

INTERNATIONAL **MUSICIAN** AND RECORDING WORLD


MARCH 1980 / 60p

JOE JACKSON the Man and his Band

WORTH OF EQUIPMENT TO BE WON IN
£10,000
FENDER COMPETITION

Kraftwerk
Daryl Hall
Jack Bruce
Tony Williams
Eight track survey
Guitar Workshop

TESTS ON: Roland Rack part II • JPS 2002 Power slave amp, • Peavey Musician III combo • Fender Lead I • HiPercussion drumcheck • Godwin string synth • Yamaha CP80B Electric Grand • Aria 'Johnny Joyce' 6-string • 15-inch Professional speakers — part II

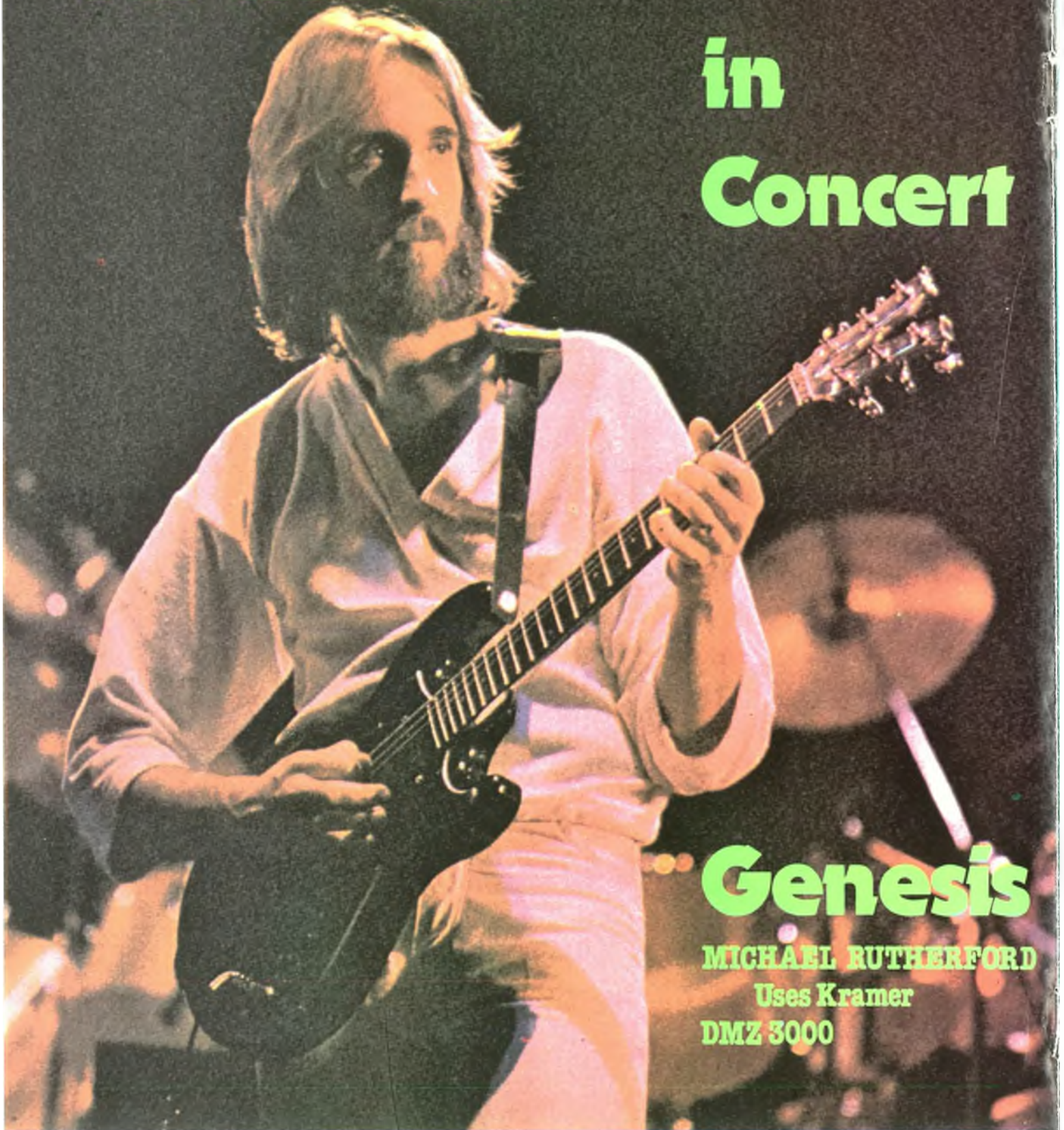


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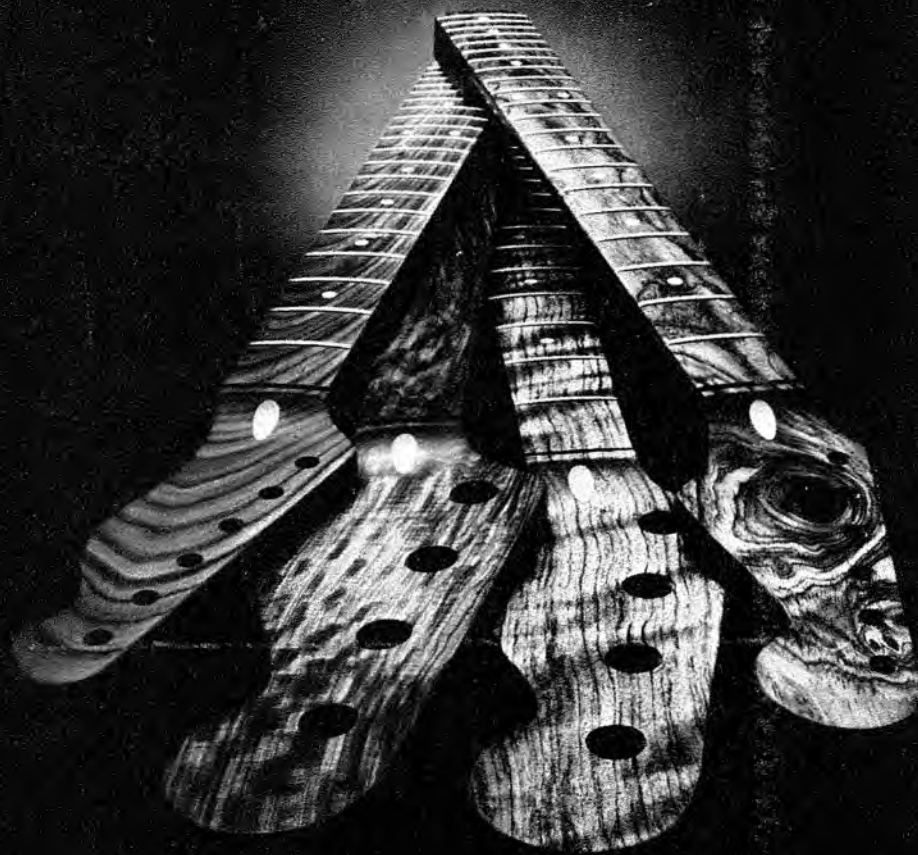
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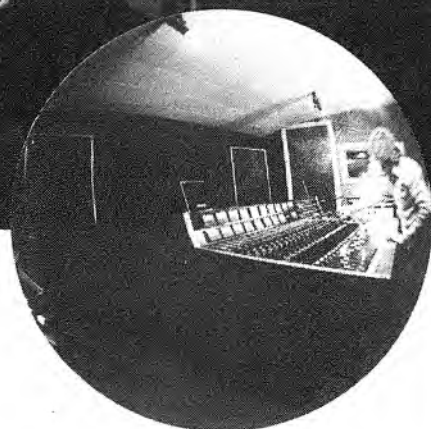
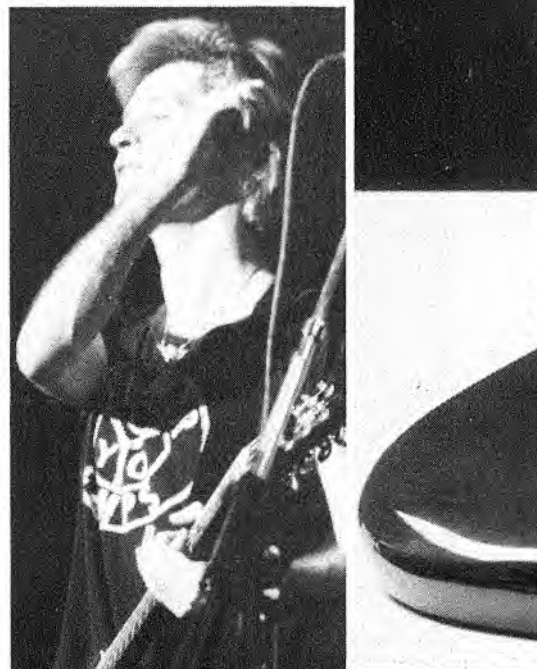
- 32 Daryl Hall**
Steve Brennan speaks to one half of the blue-eyed soul duo from the USA.
- 40 Joe Jackson**
Psst... wanna buy a feature? The Man and his band rap... Barbara Charone listens.
- 82 Kraftwerk**
Wolfgang Bongertz examines the ghosts in the machine.
- 120 Taking Care Of Business**
How to turn a song into a hit. S'easy, really, when you know how. Hitmaker Holmes explains the technique.
- 156 Jack Bruce**
Our editor meets one of Britain's premier bass pilots.
- 161 Johnny Mars**
With the R&B revival upon us we talk to a top harp blower.
- 166 KK Downing**
Wuntoolreeloi — Steve Brennan speaks to the guitarist and founder member of Judas Priest.
- 196 Fender Competition**
Your chance to score points and some big prizes.

