The shells on Gretsch tom-toms are normally made from three-ply material and there was, I understand, a time after the Brooklyn fire when all the Gretsch drum shells had three-ply shells made by Camco. N.B. The ply thicknesses are not standardised and a three-ply could be almost as thick as a six-ply.

All the tom-toms have double-padded, adjustable dampers fitted inside underneath (or if you like, on top of) each head. These work well enough when new although on my original set they eventually began to rattle. However, as far as I'm concerned they are the best and strongest internal mufflers available. Gretsch floor standing tom-tom legs are not as they used to be. At one time they had a single 15° bend at their bottoms with a rubber foot, but now look to be exactly the same as Ludwig's with a 45° bend and an extra three or four inches parallel to the drum shell culminating in a rubber foot. (In the past Gretsch legs used to rattle against the bottom rim but I understand this has been cured.)

The floor tom is the last drum (at least in the double mounted tom-tom sets) to use the company's old style "Diamond plate" leg (or cymbal arm) holder. This unit was the cause of much discontent in my youth because it's actually a block with a hole tapped in it which can be stripped. This meant that the block had to be replaced and 15 years ago these cost six dollars each, so God knows what they would cost now. Still, since they only use them on the legs these days, I don't suppose they have to take too much strain. The two smaller drums each had a hexagonal rod containing fixture bolted to them to receive the tom-tom holder, but more of this later. All the drums in Broadkaster II are fitted with the Gretsch permatone equivalent of Remo's Ambassadors which sounded fine. There are alternatively some C.S. type heads available but my favourite Gretsch sound is produced by Evans or Remo pin stripe heads. The 13 inch drum has 12 square headed tensioners, the 14 has 16 and the 18 has 20.

SNARE DRUM

The metal shell drum with the Broadkaster has a brass shell (which is seamless) and has a very jazzy sound which would be perfect for some of the more esoteric modern applications. It's not quite as crisp as a Ludwig or a Rogers but has its own unique sound contributed to greatly by its single flange hoops. I'm sure it must have thousands of aficionados all over the world. The rim shot is very strong but somehow a little

too Fifties-sounding. It's a solid sound but to my mind not bright enough for heavy music. The cast rims just don't ring in the same way as the pressed steel alternatives. The one I tested is a five inch deep model, but Gretsch also make a six inch brass shell model with 10 double-edged or 20 single lugs together with 5½ or 6½ wood shells with eight, 10 or 16 lugs.

There's a milled bead in the centre of the shell which I presume is only a decorative feature since there's no way it could strengthen the drum or keep it "in true". Internally it has a rounded bearing edge (reverse flange) and a shallow shell deviation at the two snare "rest" positions instead of a snare bed. This drum too has a twin-padded damper underneath its batter head and the updated unique cast snare strainer. The snare tension is activated by a knurled thumb-screw on the butt-end which is diametrically opposite the on/off mechanism. This "Lightning" throw-off has a curious cam swivel action which moves it away from (and towards) the drum and is held in the locked position with a rather flimsy screw. This is an improvement on their previous model which needed a slight tap to finally push its cam home, but I don't think I could get used to its un-positive action. It never felt like it was really locked against its two rubber bumpers. I once tried removing these and the mechanism then made a noise as it locked into position which psychologically made me feel a little better. To be honest, I tried really hard to dislodge the mechanism while playing but it wouldn't move.

My test drum had the 20-strand "Responso" snare which made a lot of difference. I have tried 42-stranders before but for me they clog the sound and the thinner has far and away the most modern sound. The "Responso" is joined to its on/off mechanism by a piece of plastic in common with most drums these days but I understand Gretsch were the first to use it and of course it works well.

Gretsch fit a snap-in key-holder to all their snare drums which is a good idea providing one doesn't lose the key. The holder is made to take only the Gretsch key and nothing else I've found will fit.

ACCESSORIES

As I mentioned earlier, Broadkaster II is now completed by the range of stands illustrated in the latest American catalogue. After their fire many of the stands were made by the famous Walberg company but this generation seems to emanate directly from Japan. Gretsch's well-trying and very positive floating-action, leather-strap, expansion spring bass drum pedal does not come with the rock 'n' roll sets but you can get it with the progressive jazz sets. The floating action pedal is for my money better than the Monster pedal which comes as standard with this month's set.

Anyway, I'll explain it: it has a cast two piece footplate, a cast square-section, U-shaped framework and a chain-pull to attach the plate to the cam. I found the feel of the pedal to be a little sloppy and not particularly positive or fast acting. It's very difficult to adjust the expansion spring (which is shorter than on the floating action model) and impossible from a playing position. To be fair,



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though, the same goes for the original pedal. The chain pull I mentioned is like a short bicycle chain but not to be confused with the Ippolito conversion which uses a cycle cog on the pivot bar. Also you won't find this strap/pull in your catalogue because there they have two parallel strap connectors. Beneath the framework (at the bottom of the U) are three pairs of holes (at each post) and these enable either the footplate position angle to be changed without adjusting the stroke or the footplate angle left or right relative to the bass drum head to be changed. The whole unit clamps to the hoop with a unique cam action fitting with an arm which you lift up toward the footplate to remove.

There is, as I said, a new hi-hat available whose footplate for some inexplicable reason does not match the Monster bass drum pedal's. (As a matter of fact it looks very like Pearl's and even has the same toe-stop.) It's a direct pull model without any spring adjustment but a good feel anyway, a plastic strap, a memory type height adjustment, substantial adjustable bottom cymbal cup and is made from larger-bore-than-before metal tubing. The legs are tripod style with wide spreading double legs with Tama-type triangular rubber bottoms. The stand uses an old Walberg style top cymbal clutch which basically has its vertical height adjustment arrested by two flat pieces of metal (one joined to the threaded portion and the other floating) which sandwich the pull-rod between them. It should work well but the one I tried didn't. It's important to keep the "bread" part of the sandwich parallel so Gretsch have put a Phillips screw on the other side from the actual wing bolt to facilitate this. Unfortunately, it is impossible to adjust this wing bolt without crushing your fingers on the Phillips screw. This aside, it's a good no-nonsense hi-hat pedal.

The new cymbal stands (two are provided) also look Japanese in origin. They too have the wider-spreading legs which the hi-hat has and of course the same triangular feet. These are wide-bore-tubed, three-stage stands which are sprung at their adjustment points with a large spring. They have omega (rounded U) shaped clamps with a spring fitted at their open end which once locked by a large T nut really controls that height adjustment. (The hi-hat and snare drum stands have this too.) The cymbal tilter works on the pretty normal radial splined ratchet principle but does not have a spring. By the way, the stands are weighty and should do their job well. There is a brand new snare drum stand which has the same tripod legs as all the others — it's a Buck Rogers basket type stand which as far as I could discern had no cast parts at all. It had large T screws at all its adjustment points and the "basket" locked to the drum like the original Buck Rogers with a wing bolt underneath the boss below the drum itself. The playing angle is simply and effectively adjusted on a swivel clamp which joins the basket to the down tube.

Gretsch tell me they are working on a new tom-tom holder which they hope should be available soon. I'm looking forward to that too because the company have had two stabs at a double tom-tom holder and neither has been too successful for one reason or another.

Be that as it may, Broadcaster II has the Monster double holder which seems to have taken a leaf out of Camco and Slingerland's books and half a leaf from Rogers'. The stand has a pressed steel rectangular box-section carrier which screws on to the bass drum shell — not, I must say, in a forward enough position for comfortable two tom-tom positioning. (I know of guys who have gone to the lengths of putting their spurs on the other side of the drum and changing the damper position from back to front to enable the drum to be turned completely round to put the toms in a better playing position.) Two holes drilled into the carrier locate two long pieces of 1" diameter metal tube whose vertical height adjustment is held by two slightly larger than drum key sized screws tapped directly into the carrier. At the top of each tube is a tapped metal "plug" which has two holes (one each side) drilled into it at right-angles to locate a piece of hexagonal bar. This bar too is held in place by a drum key-sized screw.

The bar fits into a hexagonal shaped hole in a nylon ball which is set in the tom-tom shell itself and held between two rings, the inner one being bolted to the shell and the outer one merely located on two screws. So we tighten up the ring in two places with our drum key and thus we hold and control the angle of the tom-tom (adjustable by rotating the ball) and also its lateral position along the hexagonal bar. Unfortunately, the two hexagonal bars touch each other in the middle of the fitting where they emerge from their tubes; this makes a really close tom-tom set up impossible (unless, of course, you carry out the idea of moving the spurs, etc. which I suggested earlier when the two bars no longer touch.) Of course this problem could be cured at the factory but since Gretsch are working on a new holder I should think the Monster holder (and not the dual purpose one) will be the first to go. Another drawback is that the holder has to be dismantled for packing away because of its weird design. This makes set up just a little more time-consuming — something we could all live without. You could help matters by fitting a pipe clip to each tube to make sure you had constant height positioning every time. I can't think why Gretsch never did this.

CONCLUSIONS

All in all, the *drums* looked good; they have a no-nonsense image. The drums themselves seem not to have changed over the years which I think is good. There are now only sixteen finish alternatives available, *all* of which are good. My favourites are the natural wood ones which as I mentioned come as standard with wooden hoops. Gretsch have changed their badge for the worse yet again. I was just beginning to get used to the octagonal badge (I used to abhor it) and they now have an almost square one with small chamfered corners and without the "worn brass" raised edges and logo. For my money it (the badge) doesn't reflect the superb quality of the drums themselves. Nevertheless, if you want a Gretsch kit for its undisputedly beautiful compact sound, I'm sure you could put up with this aesthetic abnormality.

Henry Roberts

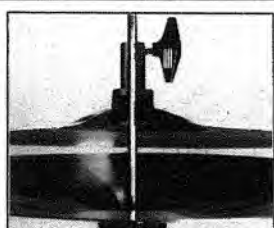


SONOR

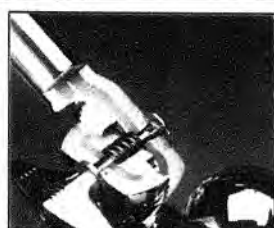
PERCUSSION

When only the best is good enough

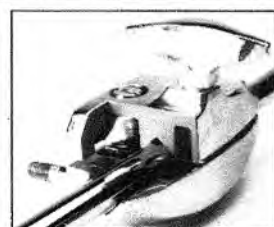
Here's why!



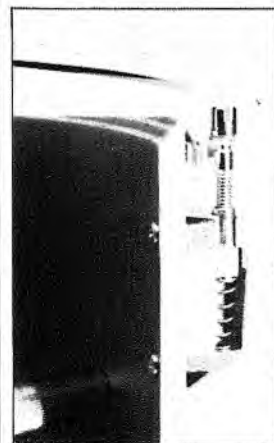
Hexagonal top rod ensures constant position of Hi-Hat clutch.



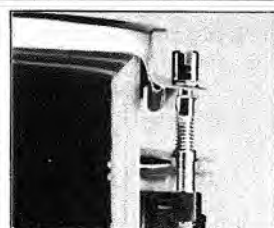
All stand tilters cast over a steel skeleton giving added strength.



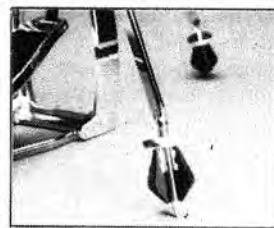
Prism clamping device for positive positioning of tom-tom legs and two dimensional bass drum spurs.



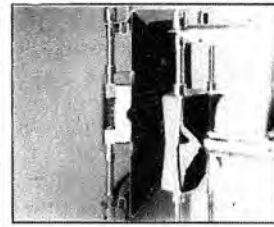
Self-aligning, spring loaded, tension rod brackets foam padded for freedom from unwanted noise.



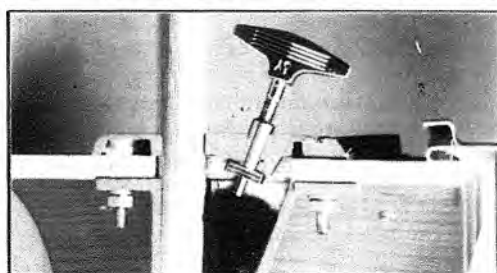
9 ply beechwood shell, with floating head action, for greater resonance and clarity of tone.



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I.M. 2/79

PA Check

This is a moderately priced, very nicely presented, thoroughly thought out three / four-way loudspeaker system aimed at the semi-pro or smaller professional band. It comes in three parts: a folded horn bass section, a front horn loaded lower mid cabinet and a compression driver/horn combination with additional piezo units for upper mid and high frequency reproduction. Each separate cabinet is substantially constructed from plywood (18mm thick for the bass and mid cabinets, and 12mm for the HF unit) and is very nicely finished in a full flight case livery. Each cabinet is of the same width and style so that when stacked, the appearance is neat and symmetrical.

Good quality components seem to have been used: the bass bin is fitted with an Electrovoice EVM/15L, the mid-range cabinet with an RCF L12P/24 and the upper mid/HF section an RCF TW101 with Grovopower TRF570/S horn and four Motorola KSN6005A piezo-electric high frequency tweeters.

Using an RCF spectrum analyser, I was able to measure quickly the frequency response and reverberation times of the cinema where the system was demonstrated and apart from a roll-off at the higher frequencies, the acoustic conditions were quite good, with no serious room resonances and a fairly dead reverberation. Therefore, it was the loudspeaker system response that I was listening to, and not that of the cinema itself.

Unfortunately, not a lot of thought had been put into the driving end, which consisted of a hi-fi type turntable, a cassette recorder, an MM desk and three prototype Pro-Axe power amplifiers with a prototype Pro-Axe three-way active crossover. I say unfortunately because the system hummed, buzzed and sizzled like nobody's business and serious acoustic coupling was present between the bass bins and the turntable unit, resulting in a severe restriction in the volume level that could reasonably be used before acute feedback at low frequencies dictated the ceiling level. To these problems were added the penchant on the part of John Cooper, the company's designer and cabinet building expert, for ear-shattering levels of high frequency. When the settings of the active crossover were re-set to give a more or less uniform response, it sounded quite sweet to my ears, but John was not happy, and up went the HF again, until a boost of about 10dB was present above about 5KHz. Therefore, my assessment of the system's overall performance is given against these inherent difficulties.

I played my two standard test records — the Floyd's *Arnold Lane* and *The Battle Hymn of the Republic* performed by massed Welsh male voice choirs in the Royal Albert Hall, with accompaniment by the Royal Albert Hall organ. *Arnold Lane* sounded quite good, once I had got used to the accentuation of high frequencies, but the very low bass note present at the introduction of each verse was not audible at all. It was simply not being reproduced by the bass bins — not that I seriously expected it would be, as it is down at around 30Hz and I have heard only a few really good hi-fi systems reproduce this particular note adequately. The Welsh choirs, however, really showed up an inherent problem with the bass

section. I use this unlikely track because, besides some really low pedal notes from the organ, it covers a vast dynamic range and consists of several counter-melodies in the lower register. If "colouration" is present, the loudspeaker system will not differentiate between these various lines, and will usually produce a sort of drone instead — which is exactly what the Ram-Air bass section did in this instance. It just could not follow the subtleties of this type of signal information with any degree of realism at all. Otherwise, the system performed well, and is certainly capable of maintaining very high SPLs without stress. I measured signal peaks in the order of 108 to 110dB towards the back of the auditorium before distortion became audible to any serious extent. I then listened to some of John's cassettes of more typical rock music and I must admit that the overall sound was pretty good.

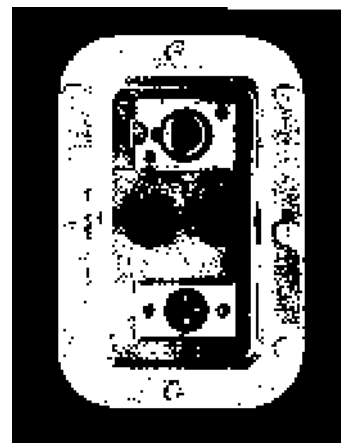
All this must, of course, be taken in perspective. To be honest, there are very few PA-type loudspeaker systems that will pass my admittedly harsh assessment tests with flying colours. While there is certainly room for some improvement, the overall performance is not at all bad — especially at these prices. After all, it is highly unlikely that it will ever be called on to handle a full Welsh male voice choir! Apart from the rather smart flight-case type presentation, there are two other specific features worth noting. The first is the addition of a vertical column of LEDs at the front of each cabinet. The three green LEDs indicate to the desk operator the relative level of drive into each cabinet, while a red LED gives immediate indication of an overload condition. They all worked well during the demonstration. The other interesting feature is the input connector panel at the back of each cabinet. This consists

of a sturdy recessed steel plate, carrying two standard jacks and a male and female three-pin Cannon connector, thus providing a versatile and robust connection facility. The bass and mid-range cabinets are exactly the same size, at 920mm wide by 510mm high and 520mm deep. The HF cabinet is the same width and depth, but only 255mm high. All three cabinets come complete with a clip-on front cover, also in flight-case trim, and this adds a further 90mm to the depth of each cabinet, bringing the overall depth when packed for transit to 610mm. The overall height of the assembled stack is 1275mm (about 4ft. 2in.).

Ken Dibble

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Ken Dibble MIMT is an ex-musician with a background in engineering and manufacturing sound equipment. He now works as an electro-acoustic consultant.



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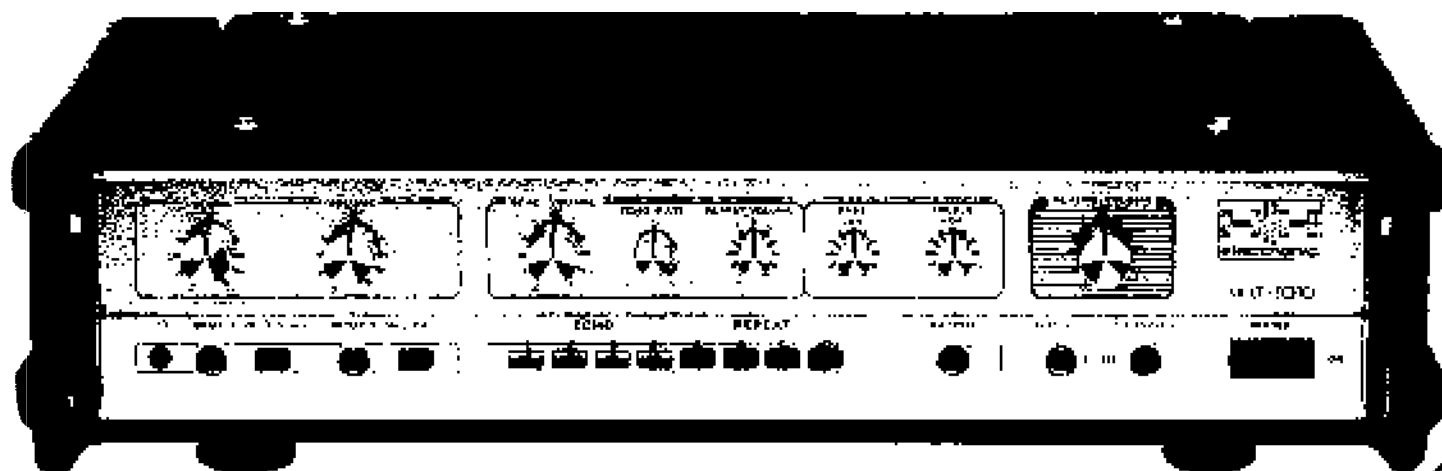
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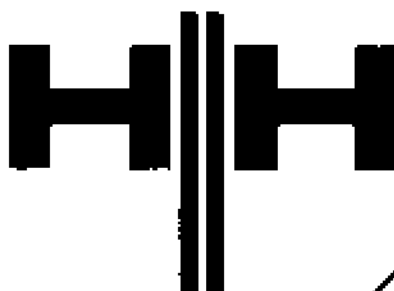
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Soundcheck:2

Sunn Beta Combo £399 inc VAT

This lead combo from the Sunn company of Tualatin, Oregon is small in size – just two 12" speakers – but as the table shows, it can deliver well above the 100 watt RMS the manufacturers claim. It also has some very interesting features, including the facility to mix the two channels together or to switch between them by means of a single input and a foot pedal (included in the retail price).

The pre-amp stage consists of a twin-channel circuit containing: separate gain stages for each channel, "C-MOS" logic controller and electronic switch circuitry, variable Q-tone controls for each channel and independent reverb and level mixing. On the input side, each channel has a ¼" jack socket of around 100 Kohms impedance, and in addition there is third input for both channels, of approximately 50 Kohms. I'll describe its use later. The pre-amp outputs (on the rear panel and all ¼" jacks) are: line-outs for each channel, master line-in for each channel, and Master Accessory sub-group with power amp line in/line out connectors.

The power amp stage is a fairly conventional system, consisting of the following: input low pass filter, positive/negative signal drives, distortion sense circuit, power stage bias, positive/negative power limits with corresponding current drivers. DC feedback control circuit, and damp protection/filter components.

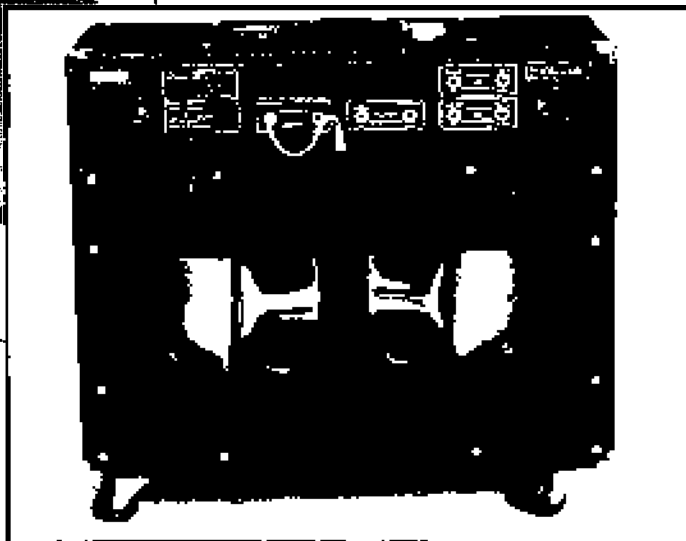
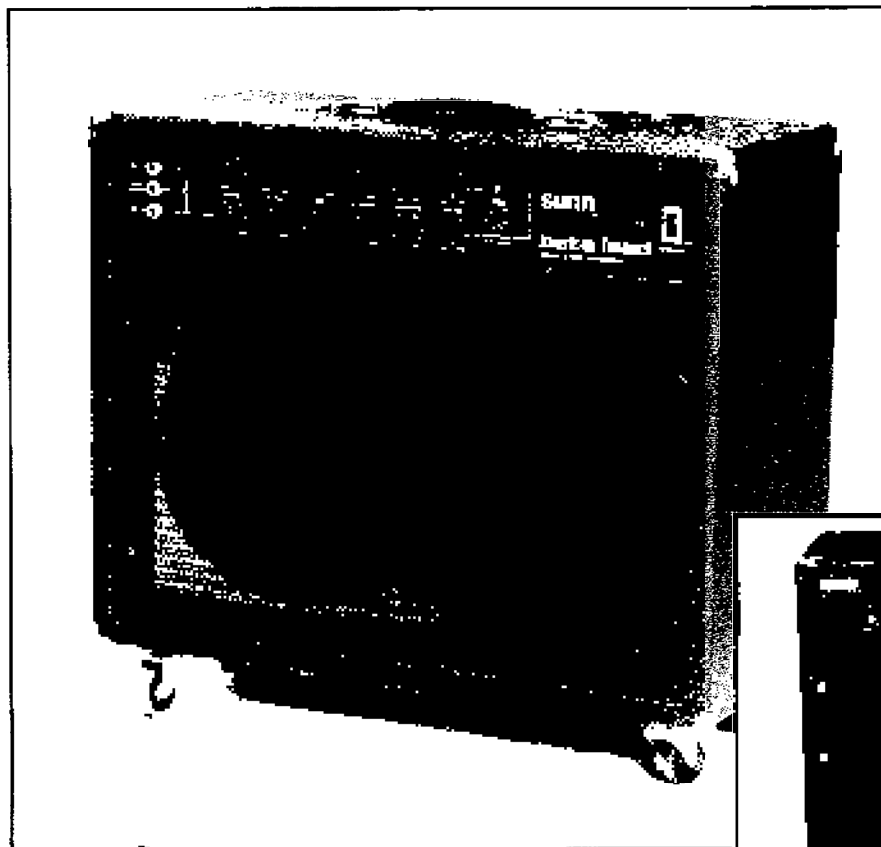
The power transistors are three pairs of Motorola SJ 954s/223056. The whole power amp stage is designed and built around one large PCB. The power supply is a non-stabilised type, equipped with a large Western mains transformer, silicone bridge rectifier and a battery of two 3300µF/50V electrolytics.

One of the original features of this amp is the speaker mounting: the 12" drivers are bolted on to two separate front panels which are angled in a V shape. This ensures a wide dispersion of sound in the horizontal plane.

Now for the controls. Each channel has rotary pots labelled Drive, Bass, Middle, Treble, Reverb, Level, and there is also a Master volume control which governs the overall output of both channels. Let's take them from left to right. The Drive pot is a sort of channel gain control: lower settings give a clean, undistorted guitar sound. Turned up higher, it gives a dirtier, overloaded sound and the dynamic C-MOS compression also enhances the sustain. The three tone controls make up a three-band EQ circuit as follows: bass 20-400Hz, Middle 400-1400Hz, Treble 1400Hz-20KHz.

The Beta amp's reverb is in the form of the popular Folden line spring device (made by O.C. Electronics Inc.) but the way it is fitted is completely different from most other amps. The time-delayed reverb signal is independent of the frequency equalizers and the channel level controls – so they do not affect the level or tone of the reverb. Finally, the Level controls govern the amplitude for each channel, and can be used to balance the two channels against each other.

For that is where the Sunn Beta really scores over most guitar amps. The third jack socket on the front panel is marked Both Inputs, and when you plug into it you get just that: your guitar signal is fed into both channels simultaneously. Thus the range of tones available is remarkably enlarged. More than that, by using the Beta footswitch, you can flip from one channel to the other, or both, without taking your hands off the strings. As a visual reminder of where you are, both the footswitch and the amp panel are fitted with LED indicators in red, green and yellow.



This amp is not cheap for a 2 x 12 combo — but it does offer many advanced characteristics, as well as enormous flexibility of sound. It is extremely well constructed, from expensive components, and gives every sign of being very reliable. Add to that the impressive power output — more than 20 per cent higher than the manufacturers' modest specifications — and the Sunn Beta combo doesn't seem so expensive after all.

Mark Sawicki

PARAMETER	RESULT	TEST CONDITION	COMMENTS
Specific Power Output; Watts RMS; 1 KHz	Ch.A.	126.56 W RMS	Manufacturer claims power output for all BETA series as 100 W RMS @ 4 ohms load. The power amp stage uses: three SJ 954s and three 223056 silicone transistors. The amplifiers are factory wired to a pair of 12" internal speakers.
		72.01 W RMS	
		56.25 W RMS	
	Ch.A.	Onset of clipping into 4 ohms	
		Onset of clipping into 8 ohms	
		Onset of clipping into 16 ohms	
Total Harmonic distortions (THD)	Ch.A.	125.58 W RMS	THD levels are generally better than specified i.e. less than 0.25%, however at low power levels harmonic distortion figures rise to approximately 0.355% (Ch.A.) or 0.361% (Ch.B.)
		69.62 W RMS	
		52.92 W RMS	
		Onset of clipping into 4 ohms	
		Onset of clipping into 8 ohms	
	Ch.B.	Onset of clipping into 4 ohms	
		Onset of clipping into 8 ohms	
		Onset of clipping into 16 ohms	
		Onset of clipping into 4 ohms	
		Onset of clipping into 8 ohms	
Signal / Noise Ratio	Ch.A.	0.093 %	IEC — Curve "A" weighted test with a "true RMS" reading on RADFORD ANM2 Audio Noise meter.
		0.049 %	
		0.035 %	
		0.071 %	
		0.092 %	
	Ch.B.	0.355 %	
		0.125 %	
		0.082 %	
		0.051 %	
		0.093 %	
Tone Controls (swing in dB)		0.119 %	The lowest level of THD measured at approx. 40 Watts RMS output is 0.035% (Ch.A.) or 0.051% (Ch.B.)
		0.361 %	
		0.125 %	
		0.082 %	
Input Impedance	approx. 100 Kohms	approx. 50 Kohms	Ref. 100 W RMS/4 ohms output level; tone controls set flat
		approx. 50 Kohms	
		approx. 50 Kohms	
Input Sensitivity in mV RMS for 100 W RMS (20 V RMS) output signal Ref. 1 KHz	Input A 10.1 mV RMS	Ref. 1 KHz/4 ohms	Manufacture claims: Bass : EQ response 20 Hz — 400 Hz; Ref. 32 dB range Middle : EQ response 400 Hz — 1400 Hz; Ref. 30 dB range Treble; EQ response 1400 Hz — 20 KHz; Ref. 37 dB range.
		Tone controls set for the "best" square wave response	
		REVERB — OFF	
Power amp line-in	0.762 V RMS	DRIVE @ 5	If no instrument is plugged into the input jack, that channels input is off. Therefore, the idle channel is not creating any noise or interference for the operating channel. Channel LED indicators are also provided.
		LEVEL /Master Volume @ 10	
		LEVEL /Master Volume @ 10	
Master's line out	0.688 V RMS	Ref. 100 W RMS / 4 ohms / 1 KHz level	Quite high sensitivity, but no manufacturer's figures available to compare these results with. Channel A is slightly less sensitive than B. Manufacturer claims the system gain for A or B as 110 dB, therefore both inputs should in theory be of equal sensitivity.
		"Line In" — input impedance is 27 kohms	
		"Line-Out" — output impedance is 150 ohms	
Accessory to channels A & B a) pre-amp "line-out" impedances b) "line-in" impedance	approx. 150 ohms	1 KHz	Acceptable. Occasionally this jack may be used as a power slave input. Useful.
		1 KHz	
		1 KHz	
Capacitive Load Test	OK	2pF non-electrolytic capacitor and 4 ohms or 8 ohms dummy load	Satisfactory. This signal can be utilised for driving additional power amplifier(s) if required
		2pF non-electrolytic capacitor and 4 ohms or 8 ohms dummy load	
		2pF non-electrolytic capacitor and 4 ohms or 8 ohms dummy load	
Open circuit stability test	OK	Dummy load removed	Independent operating pre-amp. Channels with individual level controls enable a panning effect unit to be easily patched. This provides for a smooth remote pan between channel A and channel B, which has pre-set tone and level controls.
		Tone controls — max. Drive/Level/ Master volume — max.	
		Tone controls — max. Drive/Level/ Master volume — max.	
Short circuit Test	60 seconds	Dead short i.e. approx. "Zero Ohms" placed across output terminals	No problems
		Dead short i.e. approx. "Zero Ohms" placed across output terminals	
		Dead short i.e. approx. "Zero Ohms" placed across output terminals	

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on this model. In addition the Organizer T2 features many sounds only possible through the use of solid state electronic. And, most importantly, full drawbar control has been maintained.

Breakdown and setting up time has been reduced to the minimum and from the twin 61 note keyboards every specification is built to professional standards.

Features include 9 flute drawbars, pitched at 16ft, 5thirdft, 8ft, 4ft, 2two thirds ft, 2', 1 three fifthsft, 1 third ft, and 1'. Percussion at the same footage, a decay

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Keyboardcheck

Roland RS505 string synth £1,100 inc VAT

I've owned a Roland RS202 string synth for about a couple of years now. It's a great little instrument, so when the opportunity to tour in Japan came up and I was asked what kind of string synth I'd like hired out there, I decided on the Big Brother I'd been reading about: the RS505. I didn't get to see it till the first soundcheck — five minutes to get clued up on it. During that time, it became apparent that there were three synths on the one keyboard (as on the ARP Omni), all mixable and logically laid out. The truth of this last statement was brought home to me forcibly when the gig began — in total darkness. There was a hitch with the torch (I think the bass player had just bashed his head on one of the lights in the ceiling): anyway the fact that I managed to find the right slider for the job was due either to the greatest good fortune or very superior Roland ergonomics! I enjoyed that instrument for the two weeks I was playing it and I was sorry to leave it behind.

Enough of reminiscence. The RS505 has a four-octave keyboard, two octaves either side of middle C. At first sight this is rather puzzling since the less ambitious RS202 has a five-octave compass. But that has 8' and 4' ranks only and the RS 505 effectively adds the missing octave by including 16' ranks in two of its sections.

The keyboard is "split", with the upper

section beginning at middle C. To the left is a panel with knobs for the adjustment of: pitch (fine tuning within a semitone); length of autoglide; amount of pitch difference in the same; volume; and a three-way switch which decides whether the glide shall be triggered automatically, externally or manually. This last is done by a transverse slider which can change the pitch by up to a ninth (the extent of its operation is governed by the pitch difference knob mentioned above). In other words — strike one! — a string machine with pitch bend! Imagine a sustained chord slowly building (volume pedal is a must) that swoops up an octave at the peak of the climax.

Behind the keyboard are all the assorted rocker switches and sliders for creating sounds. From left to right the Roland Corporation bring you: an on-off switch; two sliders to controls the LFO (sine wave only) one being the rate of oscillation and the other controlling the length of time before said oscillation starts. Both these sliders are marked 0-10 as are all others except one. Next along is amount of vibrato (ie LFO) and a three-way switch giving three different types of Roland ensemble sound — these may be adjusted to taste by a small screw at the back. There is no "off" position. Grey rocker switches in the bass and synth sections switch the ensemble in or out. The strings have no such option — it seems they will never become soloists but must always play in an ensemble of some kind.

The balance or mixer section has two sliders. In practice, I feel it ought to have three. The bass synth fader is fine (just in or out) but the other gives a mix between strings (all the way up) and synth. When it's halfway you have,



theoretically, an equal amount of both, though the actual effect will depend of course on the synth settings. The drawback about this is that the situation will arise when you will be fading out the strings near the end of the quietest number of the set and, entranced with your artistry with the fader, you will fail to hear the oncoming roar of the synth (which you'd forgotten you'd left in a state of resonance with a very low cut-off frequency). By this time your colleagues on stage will be looking at you enquiringly and most of the audience will be sitting back in their seats in mute resignation to the fact that the next five minutes will be devoted to the exploration of some new and rather obscure keyboard sonorities. Certainly it's a question of knowing your sliders but there's something vaguely disconcerting about the up-down movement of that slider. Perhaps if it was from side to side as on the Omni...

The next two sliders control the envelope generator for the bass section, Attack and Release, both calibrated 0-10, the 10 in this instance standing for roughly six seconds. The bass section has three dark red rocker switches - Contra 16', Tuba 16', Cello 8' - as well as the ensemble switch. The Contra and Cello are stringy in character, the Tuba rather fatter. These will only sound up to the keyboard split and the section is monophonic, the lowest note depressed being the one that sounds. The idea of this is to provide a solid foundation for the synth (white rockers) and strings (green).

The synth, which comes next, has its own envelope generator (ADSR). These control the VCF frequency. In the modulation section are sliders to control the amount of ADSR and LFO (back over on the left, you remember) that are sent to the VCF. Sliders for VCF cut-off frequency and resonance complete the synth controls. This last stops short of self-oscillation when full up.

There are six sound sources for the synth: 16' and 8' bass (lower half of keyboard and mono); two for the lower keyboard, 8' and 4', and two for the upper. Taken "straight", the basic signal sounds very bland, which is where all the filtering and modulation we've just been

looking at comes in. It's a never-ending source of surprise to me how much difference the ADSR can make to the quality of a sound. By the way, there's a switch in there which will give you "second touch", ie if you play a note, any others that are already depressed will be reiterated. Could make for some exciting effects.

Next is the envelope generator (AR) which controls the VCA of the synth as well as the strings. There's a slider for mixing the 8' and 4' synth ranks. Two green rockers assign the strings proper to lower and upper keyboards and the final slider mixes the string sound between 8' and 4'. Remember that in the absence of 49 VCAs, which might bump the price up just a bit, the keyboard is not multi-triggering. You may have the first note of a build-up chord creep in slowly but any others you play will sound straight away.

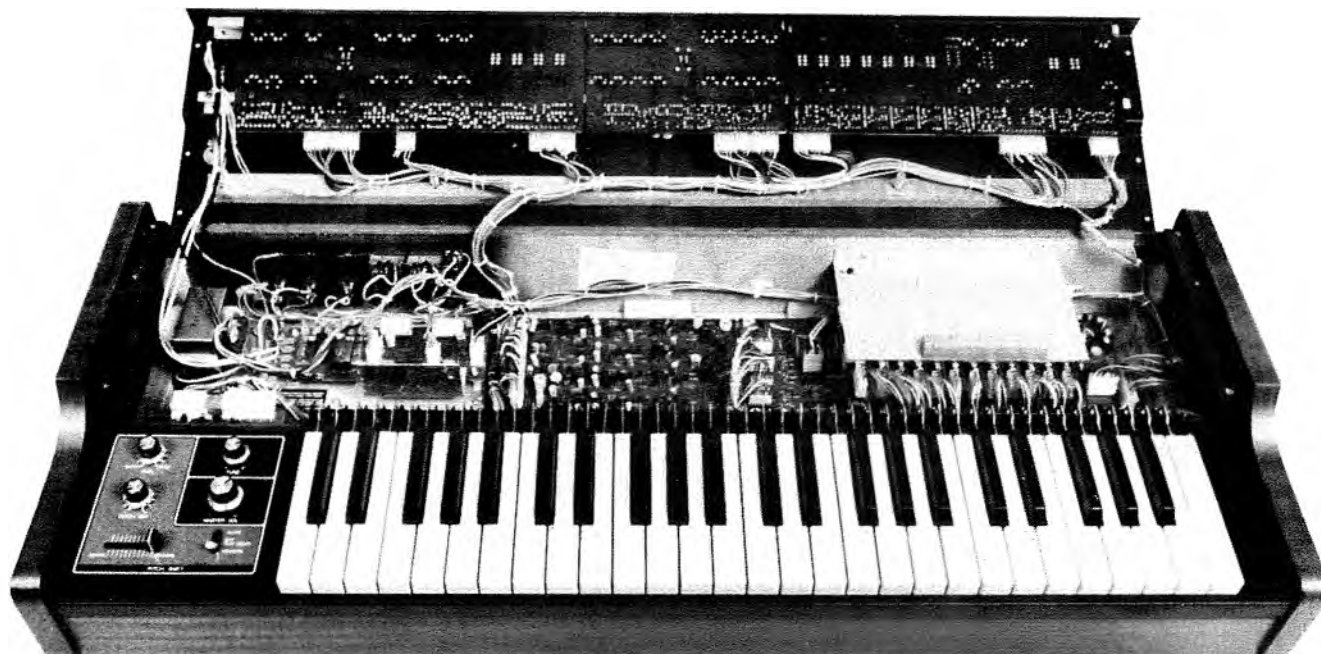
On the back panel are nine jack sockets: mono, stereo and bass outputs with level controls - pitch (glide), sustain and VCF, enabling these three to be controlled with foot pedals - and an external input that will route a signal straight to the filter of the VCF.