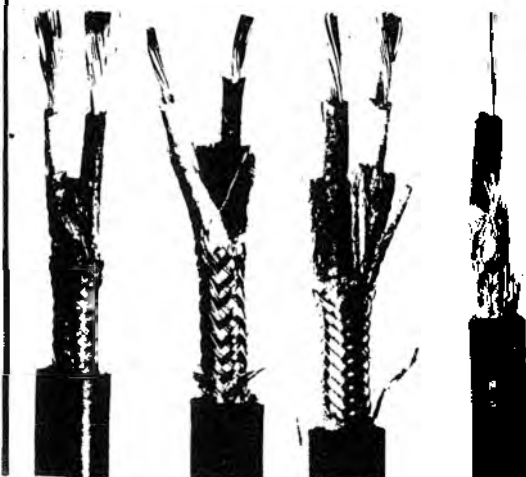
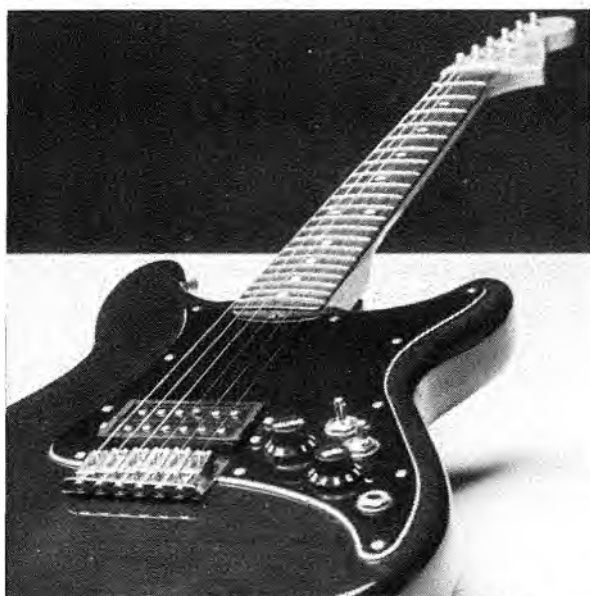
DRUM SECTION

- 49 Drum Page**
News, Letters and Playing.
- 52 Tony Williams**
One of your original fusion drummers outlines his career, technique and philosophy of life, man.
- 58 Drumcheck**
Henry Roberts has a quick thrash on the HiPercussion 69.90.

TEST SECTION

- 90 Guitarcheck**
Fender's new Lead I electric reviewed by our own Stephen Delft.
- 92 Guitarcheck**
Stephen again, on Ario's 'Johnny Joyce' six string.
- 96 Soundcheck**
Mark Sawicki puts the JPS 2002 power slave on the rack.
- 98 Soundcheck**
The Peavey Musician III takes the stage.
- 102 Keyboardcheck**
Tony Hymas kips a Yamaha CP80B electric grand piano.
- 105 Synthcheck**
Mike Beecher takes the stool behind the Godwin String Concert.
- 107 In Brief**
Ken Achard's American guitar history reviewed this month.
- 108 Speakercheck**
Ken Dibble's second part of 15" cone speakers — with a list of the best.





RECORDING WORLD

- 115 Studio Diary**
Our usual round-up with a corner for the latest happenings Stateside.
- 117 Studio of the Month**
Janet Angus takes out her passport to visit Cargo Studios, in sunny Rochdale.
- 126 Recording Synths**
- 129 IMRWs Test Bed Studio**
Keith's problem of how to plan a control room is resolved with a hammer!
- 132 Studio Test**
The second part of Keith Spencer-Allen's struggle with the Roland Rack system. Keith concludes with the Vocoder and Bass pre-amp sections.
- 135 Get On The Eight Track**
Janet Angus starts a series taking a brief survey of Demoland.

REGULAR FEATURES

- 18 Letters**
Comments from 'disgusted' of Rugby and 'entertained' of New Jersey.
- 22 Buzz**
Up-and-coming band the Expressos, Supersempff and additions to our PA Hire Directory.
- 70 Albums**
Hottest this month from Spirogyra, Little Feat, Costello, Donald Byrd and others.
- 138 Guitar Workshop**
Part 3 of Stephen Delf's guide to pickup wiring.
- 142 Microphones**
Part 6 of our series tackles the sneaky world of wiring and connectors.
- 171 New Products**
- 174 Dibble's PA Column**
The dB kid gets his annual fix of his favourite tipple — AC/DC.
- 177 Queries**
- 181 Hi Fi For Musos**
Part 1 of our speaker review.
- 199 Dealer of the Month**
Axe Musco of Colchester.
- 202 Trade News**
- 206 Spotlight on Birmingham**
- 225 Ad Index**

EDITORIAL

Five years ago a new magazine hit the news stands. It promised to be a serious magazine for musicians, specialising in extensive tests of instruments and amplification, and priding itself on keeping musicians informed about what was going on in the business.

No prizes for guessing the name of the mag. Yes, we are five years old this month, so all donations of cake and jelly will be appreciated.

Any of you lucky enough to possess that first ever issue will recall features on Paul McCartney, Carlos Santana and Ritchie Blackmore, who was our cover story. All acts, you will notice, who are still going strong today. But we as a magazine must move with the times, hence this month's cover of a rising new star, Joe Jackson, although we will continue to cover the most established acts.

During the five years of the magazine's existence there has been much gloom and despondency in the world, everything from inflation to recessions. But still rock music manages to survive and generate that extra bit of sparkle and magic in the form of a new band, a particularly stunning gig or a whole new music trend, that makes everything worthwhile.

Stick around with us for another five years and you'll see what we mean.