Because each section has its own output the possibilities of stereo are opened up - strings and brass (synth) on opposite sides, bass in the middle. With the synth section you can get a string sound that's as good, if not better than the presets, thereby raising the question Why?

In practice it's very much a chordal instrument: certainly fast single lines aren't effective. It's capable of producing big orchestral textures or sharp exciting sounds - there's a lot you can get out of this instrument. It's *not* a polyphonic synthesizer but it's the next best thing. In fact there are many situations which it suits better. Give it the best amplification you can, then you will hear how clear the sound is. Comparisons with the ARP Omni? Both are serious musical instruments - some would say the Omni is the more prepossessing - but soundwise it's just a question of individual taste which you prefer. Mind you, the Roland does have that pitch-bend...

Tony Hymas

Tony Hymas is a keyboard player and composer with experience in rock, jazz and classical music. He has played with groups ranging from the Jack Bruce Band to the London Symphony Orchestra, and recently toured with the band fronted by Jeff Beck and Stanley Clarke.



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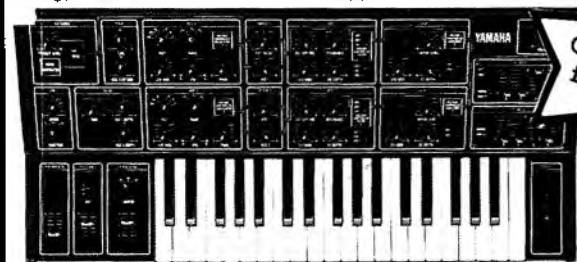
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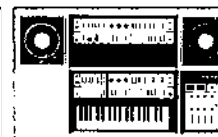
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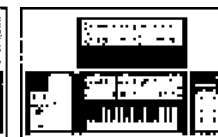
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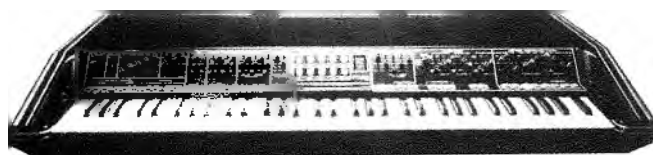


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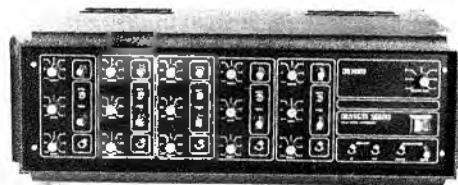
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20 YEARS OF FAME

DAVID LAWRENSON talks to the Peter Pan of British R'n'B

In 1959 a young factory worker from Leigh in Lancashire walked into his local police station and wanted to know if he ran away from home to become a musician would the boys in blue be forced to bring him back. The answer was no – and so began the career of one of Britain's most enduring musicians, Georgie Fame.

It seems an inauspicious beginning for a man whose 20 years in the music business includes pioneering R'n'B in this country, being one of the first musicians to take a Hammond organ on the road, having hit records and singing with Count Basie.

Today he can still pack the crowds in for a two-week stint at Ronnie Scott's, still playing his own brand of R'n'B with a band called the Blue Flames. Talking to Georgie in the dressing room in between sets, one can't help harking back to the days of the Flamingo club in the early Sixties and the formative years of British Rhythm and Blues. But his first influence was inevitably rock 'n' roll, which proved a good way of putting his early piano lessons to good use. "I had piano lessons when I was a kid, and persuaded my parents not to let me carry on with them, because you get bored having to read the dots. Then word started filtering through about rock 'n' roll and it was a question of putting those basics I'd learned as a kid into practice.

"This was 1956. Buddy Holly, Little Richard, Fats Domino, Jerry Lee Lewis, they were my first influences – apart from the Methodist church, where I think I learned how to sing in tune. I'd already been taught a boogie woogie by one of my sister's boyfriends, so I was ready to go. I was an ace Jerry Lee Lewis and Fats Domino copyist and I'm proud to say I still am to this day. Despite all the musical avenues I've been up, I can still boogie a good Jerry Lee or Fats tune."

It was this talent for copying the styles of the piano greats that gave

Georgie his big break into show business. He was playing in a local band in between working in one of the town's cotton factories.

Georgie explains: "I went to Butlins at Pwllheli in 1959 for my annual holidays with a few guys from the factory. They told me to get up and do my Jerry Lee Lewis bit, which I did and it went down a storm.

Now there was a professional R'n'B band at Butlins from London who we were all starry-eyed about. They had bass guitars, amplifiers and stuff like that, that we'd never heard of. They were called Rory Black and the Blackjacks and were the resident band on the camp for the summer season. Rory heard me singing in one of the bars on the camp and asked me if I'd like to join the band. I said I'd love to.

"I went back home and told my Mum and Dad and they said, 'Are you crazy? You've got a good job in the cotton factory, that factory will never close.' Sure enough, three or four years later it did. But I had to do a lot of persuading and arguing before I went. I finally got away and joined the band at Butlins.

"In fact, the band got fired before the season finished and I just had to go along with them because I couldn't go back home with my tail between my legs and say I'd failed. So we came down to London and I started meeting musicians. I was lucky enough to get a job with Larry Parnes playing on all those rock 'n' roll tours with Billy Fury, Gene Vincent and all those."

It was during this period that Georgie began to really get into R'n'B. He had always been a great fan of Louis Prima, but suddenly discovered Louis Jordan and began hearing people like Ray Charles. From then his play-



ing developed to encompass R'n'B and he was forever looking to the sources of the music.

He became part of Billy Fury's backing band, the Blue Flames, which was made up of a pool of musicians who worked for Larry Parnes and included Brian Bennett and Jim Sullivan. The final line-up was Red Reece on drums, Tex Makins on bass, Colin Green on guitar and Georgie on piano. The band eventually got the sack from Billy Fury but decided to stick together and kept the name. They got a job down at the Flamingo club with a sax player called Al Watson, but after a row Watson went and the band became club regulars. Many musicians passed through their ranks during this period – Micky Eve on sax, John McLaughlin, John Marshall – while people like Eddie Thornton and Speedy Acquaye would regularly sit in on sessions. It was while playing at the Flamingo in 1962 that Georgie first heard the sounds which were to inspire him to buy his first Hammond organ. He said: "It coincided with my first hearing Jimmy Smith's album *Midnight Special* and Booker T's version of *Green Onions*. Both records were given to me by black American GI's that used to come down the Flamingo all the time. When I heard those two

"WHEN I LISTEN TO THOSE OLD BLUE FLAMES RECORDS, THE SOUND OF THAT ORGAN IS TERRIBLE"



albums, I went out and bought a Hammond. In fact, Graham Bond bought one in the same week and he helped me carry my first organ down to the Flamingo. Up until then, I was still playing rock 'n' roll piano."

Unfortunately, this was only the start of Georgie's problems because he couldn't get the Hammond sound of his American heroes. There was a simple explanation: "The Hammonds that they sold in England weren't the real Hammonds. They were strictly for front parlours.

"Actually me and Graham Bond spent years trying to get a decent sound out of an L100, when in actual fact the organs we were hearing on record being played by the Americans were the B3s and C3s, the big mothers. When I listen to those old Blue Flames records, the sound of that organ is terrible, but that was the reason.

"I met Booker T in California a couple of years ago and I was really interested in how he got that sound. When I looked at the organ he was playing, all he did was pull all the bloody drawbars out. That's all he did and he playing full tilt. That's how he got the sound.

"I always wondered, because with the Hammond they give you a big

manual which says you can get a million different sounds. Shirley Scott sounds like that, Jimmy McGriff like that and Booker T like that because they're all dabbling with these drawbars. I always loved Booker's sound and I wondered how he got it. Of course all he did was pull the bloody lot out — and I've been doing that ever since."

Getting a good sound out of the organ was only half the problem. There was still the slight matter of lugging the thing around from gig to gig, an object which was still considered more a piece of furniture than an instrument.

"It took four people to carry it and it wasn't split. We used to come back from playing American bases and get into Soho about one o'clock in the morning and have to play two sets down the all-nighter. The place would be packed with people, and we'd have to carry the thing through them. That was part and parcel of the gig, everybody mucked in and carried it because we didn't have any roadies in those days. We did it ourselves because it was our baby, we loved the sound of the thing."

Despite all the problems, that first Hammond was the beginning of a love affair for Georgie, which saw the piano take a back seat. "I started playing organ all the time and really fell in love with it. It made me lazy though, because it's a different technique, you don't need as much chop to play organ as piano. You can play a lot faster because it's just a light touch, but you get a lot of piano players that feel very uncomfortable on organ because it's a different technique altogether. It took me a while to get into it. In fact, I just used to put my hands down and sustain and use it as a background to soloists or riffs within the band.

"Mind you, I was a very limited musician in those days — I still am. You can listen to a couple of so-called solos on the early Blue Flames albums and they are not solos, they're just riffs, but I fell in love with Richard Holmes. It was a fantastic album he did with Gene Ammons which they used to play down at the Flamingo before we went on. Gene Ammons was booting away and Richard Holmes is backing him, comping away like mad and it's all rocking in the background. When Richard Holmes came on for a

solo he just sustained the thing, he just held down one note and let the rhythm section ride. Then he would add a fourth, then a fifth a couple of choruses later and this went on for seven choruses! It was fantastic. I still do that."

Georgie recalls an interesting story of the early days of R'n'B, when the music was beginning to infiltrate the mainstream of British music. "I was at the Ideal Home Exhibition in about 1963 and I was on the Hammond stand. Robin Richmond came up to me and asked if I could give him the chords for these 12-bar blues that were becoming so popular. I didn't even know what they were myself, because by this time I was hearing Johnny McLaughlin going Fmaj7, Em7, A, Dm7, E flat, etc. — all the Charlie Parker stuff which had already gone 20 years before anyway."

Georgie eventually bought a Hammond A100 which enabled him to get that full sound which he had been striving for. He stills plays the 12-year-old model which is split and is midway between the big C3, which is too cumbersome to carry around unless you've got a big roadcrew, and the L100 which was the source of much frustration for the young Fame. Georgie also has one of the last C3s to be built, but he refuses to take it out on the road because it is such a beautiful and precious instrument.

As far as influences go, vocally he always tried to copy Mose Allison, but recent influences would include Stevie Wonder, Cleo Laine and Stevie Winwood, the latter, in his opinion being the best bit of talent that Britain has produced. On organ, he remembers being impressed with Billy Preston on first hearing him, but that's about it.

As far as his own career is concerned, Georgie's latest album on Pye called *Right Now* shows his development as a songwriter. The R'n'B flavour is still there but the standout track, a ballad, *Eros Hotel*, shows off Georgie's writing ability and I wouldn't be surprised to see him back in the charts before long.

But whatever direction his career might take, his contribution to the British music scene has already been considerable and I have no doubt that he will still be packing them in at Ronnie Scott's for his own special blend of music in 20 years time.

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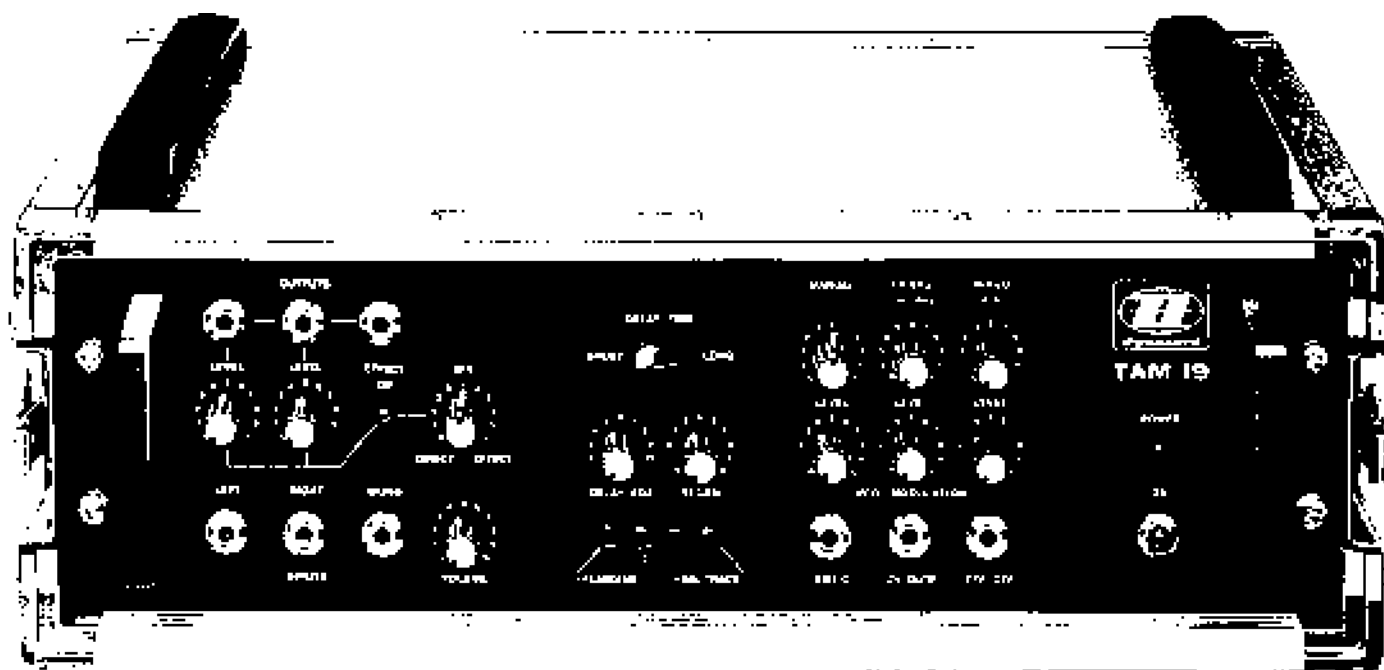
remixed in various ways with the original.

Mixing the manipulated signal with the original creates a comb-filter-like progression in the musical spectrum. Outstanding stereo effects are easily obtainable with the TAM 19 and the stereophonic design makes it possible to achieve positive and negative flanging, phasing and even pitch shifting.

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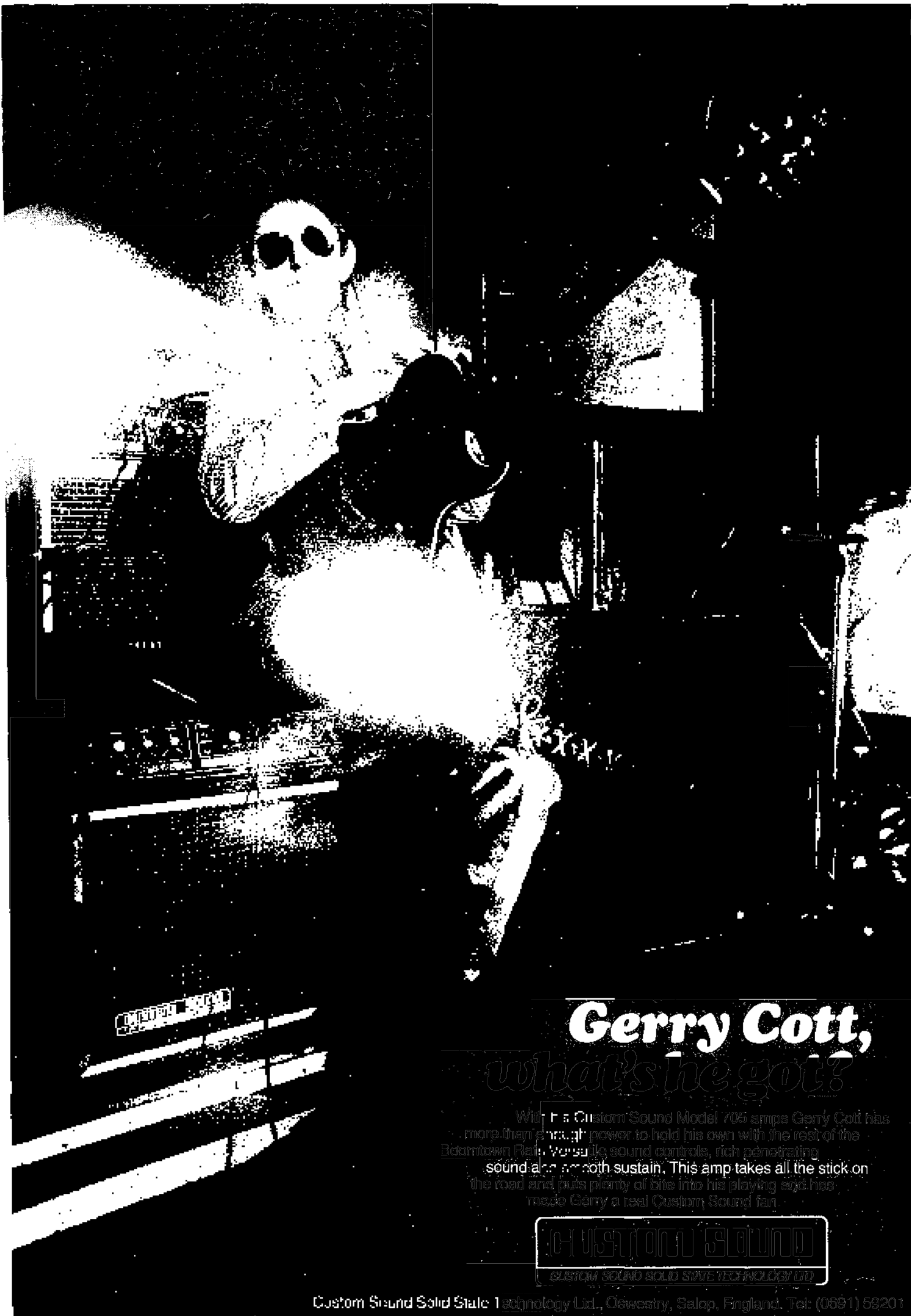
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No riffs for Pat Travers

He tells EAMONN PERCIVAL why Ted Nugent is redundant



Pat Travers is a name currently being bandied around by "those who know". His band recently supported Journey on their British tour and actually gave the bill-toppers a run for their money, at times coming close to blowing them off the stage. Travers is only just turned 25 but has a wealth of musical experience behind him. He started playing guitar at the age of 12 and soon formed a band called Red Hot, playing in and around his native Ottawa.

A few years later he was working with Merge, an Ottawa-based French group. But this didn't last too long as he got a call from legendary rock 'n' roller Ronnie Hawkins asking him to join his band. The money was good but Pat felt very much the junior partner and so, in 1975, he moved to London where he secured a management deal with David Hemmings of Arnakata and a recording deal with Polydor.

With management and a record company behind him, he set out to find a permanent band. With Peter Cowling, alias "Mars", on bass and Roy Dyke on drums, he recorded his

debut album *Pat Travers*. With this line-up, the Pat Travers band also undertook a long series of club and college gigs throughout Britain. By early 1977, his second album *Making Magic* was released, Pat having written 90 per cent of the material himself. A year later, his third album was released – *Putting It Straight*. This album prompted *Gig* magazine to label Travers "the guitar hero of '77". Pat supported the album with an extensive US tour and it was at this time that ex-Black Oak Arkansas drummer Tommy Aldridge joined the band. While Travers never wanted the band to be just a trio, he'd never found the "right" guitarist until Pat Thrall joined in May last year. With the release of the latest album *Heat In The Street*, a growing army of fans and the band's new line-up, '79 could be the year of Pat Travers.

According to his biography, Travers was originally influenced by Hendrix but this, it transpires, was a quote taken out of context.

"I'd really like to dispel that rumour right now," he says, "because I've been very pissed off about that. Obviously, I was influenced by Hendrix, so was every guitar player who was around in Hendrix's heyday. I was influenced by every player. I never set out to emulate any particular style. I just absorbed a lot."

Pat's interest in music goes way back. During Britain's golden era of the Shadows (and the Ventures in the States), he hadn't even started playing guitar, but he was listening to and absorbing rock's roots. "I remember the Ventures thing but it was really the Beatles that turned my head when they came to the States and did the Ed Sullivan Show. Then, when I heard *Purple Haze*, I thought 'Whoa! Hold the phone – there's some other kinda shit here!' I was never really into old blues or anything, although a lot of people say I sound bluesy. All my blues was picked up secondhand. I've been influenced by a lot of things and it just so happened that the guitar was the first thing I got my hands on. People always label me with that guitar hero thing. I'm flattered that my fans like my playing, but there's 101 guitar players that could blow me off the stage. I just make it look good!"

Guitar hero or not, the label is inevitably applied to most guitarists in a rock trio line-up. "That was always the problem. I never wanted it to be a trio, it's just that we could never find anyone who was compatible until we met up with Pat. You see, I never set out to be A Guitarist. I wanted to be

A Musician. I think I realised that the guitar hero thing was just an empty goal, it just didn't warrant the time to spend practising and practising just to get fast. I mean, even Hendrix didn't play particularly fast. He was more of a melodic player. On *Axis Bold As Love*, for instance, he wasn't playing riffs, he was playing melodies and that's the kind of thing I like to play. It's more in my nature. Any fool can sit down and practise scales. But scales are nice to tie melodies together, not to use them for scales' sake. Like Al DiMeola. I suppose I shouldn't put him down but I get tired of that really quickly. It's purely a speed trip and your average listener, even if he has a certain amount of musical knowledge, it's just gonna go right over his head."

Travers applies the same melodic approach to his songwriting, even more so recently as his latest album shows. "I find that it's more valid to have a song that can stand up with just an acoustic guitar or a piano maybe. It's nice to write a classic riff – like *Sunshine Of Your Love* was a classic riff – but you can spend years trying to write one. Riff-rock, you know? I mean, Nugent has gotten redundant. All due respect to Ted, he's a good friend of mine, but that is his attitude. I saw him in Miami recently and we talked and he said 'Man, I wanna write the classic riff. Cat Scratch Fever, bang, bang, bang.' He's still playing the same damn thing. Ted, there's other keys than A, for God's sake. Explore that thing!"

"I try to be a little more sophisticated and I think the band's musical background dictates that we should be a little more sophisticated because everybody's capable of playing more than two time signatures. It's got to be felt, and a lot of it is down to communication within the band. It's also got to sound uncontrived. It's strange because the title track of the album is in 13/8, if you can dig that. But I didn't realise until about a year after I wrote it. I don't know too much about time signatures but I can play 'em. On that one it just felt right."

Apart from recording and live gigs, Pat also gets a chance to "work out" on various clinics he undertakes to promote the Dean Markley range of strings, a brand the whole band use, and of which Pat says quite simply "They're great strings."

"The first thing I noticed about them was that, because I'm so energetic, I really like to whack the strings sometimes and usually, the low E or A would go sharp. But with these strings,



although they're the same gauge, they way it turns, they somehow feel like a different string. They're still as easy to bend but I think the wound strings have a slightly different alloy. I don't use super light strings really. I go from a .009 to 0.34 and Pat [Thrall] uses the same gauges. The bass strings too are really good. They're nice and bright but they also last much longer."

Although Pat's effects units include a Cry Baby MXR Phase 100, MXR Blue Box and two Maestro Echoplexes, he also swears by a small American company called Analog Digital Associates who manufacture a new flanger.

"It really is the new flange. I've never heard it," he enthuses, "and it changes in the true sense of the word."

Apart from a Leslie 122 cabinet, which is really for added depth rather than amplification, Pat's onstage power comes in the form of two Marshall amps — a 100 watt and a 50 watt.

"I use them both linked up and I set them so I get a flanging kind of sound from the 50 watt and much cleaner sound from the 100 watt. Some effects go to one and some go to the other, so I can get as clean or as crazy a sound as I need. I get away from the problem of noise by using a transistor. The basic idea was to get away from guitar leads but I also found it cuts down all the hum and noise. I've also got a compressor which cuts out all the dead spots on the guitar so I can get sustain just about anywhere. Not only that, I don't have to run my amps so loud because it gives me so much output gain. I run the 50 watt on about 4 and the 100 watt on 2. It's just incredible."

Pat's guitars include a Gibson Melody Maker which he has fitted humbuckers to, a Les Paul Junior and a Telecaster Custom. He's used the Melody Maker consistently for the last couple of years and plans to stick with it. "It really is a beautiful guitar, especially now I've got the humbuckers

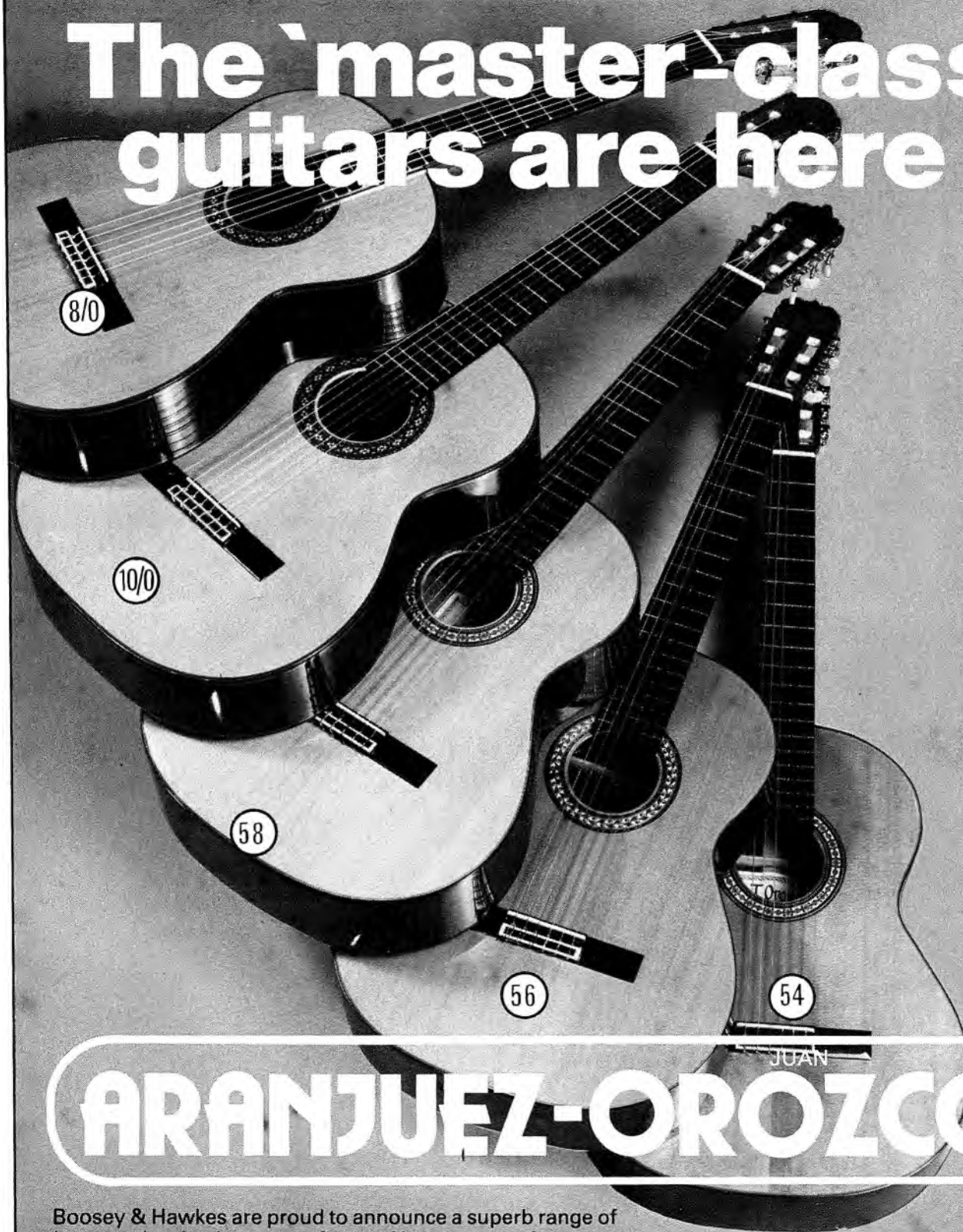
on. I recently stopped using the Telecaster because it has a maple neck and a 21-fret neck. When my fingers get a little sweaty, I tended to start to lose my grip. I found it was getting hard to bend the D flat to an E. Plus the fact that the Melody Maker is a double cutaway and much, much easier. The Junior is really there as a spare."

Away from guitars, Pat also owns a Hammond B3 organ and an ARP Odyssey synth, both of which were used on the new album. While he doesn't feature keyboards onstage at the present, he intends to devote a segment of the show to keyboard-oriented numbers in the near future.

The near future also includes the release of a live album, due out in the States soon, although its release date in England depends on the success of *Heat In The Street*.

"I also want to bring out a couple of singles this year," he concludes, "because that's something the band really need at the moment. A lot of our immediate future plans depend on the success of the album and the success of this tour, which has gone down really well so far. I'd be happy to play anywhere but, with managers and accountants to take into account, it's not always possible."

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Ian Carr talks to Jeff Pike

NUCLEAR FUSION

Ian Carr is a happy man. Almost obscenely happy. He's enjoying what he's doing, loves his work and looks forward to the future with a refreshing optimism. He knows it's uncool to be so conspicuously cheerful, but he can't help it. . .

"I'm really happy at the moment," he insists. "I'm having a very good time artistically. Some of my greatest kicks are listening to the guys in my own band — they really excite me. So I know every time we go out playing I'm going to have a really good time. I'm just revelling in this new creative impulse."

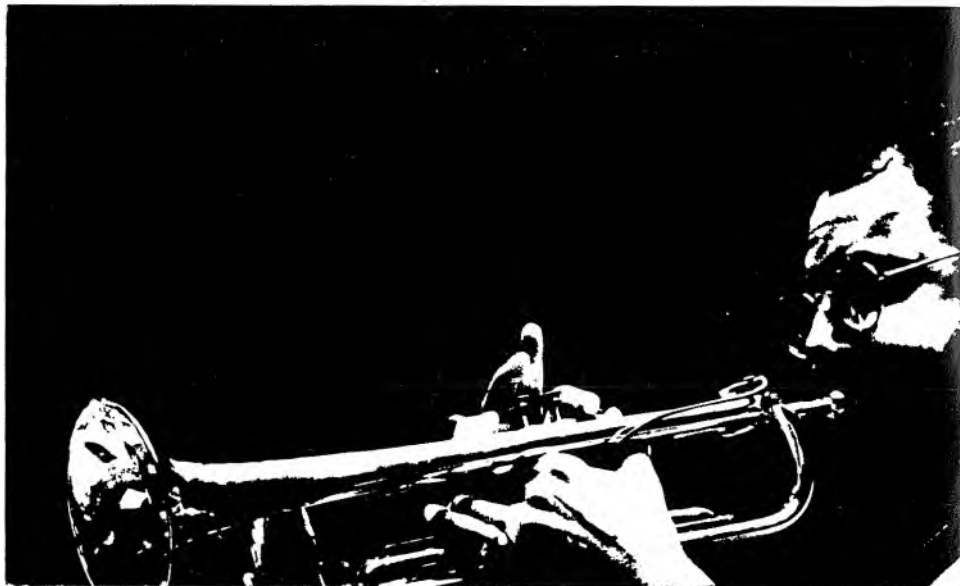
The band is Nucleus, one of Britain's foremost jazz-rock ensembles, with the emphasis on the jazz. Like the other members of the five-piece, trumpeter Carr has paid his dues on the British jazz scene. He formed the Mark I Nucleus in 1969, right after he left the jazz quintet he co-led with Don Randell. But six years later, he disbanded the group. "The reason was, I was fed up with my own music. It had got stale. So I took time off to write a biography of Miles Davis, to think about music deeply and to do very little work. I took a long, cold, hard look. You never know if you're going to come out at the end: after two years I might have felt just as stale and fed up as at the beginning. Then there would have been a real crisis."

"But I re-formed Nucleus in 1977, with some of the same guys as in the first band. We did a live album and it was beginning to get more interesting for me. Then we did this new album (*Out of the Long Dark*) which, as far as I'm concerned is the best album I've ever done, on any level whatsoever. It realises the idea of Nucleus far better than any other album. It's amazing — I suddenly feel a complete new infusion of ideas."

So why is the new Nucleus so much better? "First of all, it's far more flexible. There are far more dynamics, much more quiet music. There's more emphasis on harmony, too, and by that I mean organic harmony, not decorative harmony. Also I think the identities of the musicians are coming out much more strongly: (keyboards player) Geoff Castle is much more himself now, and I feel much more myself. Because of all this, I think the music is much more *live* now."

He also thinks he's better on his instrument than he was. "But nobody ever says that. They always say, 'He's still quite a good trumpet player.' Rubbish! I'm a vastly better trumpet player than I was 10 years ago."

"I've tried to improve my stamina



over the last year, and also my sound. I've done that in various ways, including a system of exercises I've devised. One is playing very long notes. You actually play the note quietly until you haven't got any breath left, and you do it in odd intervals, half a step more than an octave or, when you're going down, half a step less. It goes all the way up, right up to trumpet F above top C, which is the piano E flat above top B flat — that's the highest note I can play. I've also been doing a lot of isometrics and generally keeping myself fit. The actual sound of the trumpet is very important to me, whether you treat it electronically or not, and you don't get the sound unless you have the breath control and you're very fit."

Another crucial factor in Carr's sound is the trumpet he uses, a Selmer 99. It's silver plated, not lacquered, which helps to account for its rich, meaty tone. Since he got it in 1972, he has played less fluegelhorn and more trumpet: "I can play very mellow things on my trumpet so it covers a lot of the area of the fluegelhorn anyway. On one album, I think it was *Alley Cat*, one critic thought it was a trombone coming in, the sound is so fat. It's a beautiful instrument but it's very heavy because of the silver plating. So it's not good as a session man's trumpet, where you have to hold it all day. But for my purposes, the response is perfect."

Like most brass players in the vanguard of progressive jazz-rock, he isn't content just to blow his horn at a microphone. He uses electronics, but always thoughtfully and constructively. "I use a Barcus-Berry bug. I did have the pre-amp as well, but it was very noisy for me — maybe it was just that particular one — so what I have now is a Japanese chorus unit, I can't remember the name. It can give you two trumpet sounds or one, but it's also a pre-amp and it's mains driven, unlike the Barcus-Berry, so you can get rid of all that extraneous noise. My foot pedal is a Morley — the best — which also plugs straight into the mains. Sometimes I use the two voices of the chorus. You can make them more or less out of phase with each other, which is good when you're playing one melody and the saxophone is playing another — you can make the trumpet sound fuller."

It's not just on his instrument that Carr feels he has improved. He rejoices in the fact that he's a better musician all round. "I'm better at composing now, and better at band leading. In the last few years I've learned a great deal about every aspect of music. About rhythm, for instance, about harmony and the relationship between melody and harmony, about structure. What our music is all about is building tension and releasing it and I've learned all kinds of subtle ways of doing that. Our music is also about the relation of



what's written or pre-conceived and what's improvised — and I've learned more about that relationship as well. I'm still learning all the time. It's a very satisfying feeling."

What is not so satisfying to Carr is the way Nucleus' music is received in Britain — or rather not received. Whereas the band is treated with respect, even adulation, throughout Europe, the story is very different at home. Apart from a one-off performance with a nine-piece line-up in

February, this month's two gigs at a festival in Morecambe (6th and 7th) are the first British appearances by Nucleus since 1976! Carr seems resigned to being a prophet without honour in his own country. And, as a thinking man, he has his explanation for the phenomenon: "The trouble with Britain is that people are not exposed to this music at all on the media. In other countries you can hear Herbie Hancock, Chick Corea, Keith Jarrett, Miles Davis, Coltrane, anybody . . . you can hear them on the radio three or four times a day. You never hear them on the radio here, so it's a strange noise to people, that's why it's very difficult for them and that's why there's such a dearth of interest in Britain. I think this is a very important area of music, actually, in 20th century terms. And I think it's wrong not to have it exposed more. D'you know, last week there was a two-hour programme on German radio that was only Nucleus music. I've sat in restaurants and cafes and heard my own band. Here that's totally impossible. There's no chance."

True enough, Ian. But why? "It's a very complex problem. The music is not regarded very highly. It's got no kudos here, because of the general attitude to culture and music in general. There's a strong non-Western musical element in jazz which is at loggerheads with the Western element — we try to keep them in a delicate balance. The non-Western things are very often regarded as low class. It's totally wrong to say that, or even that they're uninteresting. I think they're fascinating. But they're regarded as . . . perhaps it's a hangover from Imperialist days, they're regarded as not quite pukka. But for me, it's life-enhancing and it's a damn shame that people don't get to hear it."



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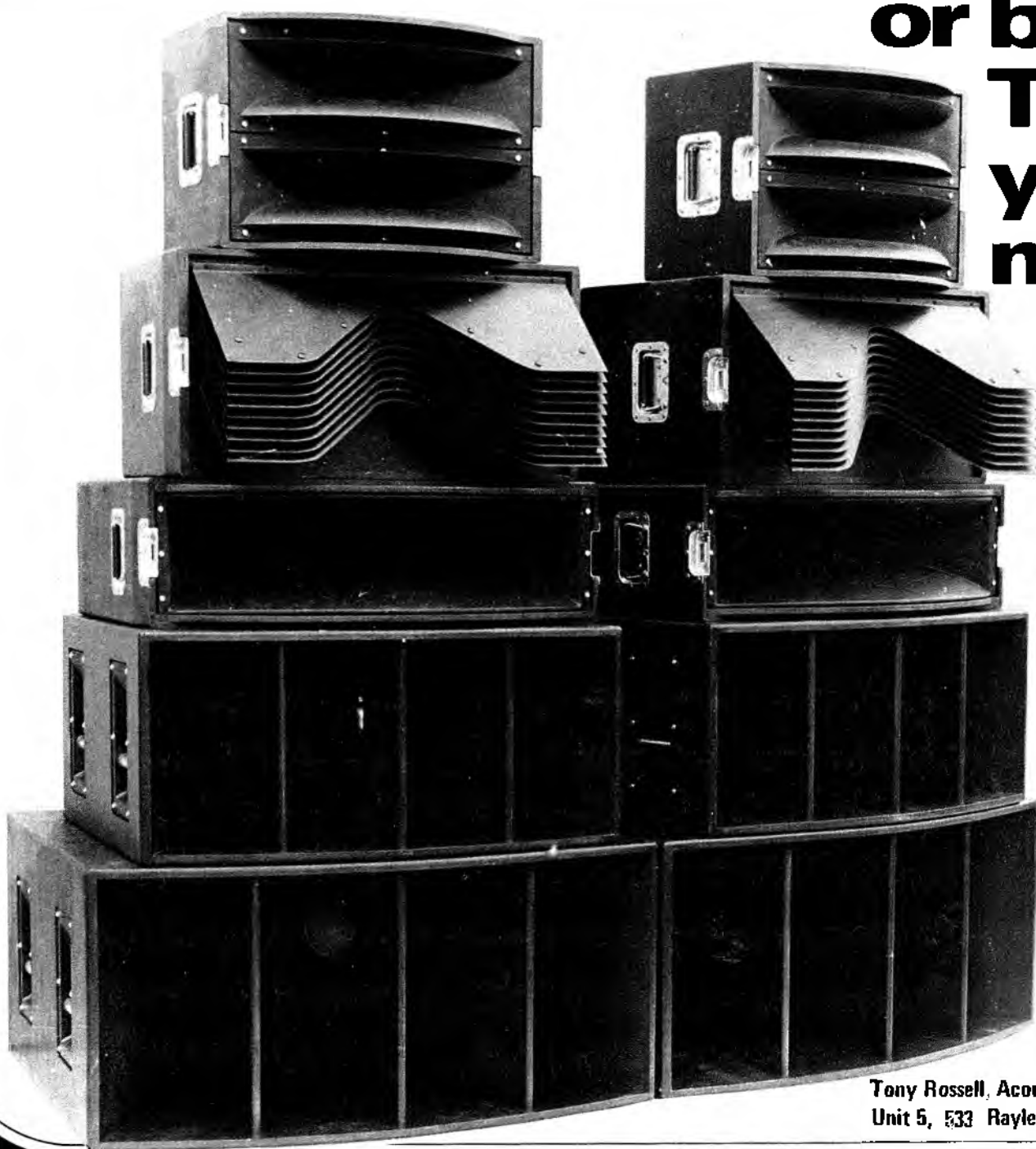
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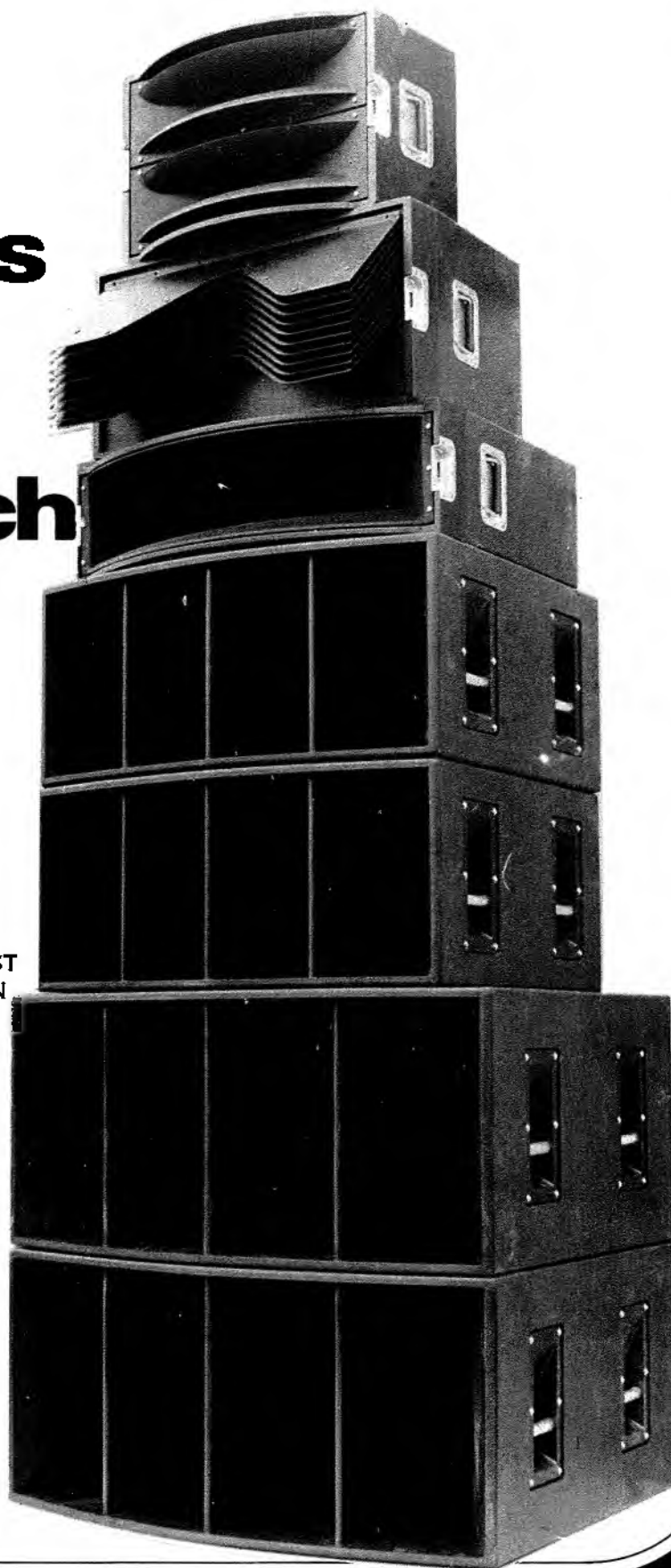
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Your Queries

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About 15 months ago I purchased a new Gibson Les Paul Standard with a maple neck. At first the guitar performed admirably but after a couple of months the neck began to develop a slight bow. But after a slight adjustment to the truss rod it was quite straight again. Unfortunately I have had to repeat this operation two or three times since then.

The neck is now straight (but not perfect) and seems to be stable but there is now a bad buzz on some of the frets — the fourth, fifth and sixth especially. Also the intonation has suffered. I would like to know whether this neck could be salvaged because if it moves again I would be frightened to adjust the truss again for fear of breaking it: it is rather tight already. Or should I have a new neck fitted, as the rest of the guitar is perfect? If so, how much would that cost? Or would it be cheaper to sell the guitar to a repairman and lay down a deposit on a new guitar?

R. Mitchell,
Lockerbie,
Dumfriesshire.

As the guitar is still quite new, you should refer to the shop where you bought it for adjustment. Don't make a fuss or threaten them, just explain that the guitar appears not to be performing quite right and ask them to look at it and correct the problem. Generally (under the Sale of Goods Act), the responsibility falls on the shop, not the importer. But presumably both the shop and the importer should expect a guitar of this price and quality to work properly for more than 15 months! So ask them nicely, but firmly, to put it right for you. If you have no success, write to us again.

Stage fright

What's the best way for bands to learn about setting up on stage with a view to avoiding hum, dangerous leads, feedback problems and all the other things you only discover by trial and error?

Arthur Weekes,
Haggerston,
E. London.

There's an excellent new book on the subject of PA/stage amplification techniques, called "A Practical Guide to Concert Sound" by Bob Hein. It's not easy to get hold of in Britain, so you might write to the publishers Melco Publishing, PO Box 6, Marissa, Illinois 62257. Also in the near future we hope to be running a series on microphones and miking up a band on stage.

Send your questions about instruments, amplification, music and the business to **Queries, International Musician and Recording World**, Grosvenor House, 141-143 Drury Lane, London WC2. If you'd like your question answered by a particular one of our consultants, mark your envelope "Stephen Delft", "Mark Sawicki", etc.

Smooth talk

I am the proud owner of an Ibanez Artist 2626B bass which I am considering removing the frets from and filling the resultant slots to produce a smooth fretless fingerboard (ebony). I would be extremely interested in your thoughts and opinions on the subject.

John Logan,
Clydebank,
Dunbartonshire.

Stephen Delft replies: A fingerboard which is accurate enough and/or hard enough for a fretted bass may not be accurate and/or hard enough for a fretless bass. Ask the advice of a competent repairman and in any case try to avoid roundwound bass strings on a fretless fingerboard — rapid wear!



Case for treatment

I would be extremely thankful if you could help me in a futile series of questions on which I seem to be held up for an answer. I have recently bought a hard case for my acoustic guitar (Yamaha FG340) and there is room for it to move inside.

To solve this I want to install a block of wood behind the head to keep it in place, but wish to cover it in the same golden yellow plush lining as the rest of the guitar case. Where might I obtain some and also a suitably strong safe lock to replace the cheap one on it at the moment?

Nick Bell,
Kingswood,
Gwent.

Stephen Delft replies: Support the neck but let the head float free. The fabric you should be able to get from toy teddy bear makers or their suppliers. Regarding the clasps, most case fittings look pretty cheap, but try a flight case company (see ads in IM).

In a spin

Where can I obtain information about building a Leslie-type cabinet, and is it simple a couple of horns rotating with a similar speaker arrangement below or is it more complex?

Nick Robinson,
Nether Edge,
Sheffield.

Mark Sawicki replies: I can recommend the so-called Leslie or "Space Sound System" marketed by Maplin Electronic Supplies Ltd., (PO Box 3, Rayleigh, Essex). It is a two-speed rotary system and you can find more details on page 193 of Maplin's recent catalogue.

What's in a name?

I am putting a new band together and having been rehearsing for some eight weeks now, we are trying to decide on a name. This, as you probably know, is not a very easy task and, assuming that we do eventually think of a name that everyone agrees to, I should like to know if there is any official way to register a group name or, indeed, to find out whether or not a particular name has already been registered to a band.

Godfrey J.E. Wilkins,
Stowmarket,
Suffolk.

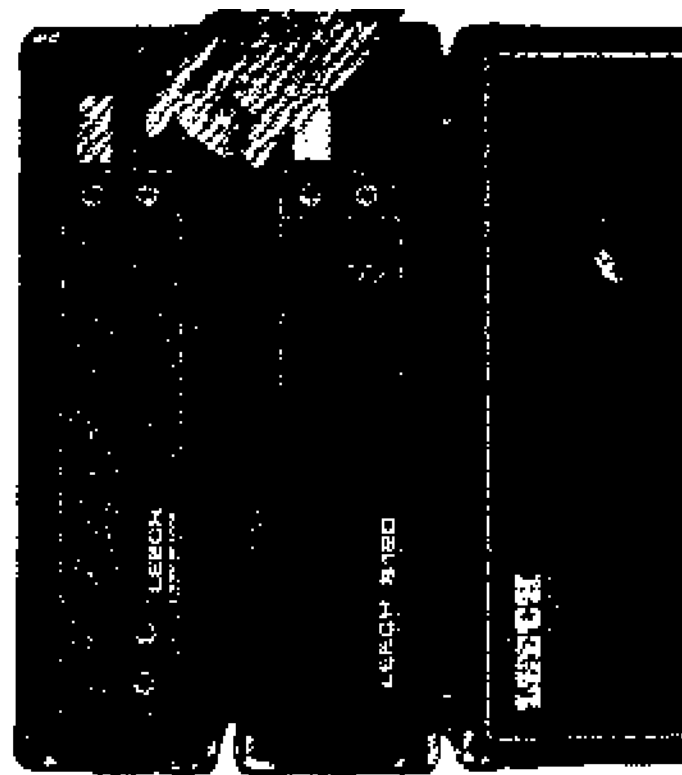
This is quite an odd one to solve inasmuch as the only protection your band can have legally is if another band

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Your Queries

of the same name can be proved to be taking advantage of the name, you can take them to court. A few years ago, there were various soul bands operating under names like *The Fabulous Temptations*, *The Original Drifters*, etc whose line-ups bore no relationship to the American bands. It's worth contacting Companies House to see if your band can be registered as a limited company, in which case they can probably register the group's name.

On the make

I am writing to inquire about becoming an apprentice to a luthier. At present I am living in Canada but I would like to travel to Europe and hopefully apprentice there. I'm also interested in learning about guitar-making schools, although I feel that being an apprentice would make the learning much more practical. Any information you could give would be appreciated.

Dave Clinton,
Burlington,
Ontario.

Stephen Delft replies: Write to the London College of Furniture, 47 Commercial Road, London E1 and ask for a prospectus from their instrument-making department. Also look in *IM* and "Early Music" (published by Oxford University Press, 37 Dover Street, London W1) for makers' addresses - and write to all of them. Don't expect many to answer you. No-one pays them to answer letters and guitar makers have to work every hour the day brings. Self-addressed envelopes and reply coupons encourage replies. Good luck!

Mixing it

In the April 1978 issue of *IM* you advertised a mixer kit. Is the offer still open, are the kits still available and could you forward me details of the price etc.?

John P. Mackle,
Portadown,
Co. Armagh.

Sorry, the Sawicki Mk II mixer kit was a special offer for a limited period only last year. But Mark Sawicki says you should be able to obtain all the necessary components from any radio/electronic shop. Copies of Mark's series on building a mixer (in seven parts) are available from *IM* at £1 per article, in case you missed any.

EZ question

Can you please tell me, and the many other older amplifier owners, where I can obtain rare types of valves. I am

currently seeking an EX81 for an ancient Elpico amp head.

Kevin C. Botting,
Bude,
Cornwall.

There should not be any problem in buying EZ81s, as they are still in use and appear in several catalogues (at around 45p+VAT). Try Henry's Radio, 303 Edgware Road, London W2.

Gretsch addretsch

Could you please send me the address of the company that manufactures Gretsch guitars as I want to try and date an old bass guitar made by them which I recently bought.

Andrew Milne,
Grimsby

Gretsch guitars are distributed in the UK by the Baldwin Piano and Organ Company, Unit 4, Stirling Industrial Estate, Rainham Road South, Dagenham, Essex. The American manufacturers are Gretsch, 1801 Gilbert Avenue, Cincinnati, Ohio.



Frapp and friend.

Just good friends

In your article on Robert Fripp in the

March issue of *IM*, you mentioned that he had recorded with Blondie. Could you please tell me what recordings he has done with the group?

Michael Robertson,
Egbaston,
Birmingham.

Robert played guitar on one track of the current Blondie album "Parallel Lines". He features on "Fade Away and Radiate", written by Chris Stein.

What's my bass?

I have recently bought a secondhand Gibson Les Paul bass and I wonder if you could supply any information on it. It is the only one of this model I have ever seen. It is similar to the Les Paul Triumph but it has fingerboard dots instead of position markers and no impedance switch on the control panel. I have been told that it is a Les Paul Professional bass and that it was never imported into Britain. Could you verify this and tell me if it is still made, also how much it cost new and what year it is (serial number 889801)?

A. Blake,
Wigginton,
Herts.

Stephen Delft replies: I think you are right on all points about your bass. As for the original cost, date of manufacture, etc, try asking Norlins (Norlin Music Services Ltd., Woolpack Lane, Braintree, Essex). I would expect your bass to have an impedance-matching transformer in a small metal cylinder in the lead. If this is so, and you intend to keep the bass, it might be sensible to order a spare now, just in case. They are not generally available in shops.

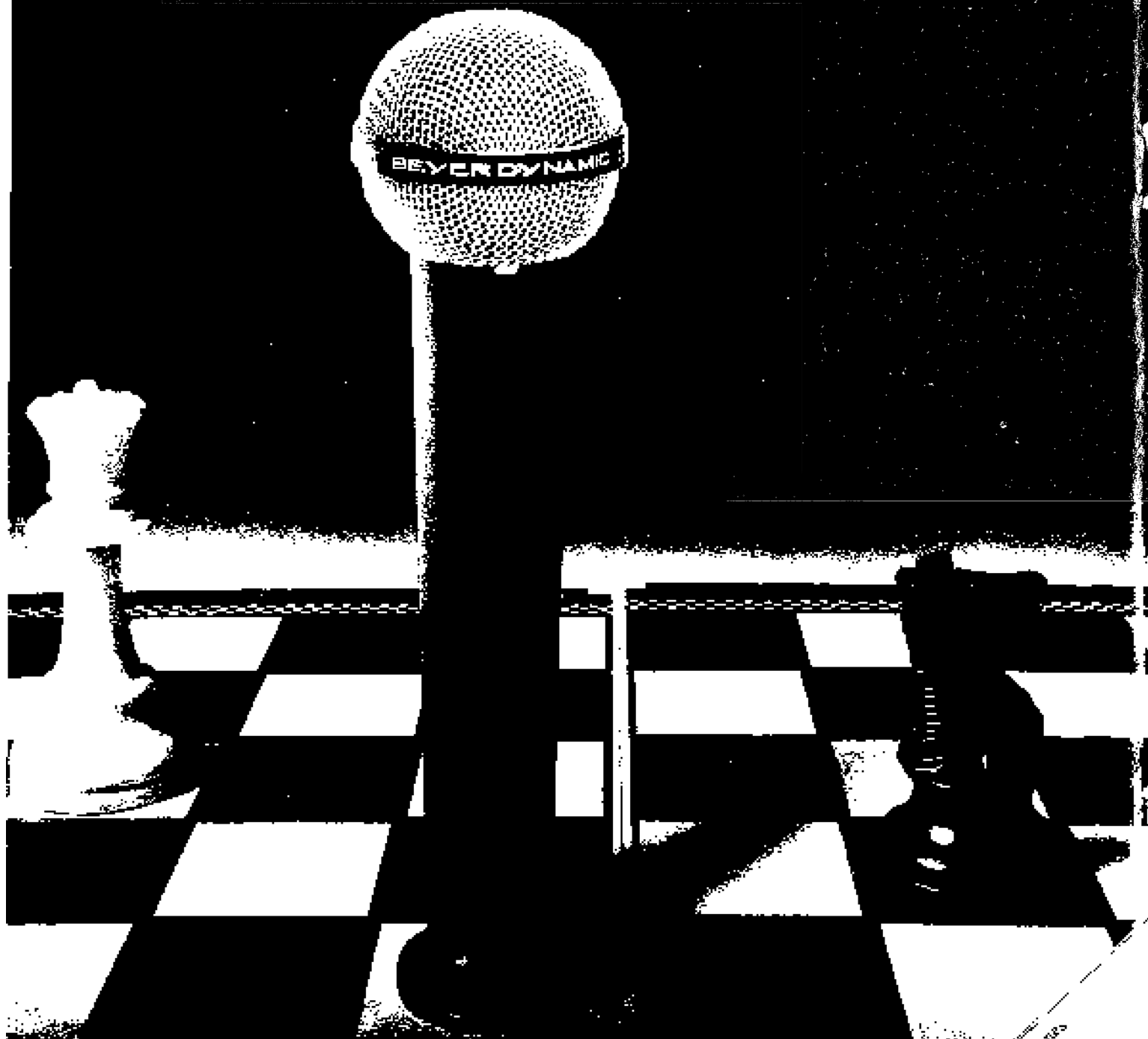
Boxing clever

I have a great deal of difficulty in obtaining alloy die-cast boxes (as used in MXR effects units) larger than 4½" x 2½" but no more than 1½" high, also Japanese type DPDT footswitches similar to the MXR type (the Arrow type are slightly too large). Any suggestions?

R. Gearty,
Cumbernauld,
Glasgow.

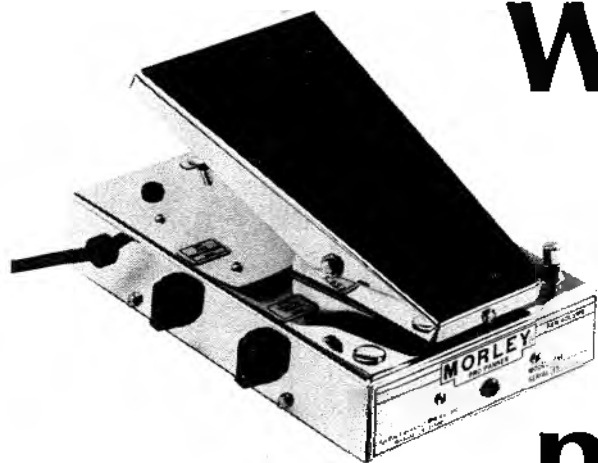
Mark Sawicki replies: You should be able to get hold of these boxes/footswitches in many places, but here are two suppliers you should write to and request their catalogues: West Hyde Developments Ltd., Ryefield Crescent, Northwood Hills, Northwood, Middlesex; and Maplin Electronic Supplies Ltd., PO Box 3, Rayleigh, Essex.

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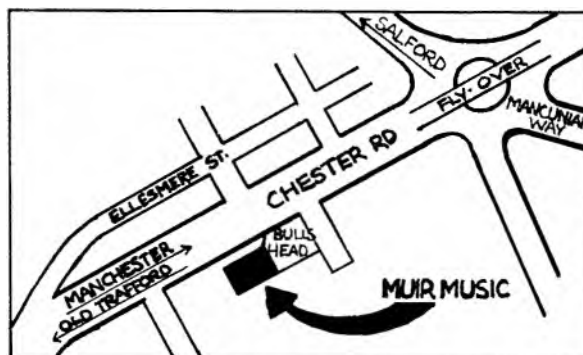


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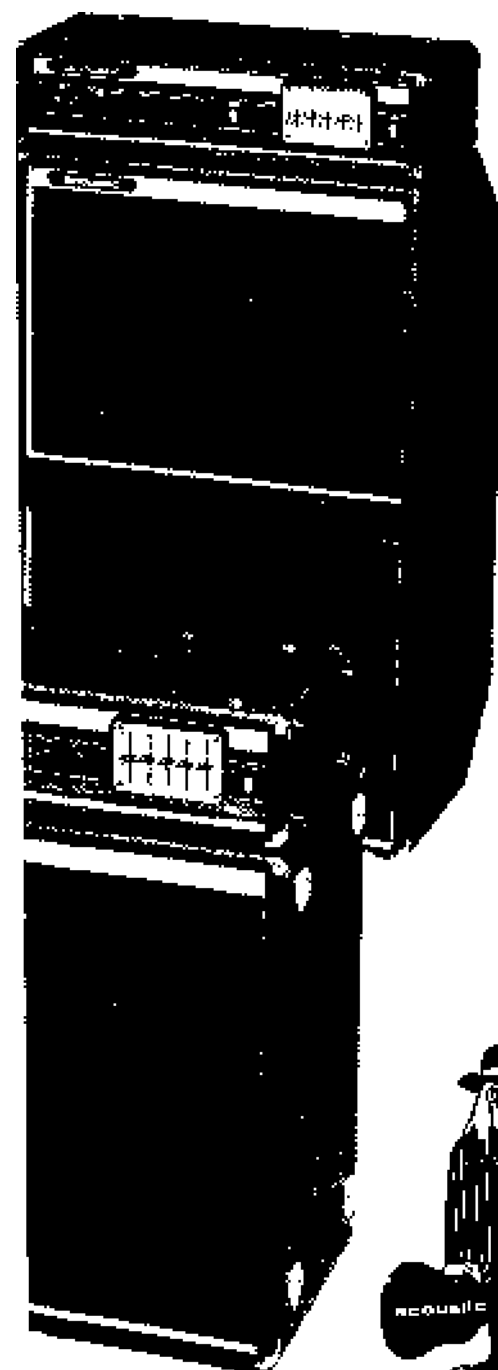
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the amplifiers



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160 Watts RMS at 5% THD into 2 Ohms
125 Watts RMS at 5% THD into 4 Ohms
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Dimensions: 6½"H x 11½"W x 26½"D.
Shipping Weight: 35lbs.

model 400 stereo power amplifier

375 Watts RMS/per channel into 2 Ohms
One LED overload indicator per channel
Features: Dual power supplies, separate input level controls, separate power switches, high speed fan cooled, rack mountable, RCA pin type (phone) and ¼" standard phone jack inputs on front and rear, banana plugs and ¼" standard phone jack outputs. Thermal and short circuit protection without programme interruption.
Dimensions: 8¾"H x 19"W x 19"D.
Shipping Weight: 67lbs.

model 320 bass amplifier

Features: Two switchable channels with flexibility to operate separately, combined or be switched between the two.
Footswitchable 5 band graphic equalizer. Six in/out preamp jacks allow patching of effects between preamp and power amp for optimum performance and give access to Channel A, Channel B or both combined. Treble, midrange and bass controls. Input pad and bright switch on each channel. LED indicators note power, EQ and channel selection. Two section foot switch "Power Boost" switch provides punch for low gain instruments.

model 220 bass amplifier

160 Watts RMS at 5% THD into 2 Ohms
125 Watts RMS at 5% THD into 4 Ohms
¾" plywood with interlocked dado construction
Features: High and low gain input jacks, bright switch, treble, midrange and bass controls, power boost switch, and footswitchable 5 band graphic equalizer. Preamp in/out bypass jacks for internal patching of accessories. LED indicators note power EQ and channel selection. Will accept 120 and 240 Volt supply.
Dimensions: 6½"H x 11½"W x 26½"D.
Shipping Weight: 35lbs.

ENCLOSURES	Model 403	Model 406	Model 802	Model 813	Model 408
Power Handling Capacity/Watts (Maximum Amplifier Output)	200	200	125	175	300
Nominal Impedance/Ohms	4	4	8	4	2
Enclosure Type	Sealed System	Front Loaded Vented Baffle Tuned Reflex	Front Loaded Vented Baffle Tuned Reflex	Front Loaded Horn with Tuned Reflex	Tuned Combination Reflex
Speaker Complement	4-12" Spkrs	2-15" Spkrs	1-12" Spkr/Lows 1-Horn/Mids 2-Piezoes/Highs	2-15" Spkr/Lows 1-Horn & Driver/Mids 2-Piezoes/Highs	4-15" Spkrs
Overall Size/Inches (HxWxD)	26½x26½x15	43x18x24½	20x24½x15½	40x26½x16	50x26½x20
Shipping Weight/Pounds	100	130	65	115	142

Construction: 802 and 813 models: ¾" plywood with interlocked dado construction and hard coat finish.

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Edinburgh: Grant Music, 53-53a Home Street—031-228 1704.
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Leeds: Kitchens of Leeds, 26 Queen Victoria Street—0532 446341.
Liverpool: Hessys, 62 Stanley Street—051-236 1418.
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Loughborough Music Centre, 18 The Rushes—0509 30398 or 218020.
W. Midlands: Modern Music, 30 Castle Hill, Dudley—0384 55293.
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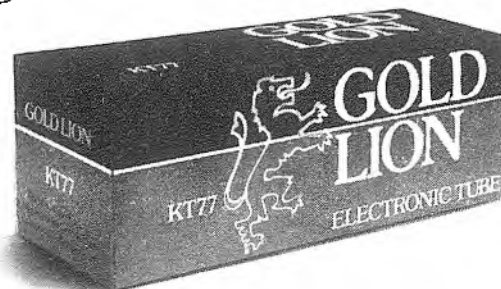
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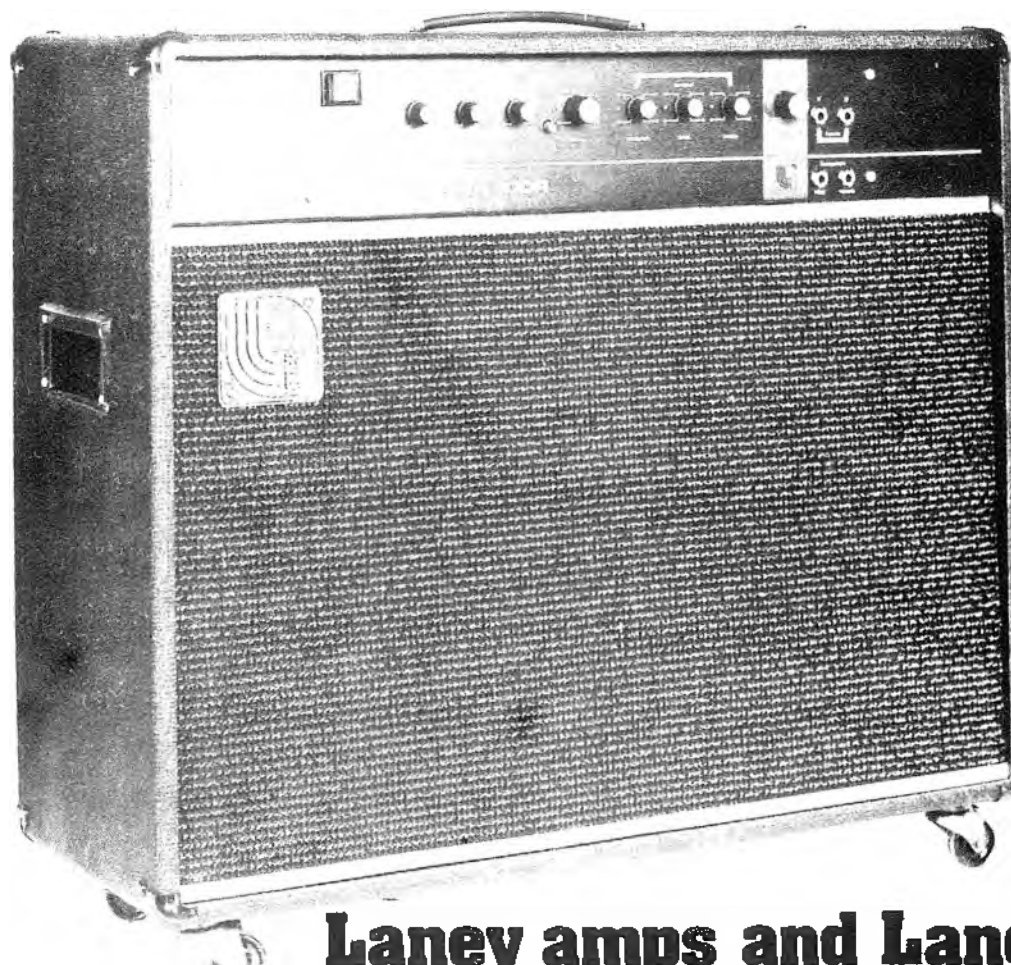
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RECORDING WORLD

RIDGE FARM, DORKING

The old cliché about "getting it together in the country" has become as much a part of rock 'n' roll folklore as concept albums and recluse superstars. But the fact remains that many artists prefer to get away from it all when they feel like being creative — particularly when they're recording.

As a result, there has grown up a number of studios set in the country, the most famous of which is probably the Manor in Oxfordshire. The latest addition to this exclusive fraternity is Ridge Farm, situated on the border of Surrey and Sussex near Dorking.

The first thing that hits you when you arrive at Ridge Farm is the way that little has been changed from the original farm set-up. There are farms either side of the property, and nothing to suggest that Ridge Farm is part of the rock 'n' roll syndrome. However, in just a short time some of the biggest names in the business have wound their way down those country lanes.

The studio is run by Frank Andrews, whose family actually own the farm. Frank paid his dues working on lighting rigs touring the world, but after his last big gig, touring with the Stones, he decided it was time to quit and lead a saner lifestyle. But he maintained his interest in the music scene and the farm seemed an obvious place to start.

He explains: "We decided to convert the barn into a rehearsal studio, because it lent itself to it. It just seemed like a good idea at the time, so we went ahead and it was quite successful from the start. We began in 1976 and had bands down like Queen, Back Street Crawler and Robin Trower.

"We never pushed it in a heavy commercial sort of way, but business

just kept rolling in. This gave us the impetus to turn it into a 24-track studio eventually, which is what we had always wanted to do really. We used to do a lot of work with mobiles as well. Because we were always getting a very good sound, it attracted people to record here, but the only way they could do it was by using mobiles. We made some quite good albums that way, the first Motors' album for example."

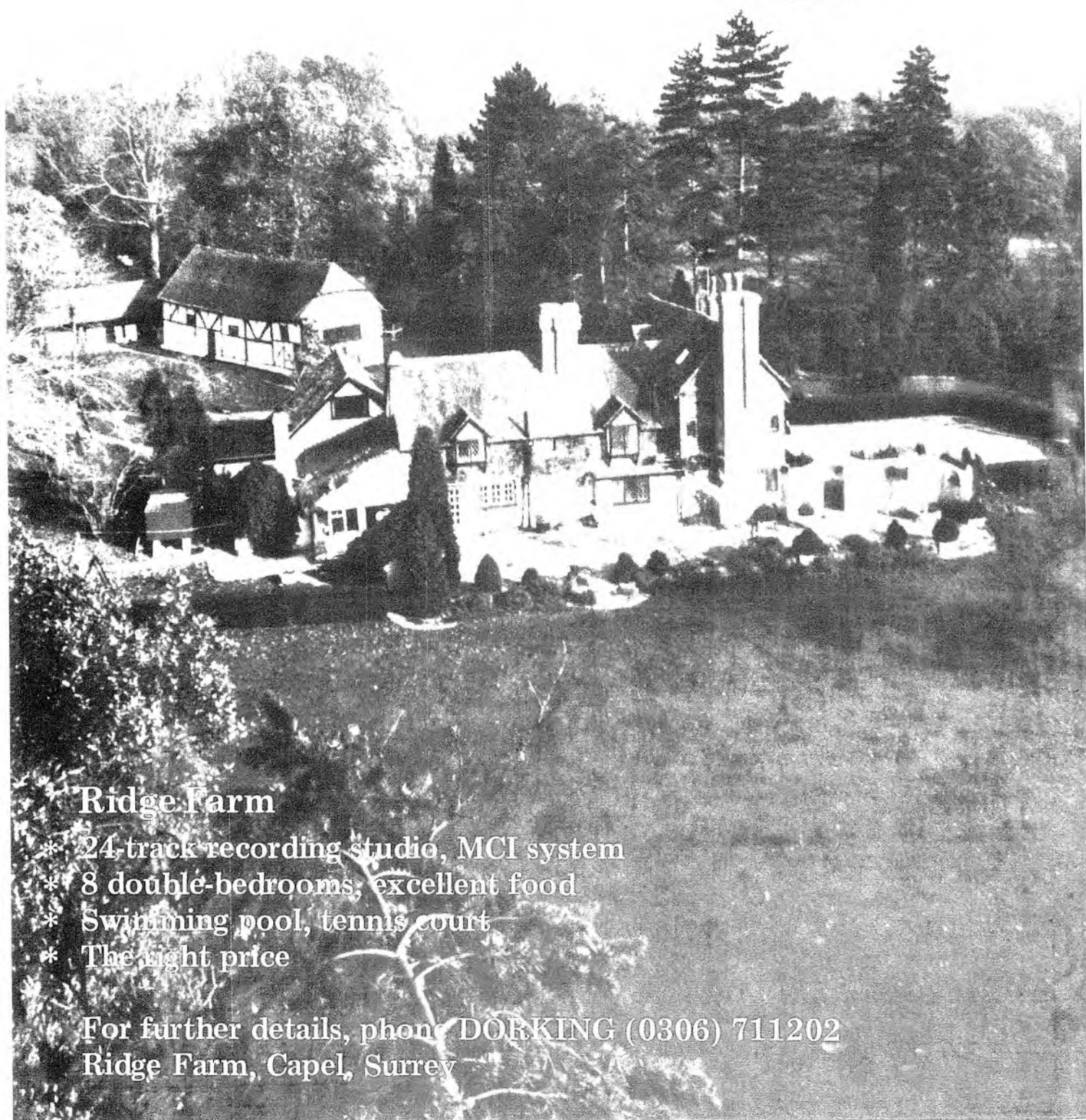
So in June last year, Frank set about converting the rehearsal room into a fully-equipped recording studio. Surprisingly, the Elizabethan barn needed very few alterations with features like the windows, a rarity in



studios, remaining intact. The result is a fully sound-proofed studio with a working floor space of 1200 square feet.

The decor has remained in keeping with the rest of the building, the studio being comfortably furnished, fully carpeted, heated and available for use 24 hours a day. Frank explains: "We had to do very little modification to the actual room. We've really been 24-track since July when we had the old control room downstairs, but it was a bit inadequate as far as space was concerned. The sound was OK in there and we made some good albums in there, such as Bad Company's *Desolation Angels*, and all the backing tracks for the Roxy Music *Manifesto* album were done here. The biggest

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RECORDING WORLD



operation was "floating" the control room on a 10" thick concrete raft and excavating the area beneath to make a variable acoustic environment."

The console is a 28/24 MCI JH400 series quadrophonic desk and tape machines are 24-track MCI JH100 series with autolocate and varispeed and MCI four-track/two-track reduction machines. The monitors comprise four JBLs and two Lockwoods powered by Amcron DC300 amplifiers and there are the usual range of top quality

mikes and studio accessories such as Eventide Digital Delay, Flanger and Harmonizer.

The engineer at Ridge Farm is Mike Dunne who has a wealth of studio experience and works closely with Jon Anderson. He was also in favour of keeping alterations on the building to a minimum. "The acoustics in there were so good previously that it seemed a foolish idea to try and change everything. Bands were attracted here because it sounded so good in the room itself and they enjoyed working in there. We didn't want to tamper with it because it might have spoiled the atmosphere."

The accommodation and amenities at the farm contribute greatly to this overall atmosphere. Up to 14 people can be accommodated on the site which includes a separate cottage with double bedrooms, bathroom, kitchen and lounge. There are also five double bedrooms in the main farmhouse, and all the rooms have central heating. Ridge Farm boasts its own chef as well, to provide three full meals a day of good farmhouse cooking.

No country recording studio would be complete without its recreational facilities and Ridge Farm is no exception. There is a heated

swimming pool, snooker table, tennis courts and a sauna in addition to the 12 acres of English gardens with orchards, fields and woodlands. However, Frank is quick to point out that Ridge Farm is a working studio and definitely not a holiday camp for jaded musicians. The local hostelry deserves a mention, too. If you are a connoisseur of good real ale, then the pub down the road will be an essential part of your visit.

It is also worth noting that there is a workshop at the farm, so repairs to gear at any time of the day or night are no problem. There is usually no shortage of gear, for Frank's brother Tony runs a PA hire company.

The list of people who have used Ridge Farm for rehearsals includes Queen, Robin Trower, Thin Lizzy and Black Sabbath, while the roster of studio bookings is becoming equally impressive with Bad Company, Roxy Music, the Pop Group and the Slits among recent clients.

Handily placed for London, just 40 minutes' drive, the studio seems set for success and will be particularly popular with those musicians who long for a taste of rustic life but usually get no nearer than listening to the Archers.

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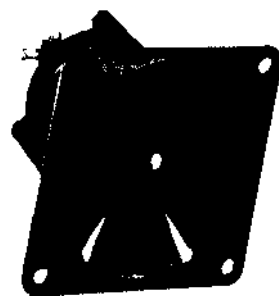
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In the studio with Bowie

BY HIS PIANO PLAYER

This month sees the release of David Bowie's first studio album since "Heroes". At the time of going to press, no release date had been fixed and even the title seemed in doubt, although "Lodger" seemed the likeliest contender. Most of the recording was done last September in Switzerland, between the European and Far East legs of Bowie's '78 world tour. The musicians he used in the studio were all members of his stage band: Carlos Alomar (rhythm guitar), Adrian Belew (lead guitar), Dennis Davis (drums), Simon House (violin), George Murray (bass) and Sean Mayes (piano), aided and abetted by Brian Eno on synthesizers, tape loops and baton.