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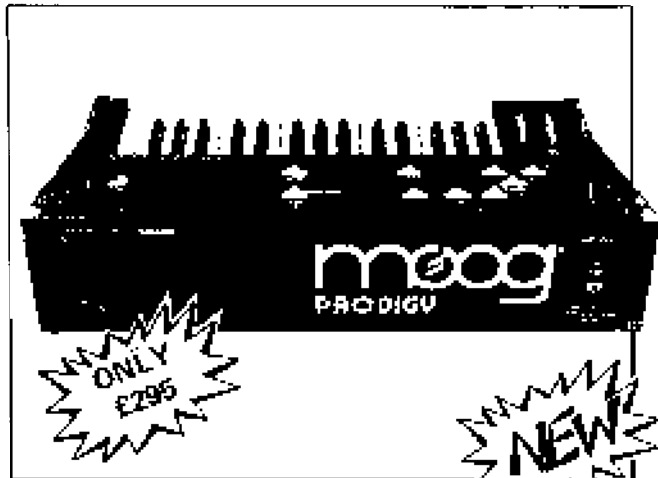
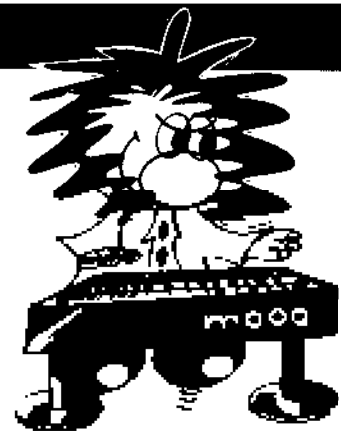
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ABC

MEMBER OF THE ALBUM
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Vol. 6 No. 3
MARCH 1980 (UK)
APRIL 1980 (US)



THE NEW
moog
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'PRODIGY':

Moog's new little baby which is bound to make its big brother (the MiniMoog) shake with fear! This really is an excellent sounding axe with two separate VCO's and a modulation oscillator. Its features include:

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4. VCO2: 16', 8' and 4' ramp, triangle and square waveforms
5. 'Sync' facility: enables voice box effect by splitting harmonic structure of 2 VCO's when in sync.
6. Filter will self-oscillate and track keyboard as VCO with sinewave output.

7. 2 envelopes (attack, decay, sustain only) for VCF and VCA. This enables separate filter 'click'.
8. Lowest-note priority triggering system
9. LFO: Triangle and square waveshapes for variable 'stepping' and vibrato
10. Modulation wheel: Controls amount of variation
11. Pitchbend wheel: up or down approximately a fifth
12. Variable amount of Glide/Portamento

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YAMAHA CS40M: 20 Memories	1350	1150
YAMAHA CS15-D: Preset-type Synth	555	475
YAMAHA CP10: New 61-note Piano	345	299
YAMAHA SK10: Strings, Organ, Brass	—	385
YAMAHA SS30: Symphonic Strings	850	POA
YAMAHA A411SH: Self Powered Bins W/Horn	516	POA
YAMAHA E1010: Analog Delay Echo Unit	385	299
YAMAHA E1005: New Echo Unit	255	225
YAMAHA CP70B: New, Boxed	2950	POA
YAMAHA CP80: New, Boxed	3500	POA

	RRP	Our Price
KORG MS10: 1 VCO Synth	266	225
KORG MS20: 2 VCO Synth	452	385
KORG MS50: Expander Synth	399	339
KORG SQ10: 24-step Sequencer	285	250
KORG Sigma: Preset-type Synth	750	599
KORG Lambda: Multi-Keyboard	—	999
KORG KR55: Amazing New Rhythm Box	—	285
KORG KR33: Budget New Rhythm Box	—	215
KORG SE500: Professional Tape Echo	424	375
KORG SE300: Stage Tape Echo	350	315
KORG SD400: New 'Signal Delay' Echo	—	245
KORG X-911: New Pitch-to-Voltage Guitar Synth	—	325
KORG VC10: Keyboard Vocoder	—	625

	RRP	Our Price
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MOOG MultiMoog: 2 1/2 VCO	799	599
MOOG MiniMoog: 3 VCO	1043	849
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- Variable playback tempo with additional Portamento, if required.
- Remote start facility via foot pedal or the external gate voltage can be triggered by a CR68 or CR78 compurhythm unit: It's much simpler than it sounds!
- The CSQ100 can be left connected even when not in use for normal playing of your synth.
- Ideally suited to Roland SH2, SH1, SH09, SH7 and Promars synthesizers. Why not ring us to see if it will work with your Moog or ARP synth?

ROLAND SH2 SYNTHESIZER: The ideal start to an open-system synthesizer set-up. This synth should really be compared to a 'Mini-Moog' rather than a prodigy, because it has two full oscillators with a sub-oscillator to give that fat 3 VCO sound — but for only £399!

- Fully independent modulator (LFO) with sample and hold *and* variable, automatic delay time for vibrato. This last function above makes Roland Synths, in our opinion, stand out from the crowd.
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- VCO1 features sine wave as well as other standard waveforms, while VCO2 has 'noise'.
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- 'Bender' control can control amount of pitch bend and/or amount of filter change. This 'Bender' control with variable delay time for modulation, is, arguably, a more efficient way of achieving today's synth sounds than any other system on the market.
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SPECIAL PROMOTION PRICES:

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Package Price: SH2 and CSQ100, only	£748	

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PROMARS 8-Memory Synthesizer	1057	799
SH2 2½ VCO Synthesizer	558	399
CSQ100 168-Step Digital Sequencer	478	399
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SPA120 60w Stereo Power Amp	217	185
CR78 Programmable Compurhythm Box	505	449
CR68 Compurhythm Box	340	275
KM60 6 into 2 Stereo Mixer	223	189
RE301 Chorus, Echo and S-on-S	633	499
RE201 Space Echo with Reverb	505	399
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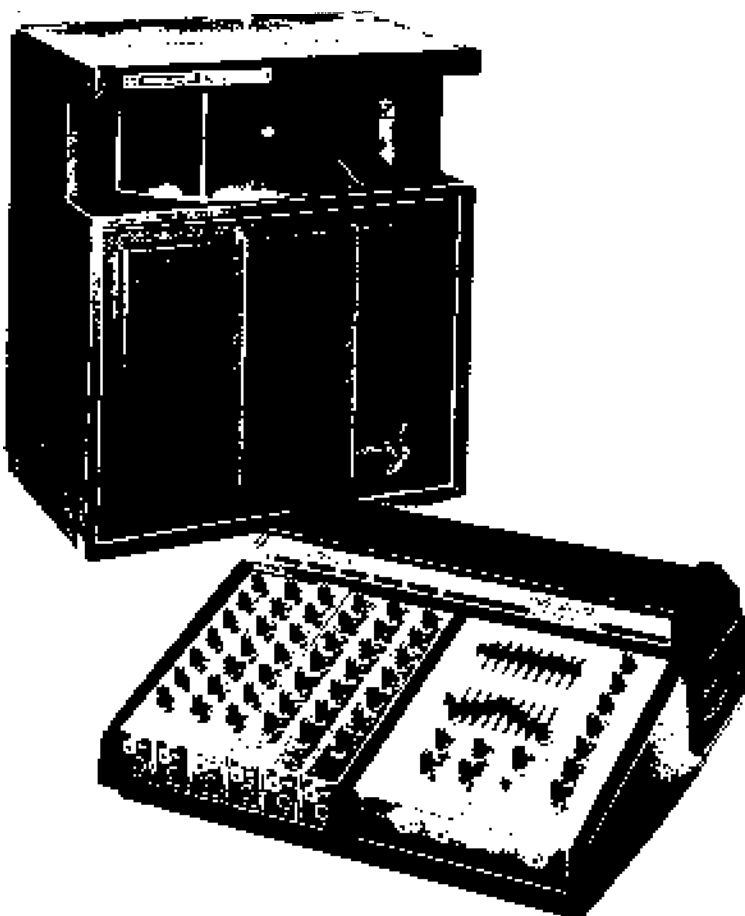
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NEW! MORLEY Bigfoot power amplifier has a big mouth