Bowie's methods of recording are unique. He assembles songs — at first without words — from fragments of instrumental music and electronic sounds. Often the musicians themselves didn't know quite what they were playing or what it was destined for. In an *IM* exclusive, Sean Mayes (who also plays piano with rock 'n' rollers Fumble) recalls the chaotic, creative days they spent in the studio.



Lake Geneva is a beautiful stretch of water — a small sea surrounded by mountains and sunny vineyards. At one end of the lake is Montreux, a quiet, elderly Swiss resort, and down by the water in this unlikely setting is the Mountain Recording Studio.

Simon and myself, the two British members of the band, had flown out that morning from London to Geneva. We stepped out of the car to see a familiar group of figures standing around in the hot September sun — Dennis, Adrian, George, Brian (Eno) and a skinny figure with a crew cut: David needed a shave, and looked

drawn but alert. He gave us a grin and a quick hug of welcome. We went into the cool elegant Swiss control room. Most studios I've been in have an urban staleness redolent of late night chain smoking, but this one was fresh as a mountain stream. Gleaming equipment, thick pile carpet, rough stone walls, very chic. Three small TV screens gave a fragmented impression of the studio itself — drums, mike stands, Carlos tuning a guitar.

There was a vast studio next door to the control room, but David had chosen the intimacy of a small studio up a winding stairway, where there is little screening between the instruments, and the piano is blanketed by a huge white fur carpet which cascades to the floor like the mountain slopes outside.

Tony Visconti was sitting at the mixing desk, a small, dark expatriate New Yorker. He is cheerful and good company, which helps create a relaxed atmosphere in the studio and disguises his efficiency which can match David's fast pace of working. David had been there a few days with the rhythm section — Carlos, George and Dennis.

and he started by playing the backing tracks they had recorded so far. These were just roughly mixed with occasional fragmentary ideas for vocals. David sat there, his eyes bright, sometimes singing a bit — "Yassassim!", "Red sails . . ." I remember — and telling us some of the instrumental lines he wanted here and there. My immediate impression was of some very lively music, everything more "up" than his recent work, but as yet there was virtually no synthesizer or lead guitar. This was just riffs and rhythms. They all had working titles — *This tangled web*, *Portrait of the artist*, etc., but I

don't think any of these survived onto the final album; they were just for reference.

Over the next couple of days we laid down a few more basic tracks, this time with all of us playing. David or Brian would provide the chord sequence, often quite a short one, and we would play this over and over continuously. These chord sequences were produced by various methods, sometimes almost at random. On one occasion Brian, who is a quiet English eccentric, wrote out a collection of cards with chords on them — B flat, F, C, E, G, E flat, Am, Cm — then pinned these on the wall and, giving us a basic rhythm, pointed to these with a baton as the spirit moved him, while we played. (There was some grumbling about this "back to school" session.) Sometimes one of them would suggest a different tempo or change the rhythm, and we'd play the whole thing over again for a while.

At the end of the day Tony would run off rough mixes of everything on reel-to-reel for them to take away, listen to and cut up. The next day they would be back with spliced tapes, often loops, then these edited versions would be reproduced by splicing or looping the unmixed multitrack master and copying it onto a fresh tape, which would become the new master and all further recordings would be done on the remaining tracks of this tape. I'm not sure now which tracks of this album contain loops, but an obvious example for this method on *Heroes* would be *Blackout*, where the whole song is built on two basic structures over which the vocals create three distinct sections, including *Get Me off the Street* which fits over both backing structures. This method seems to work because David has such a strong lyrical sense. He has a way of producing vocal lines which spring from the roots of the music — something which became obvious to me on tour when he recreated each song every night, often subtly varying the vocal line.

David was very keen on spontaneity — he liked everything to be recorded in one or two takes, mistakes and all, and when someone seemed to be getting too familiar with what he was playing David would get him to play something else. Often when he chose which section of something to make into a loop, he would pick the part with the most mistakes, which by being repeated became an integral part of the song. Sometimes he proceeded

RECORDING WORLD

seriously with much thought, at other times the approach would be light-hearted, almost frivolous. For us as musicians it could be puzzling, even frustrating, but when the music took off we would enjoy it in the spirit of a jam, not knowing what the result would be – or what on earth it would become after the dynamic duo had been busy with their scissors.

On one occasion, everyone swapped instruments – Tony on bass, George on drums, Carlos on organ, I think, and Brian on piano. The track became the single *Boys*. Another time someone was sent to the local music shop to borrow three mandolins which Adrian, Carlos and Tony strummed and tracked – on *Amazing Journey* (or whatever it's called!).

A few days after I got there all the basic tracks were down and Carlos, George and Dennis flew back to New York. Then Adrian, Simon and I would alternate in solo sessions in the studio while the others played frisbee in the gardens outside. These sessions were pretty intense: I would sit at the piano, Tony in the control room, and David would run up and down between us, humming ideas. On *Africa*, for instance, I played rhythm for most of

the track with a solo in the middle – a fairly grandiose theme in classical style. We went through it bit by bit, David sitting beside me while I made notes. I played it through once with the track then we recorded it – four times, note for note, and the tape speed was fractionally altered each time so the piano was out of tune with itself to produce an underwater sound. Somehow I got through it all without a slip, so then we went on to the next track, then the next. By the end of the day I was left with no clear impression of anything I had played – it was like remembering a phone number just long enough to dial it. It only came back to me again when I heard the finished LP a few days ago – half a year later!

We worked fast, and I was through just five days after I arrived. Notes from the last day: Take a huge sandwich to studio, consume in the sun till people arrive. Brian plays through a tape he's been editing and looping ("Here we go loop de loop," hums Tony). David says, put on Fury. Tony: That was Occident Prone. Brian: What a terrible pun! David: That was Brian's. Brian: Yes, I'm sorry, I've been playing with words

again. Finally – See you in Sydney, David says.

That was seven months and a Far East tour ago. David and Brian did more work on the backing after we left, then it stayed like that until this March, when David took the tapes to New York. He wrote all the words in a week, working at a white heat inspired by the city. He did one section with Roger Powell (keyboards on tour) and some more work with Adrian – the end of one number consists of three guitar solos on separate tracks mixed in and out, David playing with the sliders like a TV game.

I have listened to the album a few times now, and though I may of course be biased, I'm sure it's one of his strongest ever. It has vital rhythms and vivid colours and is bursting with ideas. There is an immediacy and liveness which I like to think reflects the great feeling the band had on stage. There is little point in my reviewing the album – plenty of people will be eager to do that – but I found it fascinating to be part of the making of it, and to glimpse some of the inspiration of this bizarre but very human genius.

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The image of record producers is usually of men who are the Svengalis of the music industry, the all-powerful figures behind the control desks who have hit singles etched into their well worn features.

Well, Steve Lillywhite is a producer, but he doesn't fit into any stereotyped image. For a start, he is only 24 which is young for a producer by any standard and he looks even younger!

Steve may be a comparatively new face on the producing scene but he already has an impressive string of credits to his name which range from Siouxsie and the Banshees, XTC and the Hot Rods through to British reggae band Steel Pulse and just about every act on the Island label which is where he's based.

He has been in the business for eight years, yet retains a vitality and enthusiasm for the music and the bands which is refreshing in what is essentially a very jading medium. Steve's entry into the world of sliders and faders came in the time honoured fashion via tape op, through to engineer and finally producer. He gained all his early experience in the Phonogram studios, engineering on sessions from Harry Secombe to Status Quo, and it was here that he got his first taste of producing.

"I did produce a couple of things at Phonogram," he admits, "but nothing of any note, but sometimes when the studio was empty, we were allowed to work on our own projects. I became interested in a band who eventually became Ultravox. We did some demos and they signed to Island. I did their first album and everyone seemed to like it so I was offered a job at Island.

"I didn't come to Island as a producer to start with. I worked on a few things and then got involved with the Hot Rods and worked with their producer Ed Hollis. We stuck together as sort of a production team for a while and this was at the height of the punk thing, so we were going into the studio and making singles really quickly. We'd have three groups coming in in one day.

"However, you've always got to re-assess the records you make and the market they're aimed at and there are a lot of things you could get away

with in those days. Now you've got to spend a bit more time because the competition is so intense. Ed and I eventually split up and I was offered a producer's contract by Chris Blackwell which is pretty good because it allows me to work with other record companies and I'm not tied to Island acts."

Steve sees his role as that of an A&R man as well as being a producer and emphasises the importance of getting to know the artists you are working with and their music. "You've got to be an A&R man as well because there's an old saying 'You can't polish a turd', and it's true. It's got to be good, got to be something you believe in if you're the producer. If you're an engineer it's different because you're paid to do it. As a producer you're responsible for that piece of plastic and right from the start you've got to do the things you want to do.

"I think relationships are extremely important all the way along the line, because artists need to be handled properly to get the best out of them. No one wants to make a record and not enjoy it. My way of thinking is that music is fun, OK it's serious in a certain way, but I think people listen to music for enjoyment, so you've got to make music with enjoyment."

Steve's enthusiasm and ideals have so far remained unsullied by the music business. He declares himself to be "on the group's side" when it comes to making records and believes that they tend to get a raw deal. "I'm all for the group, I'm always on their side as opposed to the record company's because I think they get such a bad

deal and are only given one chance. Record companies are so bad. They sign a band up and if they haven't made it on their first or second album they're out - it's disgusting. Some companies are good, they keep their acts a long time, and Island are great like that.

"When you believe in an act you've got to build them up. There's too much of this 'star for a day' thing and it can really screw people's heads up if you are a band. It's a big fallacy about groups becoming rich from a hit single, it really is. I know the wages of some people and it's really sad. If you are a songwriter you tend to get a lot more, but for the drummer of a band with a Top Ten record, he just gets a wage.

"All a record deal amounts to is a bank loan, so I'm all for the band. I think producers get paid too much, quite honestly."

Steve enjoys being an A & R man because it gives him an opportunity to see a lot of new groups and get to know the ones who have something to offer. This policy paid off when he spotted the Members whom he nurtured along, doing demos with them before they got a recording deal. He then produced their single, *Sound of the Suburbs*, which was a hit, and subsequently their album.

So what does he look for in a new band, what are the qualities which he feels they need to make good records? "The first thing is whether I like them or not, that's all anybody wants from a record. Obviously, the group have got to be competent musicians, and the singer's got to sing relatively tune-fully, although there are things you can do in the studio. There are some singers who just do one take and that's the master. One of the ways I do it is to get him to sing it three or four times completely through on different tracks. Then afterwards I run through each track and pick out a line-by-line thing, so you get the continuity of a continuous vocal.

"I've worked with lots of producers who just start the tape and the singer comes in on the first line and if they get the first line wrong, it's back to the beginning again. By the time you've finished you think, well, they could have done it a lot better in just one go. What I like doing is keeping the flow going and then afterwards picking out the best vocal line. ➤

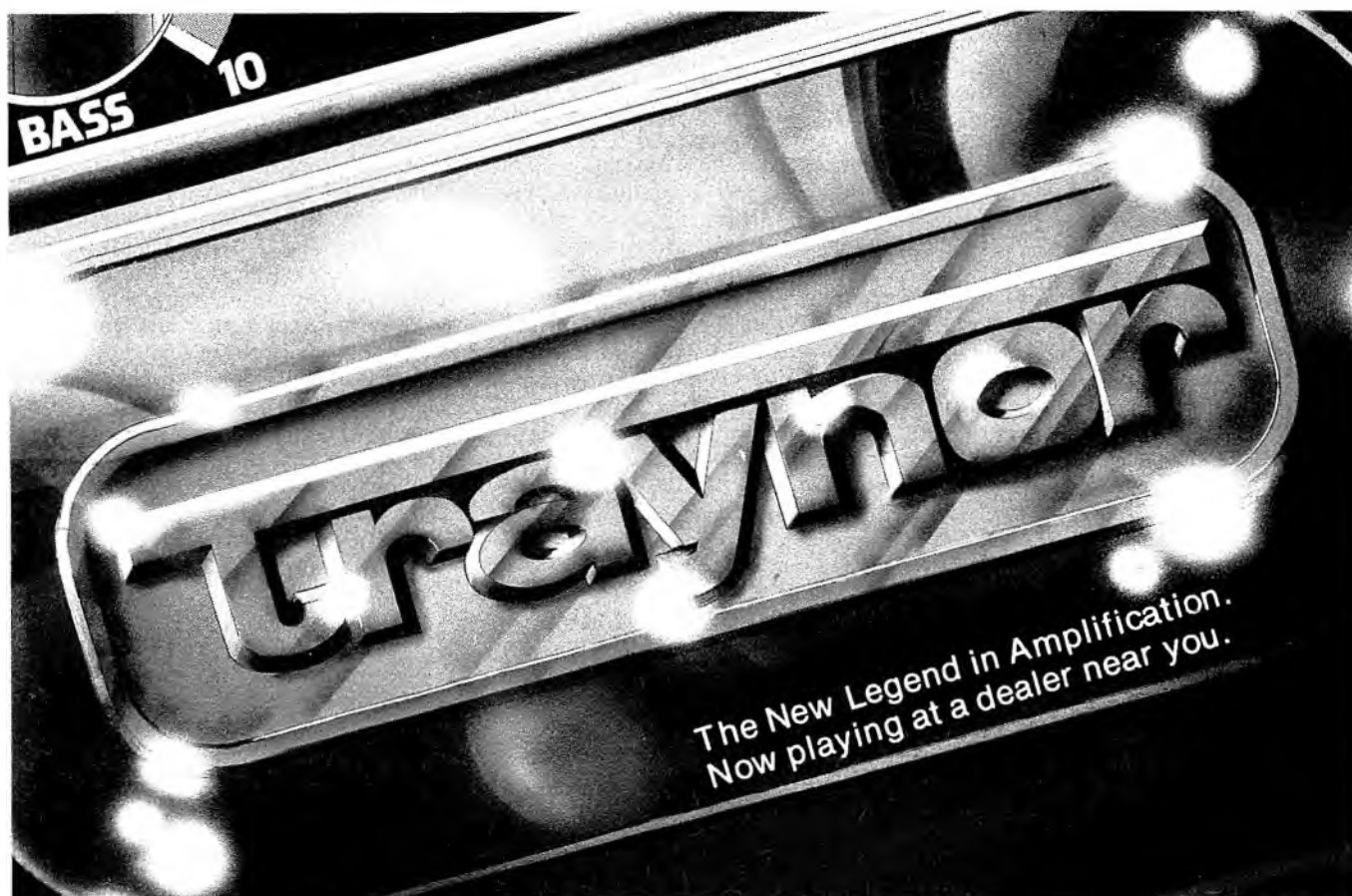
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"Good equipment is also really important because so many people blame studios for their own mistakes. I mean, you can't have a tin-pot drum kit and expect it to sound like something really good. You've got to work on your instruments at source, you've got to get the right sound.

"Although studios look ever so flash and you think you can do anything with them, it's not strictly true. All it is, is treble and bass controls really and it's much better to get the sound out in the studio. Like the old Fender Twins for instance have got a really lovely echo sound. You get a Shadows-type echo, but you can never get that type of echo off a studio desk because it's too clean."

When it comes to studios, Steve has no real favourites. He mentions the Town House, the new Virgin studio, as being really good, and does a lot of work at De Lane Lea and Phonogram. But on the whole he is pretty flexible about where he works. He is more interested in the actual studio room than the console with all its gadgets.

"I love Eastlake for recording because there are loads of places in a room where you can put things because of the live and dead areas. It is the studio rather than the control room where the actual sound comes from, so there has got to be the right atmosphere for a group to play their best. I've just done my very first mix in an Eastlake room. I've always veered off them for mixing because it never sounds like a record player that I've ever heard. The whole Eastlake thing is that wherever you stand in the room it sounds the same and no-one's record player at home ever sounds like that.

"As far as all the equipment goes, it's not for the music, it's for the commercial value just to get people to use the studio. You don't really need it all. I mean it's good, records now quality-wise are a lot better, but what you don't get so much now is a feeling captured on record. I like to try and get a bit of both.

"Like on a backing track, it doesn't have to be spot on it's just got to feel right, but I know some producers who put groups through hell by keep doing it again and again and they lose interest in it. I like working quickly."



Many producers have developed their own sound on records which is instantly recognisable, but Steve is adamant that he tries not to impose too much of himself on the group's record, which is, after all, their product. He admits that being a relative youngster in the business can have its drawbacks as well.

"One of the problems with me at the moment is an age-respect thing, I couldn't go into the studio with a really big band. I'd walk in there and they'd say, 'Oh, here's the tea boy.' I think psychological things have got a lot to do with it, they don't want me telling them what to do. Normally I work with people my age anyway, and I always get on with people I work with, I think that's very important. I take each project completely separately and do a lot of homework beforehand. I listen to songs in demo form, have meetings with the group to

discuss things and put through suggestions to try and give some impetus and get people thinking about their songs."

Although he has gained his reputation with mainly New Wave acts, Steve feels he would like to start working with really top class musicians to broaden his scope. The one artist he would dearly like to work with is Bruce Springsteen: "I'd be a tea boy on one of his sessions."

Steve is now in the enviable position of being able to pick and choose the work he does. "The beauty of being a producer is that no-one wants you to produce something if you say you don't like it. So all I've got to say is, 'I honestly don't think I could do a good job on it,' and that's it. That's what so good about it."

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David Lawrenson

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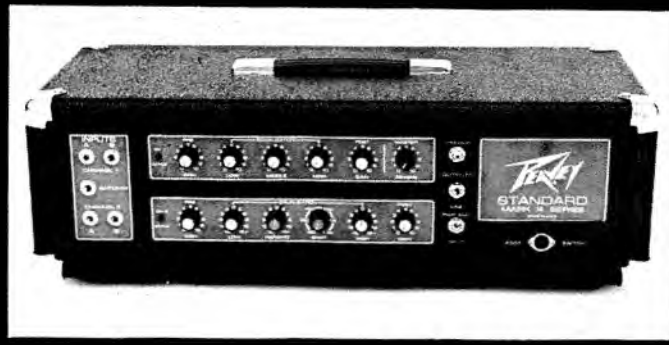
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RECORDING WORLD

Guardian Studios, Co. Durham

Terry Gavaghan is a hard-working engineer who has just completed a self-produced album by Splinter, a modern band managed by Chas Chandler. The album is called *Hot On The Heels*. Splinter are due back very soon for another LP . . . Local punk band Piranha Brothers are taking a bite into the biz with a single . . . Chris Kool Band are also recording a single produced by Hilton Valentine (another ex-Animal) . . . Tyne Tees telly, Trident and local radio stations often use Terry's skills for material like the theme music for *Live On Friday*, written and produced by Peter Saint for Tyne Tees.

The Manor, Oxfordshire

Where Bliss Band recorded their album engineered by Mick Glossop and produced by Geoff Westley . . . And Public Image Limited are recording an album but apparently they're also fiddling about with some numbers taken from their first album. The work is self-produced but the engineering is done by Hugh Padgham . . . Gallagher and Lyle are expected to record an album there but at time of press no further details are available.

Roundhouse, London

Osibisa were mixing their self-produced LP with engineer Ashley Howe . . . French rocker Dick Rivers got producer Bob Bloomfield and engineer Mark Dearnley to help him with his future album . . . Hawklords were mixing some tracks with producer Doug Smith and engineer Trevor Hallesy . . . Hi-Tension were recording and mixing their single . . . AC/DC were preparing an album with producer Mutt Lange and engineer Mark Dearnley . . . Look out! The Bay City Rollers are back with a single produced by Peter Ker and engineered by Trevor Hallesy . . . The mixing of a self-produced live EP by Chas and Dave is in the care of Mark Dearnley . . . Bruce Welch is producing Allan Love's next single . . . Disco band Match are recording a single produced by Frank McDonald . . . Producer Ken Gold and engineer Ashley Howe are working on a single by the Real Thing . . . Uriah Heep are recording and good luck to them . . . Do you know the Motors? If you don't, you soon will. The band are currently mixing their next single with engineer Trevor Hallesy.



Tina Turner



Osibisa

Maison Rouge, London

The mobile unit crossed the channel to record Rainbow's next album . . . In a castle! Engineer Tony Taverner has recorded Richard Digant's single for Chrysalis with producer Hugh Murphy . . . A single by Alan Love who stars in the stage production of *Tommy* is being finalised . . . Cowboys International is their name and Colin Thurston is producing their next single . . . Rose of Maison Rouge describes Steve Flannagan's style as sexy rock-ballads: Rose's pet of the month has an album coming out on Legion Music, produced by Tommy Eyre and Ken Burgess . . .

Trident, London

Rod Argent left his keyboards to produce an album by Colin Blunstone with engineer Steven Short . . . A video-cassette of Tina Turner in full

action is being prepared. She is also recording a single produced by Alex Constandinos . . . Ian Levine is producing his own disco album with engineer Colin Green . . . Jerry Love and Michael Zager were working on their self-produced album . . . Engineer Colin Green was mixing down a debut album by Screen Idols for EMI . . . New Voyage were expected to work in Trident's studio for an album . . .

CBS, London

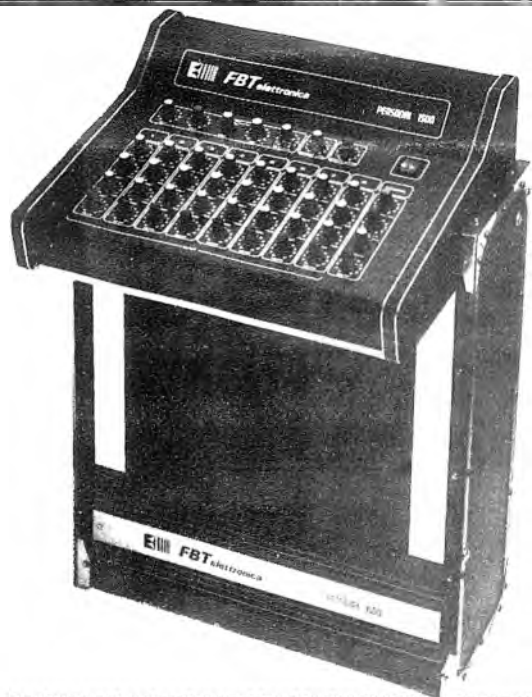
Produced by Geoff Morrow, ex-Three Degrees Fayett Pinkney is recording an album with engineer Steve Taylor . . . Micky Anthony is producing various artists including Hot Gossip, Feat First and the James Boys. The singles are engineered by Steve Levine and Simon Humphrey . . . Disco band the Dance People are recording an album produced and engineered by Graham Dickson and Steve Levine . . . S. Humphrey is also engineering an album by Scott Fitzgerald for United Artists; the producer is Jonathan Hodges . . . Tina Turner and Alex Constandinos seem to go from one studio to another. CBS is being used for overdubs and the engineer is Mike Ross . . . The lovable Elkie Brooks is recording tracks for A&M with producer Barry Blue and engineer Mike Ross . . . Newcomer Roy Winston sings and you'll be able to hear him on a single produced and engineered by Steve Taylor . . . Park Lane Records have signed on pop band Ritz and tracks are currently being recorded by engineer Ken Gold, who also takes care of the producing.

STUDIO DIARY

Who's been recording what, where...

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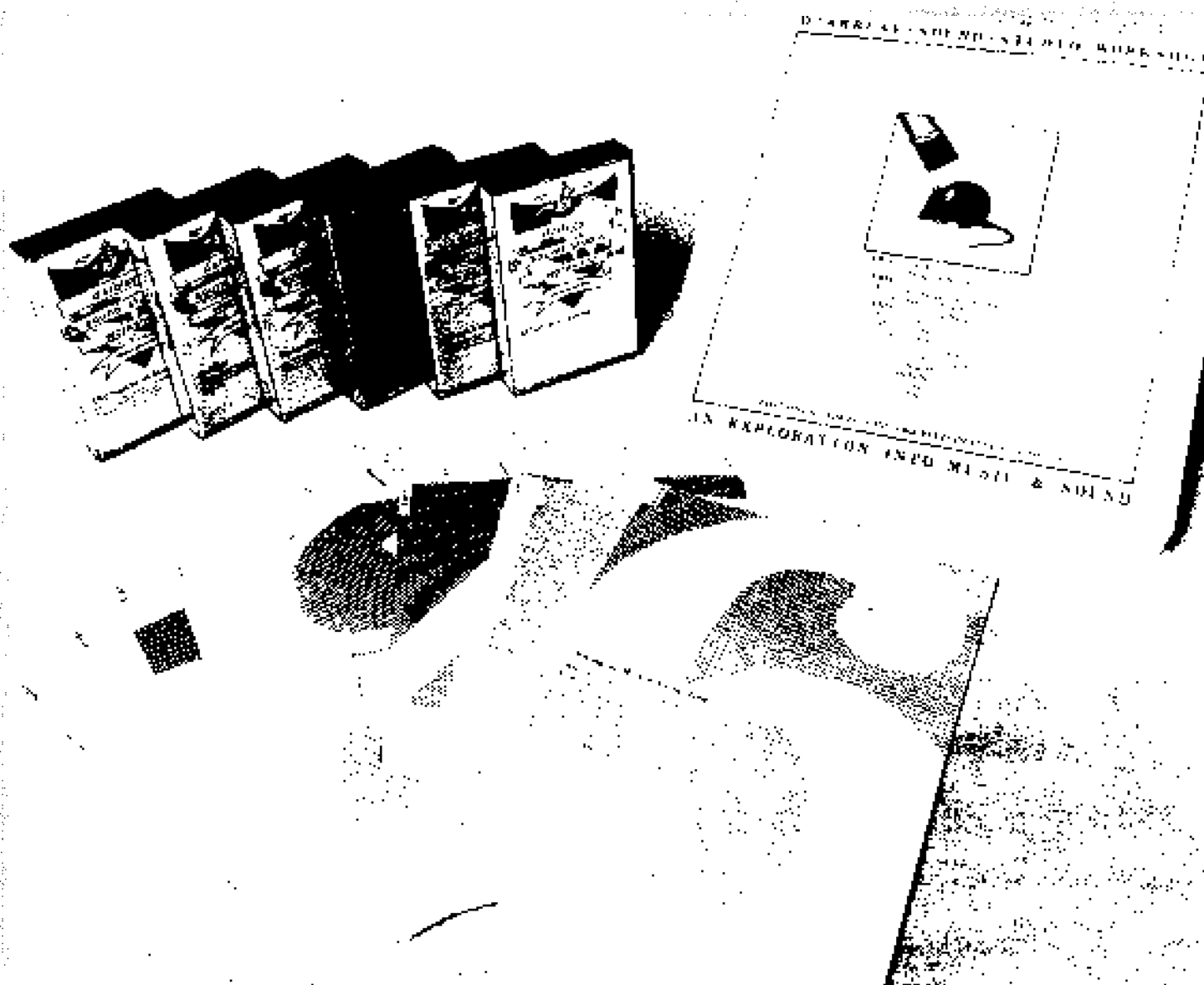
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Producing by degrees

BY JOHN EASON

A number of top producers seem to have drifted into the profession by accident, having started out as musicians and then become more interested in what was going on in the control room than what they were playing. Others have been involved with the technical side from the start and have never really played an instrument.

But now a third breed is evolving. Graduates from the Tonmeister course at the University of Surrey in Guildford. They are musicians with a practical aptitude who have been trained in a four-year degree course to become expert recording technicians with a solid scientific grounding in the trade.

Many established people in the recording world look down on the academic approach but the graduates of this course have an impressive track record. One of them, Tony Spath, is now head of Strawberry Studios at Dorking.

And the man who has just taken over as lecturer in recording techniques on the course also has an impressive history. David Pickett started out in satellite communications before joining Abbey Road studios where he worked on everything from heavy rock to opera. Although his original training was in electronics he is also a musician and took a part-time degree in music at Goldsmith's College.

His special field has been reprocessing old records to make them fit for modern equipment. This has ranged from remastering ancient wax cylinder recordings of a Lincolnshire folk singer to turning out an LP of old Deep Purple singles. He was also the man responsible for getting the clicks and scratches out of the Top 10 hit *On the Trail of the Lonesome Pine*. Working with Alan Warner, the mastermind behind these revivals, he went on to give us *As Time Goes By* and a number of compilation albums.

The anti-academics might wonder, if he has done so well coming in at the ground floor, why he bothers trying to run a university course. "We are trying to teach the students in four years what took me eight years of study," he explains. "When I was at school it was impossible to study physics and music together. I had to do it separately. Now the students have a chance to mix those subjects — which must be good."



David first became interested in teaching while working at Abbey Road where, from time to time, engineers from overseas studios were shoved in for a few days' training. But he found that it was virtually impossible to teach them anything in the chaotic conditions of a fully working studio. "Engineers who come in on the ground floor don't always learn the fundamental principles. You haven't got time to teach them. Here we have an opportunity to teach them from square one."

Students on the Guildford course study maths, physics, electronics and acoustics. But they are expected to be musicians first and foremost. They must play an instrument and are expected to take part in the musical life of the faculty, which includes a lunchtime concert by students and staff every week. (This concert is also recorded by the students as a technical exercise.) They also study the history

of music, contemporary music, harmony, counterpoint and orchestration.

"We are training musicians to be engineers rather than the other way round," says David. "They must be able to talk intelligently to the musicians they are going to record."

After two years at university the students spend one year in industry. This year's industrial batch are currently working in Abbey Road, Air Studios and Studio G. "They have a whole year to relate the knowledge they gain here to what happens in a commercial studio. In a year they can become useful members of staff, so it's a beneficial exchange for both parties."

The students spend part of their fourth year working on projects of their own choosing. Current work includes research into the best method of recording jazz without destroying the spontaneity of a session and an investigation into different ways to record a drum kit.

RECORDING WORLD

David Pickett feels that this research side is one of the most important aspects of the university's course. "We have got people with ears who do understand recording and have the time and enthusiasm to experiment. We can get them to re-examine old concepts and they are willing to work on new ideas. And we have captive musicians. If they want to experiment on the best way to record a piano piece, they can collar one of the piano students from the music course and get him to play the same piece 25 times if need be, while they experiment with microphones. The cost of this in a professional studio would be terrific – and who are they going to get to play the piano? All we have to do is keep our piano player supplied with beer."

David would welcome commercial sponsorship. If manufacturers would like to send their latest equipment to the university he and his students would be only too glad to try it out. One field the university hopes to investigate is quadraphonic sound. "I think quadraphonic is an excellent concept but it hasn't made it big because there hasn't been the opportunity for the necessary experiments. Neither the public nor the recording companies were ready for it."

This may sound arrogant until you stop to think about the contributions that university researchers have made in other scientific fields. Why not recording? In fact, as recording techniques become more advanced, David Pickett feels there will be an increasing need for the tonmeisters who, because they understand the scientific principles behind the equipment, will be able to cope with the equipment of tomorrow. While not going as far as Kim Fowley (who derided stereo as the cocaine needle of the recording industry) he certainly feels that techniques have already outstripped the skills of many engineers.

The university's equipment, although good, is certainly not the equipment of tomorrow. Some of it is certainly the equipment of yesterday. But David feels this is a positive advantage rather than the reverse: "If the students can do a recording session on less than the state-of-the-art equipment they are much better placed to manage on a session where things go wrong. Even if you have the best equipment in the world there are sessions where you have to improvise. This is where the good engineer distinguishes himself."

The university has its own studio with a 16/4 Neve console, a Calrec mobile mixer and a wide range of stereo tape recorders. There is also a mobile studio which has travelled all over the



country. The Guildford studio is in almost 24-hour-a-day use as tonmeister students carry out their pet projects or are badgered into helping out students from the straight music course.

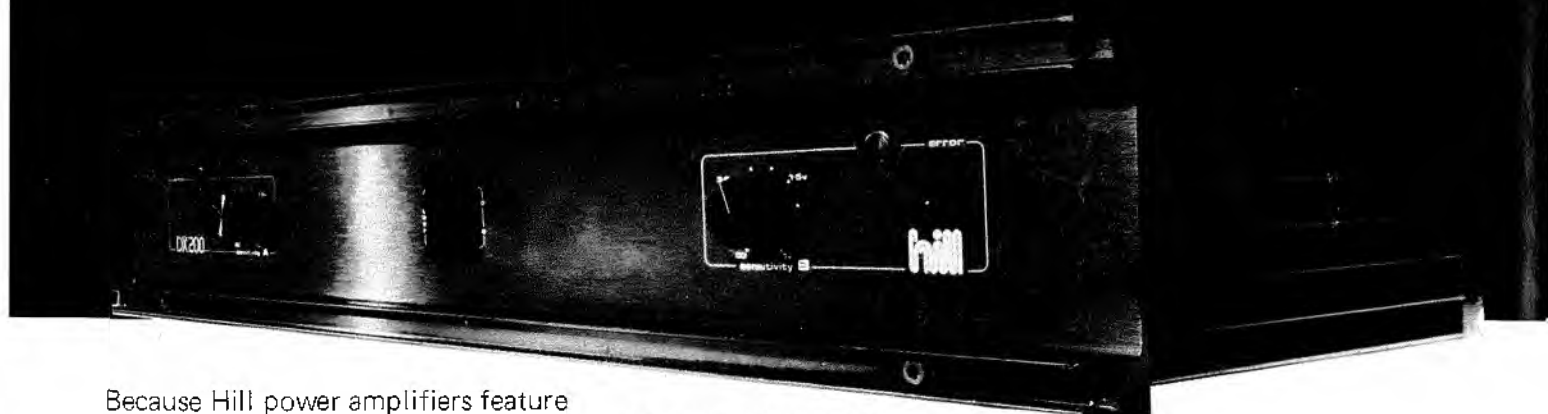
Getting onto the course is the hardest part. There are only eight places a year and, as the course is unique, entrance standards have to be rigorous. David and his fellow lecturers have just finished a gruelling session interviewing possible students selected from almost 80 candidates who have applied for entry in October '79. Candidates are expected to have A-level music and physics at good grades, and preferably maths as a third subject. They have to be able to perform satisfactorily on a musical instrument. But most important is personality.

For those who can get in, the work is hard but rewarding and does give them a good grounding in recording. More realistic in fact than many

anti-academics may believe. For instance; on the day of my visit the students were hard at work in the studio recording the latest opus of one of the music students. In the morning a funky jazz-rock backing track had been laid down by three of the music students on guitar, bass and drums. In the afternoon and evening students of strings, brass and woodwinds had been coerced into doing overdub sessions. It all sounds a bit too easy? Well, come the afternoon session, the string players had all vanished, delayed by lectures and other commitments, leaving one lonely harpist playing in a corner of the studio while the tonmeister students rushed about frantically trying to scrape together a scratch string section.

A real foretaste of the hassles to come in real life – and if the course can teach them to cope with that, it can be no bad thing.

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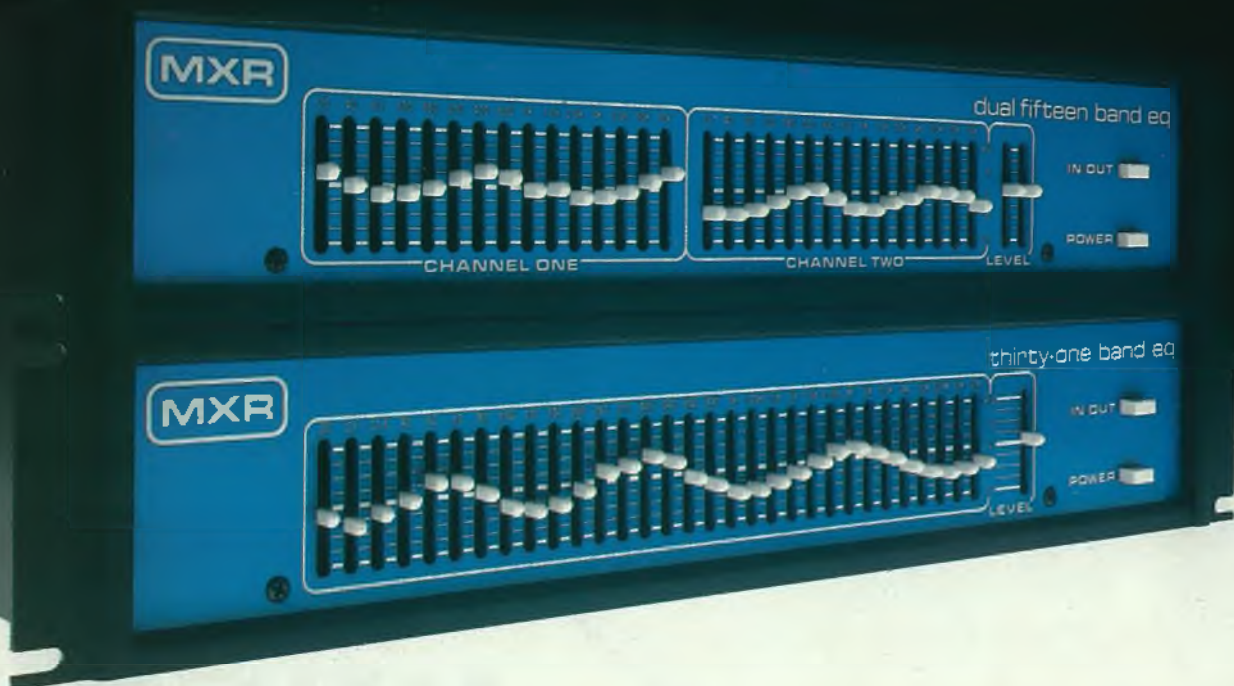
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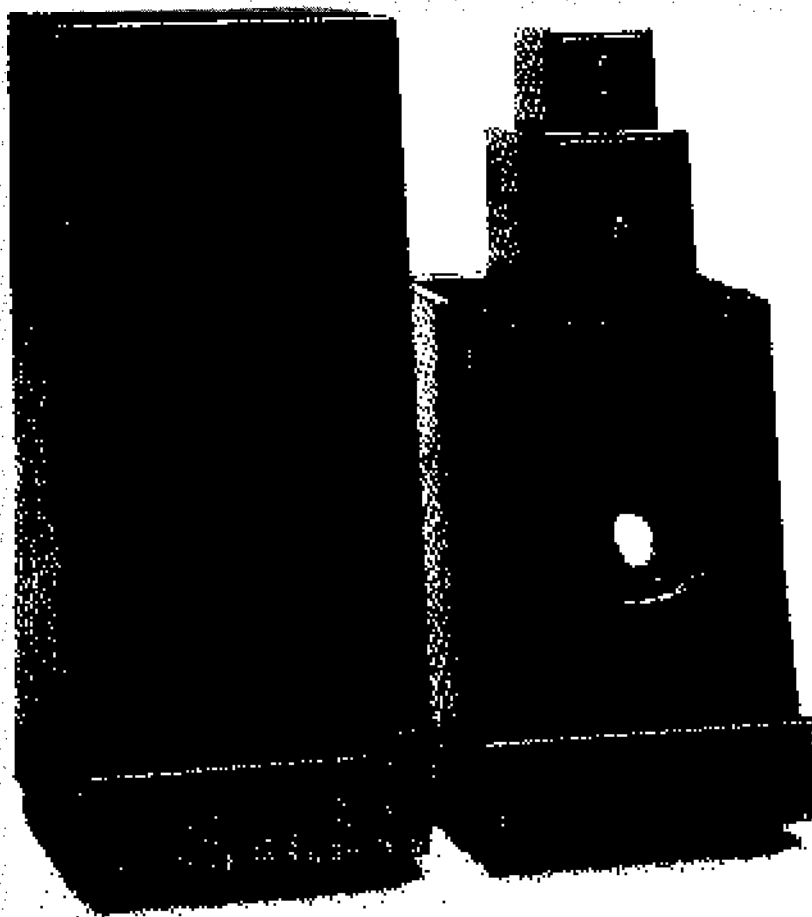
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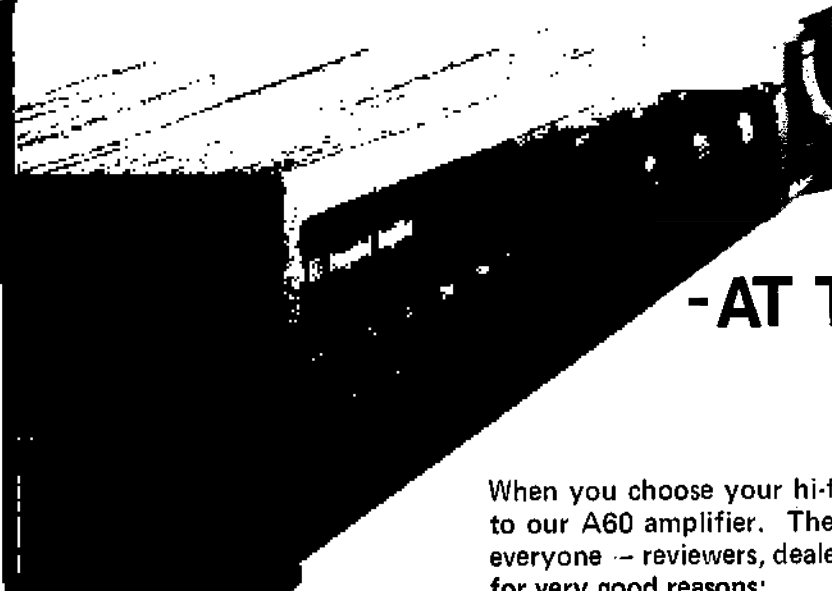
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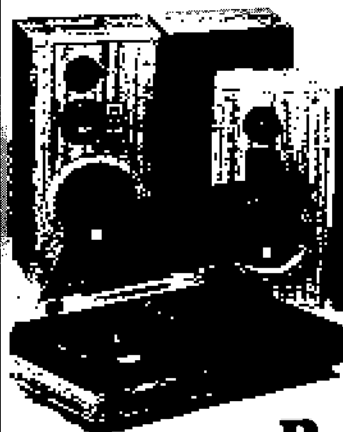
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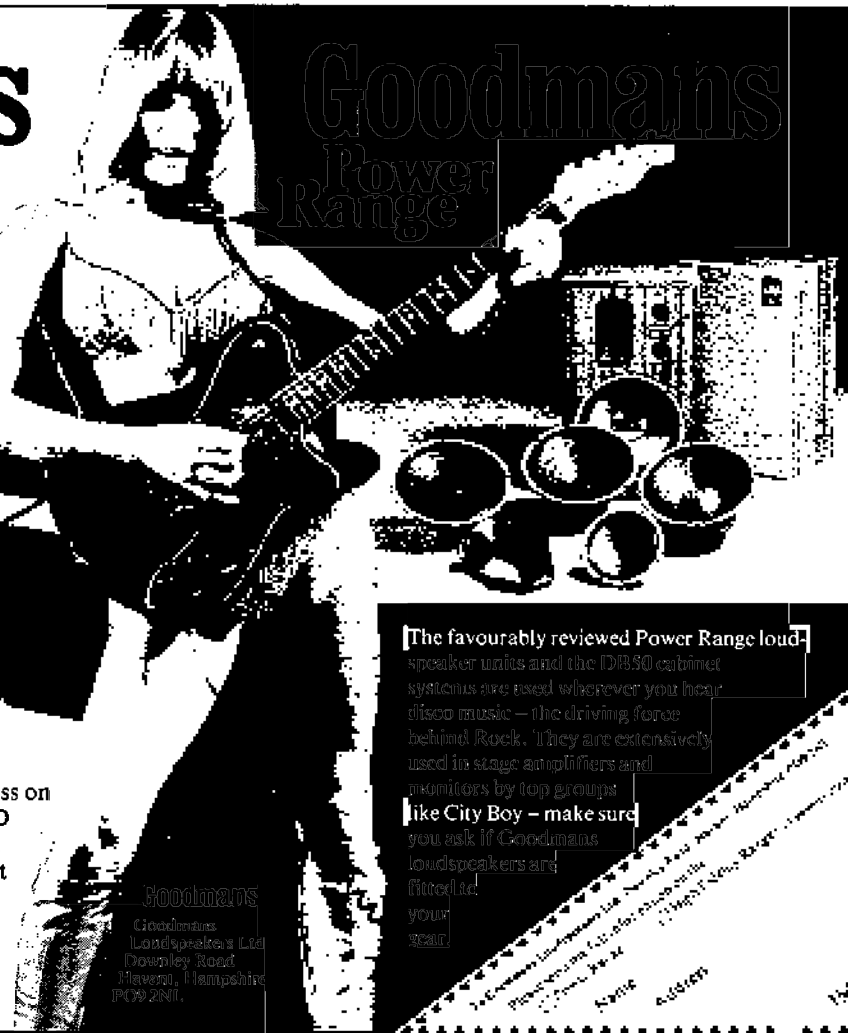
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UNDERSTANDING SYNTHESIZERS

PART 12

In this article I am going to describe a fascinating synthesizer module called the "sequencer" which is most commonly used to generate repeating patterns of notes, although it can be used in many other ways, for example to generate new low frequency waveforms. Whereas the modules I have described in earlier parts of the series are to be found in most synthesizers, with the possible exceptions of the ring modulator and sample-and-hold module which I described last month, sequencers are rather different. Because they contain large numbers of controls, sequencers tend to be manufactured as separate items. For example, both the ARP sequencer and the Roland System 100 sequencer are physically separate units which connect into the synthesizers via external leads.

Although the number of controls may make them look daunting, sequencers are really quite straightforward devices which all work in essentially the same way. As there are one or two features of synthesizer design which are particularly relevant to the use of sequencers, before starting to explain how sequencers work and how they are used to produce today's music I am going to go over these particular points again. (More detailed descriptions can be found in Parts 5, 7, and 8.)

Adding control voltages

All the synthesizer's voltage-controlled modules, for example the VCO, VCA and VCF, receive control voltages from a number of sources, the contributions from each source being added together within each module to produce one final control voltage. In the case of the VCO, shown in Fig. 1, the sources of control voltage are usually the keyboard module (providing the keyboard voltage) and the LFO. As I mentioned in Part 10, VCO modules often have an external input socket so that an external source can also contribute to the final control voltage. On their way to the VCO itself, the voltage from the external source and the LFO's waveform pass through sensitivity controls which allow the contribution from each source to the VCO's final control voltage to be adjusted. For example, the LFO sensitivity control adjusts the depth of the vibrato effect (if the LFO's sine wave is selected) or the separation of two notes in a trill (if the square wave is selected).

What has all this to do with sequencers? The answer is that a sequencer is another control voltage source which connects to the VCO, or for that matter to any other voltage-controlled module, through an external input. Whatever voltage the sequencer might supply to the external input, a proportion depending on the setting of the sensitivity control is added to the contributions from the other sources.

A simple sequencer

The front panel of a simple sequencer containing six identical knobs, six

lights (only one of which is lit at a time) and a "step" button is illustrated in Fig. 2. In what follows I am going to assume that the sequencer's output is connected to the external input of the VCO module and that the corresponding sensitivity control is advanced to maximum, so that the whole of the sequencer's output voltage contributes to the VCO's final control voltage.

Let's suppose that the first light is lit. This signifies that the sequencer's control voltage output is currently determined by the setting of knob 1. Pressing the "step" button once causes light 1 to go out and light 2 to come

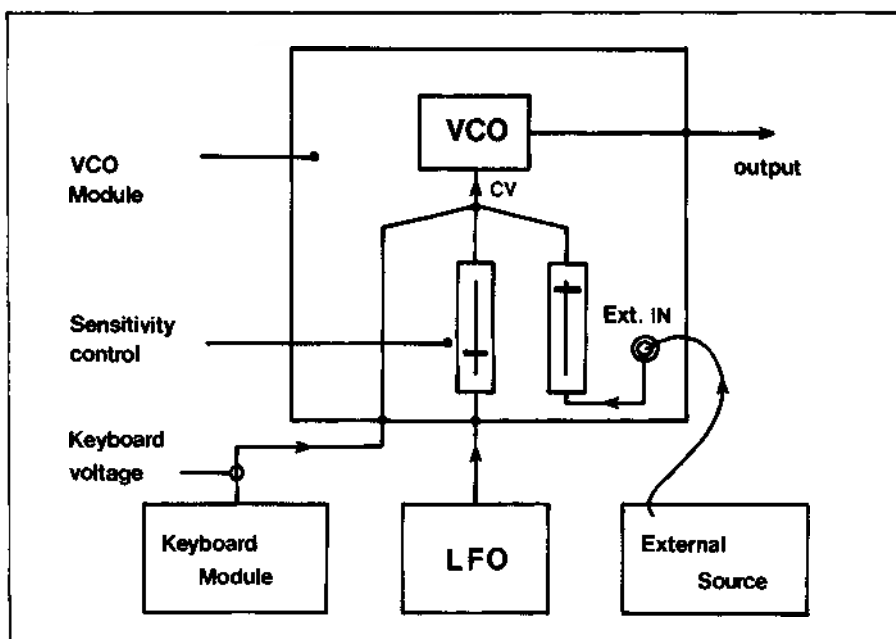


Fig. 1 In voltage-controlled modules, the control voltage is the sum of contributions from various sources. The VCO's final control voltage (CV) is the sum of the keyboard voltage and contributions from the LFO and/or an external source.

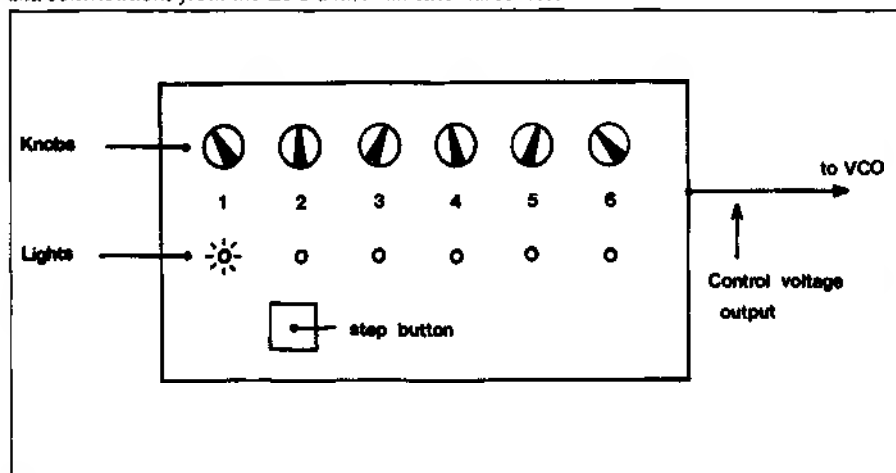


Fig. 2 A simple sequencer with six stages. The sequencer's voltage output is often connected to the external input of the VCO to produce varying pitch sequences.

on, indicating that the sequencer's output is now determined by the setting of knob 2 (and is unaffected by the setting of knob 1). Each time the "step" button is pressed, the next stage is selected, the sixth press returning control from knob 6 back again to knob 1. As the sequencer's output is controlling the VCO's frequency, in practical terms this means that each knob tunes the VCO to a particular note, enabling a player to preset a sequence of six notes before a performance.

The sequencer's steps and resulting notes will of course occur in whatever rhythm is tapped out on the "step" button. Fig. 3 shows how the sequencer's control voltage output might change if the six knobs are adjusted so that the VCO produces the notes C, E, G, D, E and G, and the indicated rhythm is tapped out on the "step" button.

Automatic sequences

In order to free the player from the need to keep pressing the "step" button, sequencers all contain an internal "clock", very much like the clock inside the sample-and-hold module (see Part 11). The clock generates pulses which can in effect tap the "step" button at regular intervals, so that the sequencer *automatically* advances from one step to the next. The rate at which the clock "ticks" can always be adjusted by a front panel control as illustrated in Fig. 4, the clock rate effectively governing the duration of each step. In the centre of this slightly more elaborate sequencer are three buttons: a "start" button which sets the clock running *after first resetting the sequencer to step 1*; a "stop" button which stops the clock, halting the sequencer on the current step; and the familiar "step" button which is used to advance the sequencer manually to the next step.

Single and repeated sequences

Sequencers can usually operate in two modes (see Fig. 4). In the *single-cycle mode*, the sequencer generates its preset pattern of voltage just once, then stops automatically. In the *repeat mode*, the pattern of voltages is repeated endlessly until the "stop" button is pressed. In both cases, the sequence always starts at step 1 but can extend to any chosen step, depending on the setting of a multiple position switch called the "end step selector". In practice, this means that a sequencer with, for example, 12 stages can produce single or repeating sequences containing up to 12 steps.

Fig. 5 shows two sequences produced by operating a sequencer in different modes, and illustrates the use of the end step selector. The first four knobs have been set up to produce C, F, G and A. In the top example, the mode selected was "single cycle" and the chosen "end step" was number 4.

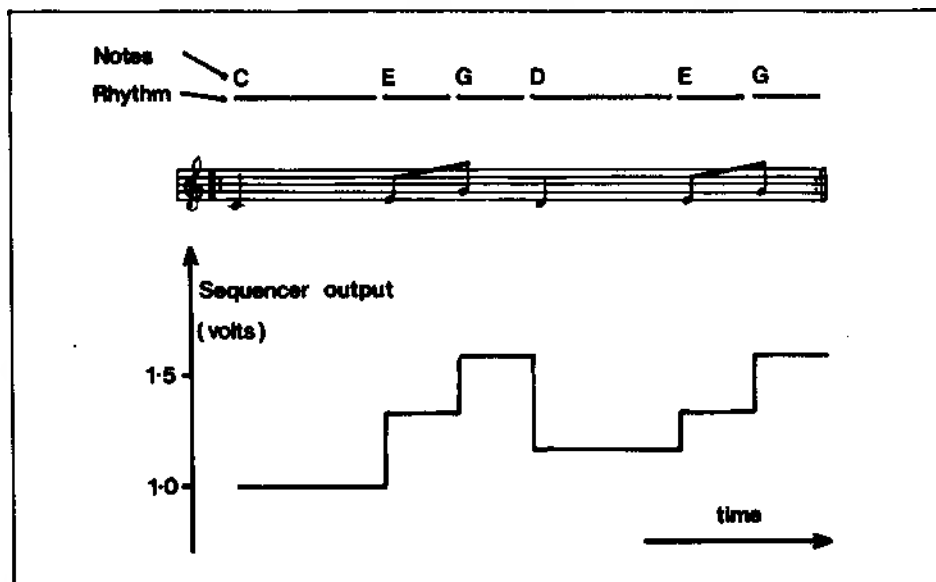


Fig. 3 How the sequencer's control voltage output would vary if the six knobs were set so that the VCO produced the notes C, E, G, D, E and G. The rhythm would be tapped out on the step button (see Fig. 2).

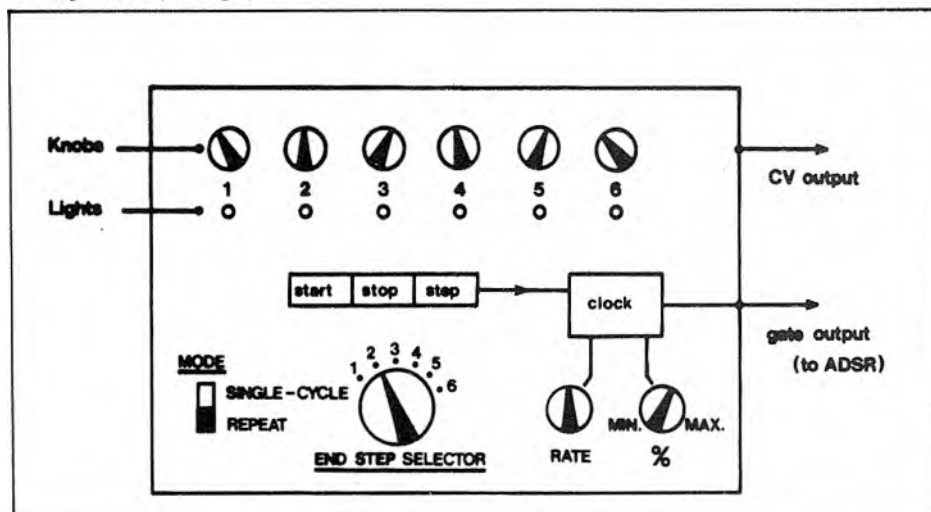


Fig. 4 For the production of automatic sequences, most sequencers include a clock (which can be started and stopped manually), a mode switch and an end step selector. A gate output is derived from the clock which can be used to trigger the ADSR module so that every note in a sequence can have its own envelope.

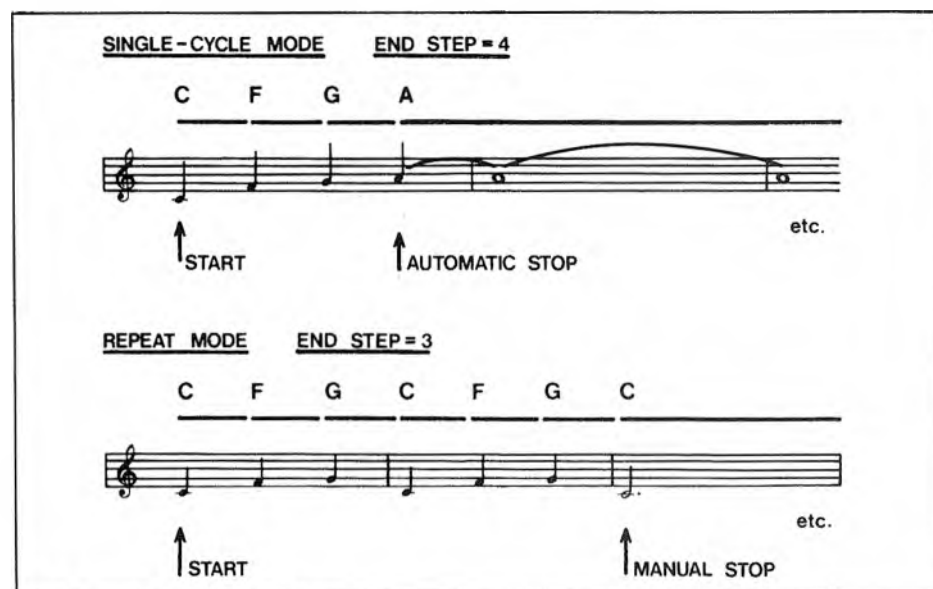


Fig. 5 Examples of the use of a sequencer in the single-cycle and repeat modes. In single-cycle mode, the sequencer automatically halts on the selected "end step". In repeat mode, each cycle ends with the "end step" and the sequencer has to be halted manually by pressing the "stop" button.

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Pressing "start" set the sequence going, beginning with the first note (C) then progressing through F and G, and stopping automatically on A. (The output voltage set by the last knob is maintained indefinitely at the end of a sequence.) To produce the sequence shown at the bottom of Fig. 5, the knobs were *not* altered. The end step selector was moved to "3" and "repeat mode" was selected. On pressing "start", the VCO produced the notes C, F and G, repeating the sequence until the manual "stop" button was pressed at the start of the third cycle.

Step duration

You have probably already realised that in the sequencer I have described, when the clock is being used to produce automatic sequences, all the steps have the same duration. This limitation can be overcome by using more than one knob for each note, for example one note two steps long can be produced by setting two adjacent knobs to the same position. However, that approach is wasteful and a better method is to vary the clock rate during each sequence. As this is virtually impossible to do manually using the clock rate control, it is usual for manufacturers to make the clock rate voltage-controlled. As I will explain next month, it is then possible to produce sequences containing steps of different duration. (More expensive sequencers allow the individual step times to be adjusted using an extra set of knobs, one for each step.)

Note envelopes during sequences

Earlier in the series (in Parts 6 and 7) I explained in some detail how the ADSR module is used to generate a waveform which controls the variations in loudness (i.e. envelope) of the synthesized sound during each note. Fig. 6 shows the usual set-up in solid lines, with the ADSR module being triggered by the keyboard gate pulse (which is produced every time a key is depressed on the keyboard).

If a sequencer is being used to control the VCO and if, as is most often the case, each note is to have its own envelope, then the ADSR module must be triggered by the sequencer at the start of each step. In effect the sequencer has to provide a substitute for the keyboard gate pulse. This substitute is easily derived from the sequencer's internal clock and is always available as a "gate output" from the sequencer. The proportion of each step time for which the gate pulse is present can usually be varied by a control marked "%" as illustrated in Fig. 4. Rotating this control has the effect shown in Fig. 7. From a musical standpoint, a "staccato" touch (tapping the keys) is imitated by the narrow (5%) gate pulses shown at the top of the diagram, and a "legato" touch (playing smoothly) by the broad (95%) gate pulses shown at

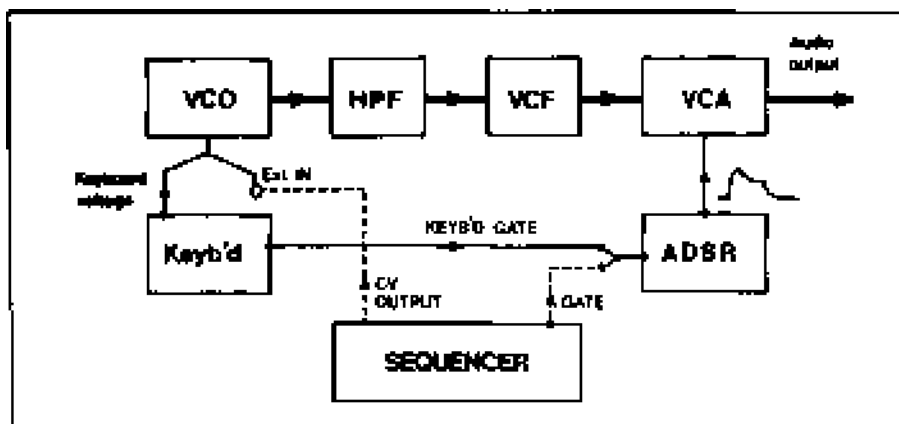


Fig. 6 How to connect the sequencer into the other modules when synthesizing unistyle pitch sequences. The sequencer effectively replaces the functions of the keyboard module, providing a control voltage for the VCO and gate pulses which trigger the ADSR module.

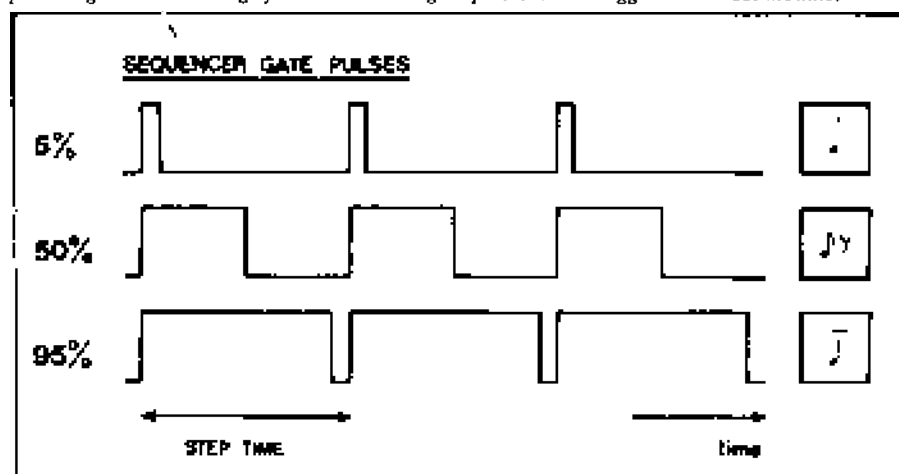


Fig. 7 The width of the gate pulse output of a sequencer can be varied manually. Narrow gate pulses are used to synthesize staccato sequences and wide gate pulses to produce legato sequences.

the bottom.

The sequencer's gate pulses trigger the ADSR module in exactly the same way as the keyboard gate pulses, initiating the attack phase on each rising edge and the release phase on each falling edge. In effect therefore, the sequencer can replace *both* the functions of the keyboard module, providing a control voltage for the VCO and a gate pulse for the ADSR module.

Varying the pitch of sequences

Referring back to Fig. 6, you can see that the sequencer's control voltage output is *added* to the keyboard voltage, as I emphasised at the beginning. So far, I have tacitly assumed that *before* the sequencer's knobs were set up, the bottom note (C) on the keyboard had been tapped first, setting the keyboard voltage to zero.

Now suppose we had done this, then set up the sequencer to produce the notes C, E, G and A, and started it going in repeat mode. If at the beginning of the second cycle, bottom G was tapped on the keyboard, what would happen? Fig. 8 shows the musical result: all the notes would move up one fifth (the interval between bottom C and G). Press a different note on the keyboard at the start of each cycle and the whole sequence changes pitch, but the pitch intervals between the notes of

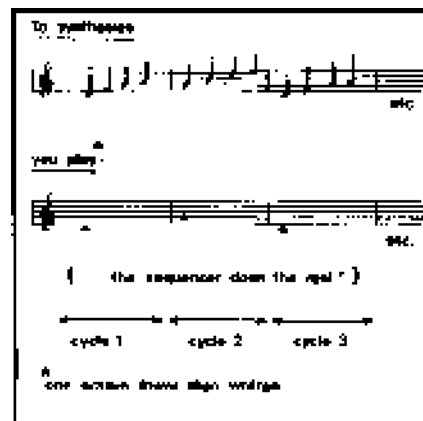


Fig. 8 By playing different notes on the keyboard while the sequencer is running, the starting note of the sequence can be altered. The keys do not actually need to be held down throughout each cycle because the keyboard memory holds the keyboard voltage steady after the key is released.

the sequence always remain the same.

In the example shown in Fig. 8, the synthesizer produces four notes for every note played on the keyboard. It is not hard to imagine that a sequencer and keyboard together can be used to produce sequences which are technically impossible to play on the keyboard alone. Sequencers are certainly an aid to the player, but are in no sense a substitute for him! **Tony Horsman**

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James McGill and Chris Rogers describe how music reaches your front room from the recording session — and explain how you can help yourself to hear it better

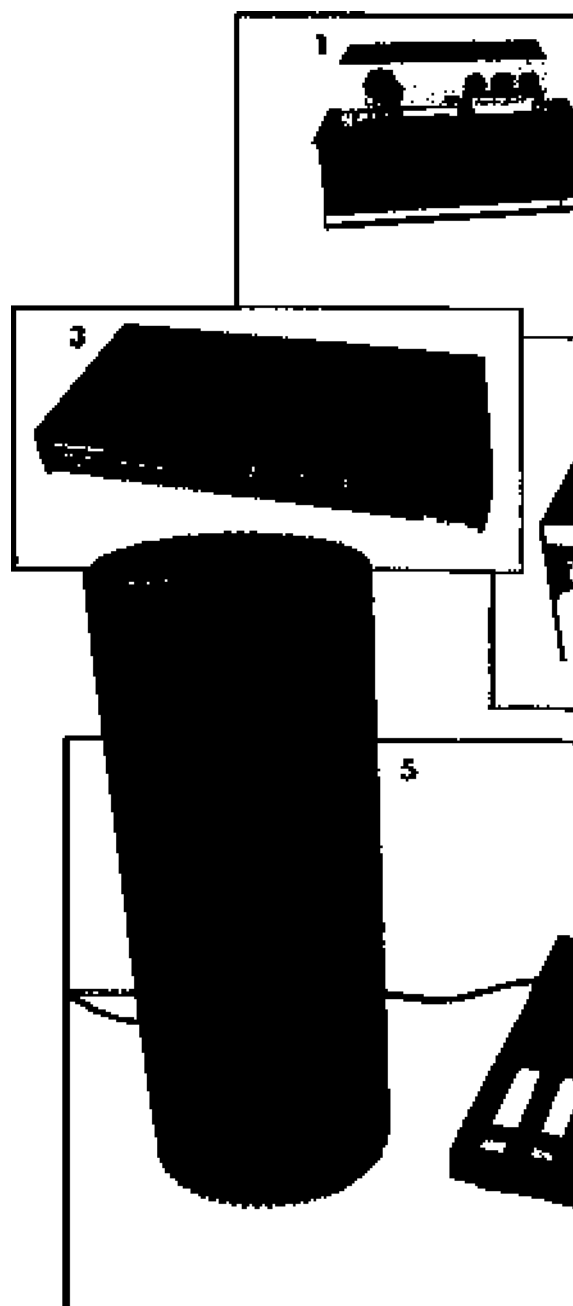
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These, then, are only first-order priorities for high fidelity rating. The second order of priorities deals with finer distinctions within these broad categories and also with subjective factors involved with the presentation of recorded material, in other words, factors of "excellence". To the "educated" ear, these differences are usually quite obvious — in much the same way as a musician distinguishes between a good and a bad instrument by sound and by handling. We drift here into grey areas of distinction between



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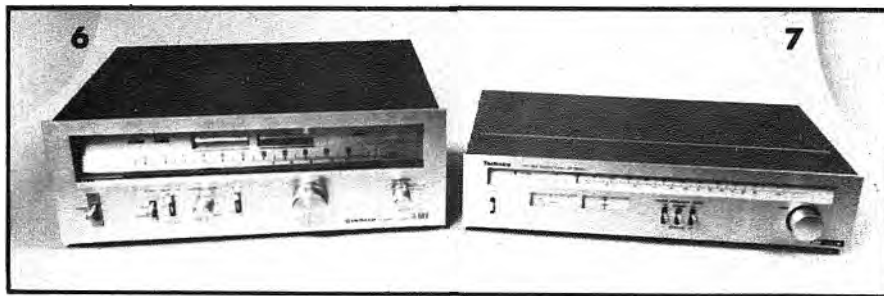
Consider it a much-appreciated attention and sheer sweat of a musician puts into picking his gear and developing a sound in a finally happy with. But no matter how much touring a band or artist does, the number of people fortunate enough to make their acquaintance at first hand are outweighed by those who do their listening via disc and radio. The artist's awareness of the package—*MR* through to phonograph—is perhaps the strongest force in favour of progress in recorded

375 call the sort of de-sectarianism
 ment that State (Aug. 21, 1864) and

In the U.S. and other developed nations as well



The presence in a tuner of a meter which registers signal strength and another which allows you to "centre tune" exactly on station are very useful additions.



The prime characteristics of a hi-fi speaker is an absence of colouration. This is true however many drivers it employs and whatever its precise form of loading — acoustic suspension, tuned port, auxiliary bass reflexed or electrostatic. Resonances (of the drivers, of the enclosure panels, the air in the enclosure or of crossover components) need to be trimmed to prevent them adding their own characteristics to the sound reproduced. A competent hi-fi loudspeaker should have



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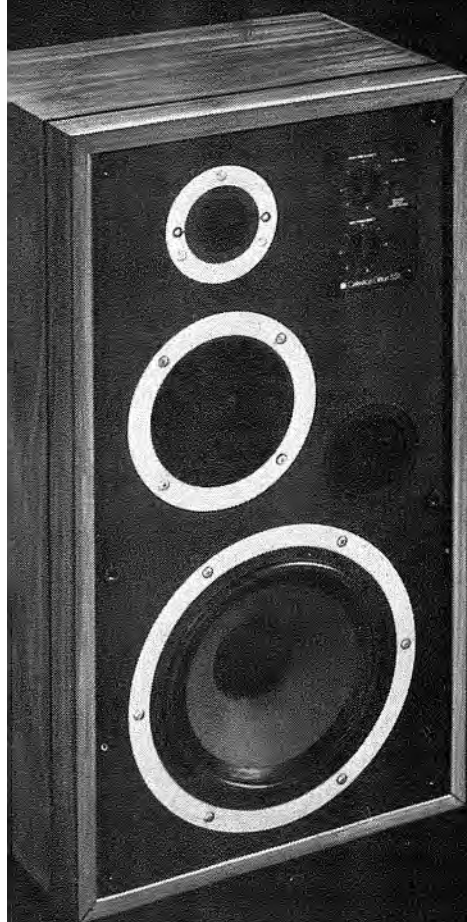
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direct-cut discs (straight out of the board to the cutting head) and "super-cut" discs (limited edition high grade product) are much sought after. The 45rpm 12-inch single was originally aimed at getting more energy off the vinyl for attention in display and for discos. It is now an end in itself and almost obligatory in airwave attention grabbing. The mere existence of these specialist products shows a significant lag between what happens at the production end and results at reproduction — a conscious attempt at getting closer to the real event, whatever this happens to have been.

From the musician's and engineer's viewpoint, keeping in touch with developments at the other end of the creative chain is not just an academic interest. The use of a hi-fi system in the musician's home — even a half-way decent rig, but including radio — is a

painless way of keeping in touch on the musical front with things one does not normally go out of one's way to seek. The degree of analysis and plain enjoyment available with a system of true high fidelity is vastly enhanced when the components used will render the detail and dynamics in the programme. These components can range from the barely adequate, through the "semi-pro" categories, to the upper echelons which approach the level of the professional working tool.

Apart from its performance quality, domestic audio equipment should be durable enough to stand the test of time, and also flexible enough to allow additions and alterations as the need arises. (For instance, incorporating signals from your TV's sound channel, video cassette recorders and the video laser disc — just around the corner.)

The "building blocks" approach to hi-fi, which is somewhat similar to the planned growth of a band's PA system, puts flexibility against convenience. Ultimate convenience is found in the all-in-one music centre, while using separate components (pre-amp/control and power amp stages, programme sources and speakers) offers the most flexible set-up. There are compromises in between, for example an integrated pre-amp/power amp, or a receiver which incorporates amp and tuner.

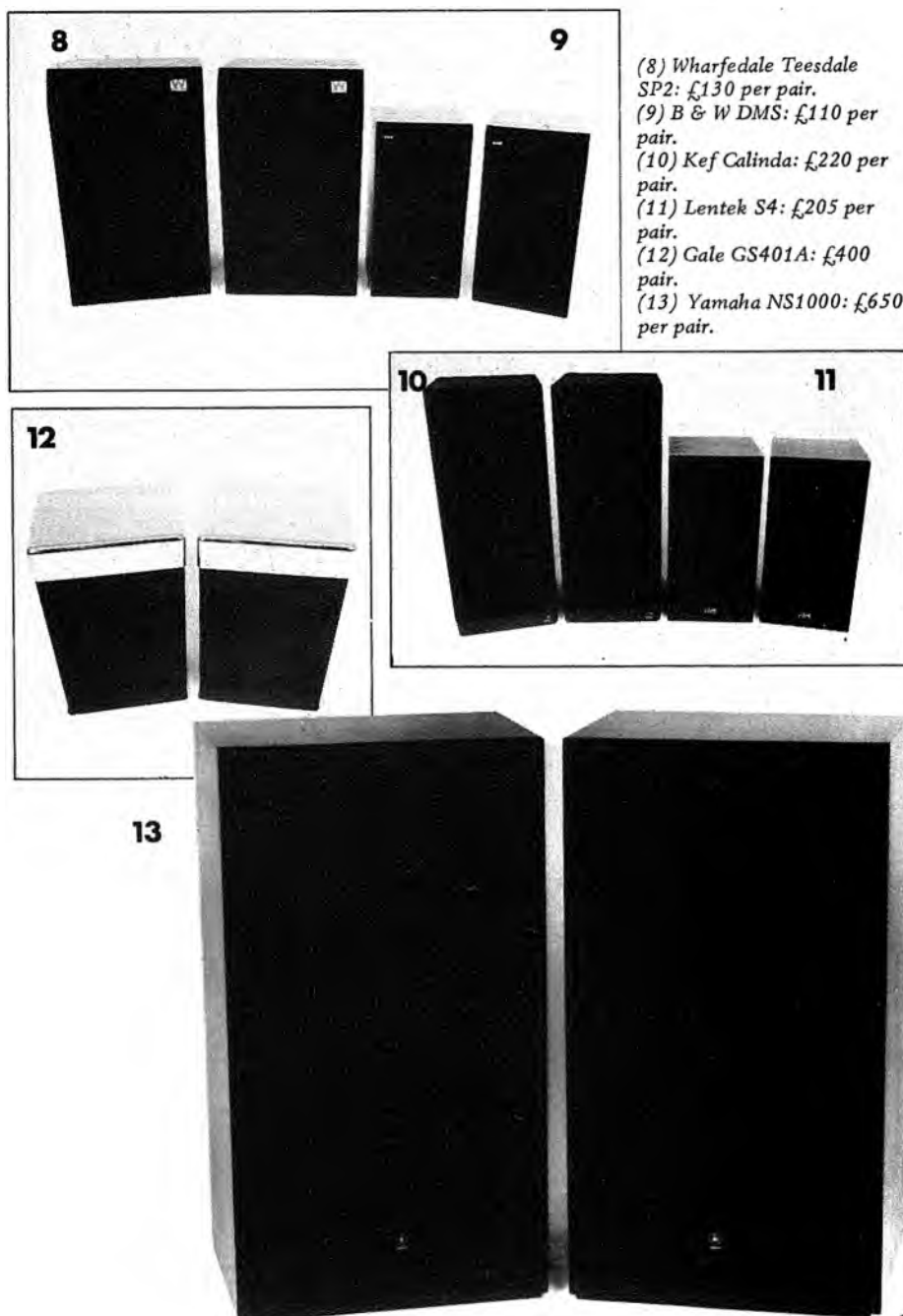
This month, we look at three of the "building bricks": amps, tuners and speakers. We suggest what you should look for in each, and illustrate some of the most attractive examples of each category which offer both good performance and value for money within their respective price brackets.

an approximately even balance at all frequencies in the audio band, as well as a smooth transition between drivers via the crossover.