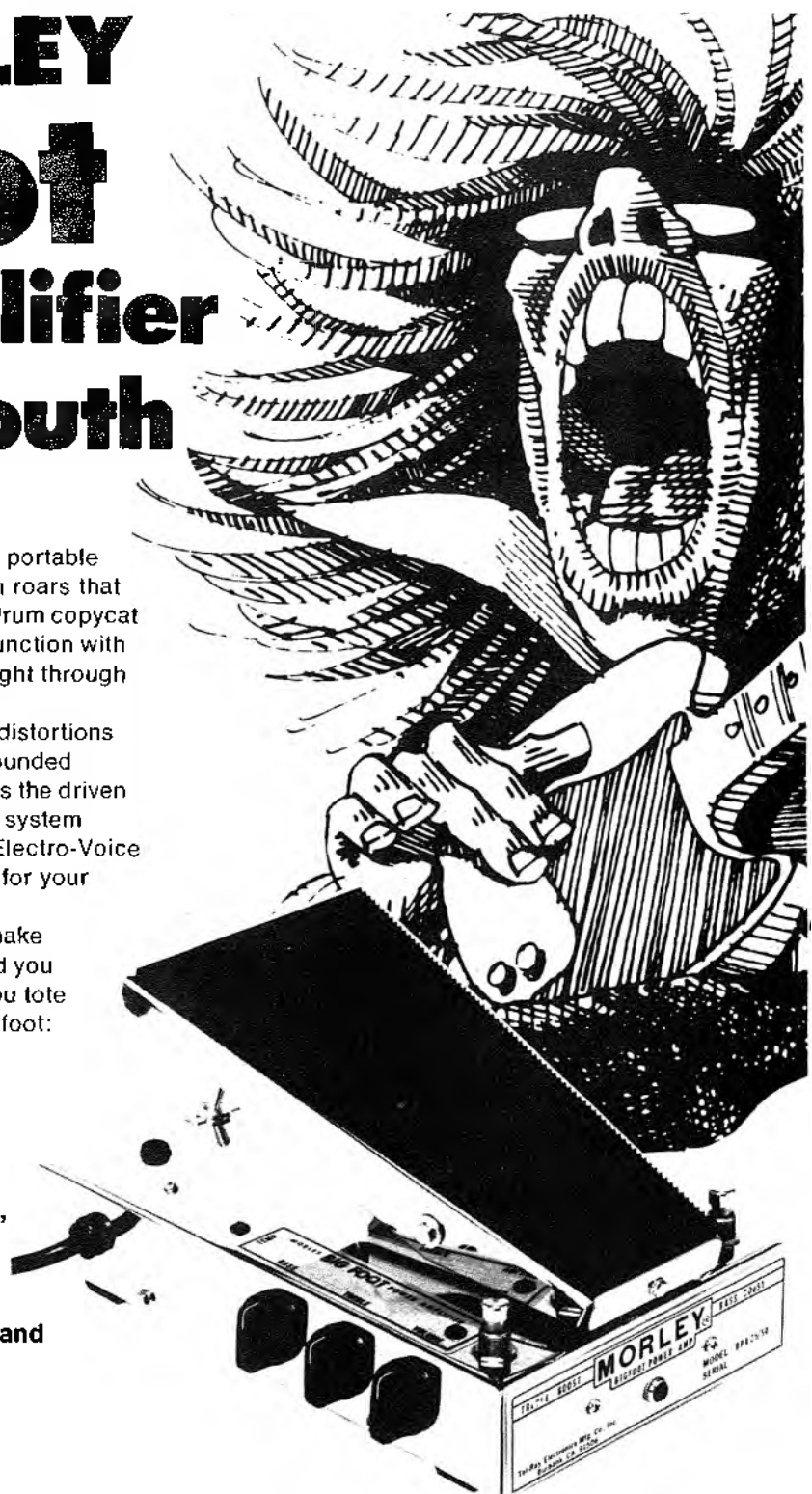
(It's a Volume pedal too!)

This amazingly unique 8 pound, multi-purpose portable amplifier-volume pedal shouts with David-Goliath roars that slam the amplifier industry out of a decade of doldrum copycat products. You use Bigfoot as a solo amp, in conjunction with and to master control other remote amps, or straight through as a volume pedal.

It pays off fast, loud and clear with sounds and distortions that range from the savage, snarling fury of a wounded jungle cat to a sound as clean and pristine pure as the driven snow. Use it with your own choice of any speaker system of 4 ohms or more. A neat option is a choice of Electro-Voice or Eminence speakers or of an empty enclosure for your own speaker.

Quality performance, power, and packaging make Bigfoot ideal for studio sessions and live gigs and you tote it into a club or outdoor arena as easily as you tote your cigarettes. Here's more that's new with Bigfoot:

- 25 watts rms sinewave continuous superclean output or 50 watts of square wave, impact power.
- Photoelectric Volume pedal controls volume of the amplifier.
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- Output jack for driving external amps or direct recording.
- Volume, treble, bass controls plus treble and bass boost footswitches.
- Tube type sound, clear sound, soft distortion, hard fuzz.
- Short circuit protection.
- Overload indicator lamp.



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no pots, gears, or batteries.*

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U.K. 3

THE *Wal* PRO BASS



“Together we will
make fine music”

PERCY JONES

When some of the finest musicians in the business use your guitars,
you know that you have got it right!

The WAL Pro Bass was developed at Electric Wood with help from some of the
finest bass players around. From the beginning our aim was to produce the ultimate
instrument, an instrument in fact that professional bass players would be proud to
own. To achieve this we worked in close relationship with esteemed musicians such
as Percy Jones, John Entwistle, John Perry and John Gustafson whose combined
experience helped so much in the development of many of the special features on the
WAL Pro Bass.

We believe that the WAL Pro Bass is unique in the true sense of the word and one
of the finest instruments available.

For full information on the WAL Pro Bass write to the sole UK distributors of WAL Guitars,
Wholesale Division, 652 Chester Road,
Barratts of Manchester Ltd., Old Trafford, Manchester M16 0RX England

Circle 825 on Reader Service Card

"...it's got to be about the best tranny amp I've ever heard-damn it, it's got to be one of the best amps I've heard, tranny or not!"

Gary Cooper on the L7 100W combo, Music World, Dec/Jan 79/80.

When we introduced Lab Series amps, we knew that people were going to be impressed. What has surprised us though is just how many people, from critics to the fussiest professionals, have been quite unreserved in their praise for Lab Series:

Alan Holdsworth:

“My curiosity about amplifiers is unlimited. Having tried Lab Series, I now use a pair of L5 combos as part of my stage set-up; they're DEMONS! They deliver a really good clean sound and the tone controls are very flexible. They can also handle a very strong single note sound, which in the past I've found to be very elusive.”



Bernie Marsden, Whitesnake:

“I've had transistor amps before, but I'd never thought of using one on stage until Lab Series came along. I must admit I was really surprised; they changed my preconceived idea of a transistor amp. What's different about them is that all those controls – every one of them actually does something. Most amps you see have got seven or eight knobs, but the only ones that actually work are volume and treble. But with these, the frequency, midrange, multifilter – they're a piece of work really!

I've already used them on certain types of gigs, and in the studio they're very good.

The only trouble with the ones I've got is that they're a bit loud. On stage they were unbelievable – I hit a chord and the whole stage shook! Everybody went – what? Even during the gig when everything was miked up and raging away, when I hit a low E chord I could feel it through my feet – I mean it was that big. They're very powerful amps. There's no doubt about that. Another thing is that the spectrum of sound is much bigger. A lot of players, you could blindfold them, plug them in and say what's that you're playing and they could tell what make it was straight away, but with Lab you could fool most of the people all of the time – really – 'cos they're that good. When you get a formula, once you've hit it, I don't think you'd ever use anything else.

They're also very durable – which is nice, and the fan of course is great. When the drummer's doing a solo, you can go behind the stack and cool off!”

What other people say about Lab Series is all very well, but don't take their word for it, or ours. Try Lab Series for yourself. At the end of the day, sound is all that matters.