Another key factor is the ability of the system to respond to small signals (which make much of the timbre of individual voices in a musical piece) and its ability to rise fairly sharply with the characteristic attack of instruments — the percussive hammer-action of close-miked acoustic piano or plectrum to strings on a power chord.

Rock music makes its own peculiar demands on a loudspeaker, owing to the sustained high energy applied by a generally narrow dynamic range. In comparison with classical music, which displays a less punishing high energy continuity, the voice coils in speakers of low efficiency run at higher temperatures, while peak energies at the bass end add to the risk of destroying inadequately robust drivers. If a listener's musical tastes call for a lot of "oomph" it is wise to find speakers offering this sort of balance rather than adding to the speakers' stress with boost at the amplifier.

Room furnishings — carpets, curtains, upholstery often improve dispersion and speaker colouration by creating fewer sound reflections. More acoustic power, of course, is required to achieve the same loudness in an acoustically dead room than in a live or reverberant space. Positioning of the speakers will also affect results, particularly at the bass end. Floor mounting will enhance bass frequencies, as will a positioning against a wall. A corner location provides three reflecting surfaces which is rarely satisfactory. A competent speaker, unless it is designed for floor coupling or shelf mounting, rarely needs a lot of help, though experimentation may produce better results. In many cases, stand mounting for larger enclosures is the most satisfactory arrangement.



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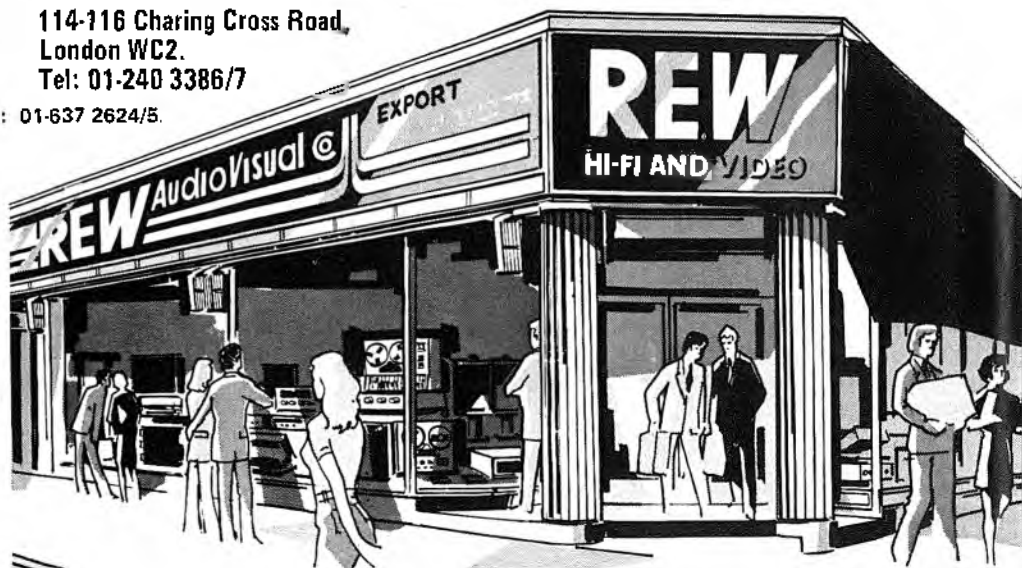
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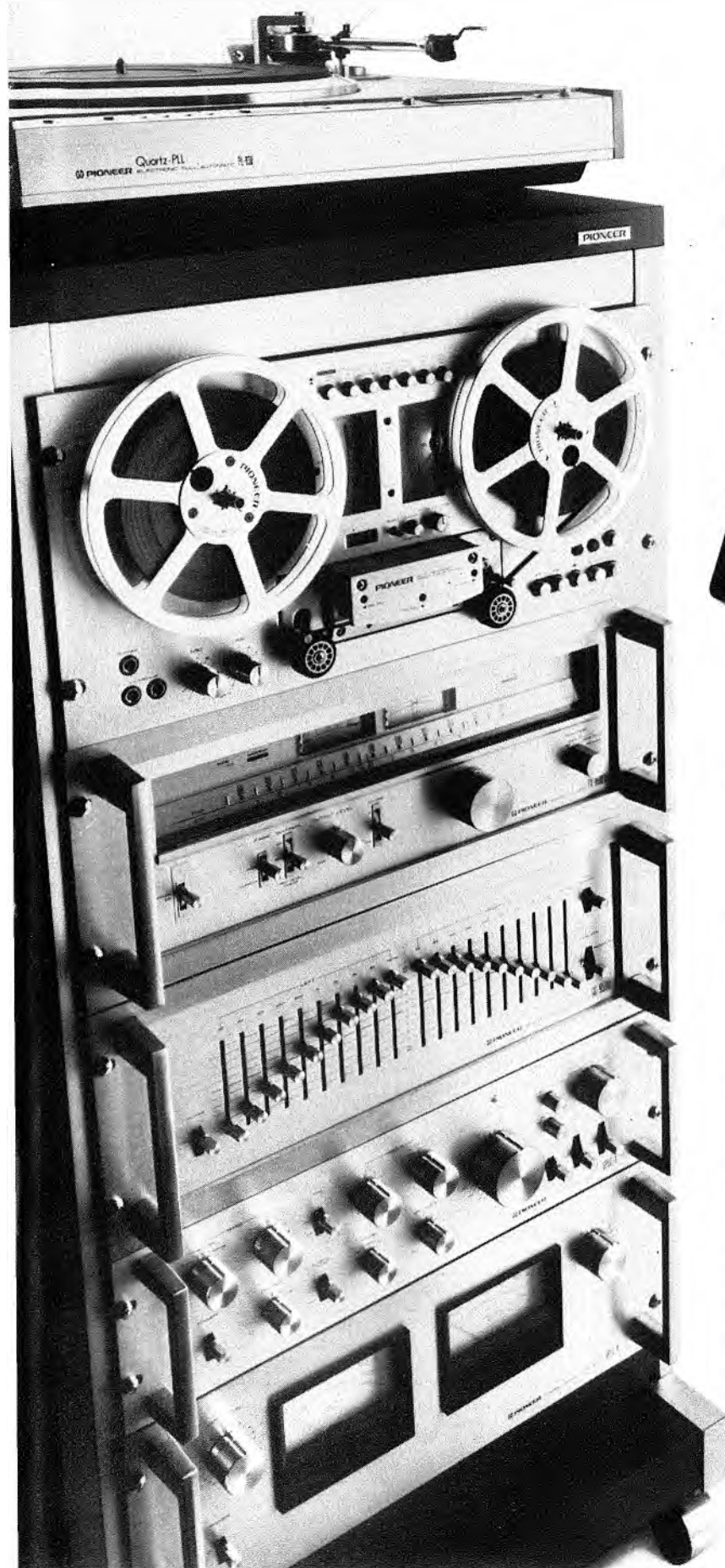
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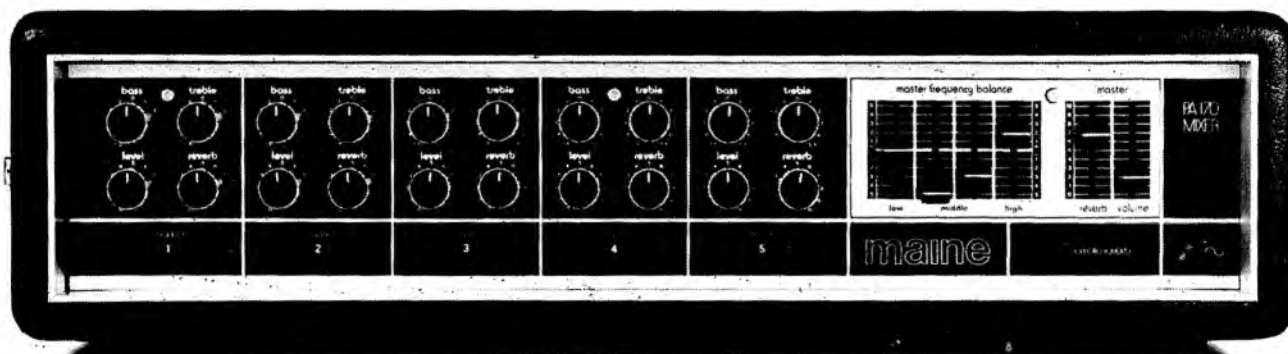
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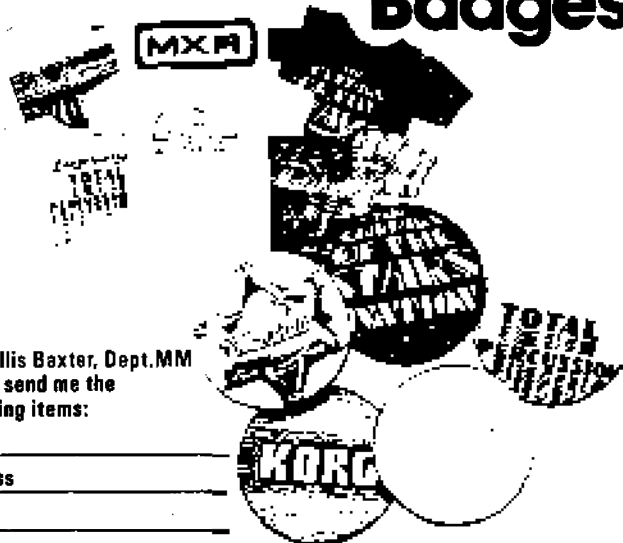
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In many respects, guitar players have it much easier than other instrumentalists. Woodwind, string and brass players must get to a gig earlier than everyone else, warm their instruments, check their embouchure and physically warm up in order to function properly. Guitar players seemingly get to a gig with minutes to spare, set up and barely make the downbeat.

Is the guitar so easy to play that warming up isn't necessary? On the contrary, it's just as important to warm up on guitar as on any other instrument. We have less physical warming up to do, true, but the mental co-ordination between mind and hands just doesn't grow on trees. When I first got in the business professionally, I played many "casuals" (weddings, Bar Mitzvahs, house parties, etc.). I can remember getting to the gig before anyone else, diligently getting out my guitar and warming up for 20 minutes playing scales, arpeggios, sequences, you know, the standard routine. The rest of the musicians would get there and when it was time to play I would think to myself, "Boy, I'm ready." But as soon as we started to play I'd notice that I sounded like a dog swimming in a vat of molasses. Other times, I would show up two minutes before the downbeat, barely have time to tune — and play great.

I began to try to figure out why this happened and how to control it. I finally devised a game with myself that seemed to work for me and I'd like to relate it to you because it might help. The way I reasoned, it all boiled down to mind over matter. When you sit down to warm up, your concentration stems mainly from the hands, no matter what you're playing. Your mind may not be dictating the action, but your hands are. They are playing something they have played thousands of times before while your brain might be off somewhere thinking about other things.

One approach to alleviate these problems is to try to picture in your mind how you actually feel when your chops are right, when everything you want to play really comes off. Can you do that? It may take some concentration to nail those thoughts down, but it's important. You're mentally defining to yourself what constitutes the correct playing circumstances for you.

An example of this that comes to mind is driving to a gig on a cold night. I can remember lugging in my guitar, amp and a few toys, and having my hands feel like they had the B flat frost bite (which only affects musicians, by the way). Playing was next to impossible. After undergoing this experience a few times, I found myself wishing that I was on a nice warm



beach in Tahiti with a great band. If my concentration was right, that feeling would be communicated to my hands and, amazingly enough, my playing would improve dramatically. My hands would even feel warmer. All this would happen as a result of thinking about just the opposite of what was happening. This might seem silly, but it amounts to "psyching" yourself out of one negative mental state and putting yourself in a more positive one, regardless of your environment.

The environment may be negative in other ways besides the weather conditions. You may be with a certain group of musicians you don't particularly enjoy working with, or you might be working for someone you don't like. By putting yourself in a more positive frame of mind, you can at least cope with the situation long enough to get through it without making waves. Think about things that are more pleasant to you and eventually you'll feel better.

Getting back to warming up: if you find yourself getting off on the wrong foot, try to slow down consciously to the point of isolating the problem. It could be a matter of co-ordination of left and right hands, lack of articulation with the pick, lack of sleep, etc. Once you identify the problem and work with it slowly, you can build your momentum and get your chops up.

You might wonder how you're supposed to slow down and isolate problems while a hot solo is about to be thrown at you. Start it out simple and build your solo (hopefully, you have more than an eight bar solo, but try to build on whatever number of bars you have). That's a great exercise in itself and I will explore it further in a future article. Something else you might do is forcing yourself to figure

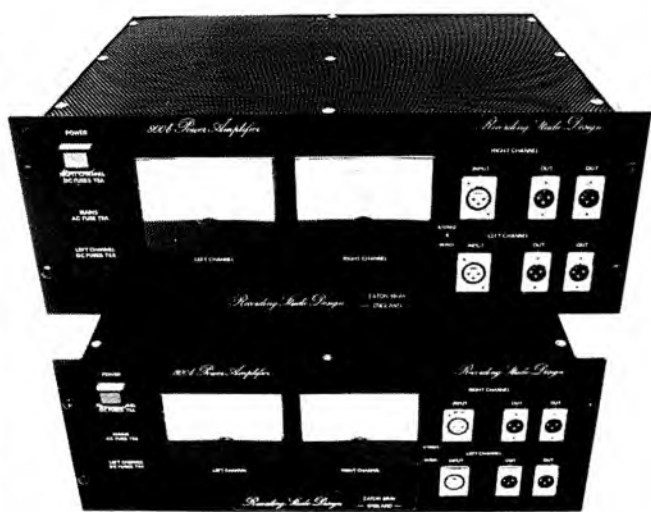
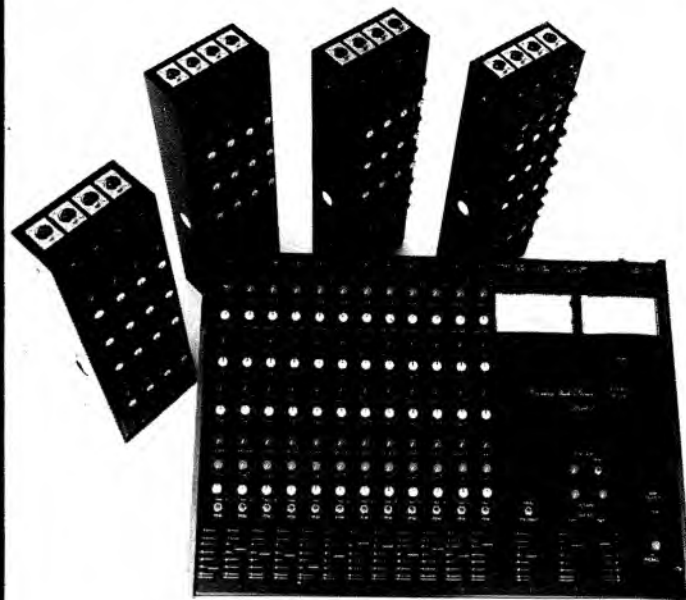
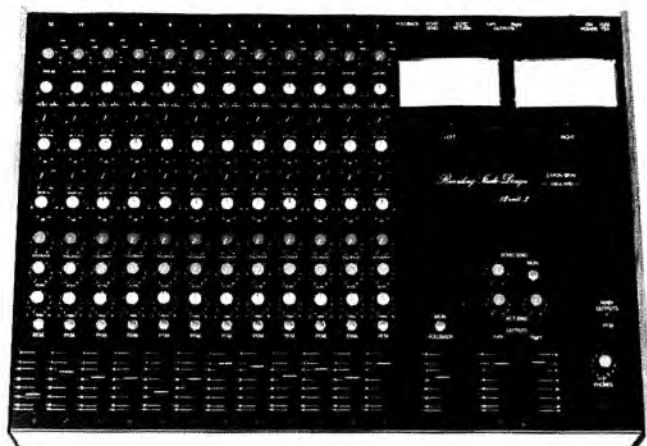
Mitch Holder is a guitarist with experience covering television, recording and touring. He is much in demand as a session player having worked with top name artists such as Barry Manilow, Barbra Streisand and Billy Davis. He is also the author of "Quadraphonic Fingering".

out things in your head first before playing it.

Working away from the guitar is a good approach to try. You might be working on a tricky exercise or tune and it has you stymied. Imagine playing it while you're doing something else, like walking through the countryside, or even watching TV. What you are doing is actually training yourself to play it in your head first, then, when you pick the guitar up later, your mind can dictate more clearly to your hands what to play and how to play it. By working it out in your head first, you are able to decide which positions are playable and what fingerings to use. If you always play what you're trying to learn, you may get bogged down because your hands start going to places they're more accustomed to, rather than where you want them to.

Hearing the music that you are trying to learn in your head is another useful tool. When you first look at a new piece or exercise, see if you can hear in your head exactly what it will sound like. This acts as a "self-check" because you'll know when you play it if you're playing it right. Of course, this will take time to acquire because everyone has different levels of "earsmanship", but give it a chance and try to force yourself to hear things. Remember, it takes time to develop these ideas. Don't be in a hurry because any aspect of learning music takes time and sometimes frustration gets the better of us. So stick with it.

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At the root of a powerful sound and long confident phrases is a good air supply. The motor source which actually powers the horn is the group of muscles in the abdomen slung across the body between the hip bones. These control the movement of the diaphragm which is another sheet of muscle separating the abdomen with its intestines from the rib cage and the lungs. Movement outwards of the abdomen sucks the diaphragm down, which has the effect of expanding the rib cage cavity and, combined with breathing in, this is how the bag of air is filled.

This type of breathing is known as "diaphragmatic" and can be easily checked by watching the shoulders. When you breathe with the correct diaphragm action, the shoulders do not move at all up or down, when breathing from the chest only. Lie flat on your back on the floor and place a heavy book or similar object on your abdomen. As you breath slowly in and out you can feel these muscles working and raising the object with little effort. Once you have located the muscles and felt them working, the next stage is to strengthen them.

None of these exercises should be done until two hours after a meal; the effect of moving the abdomen repeatedly on a full stomach is to empty it! Continue the exercise using a weight on the abdomen and without worrying about the breathing at this stage. Just move the weight up and down as far as you can till the muscles start to ache.

The process of blowing a wind instrument reverses the natural rhythm in that air is taken in quickly and released slowly. The body's needs still have to be catered for regarding oxygen to the bloodstream and it is very advantageous to be physically fit. Running short of breath will interfere with the requirements of the air supply to the horn, for the body's need for oxygen overrides everything. Cycling and jogging are good ways of increasing the body's capacity in this respect.

The problem with any bag of air is that when it is full the air has high pressure when first released, gradually tailing off as the bag empties. We have to control this tendency so that the "bag" is emptied at a constant pressure, providing a constant flow of air to the horn. Try to achieve a fast intake (around half a second) through the mouth, dropping the lower jaw so as to provide a really full supply, followed by a controlled release which can be checked for evenness by blowing on the back of the hand. You will notice that to keep an even flow, progressively more pressure needs to be added from the abdomen as the lungs empty. Never allow *all* the air to escape, as this will cause a time-lag when refilling.

Using the horn, drop the jaw away from the reed, keeping the top teeth in contact with the mouthpiece, take a very fast full breath, and then sustain a middle register note and check if for wavering. Although the wobbly tone can be caused by shaky lips, try to feel the process of squeezing the air up from the abdomen.

Breathing is something you can practise at any time, and ideally should be done every day. You can make up your own exercises which emphasise control. Remember, you can't expect to play well unless the horn is well supplied with air power under absolute control, so it's well worth spending some time developing a good motor".

Having built a good source of air, the next step is to channel the supply through the mouthpiece to create the sound. The stronger this air motor is, the more strain it will take place on the facial muscles which are closing around the mouthpiece to contain an airtight seal and channel the air to the reed. As well as keeping the air in, the lower lip and jaw also control the reed so far as pitch and tone are concerned.

The top front teeth rest on the "bite" section of the mouthpiece and pressure applied by the lower lip and jaw is also applied to the top front teeth if the reed is to be affected. The position of the top teeth relative to the end of the mouthpiece is dependent on the length of "lay" or length of reed which is allowed to vibrate by the mouthpiece. The lower lip, which is slightly wrapped over the lower teeth, needs to apply its pressure just in front of the point where the reed meets the flat part of the lay. The correct distance and angle of air stream can be checked by blowing the mouthpiece only, using the finger and thumb to grip it and keeping the rest of the hand away from the end. Although the overall length of the mouthpiece may have a slight affect on the pitch, blowing loudly, you should try to be close to concert G on tenor and concert A on alto. Vary the angle of mouthpiece to alter the pitch.

The arrangement of muscles around the mouthpiece is called collectively the "embouchure", a French word meaning "opening into": it opens into the mouth cavity. The reed is of course vibrating within this oral cavity which becomes a resonating chamber and this may well explain why a player's saxophone tone has a similarity to the tone of his voice in its individual nature. If the cheeks are puffed out, the size of this resonating chamber is altered so that the tone becomes muffled. The cheeks should never be distended in this way and if you already have this problem owing to insufficient strength, you can



strengthen the cheek muscles by placing the fingertips of each hand on each cheek and alternatively flexing them so they feel hard by pursing the lips, then relaxing. This will also strengthen the lips and should be done regularly till you feel them aching.

The pursing of the lips also gives the concept of applying pressure all around the mouthpiece. When you practise the long, steady notes which are essential in building control and tone, concentrate on applying pressure all round the "oo" shape of the lips trapping the mouthpiece from all sides.

The tongue plays an important part as the bottom of the resonating cavity, and it also acts as a switch to start and stop the reed. The thick back part should rest normally in the mouth while the tip is concerned with controlling the articulation of the reed. The end of the reed is stopped from vibrating by the tip while air is pressurised by the diaphragm to provide a supportive column. When the tongue is released the pressure causes immediate vibration and speaking of the reed till it is replaced. This concept of pressurising the resonating cavity before removing the tongue to sound the note is important if real control is to be achieved. All too often, you see a player puffing each note of a riff with a separate breath - which not only leads to dizziness but destroys the attack of each note. The throat becomes the start valve and has a much less staccato effect than the tongue. The result sounds very sloppy, for the removal and replacement of the lips in rapid succession means that the tuning will probably be inconsistent as the pressure of the lips varies for each one. This should be avoided at all costs as no instrument should be allowed to run out of control in this way.

Alan Holmes

Alan Holmes is a top session reedman who plays soprano, alto and tenor saxes, flute and alto flute, piccolo, oboe, clarinet and cor anglais. He played on the Beatles' Sgt. Pepper album and for four years was a member of the Kinks. He now leads his own jazz-rock group.

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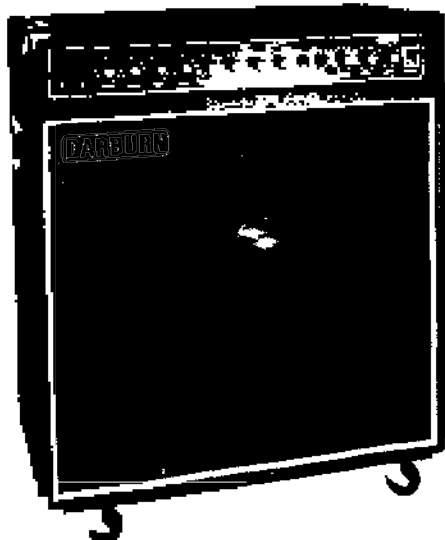
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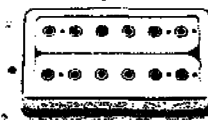
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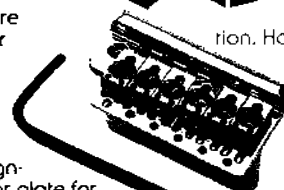


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Having talked at fairly great length in my first series of articles on pedal steel, about the "standard" E9 chromatic tuning, and then in the last article, given a run-down on the "standard" C6 tuning, I think I should round off by talking about what else is being used in order to complete the picture. It's going to be impossible to mention all of the other set-ups in existence because there are so many slight variations, and almost certainly a lot I don't know of anyway; but I shall try to give you an idea of the way things are going in the world of the pedal steel guitar, and if I get to hear of any interesting tunings or copedants in the future, I'll deal with them then.

As I mentioned last month, it's quite common to see both the E9 and C6 tunings on one twin-neck instrument. However, as the mechanics of pedal steels have generally improved and become more versatile, it has become possible to combine both tunings on to one neck. There are several different ways of doing this. In principle, the sort of thing that happens is that an E9 tuning perhaps has some strings added so that it can also be called E6, and similar chord shapes to the C6 ones can then be played — except, of course, that you use different string spacings or "grips" and fret positions.

Another example is the set-up which is tuned to B flat 6, instead of C6 and, when a knee-lever is held over, the tuning becomes almost the same as an E flat 9 would be. This means that it is just one semitone below the E9 we have talked so much of so far.

These types of tunings are very often referred to as "universal" tunings because it is possible to achieve the sounds of both the 6th and 9th tunings using only a single-neck guitar. Such tunings usually employ 12 strings, although some use as many as 14. When a universal tuning is used, more levers and pedals are always needed to make it possible to deal with the extra combinations of strings and to give all the relevant chord inversions. As many as eight, 10 or 11 floor pedals, plus four, eight or even 10 knee levers are possible with this kind of arrangement. In case you're wondering how it's possible to operate 10 knee levers, no you don't have to have two players to do it. The levers are situated so that you have an inner and outer set of levers on both sides of each knee — that's eight altogether — plus a vertical moving one on each knee, giving a total of 10.

The diagram shows a typical copedant chart for a "B flat 6 universal" tuning.

You can see from all these possible variations the kind of thinking behind pedal steel tunings at the moment. The trend these days seems to be to add more and more strings (I wonder how long it'll be before we see a 15 or 16-string steel!), to stick on extra pedals and knee levers (plus who-knows-what-else-levers in the future) and to make the whole thing as complicated to play as possible.

That, perhaps, is being rather cynical about it, but you can't help wondering whether maybe the wheel will turn full circle one day, bringing us back to the good old standard tunings and basic pedal set-ups. Still, it hasn't gone that far yet and, for the time being at any rate, one or both of the standard tunings plus a few minor variations are the order of the day for most pedal steel guitarists.

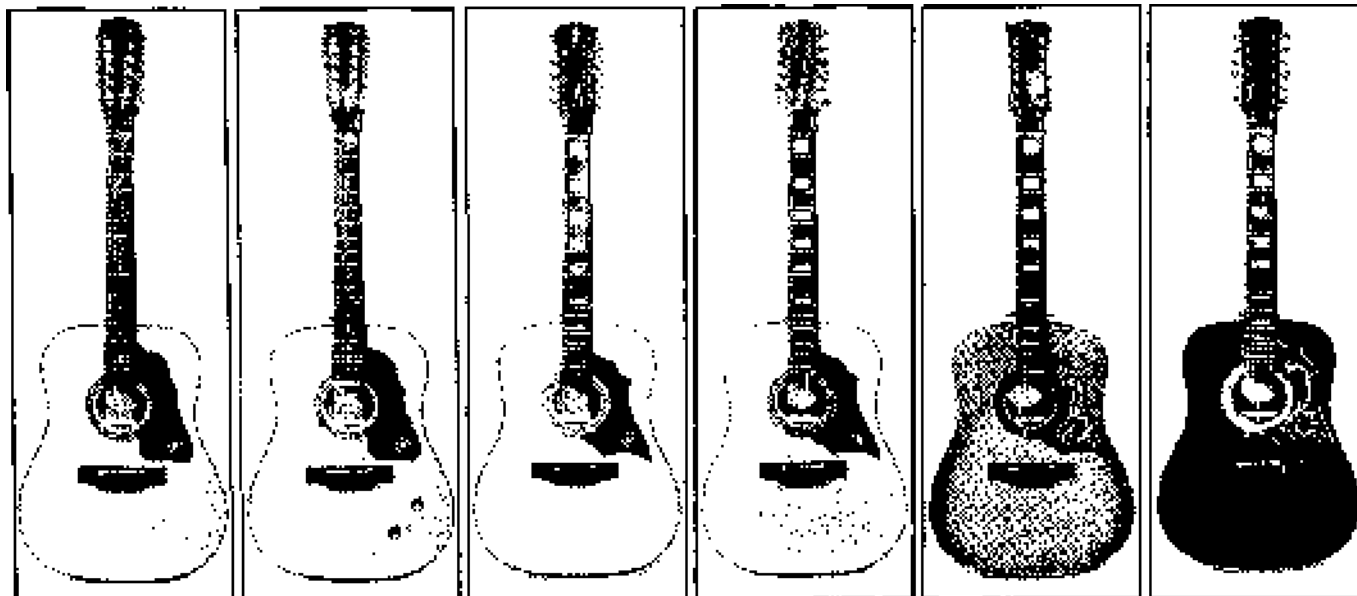
I'm sorry if this article has been a bit theoretical but I think it's important to know the whole story as regards the scope and use of the instrument. As you will have gathered by now, it's quite a minefield trying to sort out the different tunings and copedants. I think you'll agree there can be no other instrument which has so many variations in this way.

Dave Hayward

	KNEE ←	KNEE ↑	KNEE →	1	2	3	4	5	6	7	KNEE ←	KNEE →
E											-D	
G		-F#			+G#							
F												
D								-C#			+Eb	-C
Bb	-A			+C		-A			+C			
G		-F#			+G#				+A			
F			-E				-E					
D						-C		-C#			+Eb	
Bb				+C						+B		
G		-F#										
Eb							+E			-D		
Bb							+C			-G		

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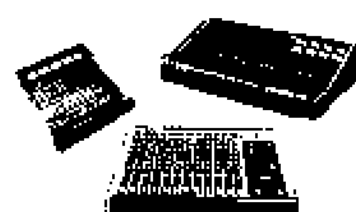
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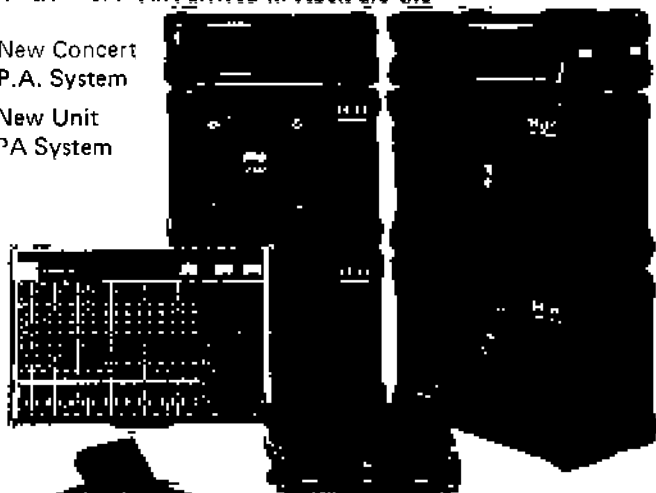
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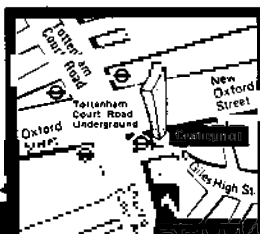
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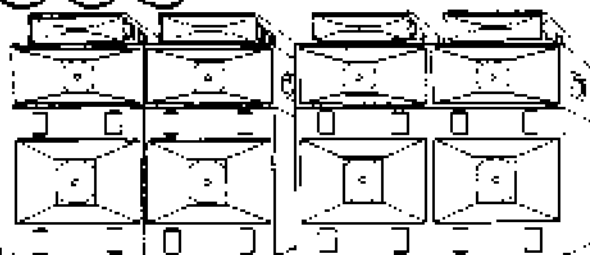
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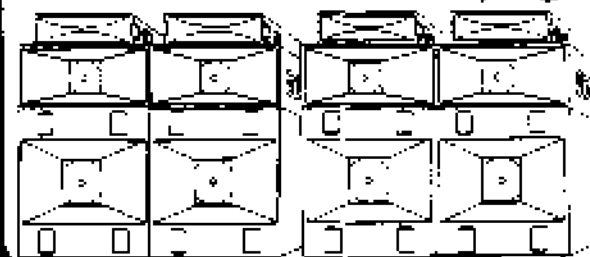
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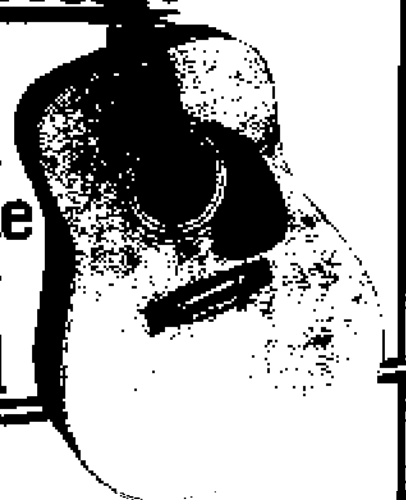


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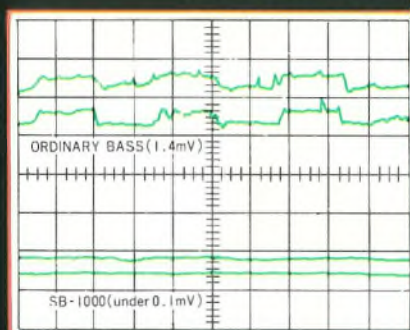
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Albums

Supertramp

Tangerine Dream

UK

Tom Robinson Band

Supertramp

Breakfast in America (A&M)

Staccato electric piano intros and plaintive vocals aside, there are certain things about Supertramp's music that are very endearing. They have an articulate and inventive bassist in Dougie Thomson and a sometimes exciting ability to juxtapose keyboard and rhythm section parts to make a taut sympho-rock song. We know their classic sounds so why should they remind us of those oft-played themes with another album full of them?

Breakfast in America is a clean, well produced record that follows its predecessors so closely it is almost uncanny. But a good radio single in *The Logical Song* and some Bee-Gee-esque vocal harmonies do not an album make. All the bits are there – thundering bass and drums on *Gone Hollywood*, a dispeptic sax solo on *The Logical Song*, memorable harmonica on *Take The Long Way Home*.

Quite a few bands must envy Supertramp's melodic hooks, their sense of melody and vocal prowess but their adolescent lyrics are lamentable. This album is slick but not sophisticated, perfect for their growing mass of US fans.

Sean Hogben

Produced by Supertramp and Peter Henderson, recorded by Jeff Harris and Lenise Bent at the Village Recorder, Los Angeles.

Tangerine Dream

Force Majeur (Virgin)

The Tangs move further into the mass acceptability stakes with an album which opens with the quiet sound textures which used to characterise their early work, such as the 1971 *Alpha Centauri* set. However, the sound soon becomes underpinned with simple electronic percussion rhythms and bass sequences and even, God forbid, on a couple of occasions a simulated disco rhythm!

Although the music is always pleasant and in places interesting, the increasing emphasis on rhythmic accompaniment to the swirling synths tends to confirm what one suspected all along – that the Tangs' approach is not all that profound. Even the electronic tricks on the album are all well worked ideas, for example the simulation of the Doppler effect during the title track is hardly revolutionary.

Along with the sequenced keyboards, *Force Majeur* bears an uncomfortable resem-

blance to recent Kraftwerk product, although it features more melodic variation than their German compatriots. Indeed the similarities with Kraftwerk, Oldfield and Jean-Michel Jarre suggest that this album will share in the currently massive commercial success of easy-listening electronic music.

David Lawrenson

Produced by Edgar Froese and Chris Franke, engineered by Eduard Meyer. Recorded at Hansa Studios, Berlin.

UK

Danger Money (Polydor)

This is UK's second album and in true supergroup style their line-up has changed between this and their excellent debut album released last Spring. The departures of drummer Bill Bruford and guitarist Allan Holdsworth have given Eddie Jobson and John Wetton the chance to cut down to a trio by only replacing Bruford with ex-Zappa percussionist Terry Bozzio. Not surprisingly, this reduction has left some holes in the band's studio sound, and presumably even larger holes in their live performances.

However, despite the changes, the sound is still essentially the same – dominated by orchestral keyboards, overdubbed vocals, solid percussion and, of course, long instrumental sections. And there lies the album's main weakness. Many of the instrumental sections on this album seem to bear little or no relation to the songs in which they appear, notably *Nothing to Lose*, a simple song with an infectious chorus which could have made a very commercial single were it not for an annoying display of Eddie Jobson's virtuosity on the electric violin and synthesizers.

Rob McIvor

Produced by Eddie Jobson and John Wetton, engineered by John Punter. Recorded at AIR Studios, London.

Tom Robinson Band

TRB Two (EMI)

While Tom Robinson has an excellent band, the lyrics always seem to be more important than the music. To this end, it must be said that although the musicianship is excellent, there's a noticeable lack of melody and general inventiveness. This is his second album and also the debut of a new line-up, keyboardist Mark Ambler and drummer Dolphin Taylor have been replaced by Ian Parker and Preston Hayman respectively. The other main point is that the album is produced by Rodd Rundgren, no less.

Original TRB guitarist Danny Kustow is, as usual, brilliant throughout and particularly so on the dramatic *Let My People Be*. His phrasing is excellent and he's got the definitive Les Paul/Marshall sound. There's a nice piece on *All Right All Night* where he and Parker answer each other on the solo. Parker also delivers a lovely organ solo on a track called *Why Should I Mind*.

The Rundgren influence is most apparent on *Bully For You*. Although the song is credited to Gabriel/Robinson, I'd lay money that Rundgren came up with the chords on the

Tom Robinson
Below: Supertramp



middle eight. All credit to the man for a fine production, too.

Eamonn Percival

Produced by Todd Rundgren, recorded at Pye, mixed at Bearsville.

Jean Jacques Burnel

Euroman Cometh (United Artists)

So, JJ goes solo for a while and gives us a black belt LP. No Strangler vibes here; JJ filters most of Europe's musical styles into one compact outfit, sings and spits in three languages the necessity of a united Europe and makes a damn good job of it too.

Manoeuvring his bass with perfect ease over a field of synthesized sounds and shadowy guitar riffs, Jean Jacques is a satellite. The drum-machine, used throughout, is like the constant beat of European industry; Brian James' guitar screeches like human pain; eerie keyboards, soothing or frightening, never really present but always rooted, like history. Burnel sings, captures past, present and future, he is overland, over Europe, over their people, their culture, their politics; he sees Europe as one from up there and does not understand frontiers. But it was just a dream because JJ is a human being and says to the lady: "Your lips are for kissing my feet, Your little hands are for my special parts. I've found a lover!" (*Pretty Face*). He's back in the pub, playing bass with a rock 'n' boogie band... And music isn't just European; it's Universal.

Hervé Corre

Produced by JJ Burnel and Alan Winstanley, engineered by Alan Winstanley. Recorded and mixed in London.

Magazine

Second Hand Daylight (Virgin)

Original, strong and refined, Magazine are back. There's always been something intriguing about this band, even if no-one was very happy about its production. Here, Magazine's obscure but vivid potential is exploited by a perfect realisation. Doors-like keyboards, massive bass, aggressive vocals creating a chilling but hypnotising atmosphere.

On this album's spare, rock-side, *Believe That I Understand*, Devoto gives us his chrome-lipstick voice again and in little doses, I'll forgive him that. Because, right after that Magazine slip into the closing number, *Permafrost*: "At the place where we've stopped/ I will drug you and fuck you/ On the permafrost", where Devoto proves that his voice has finally found a home, that Magazine have become an entity and that Colin Thurston is a better producer for this band than John Leckie.

Hervé Corre

Produced and engineered by Colin Thurston. Recorded at Good Earth Studios.

Johnny G

Sharp & Natural (Beggars Banquet)

With musical muscle provided by members of Aswad, the Rumbur's horns and the Thunderbolts, Johnny G's debut album covers diverse styles ranging from stompers to ballads, rhythm rockers to instrumentals. And guess what, they're all good!

The more I listen to this album, the more it becomes apparent how John Gotting's musical talent is strong, subtle and sensitive. The lyrics are rich and fit the style of music. JG's guitar playing, if not particularly inventive, always complements the flow of the numbers and can speed-along a bass/drum fast un' just as well as it can flirt with a Belotitron on a beautiful ballad like *You Can't Catch Every Train*. There is nothing exceptional about this LP, but its title accurately represents its contents. A nice one.

Herve Corre

Produced by Ed Hollis, engineered by Nick Glennie-Smith and Dave Bellotti. Recorded at Riverside, mixed at Wessex.

Johnny Winter

White, Hot and Blue (Blue Sky)

No surprises at all but, if you're a blues or a Winter fan, it's an excellent album. As usual, the material is a mixture of Winter originals and old blues standards but his own material is as close as dammit to old blues standards anyway, so there's no lack of consistency.

Musically, you can't fault Winter — his voice is strong, his playing superb. His own *One Step At A Time* is one of the better examples of good blues guitar on this album, while the opener *Walkin' By Myself* features some excellent slide guitar. Particularly effective is another Winter original, *Nickel Blues*, with just acoustic guitar and piano (courtesy of lil' brother Edgar).

A couple of standards are re-arranged and rocked up slightly and these work well. Taj Mahal's *EZ Rider* and Mel London's *Messin' With The Kid* are two such cases given new life with this treatment. As I said, no surprises but still a good blues album.

Eamonn Percival

Produced by Johnny Winter, recorded at The Schoolhouse.

Georgie Fame

Right Now (Pye)

Fame turns songwriter with an album which is always pleasant, and of course immaculately played as one would expect from musicians of the calibre of Alan Parker, Bernie Holland and Terry Smith on guitars, and a fine brass section featuring Henry Lowther.

Unfortunately, the overall effect is a trifle polite and lightweight, and despite the Latin-flavoured *Little Samb* and two Highlife influenced tracks the songs seem a little samey. Nevertheless two pointer for the future emerge — first, that Georgie is developing an excellent studio voice highlighted by his beautiful reading of Stevie Wonder's *Too Shy to Say*, although it would have been nice to hear more of his good bluesy keyboard work as well. Secondly, his compositions show promise, especially

Jean Jacques Burnel

Magazine

Johnny G

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Albums

the Graham Parker/Northern Soul style, *I'm In Love With You Baby* and one really class song *Eros Hotel*, with evocative lyrics set off by a sympathetic string arrangement from Karl Jenkins.

David Lawrenson

Produced by Karl Jenkins and James Parsons, engineered by Terry Evennett. Recorded at Pye Studios, London.

Café Jacques

Café Jacques International (Epic)

If you risk judging an album by its cover, *Café Jacques International* might appear to be one of those cerebral synthesizer discs or avant-garde rhythm and blues. What emerges from the turnable is a pastiche of smoothly played funk, clinical rock and ballads with a Little Feat feel. Café Jacques must be looking for a spot on US AM stations – and this album may be bland enough to get them there.

It is not one thing or another. The opening synth lines of *Boulevard of Broken Dreams* tell a delicate, almost precious instrument and vocal sound. It includes a strange array of instruments, including an accordion, to make a fine Italian movie soundtrack, a spell which is soon broken by *How Easy*, all funk rhythm but wimpy vocal and chorus. *Waiting* is a careful musical statement but the electric piano and guitar parts fail to make a gripping whole. *Station of Dreams* is yet another example of the careful arrangement and production that goes into making a commercial ballad for AM radio stations. This album sounds like a swirling mass of influences rather than a direct approach to a theme. It's not the sort of record I've come to appreciate in the crowded album market.

Sean Hogben

Produced by Rupert Hine, engineered by Alan Perkins, Steve Short and Peter Kelsey at Trident Studios, London.

John Miles

MMPH More Miles Per Hour (Decca)

There must be some reason why John Miles isn't gigantic, but I'm damned if I can find one. He constantly brings out good albums and this latest is no exception. There's a good range of material here, from beautifully structured melodic songs to out and out hard rock. It's hard to pick out the best tracks, but my two favourites are a great ballad called *Oh Dear!* and a song titled *It's Not Called Angel*. The latter is very Beatles-influenced with chord changes reminiscent of some of the songs from *Hard Day's Night*.

Apart from being one of Britain's best vocalists, Miles is a dab hand on guitar, especially on *Satisfied*, which features a fiddle-like country solo. Another nice cut is *Bad Blood*, which sounds like a disco Steely Dan complete with unison guitar/vocals.

The album sleeve features John Miles in front of a Concorde jet and, with flying jacket, scarf and moustache, the resemblance to Joe Walsh is uncanny. Even stranger is the fact that, on *Can't Keep A Good Man Down*, you'd

swear it was Joe Walsh singing. It's a rocky number and even features some nice scat singing with guitar à la Mr. Walsh. Uncanny resemblances apart, it's another fine album from one of Britain's most underrated musicians.

Eamonn Percival

Produced and engineered by Alan Parsons, recorded at Super Bear Studio, France, and Union Studios in Munich.

Buddy Holly

The Complete Buddy Holly (MCA Coral)

What can you say about a set of albums that contains around 120 tracks and, as far as one can tell, is the complete Buddy Holly recorded output? Well, you can observe how Fifties rock 'n' rollers were no better than most of today's new wavers at distinguishing between a good song and a bad one. Some of these tracks are exquisite, timeless pop music; others are embarrassingly dire. Surely *somebody* must have noticed how naff they were at the time?

You can also see clearly how important the other Crickets, especially Jerry Allison, were to Holly's music, and how influential songwriter/manager/hustler/guru Norman Petty was on his career. You can get some idea, from the recordings off radio and TV shows, of just how good the Crickets were live (which is pretty good). And, if you've got nothing better to do, you can take note of how many songs Holly played in the key of A (which is a lot).

It has been cynically said that the best thing he ever did as regards becoming a star was to climb aboard that plane in Mason City, Iowa. And it's true that more records were sold in the five years after his death than during his lifetime. But he was a genuine star, all right, and the popular music of the last 20 years would not have been quite the same if he hadn't recorded these 120 tracks.

Jeff Pike

Dusty Springfield

Living Without Your Love (Phonogram)

I know it's an oft-quoted phrase, but Dusty Springfield really is the best female singer Britain has produced. The vocals on her latest album are as impeccable as ever, from the up-tempo, disco influenced *Save Me, Save Me* and *Living Without Your Love* to the beautiful emotive ballads *I Just Fall In Love Again* and *I'm Coming Home Again*.

My only criticism is that the songs, although good, are not great. Despite a version of *You Really Got A Hold On Me* and several Carol Bayer-Sager compositions, Dusty could still do with a real top quality song to go with her top quality voice.

David Lawrenson

Produced by David Wolfert, engineered and remixed by John Mills. Recorded at ABC Recording Studios.

Sex Pistols

The Great Rock 'n' Roll Swindle (Virgin)

I suppose this could be titled the Life and Times of the Sex Pistols. It's a double album ▶▶

Café Jacques

John Miles

Buddy Holly

Dusty Springfield

Sex Pistols

Culture

Muddy Waters

Joe Sample

The Bothy Band

of the film which loosely traces the rise and fall of one of the most potent rock bands of the decade. And it comes as a bit of a disappointment.

To begin with, the album is really a hotch potch of early sessions, weird and wonderful treatments of their best songs, and the latest Pistols' offering minus Johnny Rotten and plus Ronnie Biggs. Let's take the early sessions first, recorded in 1976, which contribute seven tracks. I take great exception to hearing people's jam sessions on record. It may be all right on film, but to hear the band stumble their way through *Johnny B Goode* and *Road Runner* tries my patience. But the other five tracks are great. *Anarchy In The UK* and *Stepping Stone* (the old Monkees tune) show a power and aggression which really explains why this band had such an impact on a weary music scene.

Without Rotten's distinctive voice and anarchic lyrics, the rest of the band seem to fall back on good old rock 'n' roll as in *Something Else* and *Lonely Boy* with Sid and Steve Jones on vocals respectively. *Silly Things*, featuring Paul Cook, although powerful, sees them as just another rock band. I look forward to the film.

David Lawrenson

No recording details available.

Culture

Cumbolo (Virgin/Front Line)

If this was Culture's first album to be released on a regular (non-import) label, it would probably be hailed as an exciting event. There's no question they're one of the finest reggae vocal trios working today, or that front man Joseph Hill has an appealing voice and writes strong songs. Trouble is, a new album is inevitably judged against the last one and the one before that. And, alas, this is not half as impressive as Culture's *Harder Than The Rest* or the album which first brought them popular acclaim, *Two Sevens Clash*.

The songs are catchy enough, and as usual combine simple, hummable melodies with earnest lyrics on the usual rasta themes. But they're not as powerful as Hill's best stuff and not delivered with the same passion. He still sounds somewhat like Burning Spear, which can't be bad, and his two cohorts, Albert Walker and Kenneth Paley, still chip in perfect mellifluous backing harmonies, but the impact is somehow missing. The whole thing is just a bit too relaxed, too smooth, not *angry* enough. So why shouldn't Culture make a relaxed, friendly album ("Cumbolo" means "friendship") instead

Joe Sample



of an angry one? No reason at all. They just don't do it so well, that's all.

Jeff Pike

Produced by S.E. Pottinger, engineered by Errol Brown. Recorded at Treasure Isle Recording Studio.

Muddy Waters

Muddy "Mississippi" Waters Live (Blue Sky)

McKinley Morganfield is an uplifting live performer and this collection of concert recordings conveys much of the gutsy excitement of his show. Seven longish tracks, all blues, all straining with the raw Chicago sound, and all tinged with Muddy's wry humour and bonhomie. His rich voice sounds as mellow as I've ever heard it and his lean guitar playing has a nerve-tingling edge to it. Good harp playing by (variously) James Cotton and Jerry Portnoy, a couple of rangy guitar solos by guest Johnny Winter, and lots of raucous audience reaction. All very live, very sweaty and very satisfying.

Jeff Pike

Produced by Johnny Winter, engineered by Dave Still. Recorded by Metro Audio and the Record Plane, mixed at the Schoolhouse and the Hit Factory.

Joe Sample

Carmel (ABC)

The Crusaders are such a tight, happy family that it seems to be impossible for any of them to make a solo album without all his brothers joining in – and the result is often indistinguishable from just another Crusaders album. Sure enough, pianist Sample has help here from Wilton Felder and Stix Hooper in the production department, Stix plays drums on most tracks and ex-Crusader Hubert Laws pops up playing flute. But it sounds very different from the Crusaders we know.

The main reason for this is the instrumentation: Sample plays acoustic piano (beautifully recorded) on all but one of the tracks, there's no saxophone, the guitar and bass have much less prominence than in the Crusaders, and even Hooper is less thrusting and aggressive than usual, in keeping with the style and mood of the music. For it's a very relaxed collection of tunes. Even the numbers with perky Latin rhythms (Paulinho da Costa doing his usual tidy job on congas) are restrained and thoughtful. Sample is a good improviser but not a great one. Quite simply, he doesn't have enough creative ideas to string together a long jazz-style solo. And sensibly, he doesn't even try. He relies instead on good tunes (all his own), pretty melodic decorations of them and an assured, solid command of the keyboard. It all makes for very comfortable, unpretentious listening.

Jeff Pike

Produced by Wilton Felder, "Stix" Hooper and Joe Sample, engineered by Rik Pekkonen. Recorded at Hollywood Sound Recorders Inc.

The Bothy Band

Afterhours (Polydor)

Probably the best live album I have ever heard. Forget about *Seconds Out*, *Live & Dangerous* and *X Cert*, with their "tour high-

lights" and studio overdubs, *this* is what live albums should be all about: an accurate representation of the band in concert. And this is accurate. Even the band's between-songs banter has been left on tape for posterity, as have the very rare mistakes, leaving an overall impression of realism and a genuine live feel sadly lacking in many live recordings. This is not to say that *Afterhours* is at all rough or scrappy sounding. The Bothy Band do have a very clear live sound, particularly on their vocals, and the recording is very clear.

Three tracks stand out from all the others; *Casadh an tSugain* (I don't know what it means either) in which the band's voices blend beautifully, moving even one who cannot understand Gaelic; *How Can I Live at the Top of a Mountain*, where Triona Ni Domhnaill sings her own song unaccompanied; and the mournful *Death of Queen Jane* which shows how a simple lyric can often say much more than reams of surrealistic trash. Also, in a time when most live albums are considered as throwaway efforts made up of old material, it's pleasing to note that only four of the 11 songs on this album have been recorded before by the Bothys.

Rob McIvor

Produced by the Both Band. Engineers: Phillipe Omnes, Bernard Darsch, Jimmy Wogan and The Doctor. Recorded at the Palais Des Arts, Paris.

Short Cuts

Sparks: *No.1 in Heaven* (Virgin)

The kooky duo of Ron and Russ Mael plug their idiosyncratic synth music into a disco rhythm section, thoughtfully provided by producer Giorgio Moroder. It has a pretty cover, well produced cuts and somewhat sardonic lyrics but all the Maels succeed at is fuelling the disco reactor with its favourite food.

SH

Willie Alexander and the Boom Boom Band: *Meanwhile... Back In The States* (MCA)

I must admit to knowing little of this outfit, apart from the fact that Willie used to play with the Velvet Underground. In fact, his vocals are very close to Reed or mid-period Bowie. The music? A kind of white, modern R'n'B. I can take it or leave it.

EP

Dyan Diamond: *In The Dark* (MCA)

The first album from Dyan Diamond, a 16-year-old Kim Fowley protégé, made with Leon Russell supervising. She is surrounded by an ace team of session musicians and tries very hard to sing rhythm and blues, or is it ritz-men-blues?

HC

Eddie & the Hot Rods: *Thriller* (Island)

A very disappointing album in many ways. The sound is good, the material fast and furious but the band seem to have lost the energetic R'n'B feel they initially had. It's one thing being inventive and progressive, it's another thing to change direction completely.

EP

Pat Travers: *Heat In The Street* (Polydor)

A bit on the heavy rock side, but still quite listenable. Two standout tracks – a slow

melodic instrumental called *Prehude* and shades of Todd Rundgren on *One For Me And One For You*.

EP

Willie Hutch: *In Tune* (Whitfield)

Two ex-Motown mainmen show what experience can do. Hutch sings, plays guitar, wrote some songs; Norman Whitfield wrote the rest and produces. Supporting artists include Rose Royce. Top quality soul music like it used to be.

JP

Various artists: *One Big Happy Family* (Island)

Sampler album from Island featuring all their reggae artists, with superstar Bob Marley, crossover merchants Third World and Inner Circle and the more Roots Burning Spear and Zap Pow.

DL

Manu Dibango: *Sun Explosion* (Decca)

Good-time music that combines African and South American rhythms, jazzy horn solos, African chants and Brazilian-style backing vocals. Kinda smooth Osibisa. Great dancing music for a multi-racial party.

JP

Doll By Doll: *Remember* (Automatic)

A very strange album on first listening but it grows on you with repeated plays. Fairly simple, heavyish chordwork and pounding drums are the base for superb vocals, strange melodies and brilliant lyrics. Well worth checking out.

EP

Gonzales: *Haven't Stopped Dancin'* (EMI)

Second rate British funk.

DL

Money: *First Investment* (Gull)

Heavy head-banging first album from a Birmingham quartet who are young enough to know better. Noisy, arrogant, simple-minded and 10 years out of date.

JP

Art Farmer & Jim Hall: *Big Blues* (CTI)

Modern jazz with hardly a hint of jazz rock. Two masters of understatement playing subtle music that gets under your skin. A lesson in how to swing like hell – quietly.

JP

Carole King: *Writer and Music* (Epic)

Early Seventies re-issues of one of the few singer/songwriters really worthy of the name.

DL Muddy Waters

Jerry Jeff Walker:

Jerry Jeff (Elektra)

Lazy country sounds, lots of acoustic guitars and pedal steel, drowsy horns and JJ's fruity, avuncular baritone. Could grow on you if it doesn't send you to sleep first.

JP

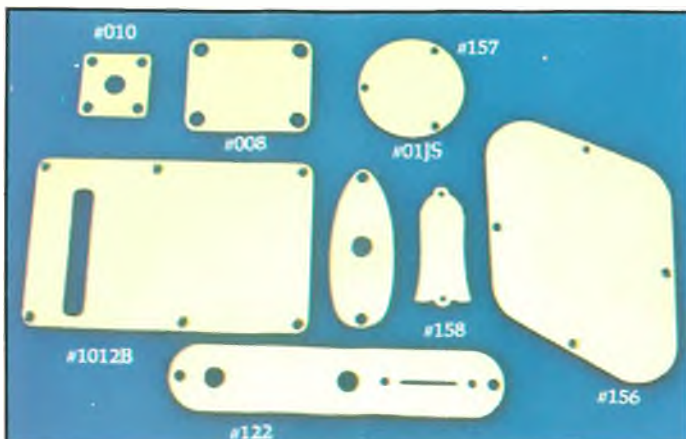
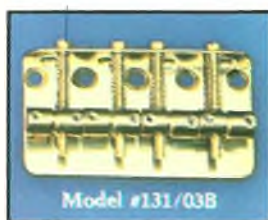
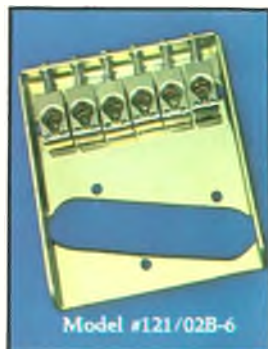


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Adjusting beginners guitars:3

Last month, I described how you could lower some of the string slots in a guitar nut if the maker had left them higher than necessary. You must expect to have to do this on some of the cheaper guitars. It is also possible that you may have a guitar on which some of the nut slots are too low, making the open (unfretted) strings buzz against the first fret. If you press the string down between frets 2 and 3 (as described last week) and the string also touches fret 1, either the frets are unusually bad, or the string slot has been cut, or worn, too deep.

You should not have to accept this fault on a new guitar. But you may already have a guitar with this problem, and the treatment I described with epoxy adhesive in the bottom of the slot is really only a temporary measure.

I must once again emphasise that these repair methods are only suggested for beginners' inexpensive nylon-string guitars. Certain guitars, particularly some Martin steel-string guitars, have the nuts dovetailed in. Removing these is a professional job, and difficult at the best of times. Most of the cheaper nylon-string guitars either have the nut glued in place against the step at the end of the fingerboard, or have straight-sided but slightly inset nut, as shown in photos 1 to 4. Photos 1 to 3 show how to remove the nut. The important word is gently.

You will need a cloth under the guitar back, a thick foam pad under the machine heads and someone to hold the head while you work. Use a light hammer and a piece of hard wood with square ends, like the one in the photos. Tap the nut gently all along its length as photo 1. Then tap gently all

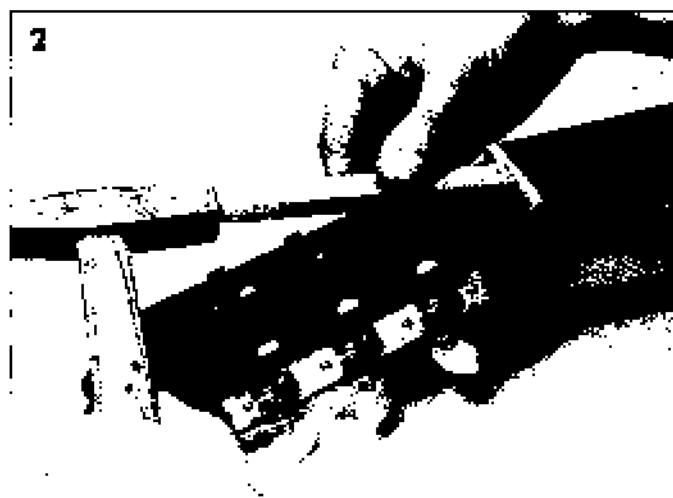
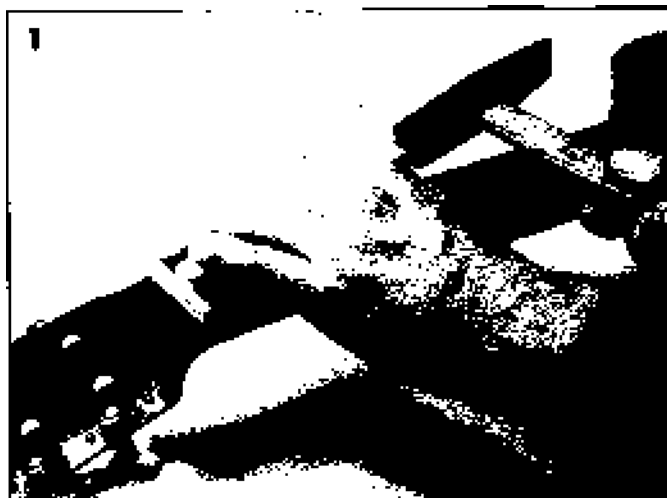
along its length from the other side, as photo 2. Repeat 1 and 2 gently until the nut becomes slightly loose. If it is not recessed into the head, it will probably come off at this stage. If it is recessed like the one in the photos, use the corner of the same piece of wood to knock it out sideways. If the nut looks even slightly thicker at one end, this will determine on which side it will come out more easily. If the nut is really straight-sided and you have a choice of direction, knock it out towards you; it is easier to look out for slight splintering of the neck or fingerboard. If it jams in the slot when halfway out, try tapping it out on the other side. Also try tapping some more along alternate sides, as in photos 1 and 2. If you have a nut which will not come out, buy an "X-acto" razor-thin saw from a model makers' shop and saw down between the nut and the side of the recess, on the machine-head side. This is more likely to be successful than using a larger hammer. Usually, nuts on cheap guitars come off quite easily.

Occasionally you will find thick lacquer continuing all over the nut. In some cases this is no problem. In other cases, it indicates that you may not be able to get the nut out in one piece. This is something of a gamble and you should be willing and able to make a complete new nut if necessary, before you start trying to remove the old one. Unfortunately, these lacquered-over nuts are usually found on guitars for which ready-made replacement nuts are not available, so it will mean making a nut, not just fitting a new one. If you try the operation shown in photos 1 and 2, and the nut easily becomes loose, you are not likely to have any

trouble. It is not essential, but you are likely to have a neater job, if you cut through the lacquer film all around the nut with a craft knife, before you start. The knife will easily slip when cutting lacquer, and you can cut a finger very badly. The safest tool to use is probably a small X-acto (or similar) handle, fitted with a stencil-cutting blade. This has a sharp angled tip and blunt sides. If it is essential to remove a stubborn nut, and you think it is worth the trouble, take a hacksaw and cut lengthways right through the nut. As you cut through the last bit of nut, take care not to damage the wood underneath. If you now follow photos 1 and 2 you will be able to tap both sides of the nut in towards each other, into the space left by the saw cut.

If you need to make a new nut, most music shops can order for you, one or two bone nut-blanks, from Stentor and possibly also from other suppliers. For a low-priced nylon string guitar you could also use a piece of hard plastic such as Perspex, or Bakelite, or thick SPRB sheet, or a laminated cloth material such as Tufnol. Even a plastic toothbrush handle can be made into a usable nut, but you will have to file straight sides on it.

After you have removed and cleaned up the old nut, cut several strips of writing paper either to the width of the bottom of the nut or, if the nut is recessed into the neck, slightly narrower so that they will easily slip into the bottom of the recess. Put about three strips where the nut will rest, press the nut firmly into place and replace the strings (photo 4). They should be tuned to somewhere near their correct pitch. Follow the same ➤



Guitar Workshop

Adjusting beginners guitars:3

procedure as before, pressing the string down between frets 2 and 3 and checking for clearance over fret 1. If necessary, slacken the strings, lift out the nut and add, or remove, strips of paper until the string in the lowest nut slot has about 0.3mm to 0.5mm clearance over the first fret (when the string is held down between frets 2 and 3). The average colour photo 'en-print' is about 0.3mm thick and can be used as a clearance gauge. See last month's *Workshop*.

When you have the right number of pieces of paper, take off the strings and lift out the nut and paper strips. Smear both sides of each strip with ordinary clear liquid office gum and put them in place on the guitar. Put a little woodworking glue on the bottom of the nut and on the side which fits against the fingerboard and put the nut back in place. Replace the strings and tune up the guitar, while occasionally pressing the nut down and towards the fingerboard. Check for equal margins between the outer strings and the edges of the fingerboard. Next day, trim off the surplus ends of paper strips as shown in photo 4. It is not necessary to remove the strings. Check string clearances over the first fret as before and lower any string slots which are now higher than necessary. This was described last month. You will probably only need to use sandpaper over the back edge of the saw blade.

Measuring the action on a guitar

An experienced player will probably not need to *measure* the action on a guitar. He/she will know whether the guitar feels right. However someone buying a first guitar may not have the

benefit of experience, and some typical measurements may be of help. It is quite possible to select a nylon-string guitar with suitable string height for a beginner, with nothing more than a box of matches. There are two possible approaches. One is that you threaten to set fire to the assistant's trousers unless, he instantly finds you a good and suitable guitar. This can cause a nasty scene, especially towards the end of a busy Saturday afternoon, and it is not recommended.

The second approach is shown in photos 5 and 6. The heads of Bryant and May Safety matches are usually quite consistent in size. Tip out a box of matches, discard the ones which are clearly larger or smaller than usual, and take a few of the average-looking ones. Other matches may not be the same size. You could cut some little pieces of wood or plastic to the measurements given below.

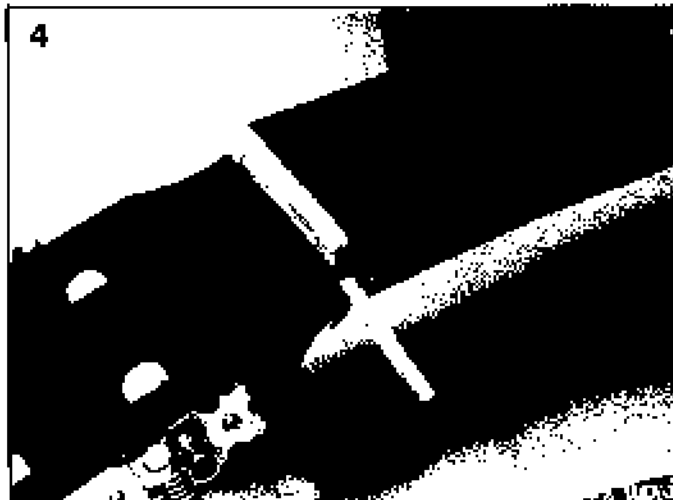
Between the top of the 12th fret and the underside of the bottom string (this is the thickest, wire-covered one by the edge of the fingerboard) you should be able to fit at least one match head but not two match heads (see photo 5) i.e. the gap should be more than 3.2mm but less than 6.4mm. Ideally, the gap should not be more than about 4.2mm, which is the width of two average match *sticks* turned round to give their narrowest widths (see photo 6). For the top string (the thinnest nylon one, at the opposite edge of the fingerboard), the gap between the string and the 12th fret should be about 2.8mm. This is a little more than the width of a match *stick*, and a little less than the width of a match *head*. If the top string gap is much wider than one match head, or if

the bottom string gap is wider than two match heads, the action is probably too high for a beginner and may hold back his or her progress.

These measurements are intended only for nylon-string guitars, and they are only reliable if the guitar nut is reasonably well adjusted. If you have to check the action on a guitar with a nut which is not well adjusted, you can make a rough estimate of the eventual string action after adjustment. Press the top and bottom strings down between the nut and the first fret, just behind the first fret, and repeat the trick with the matches, this time in the gap between the strings and the 13th fret.

It is usually possible to adjust the string action (string height above the frets), by lowering the white plastic (or bone, or ivory) saddle in the bridge, or by making a new, higher one. This was discussed briefly last month. Photo 7 shows the side view of a typical bridge on a lower-price classical guitar. In this case, the white string saddle is about as high as is practical. If it is raised higher with shims underneath, or if it is replaced with a new, higher saddle, there would be a danger of bending or cracking the front part of the bridge.

If a guitar has a string action lower than my recommended measurements, combined with a bridge saddle as high as the one in photo 7, the guitar is likely to be more trouble than it is worth. If a guitar has a string action higher than my recommendations, combined with a string saddle which is very low and almost level with the surrounding bridge, it is also likely to be more trouble than it is worth. Other combinations of high, low and average saddles and string actions usually either

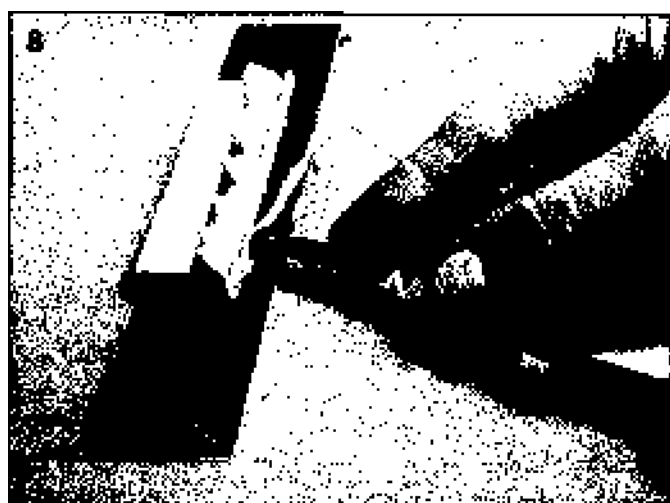
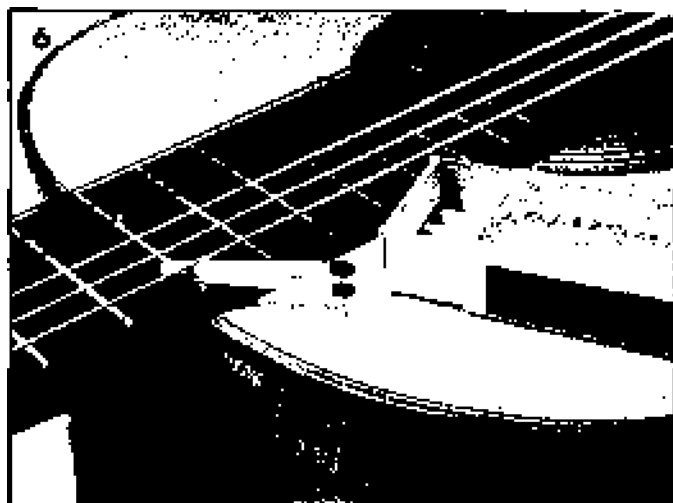
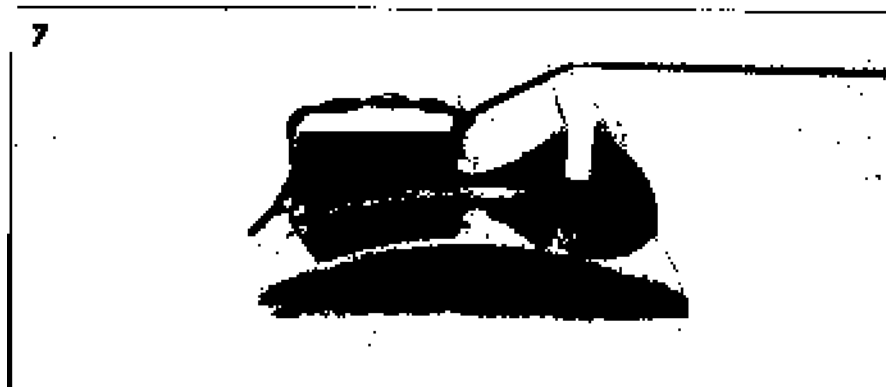
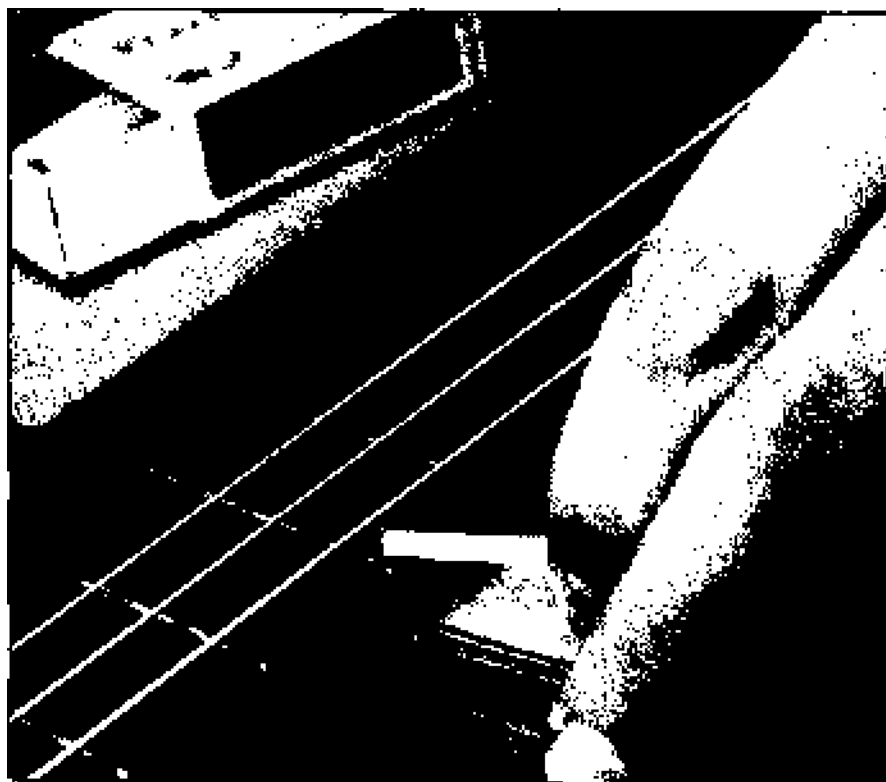


work well, or can be adjusted to work well.

If the height of the bridge saddle is around its upper limit as shown in photo 7, it is particularly important that it is a good fit in the slot in the bridge body. The one in the photo is slightly loose, and you will see that it has already begun to lean forwards. This may upset the accuracy of notes towards the top end of the fingerboard (of which more next month) and it places a considerable strain on the front part of the bridge. Photo 8 shows the same bridge, with the saddle removed and replaced on top of a piece of thin paper. Choose the thickness so that the saddle just pushes firmly into the slot with a layer of paper around it. Use firm, hard-textured paper. Two thin, hard layers are better than one thicker one, made from softer paper. For really thin paper, try king-size cigarette papers. Trim off the surplus paper with a knife as shown. You will need a new paper shim each time you remove and replace saddle. When you have found the ideal thickness of paper, put a small spare piece, enough for about two more attempts, inside the guitar body. It will do no harm, and it will save time if the saddle ever has to come out again for adjustments.

There are one or two more small adjustments which I would like to cover, but I have once again run out of page, and I shall have to keep them for next month's *Workshop*.