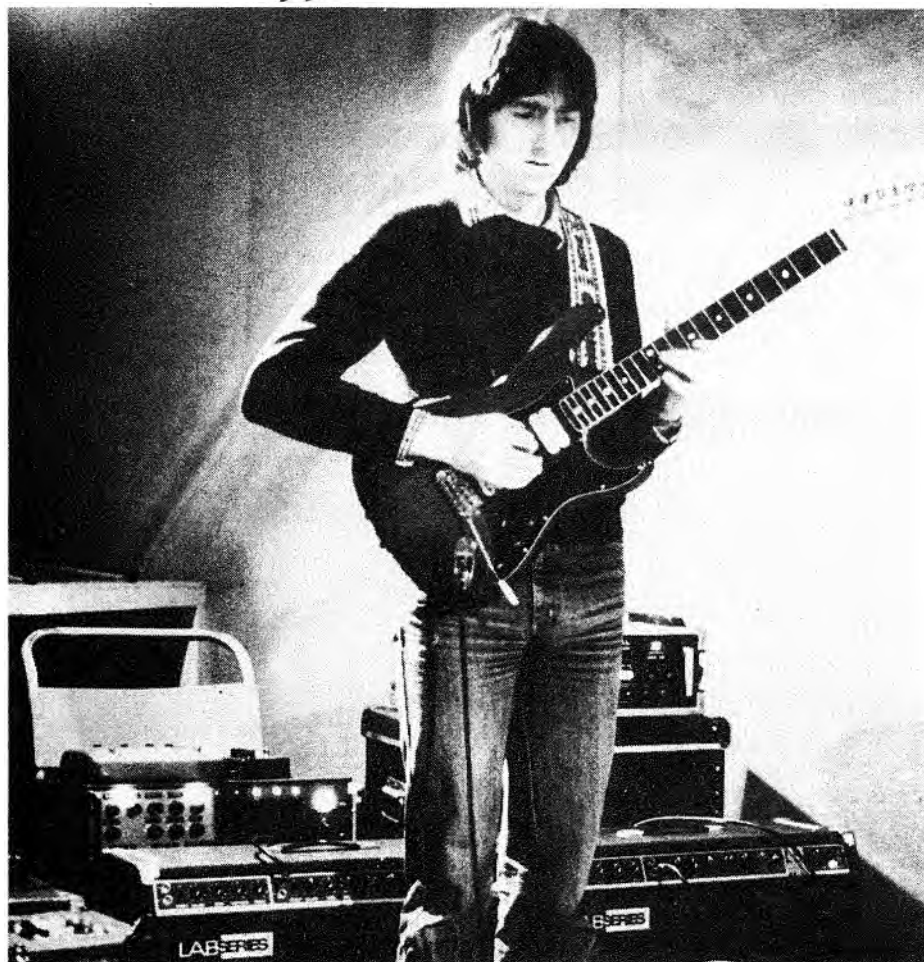
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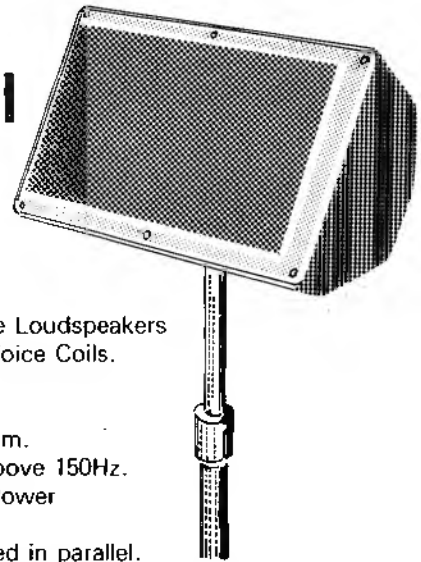
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Let a HOT SPOT keep your vocals together.

More volume up close with compact, professional HOT SPOT[™] stage monitor



SPECIFICATION

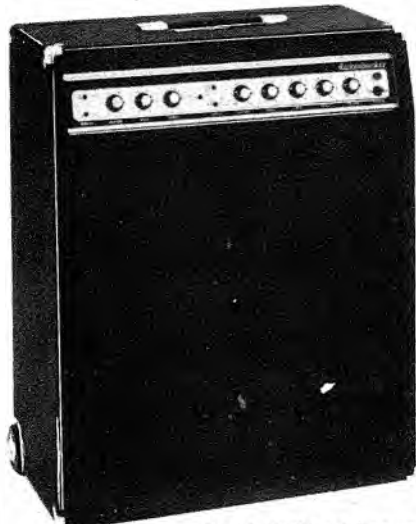
SPEAKER COMPLEMENT	Two GALAXY AUDIO 5" Full Range Loudspeakers with High-Temperature Aluminum Voice Coils.
MAGNET STRUCTURE WEIGHT	2½ pound (1.1 kg) per 5" speaker.
MAGNET WEIGHT	1 pound (.45 kg) per 5" speaker.
SYSTEM IMPEDANCE	16 Ohms Nominal; 15 Ohms Minimum.
POWER HANDLING CAPACITY	100 Watts Continuous Pink Noise above 150Hz.
SENSITIVITY*	101 db @ 3 feet with 1 watt Input Power
FREQUENCY RESPONSE	100Hz - 15kHz - 6db.
INPUT CONNECTION	Two Standard ¼" Phone Plugs wired in parallel.
ENCLOSURE TYPE	Acoustic Suspension. Constructed of ¼" thick High-Impact ABS Plastic.
FINISH	Black pebble with white bezel and charcoal grille.
DIMENSIONS	6¾" H 10 ^{15/16} " W x 6" D. (17.1 cm x 27.8 cm x 15.2 cm)
WEIGHT	8 pounds (3.6 kg).
RETAIL PRICE	£69.50 inc. VAT.

Sole U.K. Distribution: Wing Amplification Ltd., 15/15a London Rd., Bromley, Kent. Tel: 01-464 3190

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TR50B 50W Bass Combo, solid state. Single 15" extra heavy duty speaker. Dual channel stereo capabilities.



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TR25 True tube sound with the advantage of solid state. Individual wide range tone controls, tremelo, reverb, echo effect and variable distortion are all standard. Specially designed 12" speaker.



£154.38 (inc vat)

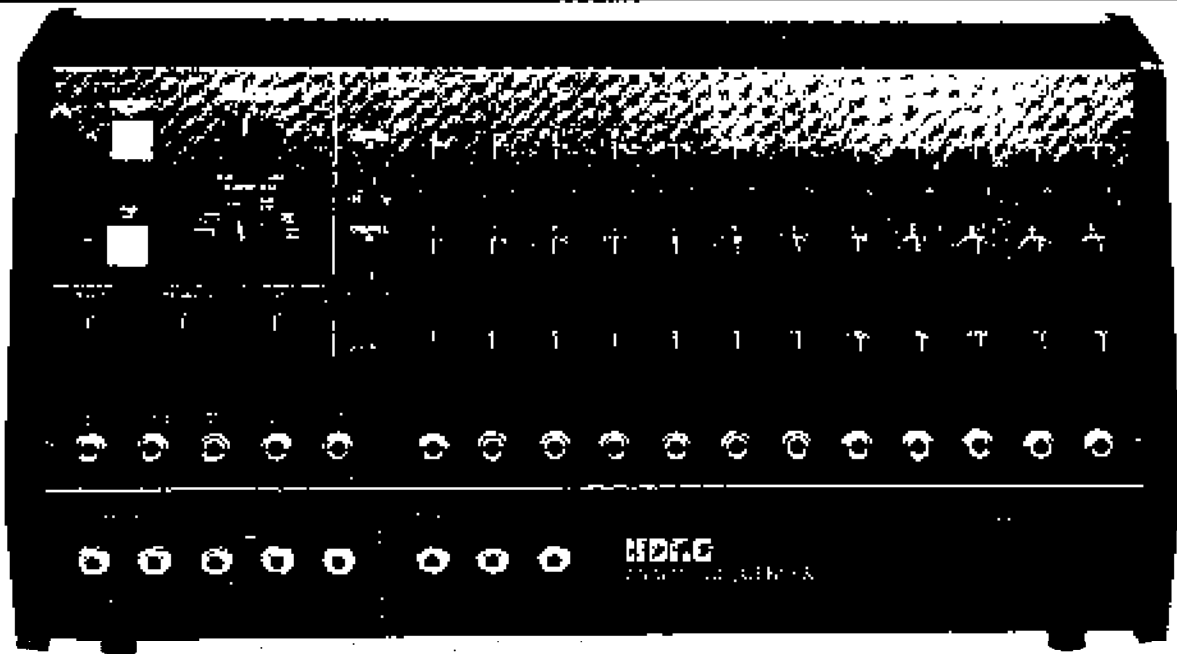
TR75GT Never have 75 watts looked or sounded so good. This versatile unit includes two 12" extra heavy duty speakers. Wide range tone controls plus presence, reverb and distortion. JBL speakers optional.



£279.38 (inc vat)

Here are just a few of the items in the comprehensive range that we are introducing to the U.K. Apart from a wide selection of combos the range also includes amp heads, cabs and P.A. systems. Write or phone for further details.

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The SQ10 Analogue Sequencer. You can bank on it.

An amazingly capable analog sequencer for automatic variable control of pitch, tone colour, timing etc. in a maximum 24 step/24 note sequence. Even use it as a memory bank to preset 12 different tone colours for instant recall whilst playing your synth! The SQ10 gives you more freedom, more control, more music, but at a much lower price than you would expect.

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- * **Linear exponential clock inputs.**
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- * **Voltage controlled clock.**
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The SQ10, used in conjunction with a Korg MS10 Monophonic synth, represents the unique combination of extended sound and music facility with an astonishing bargain price.



Try the SQ10 with the Korg MS20 Monophonic synth. The MS20 is probably the most advanced, most versatile synth in the world, yet it is still far cheaper than its nearest competitor.

Please send me more information about Korg synthesizers.

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Marshall Rose-Morris *Marshall*



STACKS OF POWER

Marshall is still Number One!

British rock music dominates the world scene, and it's no surprise that the Marshall stack, originally exclusive to rock's elite, is now the first choice of musicians in the USA, and Japan, as well as Europe and the UK.

If you've never played a Marshall stack you're missing out on one of music's great and lasting thrills.

Stacks of Power: that says it all!

Marshall now produce a range of 7 valve heads:

- 1959 100W Super Lead
- 1987 50W Super Lead
- 2203 100W Master Volume
- 2204 50W Master Volume
- 1992 100W Super Bass
- 1986 50W Super Bass
- 2959 100W Reverb and Boost

4 x 12 cabinets are available in 4 different specifications, all fitted with Celestion speakers developed specially for Marshall.

- 1960 and 1960B 100W Lead/Keyboards
- 1935 and 1935B 100W Bass/Keyboards
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Rose-Morris

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Marshall Rose-Morris *Marshall*

ROCK'N'ROLL COMBOS



The Marshall 2150 Combo

Rock guitarists the world over have long searched for the last word in reliability and sound in a compact and easily manageable package. The Marshall 2150 is the answer. Built to Marshall's exacting high standards, the Rock 'n' Roll baby has an all valve amp section, producing an astounding 100W of pure power through a specially designed 12" (30.48 cm) Celestion speaker. Two channels, each with two inputs, facilitate cross linking for a really deep sound, and the master volume control enables the musician to utilise the incredible sound of the 2150 in both small and large gig conditions.

The Marshall 2144 & 2299 Combos

Two further adaptations of the Combos range are the 2144 & 2299 versions. Both providing top performance and the reproduction associated with Marshall amps. The 2144 incorporates 2 new features. The first enables a wide range of clean reverberation from the Hammond reverb circuit, and the second is the facility to allow preset at 2 levels—before and after distortion, with the new boost circuit. The 2144 operates on 120-240 volts AC and drives external speaker



2299



2144

configurations of 4 or 8 ohms impedance, both reverb and boost are controlled from twin foot switch. For ease of handling and setting up it comes mounted on 4 skids and a carrying handle. The 2299 is a superb amp giving a wide range and versatility—ideal for club and group work. The Hammond reverb circuit is controlled from a front panel. The whole unit operates on 240 volts AC.

Rose-Morris Applause Rose-Morris

If you know a good guitar when you see one,



AA 14-4

you deserve Applause.

And if you're looking for a good guitar, you'll want to know all about the Applause range.

Applause guitars, made in America by Kaman, are the end product of painstaking research. Research that developed the Applause roundback bowl. Made of hard, smooth Lyramold, the bowl's rounded shape projects all the sound outwards, so every note resonates with crystal clarity from the laminated spruce top.

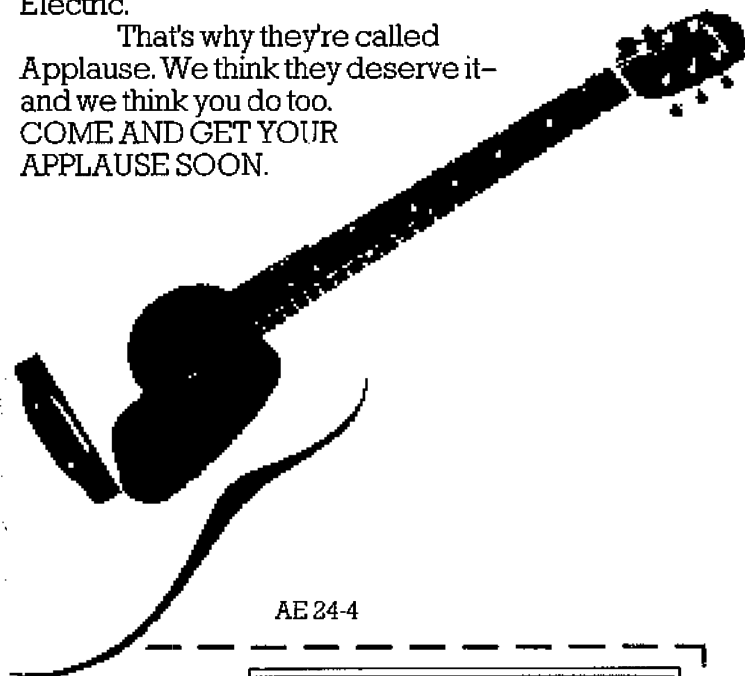
A body like that deserves a very special neck, so Applause set to work and came up with the die-cast aluminium neck. It incorporates fingerboard, frets, peghead and support brace in one precision made assembly. The frame is then bound in a special high-density Urelite which feels and plays like wood but can never move or warp. And the extra core inside the neck means that your Applause guitar can take a lot of travelling and still stay warp free, with the same smooth, accurate action as the day you bought it.

If you need an acoustic sound with a higher volume, there are Applause guitars with a built-in transducer. Beneath the bridge is a special cross-brace of solid spruce

with the patented Kartrion transducer that captures the complete range of the guitars sound. And there's a standard 1/4" jack mounted in the bowl for extra convenience—just plug in and play!

Best of all, Applause guitars are astonishing good value. Prices range from £129.95 for the Acoustic to £175.00 for the Acoustic/Electric.

That's why they're called Applause. We think they deserve it—and we think you do too.
COME AND GET YOUR APPLAUSE SOON.



AE 24-4

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IM3

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Applause

**Judged
against
competitors
the 8-track
Otaris make
the rest
seem toys.**



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MX5050-8 Half inch £2490

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Designing a studio

Dear Sir: I am a first-year architect student of Newcastle University, and our design project at the moment is a studio to be built onto a house. Being a musician (of sorts), I chose a recording studio.

Unfortunately, I know very little of what is required, in terms of equipment and dimensions of equipment, to set up an eight-track studio. I would be very glad if you could help me.

Duncan Sanderson
Newcastle-u-Tyne

Keith Spencer-Allen replies: Your requirements are a little tricky to be precise about, as studio's tend to reflect the use they are to be put to as well as the personality and financial status of the owner or user. Requirements for music differ from drama, classical music from rock which is different to jazz and so on.

So what I have assumed is that you are talking about an eight-track studio for group work — probably containing no more than six musicians recording or overdubbing at any one time, recording principally rock music rather than classical.