Stephen Delft



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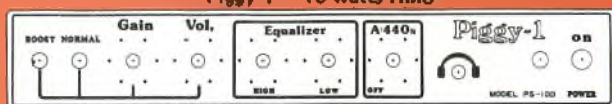


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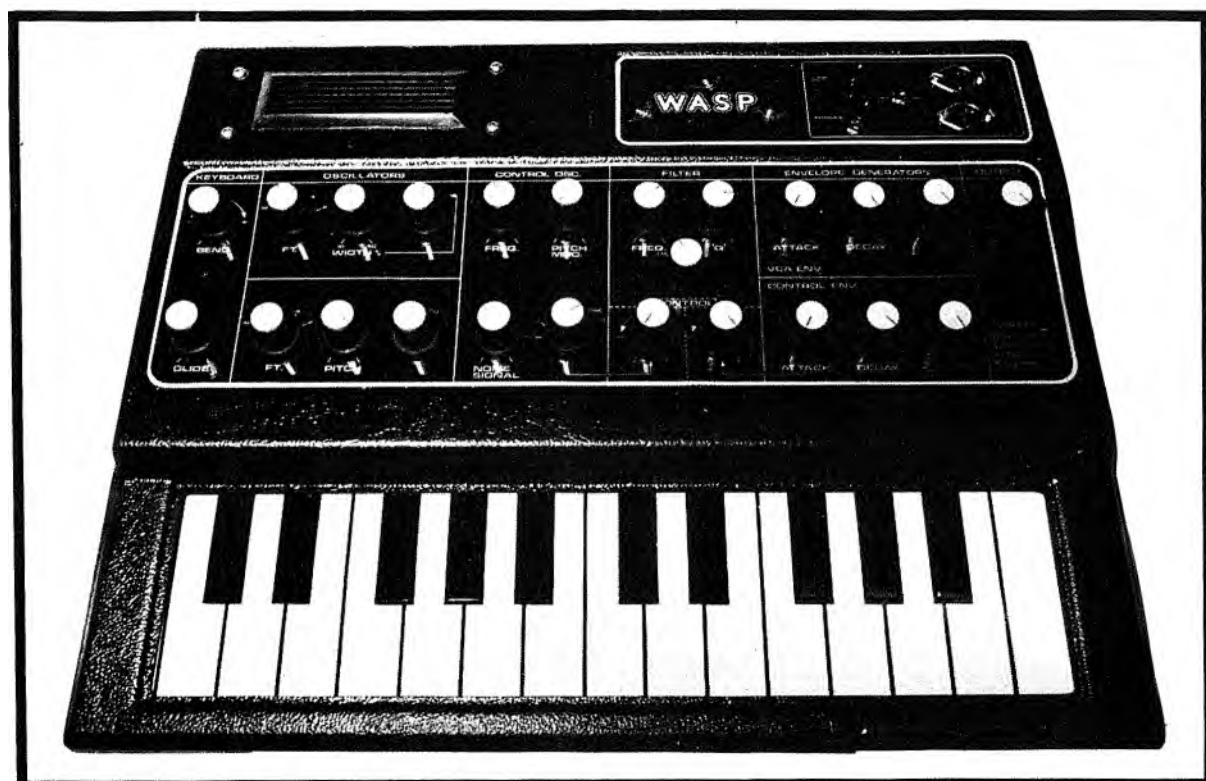
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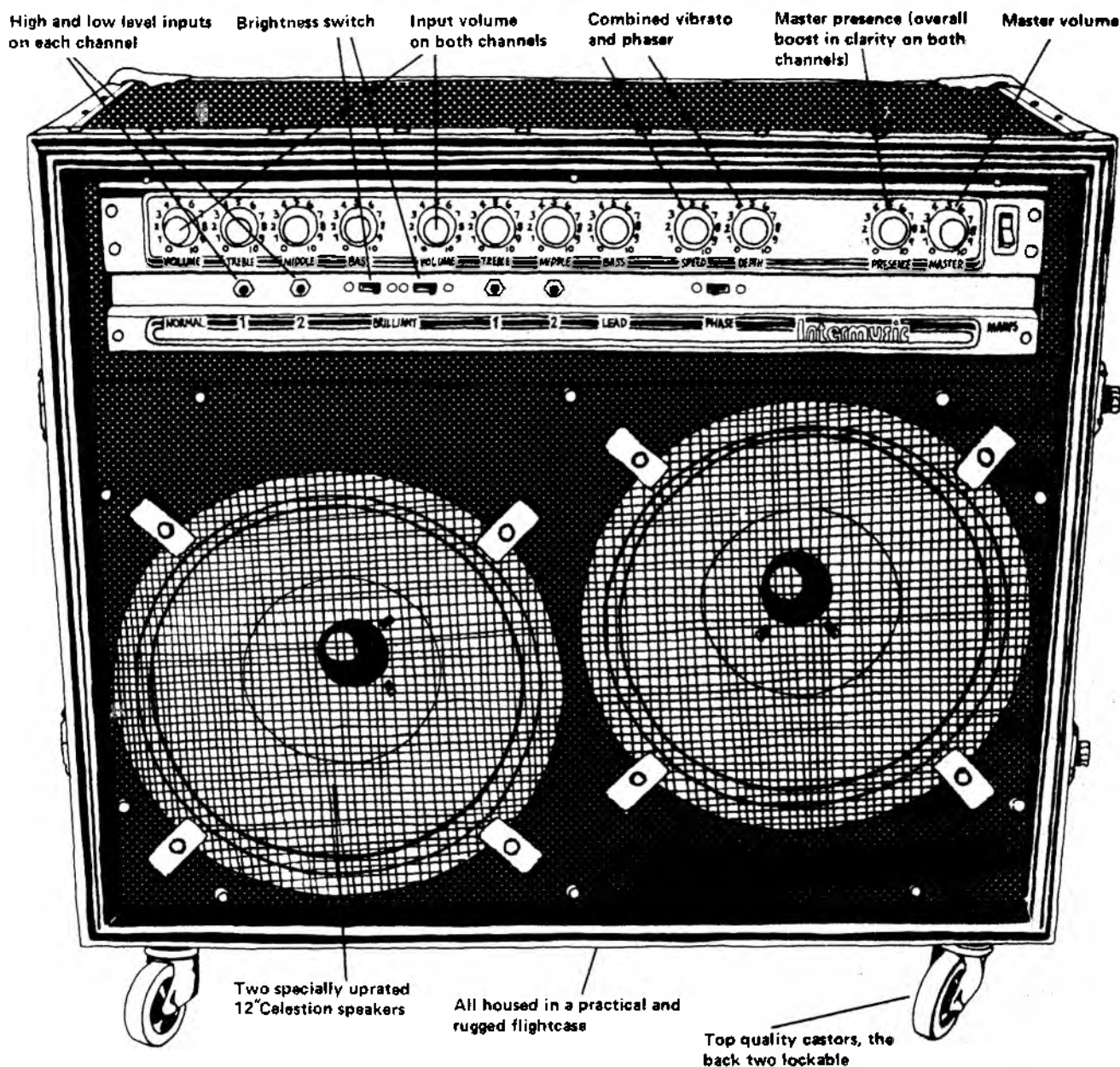
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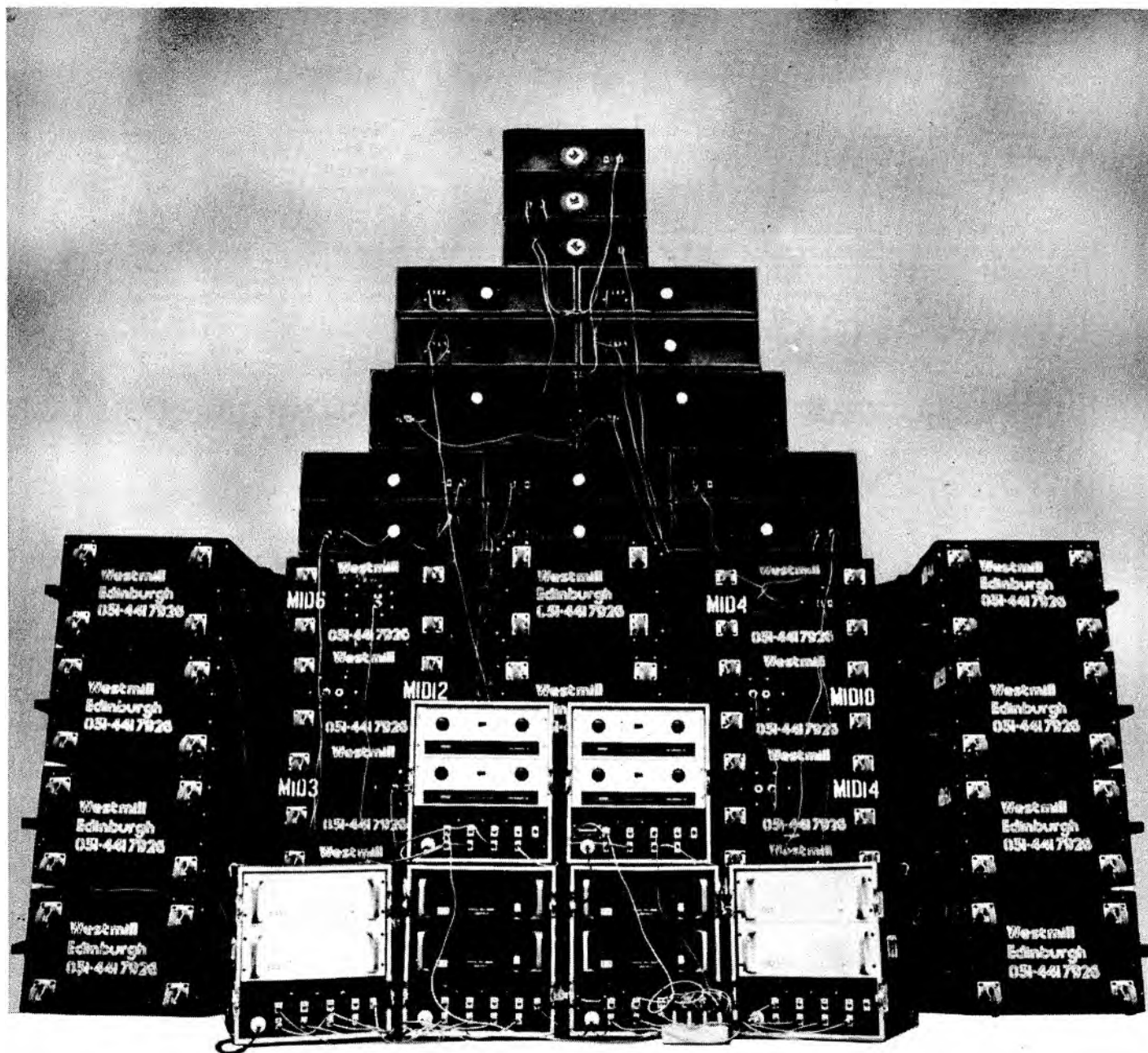
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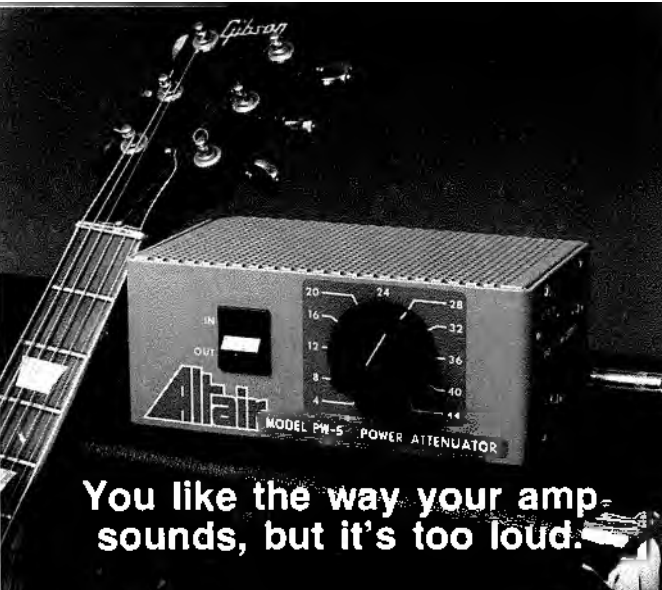
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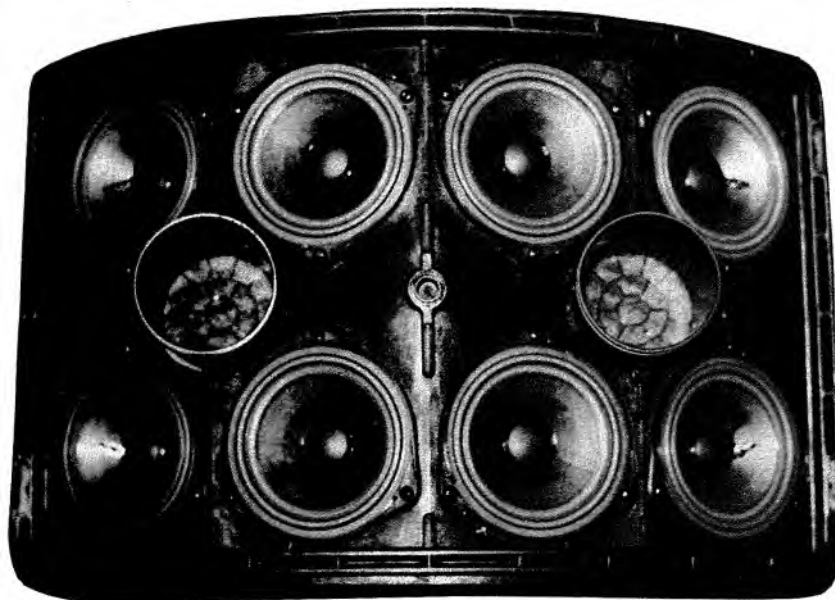
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The Bose 802 is a total concept loudspeaker system of very small physical size and weight, intended for practically any application from PA to musical instrument amplification, from stage monitoring to conventional theatre and cinema systems. The total Bose package includes a live performance mixer and power amplifier,

but we shall only be concerned here with the performance of the 802 loudspeaker system and its equalizer.

The Bose Corporation have their own, often unconventional, way of doing things. While respecting this originality as we consider the various design features of the product, we must be objective in terms of whether or not it performs its task to an acceptable degree — always bearing in mind the price and mechanical features of the design as well as its performance.

Apart from the fact that virtually the entire loudspeaker is made from plastic and that a rather unusual arrangement of drive units is employed, the outstanding departure from conventional speaker design is that electronic equalization has been employed to normalise the frequency response of the system. This takes the form of a small black box, mains powered, which must always be connected between the signal source and the input to the power amplifier. Fact: it works, as was clearly shown by comparing the response plot of the unequalized loudspeaker with the proper frequency response plot as given in the results presentation. In its raw state, this loudspeaker would have no part to



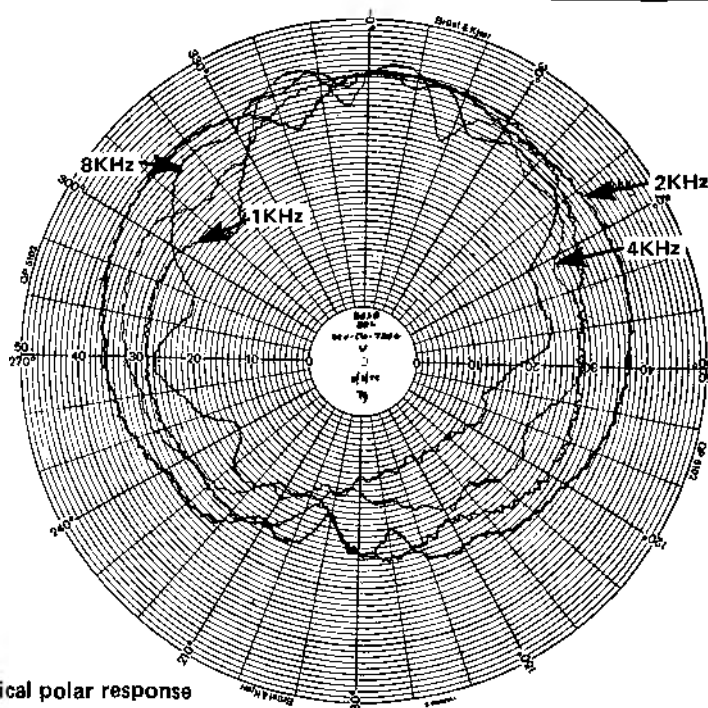
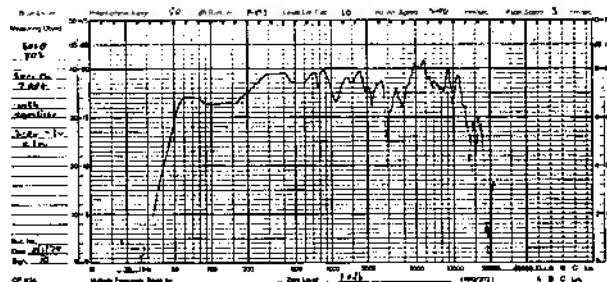
BOSE 802 PROFESSIONAL LOUDSPEAKER SYSTEM

Performance specifications and test results

520mm wide x 340mm high x 330mm depth (340mm incl. cover).
 Weight: 16Kg (approx. 35lb)

Parameter	Manufacturer's rating	Test result
Sensitivity	Not stated	98dB @ 1 watt @ 1 metre on axis, averaged between 200Hz and 10KHz.
Useful frequency response	Not stated	40Hz-18KHz @ -20dB 50Hz-16KHz @ -12dB
Rated input power	160w continuous	See text
Distortion	Not stated	3% above 500Hz, rising to 10% @ 300Hz and 40% @ 100Hz
Impedance	8 ohms	9.5-25 ohms
System resonance	Not stated	120Hz
Polar response	Not stated	82V x 88H @ 1KHz 214V x 126H @ 2KHz 66V x 158H @ 4KHz 100V x 100H @ 8KHz included angle at -6dB

Note: all tests were carried out with equalizer in circuit.



Vertical polar response

play in live performance sound at all, whereas its performance with the equalizer in circuit is very good indeed. What is basically happening is that the equalizer is boosting frequencies at which the tiny loudspeakers are not particularly sensitive so that more power is delivered at those frequencies. There seems to be two main boosts applied, one of about 15dB at 60Hz, the other of about 18dB at 15KHz, with a gradual tailing off between the two so that no boost is provided at all at 600Hz. All very clever stuff, resulting in virtually flat frequency response between about 200Hz and 12KHz with only slight dropping off at each end to -12dB at 50Hz and 16KHz. So far, I am impressed.

I remain impressed as the mechanics of the unit are considered. The cabinet is injection moulded from high impact plastic in two parts. The baffle panel, sides, top and bottom are moulded as the main shell, and the back is separately moulded and welded in place — presumably after the sub-assembly work has been completed on the connectors and wiring. This moulding represents a real commitment in terms of capital investment in tooling and in design time, as the whole assembly is brilliantly thought out and is of exemplary quality. It all looks so simple until you start to study the details. Besides having the drive unit apertures moulded in, the baffle panel also has locating lugs and mounting holes for the drive units and mounting bushes for circuit board. The cabinet walls have all necessary hardware, such as threaded steel inserts in the base to facilitate attachment to the tripod stand, reinforced corners, strip feet, slots in the top to accept the feet moulding of a stacked

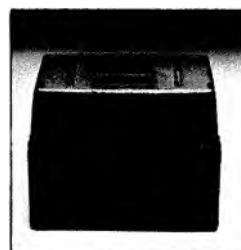
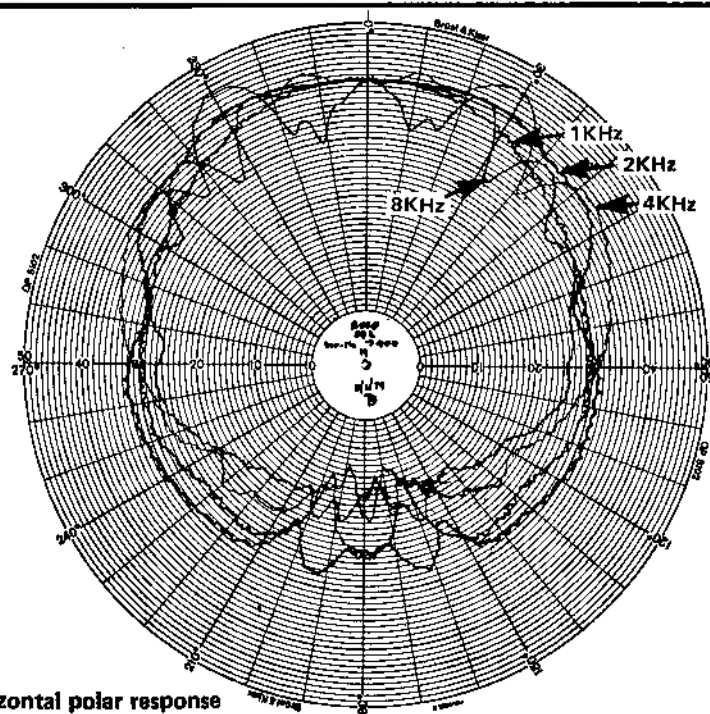
cabinet etc., and the whole moulding is very well ribbed on the inner faces to provide rigidity and freedom from self-resonance.

The separate back panel moulding is similar and includes a large recessed connector panel. In addition to these, there is a third moulding which serves as a clip-on front cover, as a tilt stand when the loudspeaker is used as a floor monitor, as a plinth when the units are stacked vertically and has a deep recessed carrying handle and stowage compartments for the Bose equalizer, cables, spare fuses, etc., incorporated into the moulding. The only metallic components in the whole assembly are the screws which retain the drive units and circuit board, the jack and XLR connectors and the clasps on the transit cover/speaker stand moulding. The quality of moulding and finish throughout is of a very high standard indeed and, used in this way, plastic must be considered a viable alternative to the more traditional cabinet building techniques. It is tough, durable and visually attractive and provided the moulding is adequately braced, it has few drawbacks from the acoustic point of view.

The arrangement of the connector panel warrants a little further consideration. The design of the moulded dish into which this panel is fitted is such that the jack sockets are blind — i.e. there is no air leak into the cabinet through the connectors whether the plugs are in or out. Unfortunately, however, not so much thought has been given to the arrangement of the XLR connectors because, strangely, both of them are male. By convention, the input connector should be male but the link-out facility should be female, so that any live contacts are

shrouded by the rubber insert. As fitted, if XLR type connectors are to be used, it will be necessary to carry non-standard cable sets, one will be a conventional three-contact male-to-female lead to connect the loudspeaker to the amplifier output, but link cables between cabinets will need to be female-to-female. Not a very sensible arrangement at all, especially in the light of the attention to detail found in almost all other aspects of the design. Another useful feature is the inclusion of a 4A fast-acting fuse to protect the speaker from damage in the event of an amplifier breakdown or of overloading the cabinet, and also to ensure that if one cabinet in a stack should break down, it does not shut down the power amplifier and take the whole system out. Good thinking.

Eight full range loudspeakers are fitted as shown in the photograph. Each drive unit is just 115mm in diameter and of 1 ohm impedance. All units are wired in a series chain to achieve an 8 ohm nominal impedance. This type of arrangement sometimes suffers from a loss of transient response, but has the advantage that in the event of a breakdown with any unit, the whole cabinet will shut down, thereby preventing the destruction of the remaining drivers by overloading. Even the loudspeaker chassis are moulded in plastic. Again, this is of a sensible and rugged design and there is no reason why they should not be plastic. A large ceramic magnet is fitted — almost as big as the chassis itself — and the tiny cone is carried on a soft PVC foam roll suspension. Rather nicely made, and either manufactured by Bose themselves, or by an established loudspeaker manufacturer to Bose requirements. The Bose logo ►►



As a transit cover.



As a storage case for equalizer, cables, etc.



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is stamped all over the chassis moulding, the centre dome and the magnet, so as to leave no doubt as to their origin.

It is interesting to see that Bose have now done a 180° turn and decided that a ported type of cabinet design is better after all. In their brochure for the Bose 800 — the immediate predecessor of the 802 — they state: "Multiple drivers in an air-sealed enclosure provide smoother response than ported bass cabinets (often boomy) or horn loaded drivers (which often sound piercing or 'peaky')..." While in the new brochure for the 802, it would now seem that: "... the reactive air columns greatly increase bass response while lowering distortion by reducing driver excursion at low frequencies."

The term "reactive air column" is simply a technical term for the two reflex tunnels now fitted to the 802 which terminate at the two "eyes" at the front of the cabinet. Most people involved in loudspeaker design have known for years that a properly tuned cabinet will exhibit improved bass response and better piston control at low frequencies. It is interesting to note that Bose did not seem to think so when the 800 was designed, and now would have us believe that a reflexed cabinet is the best thing since sliced bread! I suppose that this is what commercialism is all about. The only difference with the Bose reflexing system is that gauze filters are fitted over the inner face of the tubes, which prevent the ingress of foreign particles and also offer some degree of acoustic resistance to the movement of air in the tube. The tubes can be removed from the front of the cabinet so that these filters can be periodically replaced and, again, the retaining clips for these tubes have been cleverly incorporated into the baffle panel moulding and a large threaded ring, screwed to the tubes from the front, holds the grill panel in place.

While inspecting the interior of the cabinet, I was intrigued to find a small circuit board screwed to the inside face of the baffle panel. Using a mirror through one of the loudspeaker apertures, I saw that it consisted of a festoon lamp bulb connected in series with a capacitor. Wondering what this might be, I traced the wiring through the cabinet and discovered that the series connected lamp and capacitor were wired across the lower four loudspeaker units. The value of the capacitor is such that at frequencies above about 4KHz, the reactance of the capacitor will become lower than the impedance of the four loudspeakers and therefore the lamp bulb will be dissipating more energy than the loudspeakers. Unfortunately, there are no markings on the lamp to indicate its voltage or wattage rating,

but from the construction of the filament, it is a low voltage, high wattage device. A most unusual arrangement, whose purpose can only be to bypass the bottom row of loudspeakers at higher frequencies. I did say that this was an unusual loudspeaker!

What of its performance? The frequency response we have already discussed, and the sensitivity at 98dB for 1 watt is not particularly high, but is a vast improvement over the earlier Bose 800, and is probably as good as one is likely to get in a loudspeaker of these diminutive proportions. The power rating, however, requires some discussion. As music is not of a sinusoidal nature, it is not considered a fair test to feed in the full 160 watts of sine wave, and so we made a first power run at 100 watts. Though the unit was not audibly under stress at this level, the frequency response plot showed evidence of severe limiting at the lower and higher frequencies, coupled with very high levels of third harmonic distortion — as high as 40% or even 50% at frequencies below about 120Hz. The effect of this limiting was a fairly steep roll-off in response at frequencies below 300Hz and above 3KHz. A second run at 50 watts showed a notable improvement, but some limiting was still in evidence at below 100Hz. At 25 watts input, the response curve had regained its original shape and all seemed well.

I have not been able to establish whether this limiting is due to intentional electronic limiting incorporated into the equalizer unit, or to mechanical self-limiting by the loudspeakers themselves. I would suggest that the very high levels of distortion present at low frequencies would indicate that the latter is probably the case. However, there is nothing to suggest that the unit will not handle its rated input power without breakdown. The problem seems to be simply one of its frequency response being modified as input power is increased, and of high distortion levels at the lower frequencies.

The other performance peculiarity is in respect of the polar response in the vertical plane. It does not appear to obey any of the established laws of physics in relation to the radiating array. Note that at 1KHz and 4KHz, the vertical dispersion is good — although as the polar plots show, it is asymmetrical, the 82° at 1KHz consisting of 26° downwards and 56° upwards. However, at 2KHz we find an almost omni-directional characteristic and at 8KHz the dispersion is again beginning to widen out. In the horizontal plane there are no problems whatsoever, and the unit behaves as one would reasonably expect from such a design, with a usefully wide and

controlled pattern throughout the range. Even at 16KHz (not shown on the plot to avoid confusion) the horizontal dispersion is a reasonably uniform 98°, which is good at this frequency. I have not had the time to go into the mathematics of the vertical peculiarities, but I suspect that it might well have something to do with the lamp/capacitor network altering the power levels fed to the bottom row of drive units. I can see no other explanation, as relative power levels between units are an important controlling factor in a multiple array such as the Bose design.

Listening to music through the system is a pleasure. The sound quality is crisp and punchy, with a surprising quality at the low frequencies. My listening panel thought the performance very good indeed on music by Queen, Abba, Fleetwood Mac, etc. at an average power input of about 10 watts. Used with a microphone, the performance is particularly clean and full and acoustic feedback does not seem to be a problem — even in a smallish room.

How can I summarise the Bose 802? The manufacturing quality is first rate. The design exercise has been carried through with minute attention to detail, resulting in a product that is totally functional and totally suited to its intended application. The performance is generally good, although I have reservations about its ability to handle low frequency information at high power levels, and am not entirely happy over the vertical dispersion characteristic. It is normal to use the 802 in fours, in two stacks of two, and under these conditions, the low frequency response is considerably enhanced. For long-throw applications, two stacks of four will provide very good coverage of a fairly large auditorium.

The unit must never be used without the associated equalizer, and conversely, the Bose equalizer must never be used with any other type of loudspeaker system. Because of the way the equalizer works, the Bose 802 can only be used to advantage with a power amplifier capable of substantially more output power than is actually needed to drive the loudspeakers and something between 200 and 300 watts per channel would seem to be about right. The Bose 800 power amplifier will deliver about 800 watts into four cabinets. In terms of power input and sound level output, the system is not particularly efficient, but it works — and generally works well. You are not really sacrificing all that much in performance for the obvious advantage of the incredibly small size, light weight and convenience in use afforded by the versatile design. However, a system based on the Bose components will not be cheap.

Ken Dibble

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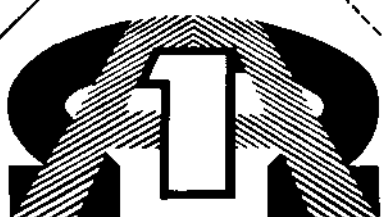
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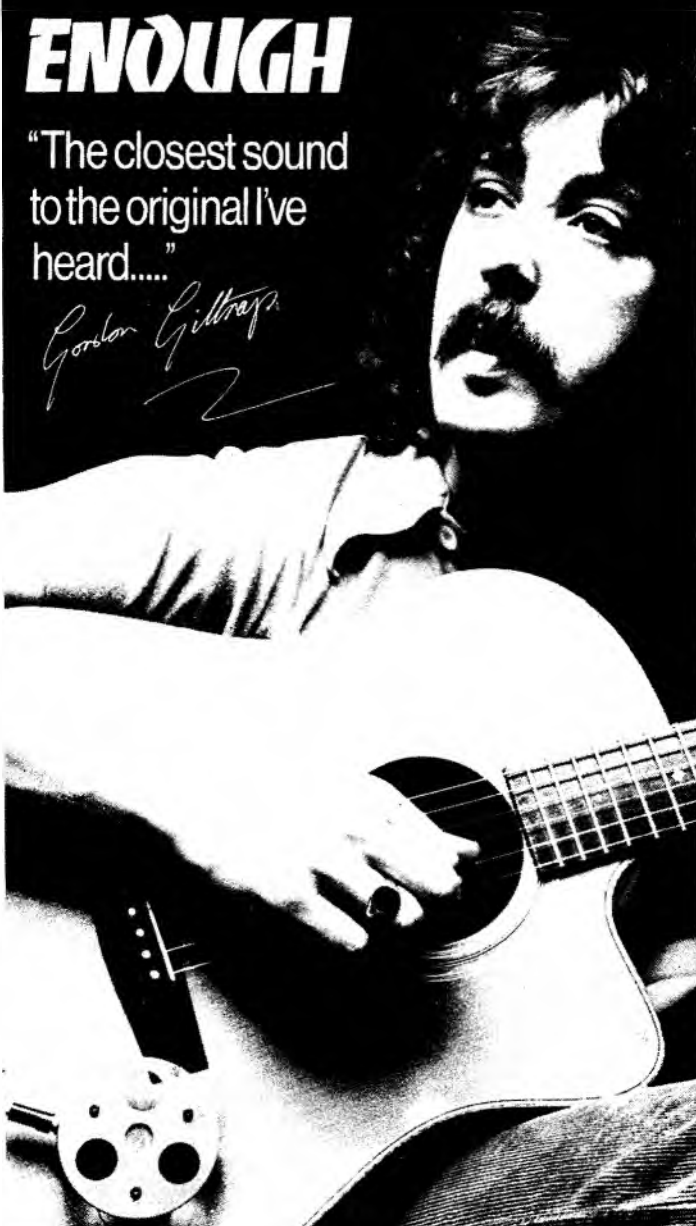
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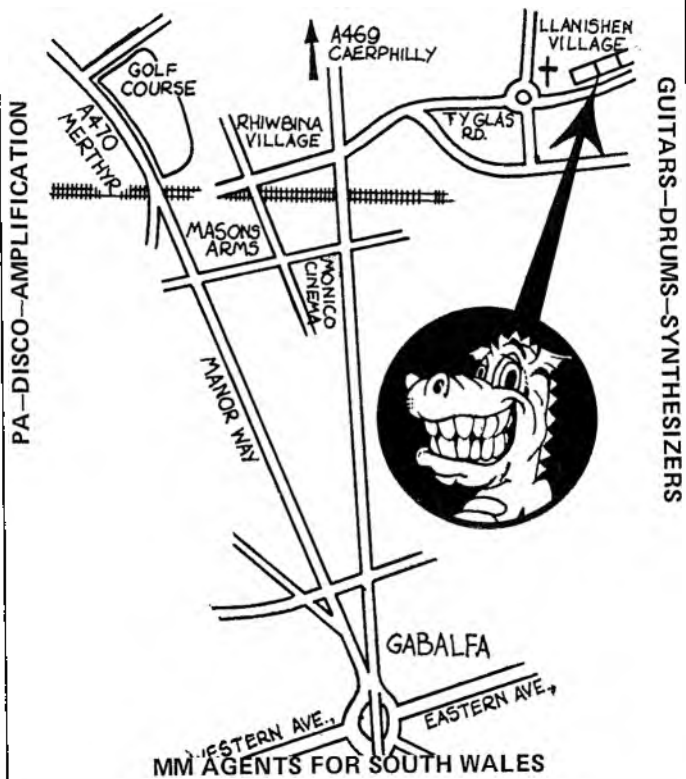


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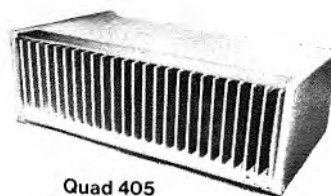


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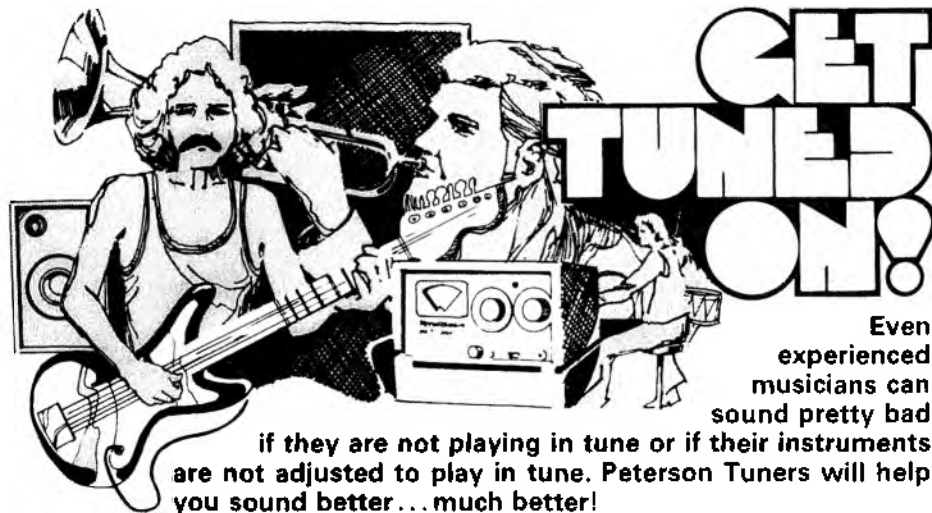
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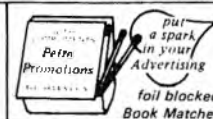
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- Light-weight, contoured body for perfect balance and tireless playing.
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- Fast-action pickup lever switch is positioned for operation during course of picking motion.
- Wide cutaway for easy access to 22nd fret.
- Body finishes available: Natural, Sunburst, Walnut, Black and White.

Neck

- One-piece rock maple construction.
- 25½" scale with 22 frets.
- Available with flat 12" radius fingerboard (Sabre I) or oval 7½" radius fingerboard (Sabre II). Sabre I has jumbo frets, Sabre II has standard frets.
- Rock-hard Melamine nut for long wear and precision notching.
- Patented flat truss rod which allows more strength while providing thin neck size (800/1000ths inches front to back).
- Neck tilt adjustment for adjustable angle without the use of shims.
- Head designed so that strings pull straight across nut.
- Patented Music Man tuning keys (manufactured by H. Schaller). Tapered string post forces strings to lie flat against head for improved tension over nut.

Pickups

- Two humbucking pickups with 12-¼" magnets.
- Narrow pickup design provides increased picking space between pickups.
- The two pickups are each of individual sizes so that magnets are positioned directly beneath each string. There is no volume loss when string is bent away from magnet.
- Pickups are vertically adjustable for perfect tone balance.

Electronics

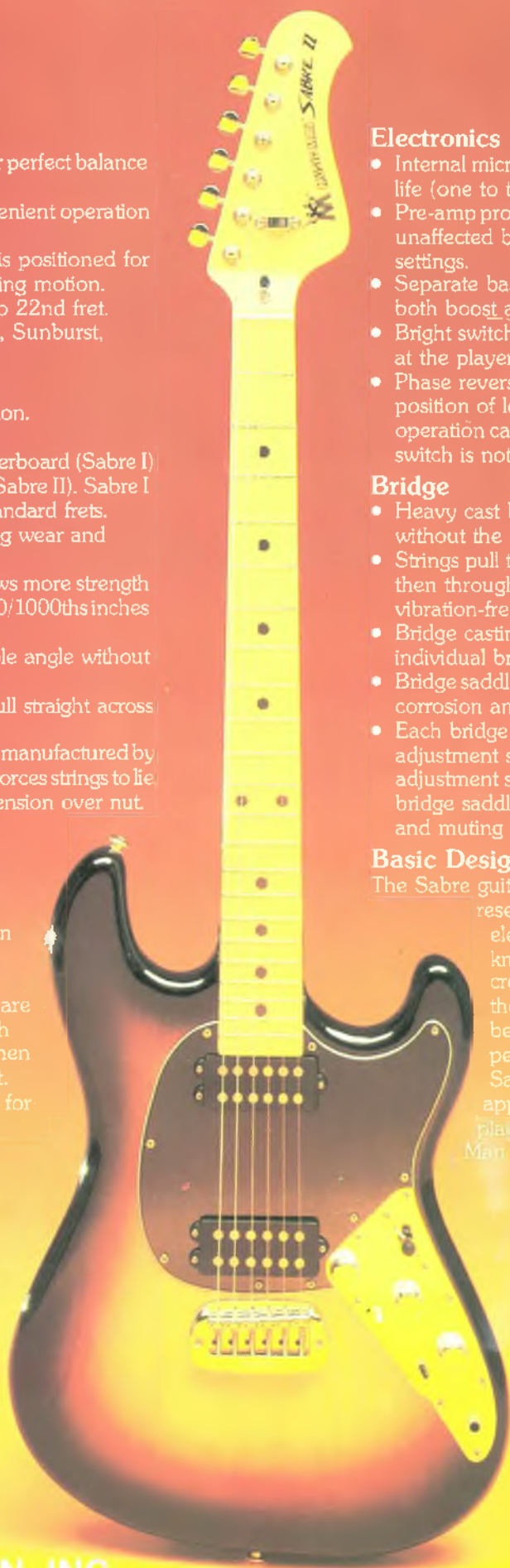
- Internal micro-powered pre-amp for long battery life (one to three years).
- Pre-amp provides low impedance output. Tone is unaffected by long cords or low-volume control settings.
- Separate bass and treble tone controls provide both boost and cut.
- Bright switch conveniently adds additional highs at the player's fingertips.
- Phase reversal switch for pickups works in any position of lever switch. Instant out-of-phase operation can be obtained even though the lever switch is not in the two-pickup position.

Bridge

- Heavy cast bridge provides excellent sustain without the need of a heavy body.
- Strings pull through from inserts in rear of body, then through bridge casting, resulting in rigid, vibration-free assembly.
- Bridge casting provides recessed well for six individual bridge saddles.
- Bridge saddles are made of stainless steel to resist corrosion and ensure long life.
- Each bridge saddle has two vertical height adjustment screws and one horizontal octave adjustment screw. All screws are recessed within bridge saddle avoiding interference with picking and muting styles.

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