The Control Room would usually contain the following items:

1. **The Mixing Console** — the heart of the studio and its positioning is critical and should be decided before any other interior design consideration. Dimensions vary between manufacturers but I would envisage a 24 in/18 out desk to the largest in an average studio (8-track) and the dimension of a desk like this would be unlikely to exceed 6ft width by 3ft depth by 3ft maximum height. The principle positioning requirements are visual (musicians and other equipment) and the sound (positioning in relation to monitor speakers).

2. **The Eight-Track Recorder** — If the studio is a one-man operation, then the recorder should be near the operator and certainly in easy visual range. The largest currently available eight-track machine will not exceed 3ft width by 2ft 6 inches depth but height may vary from 3ft to 5ft for console mounted machines.

3. **Monitors** — The speakers should be positioned at a distance apart from each other that is slightly greater than the distance between the speakers and the operator sitting at the desk. They should of course be in front of the operator when using the console. Dimensions vary considerably and the current fashion for building them into the wall largely

removes them as a space problem but the average dimensions are 3ft x 2ft x 18 inches.

4. **The Stereo Machine** — This unit is generally small and will be about 2ft x 2ft x maximum height 3ft if floor standing. Often small machines are used that can be rack-mounted on top of other machines.

5. **The Rest** — Other equipment will vary considerably and includes power amplifiers, effects units, foldback amplifiers, noise reduction, and echo units. The number of such units a studio would have varies but they are usually mounted in a 19-inch rack and the overall dimensions of a rack like this would be 23 inches x 6ft maximum x 18 inches deep. It would be quite common for a studio to have maybe two racks like this and one of them would have to be near the desk.

This more or less includes all the basic requirements for a studio control room. The musician's area has few equipment requirements but probably needs a separation booth for recording quieter instruments at the same time as louder music but there are no dimension requirements.



Nauseating Ramones

Dear Sir: I have just read the interview in your January issue of *International*

Musician with the Ramones. I have never read a more biased piece of journalism in my life. I presume that the interviewer must be as nauseating a person as the Ramones themselves; who is he? Their press agent? The interviewer was disrespectful, thoroughly in favour of the Ramones and to have the cheek to say they "created" the Sex Pistols! I'm no punk, being more into Hackett, Oldfield and various areas of classical music, but I'm not standing for this. The Pistols will be remembered long after the Ramones go bald. Why is he so biased? It's just incredible. Keep rubbish like this out of an otherwise reasonable publication and give room to people who need it!

Robert James Pitcher
Rugby
Warwicks

Entertaining Ramones

Dear Sir: I didn't have no idear that yuz guyz over at IM&RW wuz tinkin a puttin a comidy part in yur mag. Gud laff. I tink an attitude put on by da Ramones is dat inerview putz some perspective on dis hole muzic biznis — an dat everibodi shouldn't take 'emselves so seriously. I specially liked Dee Dee (uz bassists always know how to put things) but he can stick what he sayz 'bout Ricks.

John D Gibbson
Orange, New Jersey

Banking on books?

Dear Sir: I read the magazine for the excellent interviews (like the recent Stanley Clarke one), equipment and instrument reviews, and technical/business articles, e.g. Stephen Delft's construction/maintenance pieces and the excellent *Taking Care of Business*.

What about as 'annual' featuring day the complete series *How to Make a Solid Guitar* by Mr Delft, ditto *Taking Care of Business* and Ken Dibble's *Speakerchecks* to date? Even if you clip and file articles for future reference, loose leaves are a hassle. A compilation of this type would be a must for me, and therefore many others.

Chris Hartgroves,
Wallington,
Surrey.

Thanks for your suggestions. These features are certainly popular and we take your point about the series. Keep your fingers crossed.



Chet Atkins Student

Dear Sir: I would like to congratulate you on maintaining an excellent standard in your magazine, which covers every aspect of the music scene. The article on Chet Atkins, as interviewed by Tim Fleming, must be the most informative article on Chet and his playing style. I have been a fan of Chet for the past 22 years. I have tried over the years to master Chet's technique without complete success, so would be pleased to know whether Tim Fleming conducts postal courses on the Chet Atkins method.

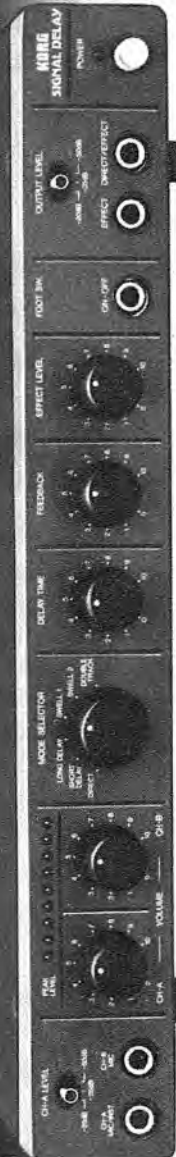
J. B. Harper
Llandudno
Wales

Tim Fleming has cassette or reel-to-reel tape courses available on Jerry Reed or Chet Atkins-style guitar playing (working with transcriptions of many of their tunes). This includes material on arranging and improvisation. For complete details write to Mr Fleming at 48 Hennall Street, Epping, Essex, England.

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



SD-200 SIGNAL DELAY



SD-400 SIGNAL DELAY

The KORG new Signal Delay model SD-400 and SD-200 are coming your way soon. And now they're bringing you a natural sounding echo effect to electric guitar and keyboard, with signal delay.

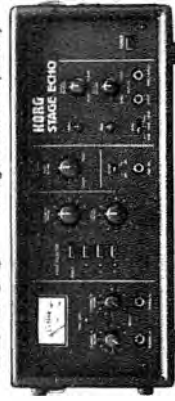
The SD-400/200 features BBD (bucket brigade) circuitry basically, these delay units give versatile echo effects. Undistorted noise-free sound quality is maintained by compander noise rejection and wide dynamic range amp design with input level LED peak indication. The SD-400 offers spectacular "swell" and "double track" effects. So while you're thinking about what you want, see and try it at your local dealers.

KORG

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GERMANY G. MEYER KG., P.O.Box 1729, 3550 Marburg 1
HOLLAND MILESTONE B.V. Energieweg 36, Vlaardingen
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To be able to try a range of mikes and effects in quick succession, through an enormous variety of mixers and amplifiers.

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We are quite close to Romford station (turn right, turn left) and parking is easy. Our showroom is open 9.30am to 6.00pm except Thursday.

If you haven't got our latest 1979 catalogue, just return the coupon with a large 12½p SAE or 2 international reply coupons.

If you care about sound...

soundwave

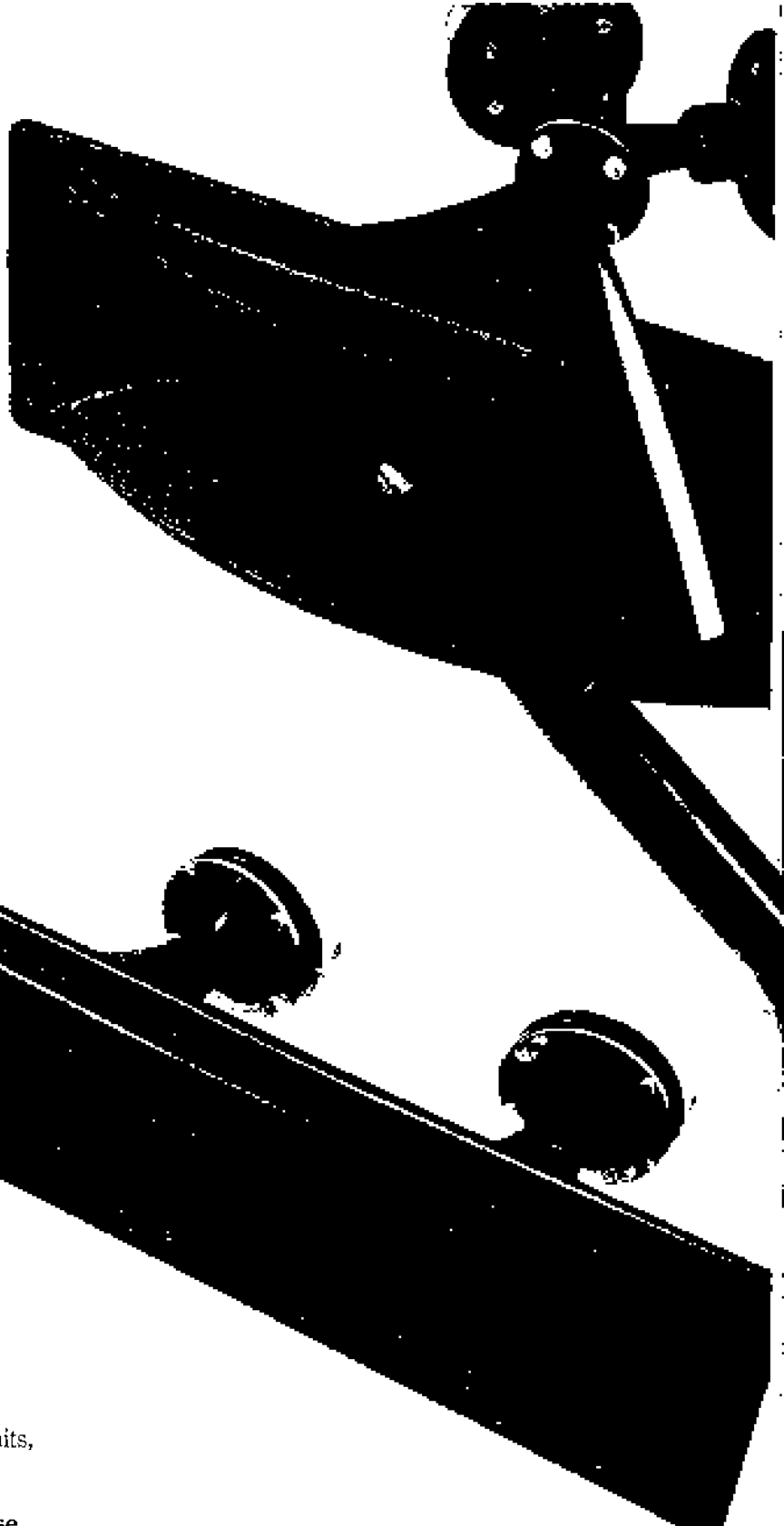
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Celestion Horns give your systems ahead start



Celestion Horns are top quality, precision manufactured loudspeakers. They offer reliable backing for heavy duty systems, especially those using Celestion cone speakers, and give maximum performance for prolonged periods without deterioration.

MH1000

A 25 watts horn with a great reputation reflected in its use in a variety of equipment around the world.

Hi Cel.

Is a variation on the MH1000 theme, using two of those units on a specially designed casting, giving a 50 watts system handling capacity.

MH500

This cast horn is available with single or twin throats, accepting Celestion DC25, DC50 and DC100 drive units. Using the twin throat with two DC100 units, a power handling capacity of 200 watts is available.

Principal distributors to the trade:

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Celestion



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Suffolk IP3 8JP, England.
Tel: Ipswich (0473) 73131.
Cables: Voicecoil Ipswich. Telex: 98365.



Supersempfft

What do German bands conjure up in your mind? Krauts thrashing in three-chord overdrive? Obscure Bavarian choirs? Ageing maestros from serious musical academies doing *Sturm und Drang* solo synth albums? Well, here's a band who have brought a breath of new, fresh air to the synth scene — Supersempfft.

Supersempfft are two electronic experts, Franz Knüttel and Dieter Kolb, who have developed a new automatic percussion synthesizer named *Roboterwerke*. These unique items they have developed have now been put into series-production and are being marketed through Kolb Co,

Poststr 25, 6480 Wächtersbach, W. Germany.

The results of many months of development and recording have resulted in a studio album named *Roboterwerke* which combines a cartoon lyric concept on the cover with an equally humorous musical content making extensive uses of sequencers and vocoders. However, the title has not yet been released in the UK as CBS (Germany) seem to work on a different schedule to the UK branch. Perhaps someone from CBS will read this and get around to arranging a tour of England. Let's hope so!

Stolen Instruments

Birmingham band Section Five were just getting themselves together and had started playing local gigs when a thief broke into the flat where they were storing their gear. The thief got away with the following: a Rickenbacker 4001 stereo serial no. 3643 — black with white scratchplate — in a Spalding Russel case; Marshall Supabass MkII 100 watt with rubber feet and upside down non-standard switches; a Laney 100 watt 6-channel Super PA valve amp — white from in a tatty cover. The amp is in good overall condition. They also lost a 4 x 12 Celestion (staggered) column. A homebuilt cabinet with a beige front and a black rectangle near the top. It may still have 'KATZIZE' stencilled on the sides or back. Finally, they lost a light blue suitcase which contains Pearl drum fittings — stands, stool etc.

So, if anybody knows anything give Mark Gensberg a ring on (021) 350 6132, or get in touch with Dave Bryce of the Smethwick CID on (021) 558 3961.

Pyrotechnics?

Attention! If you require any advice on flashes, smoke, bangs etc. Ring Gus Williams, Watford 41956. He is an expert and will sell anything you need (subject to police licenses etc.) and advise you how to use these devices safely.

Instrument Clinic

There will be (April 8-11th) a clinic for all jazz instruments at Rutherford School, Penfold Street, London NW1.

This will be a concentrated four-day session of practical playing with individual/group tuition with special emphasis on technique (sound, intonation, etc) and development of playing within various chord progressions (modal/standard) chord substitution, etc.

The tutors will be Bobby Wellins/Claf Vas (saxes, flutes); Dave Cliff (guitar); Geoff Castle (keyboards); Peter Ind (bass/bass guitar); Roger Sellers (drums) and Eddie Harvey (Organising Tutor (brass)).

Fees will be £30 (over 21) and £25 for under 21's. These fees include midday meals and am/pm coffee. The number of places (per instrument) are restricted to eight. This will mean a maximum of individual attention and will offer both tutor and student the opportunity to establish a more personal relationship — thereby enabling them to come to grips more effectively, with particular problems.

The clinic provides a unique opportunity for an intensive tuition/practice/improvisation period under the guidance of professional jazz musicians so apply early! For application send SAE to Education Officer, JCS, 35 Great Russell St, WC1. Tel: (01) 580 8532.



The Expressos

The Expressos are a dance band in the finest tradition. Fronted by female singer Ros Rayner, the five strong band blend the best of vintage pop with explosive energy. Ms. Rayner has a delightful, engaging stage presence and an even better voice. Original songs like "Three R's," "Crazy Sneakers" and "Promises

and Ties" are all winners. They even do a frenetic cover of "19th Nervous Breakdown." Soon you'll be able to buy their records but for the present you'll have to treat yourself to a live show at local clubs. The Expressos are guaranteed to put a smile on your face and some life in your feet. Get dancin'!

Hire guide extra

Incredible as it may seem, we actually managed to miss a few people out of our hire guide in January's IMRW.

ML Executives

Based at Shepperton Studios, ML Executives is the company set up by the Who and their crew. If ML are doing a gig you can't mistake their distinctively coloured artics.

Their PA systems are all Martin/JBL or Gauss run five way and driven by Amcron DC 300 amps. A 32-channel Neve desk holds pride of place but they also use Midas Mavis and Soundcraft consoles. Their rigs extend from a 4K pub/club system to the 20K Who set-up.

The company also offer lighting systems as a total package through a link with Showlites, and hire out any kind of gear from a wahwah to an EMS Vocoder.

Entec

Another Shepperton-based hire firm, whose information on power should have read, "1K up to unlimited, lighting to 400Kw". Entec offer extensive lighting facilities which is as important as the PA hire operations.

The PA Company

It should be noted that the entry in the IMRW PA Hire Directory for 'The PA Hire Company' (see IMRW January '80) needs clarification. The entry should have read 'The PA Company' not 'The PA Hire Company'. The PA Hire Company are a completely separate organisation and 'The PA Company' have asked us to make clear that they are in no way connected. We apologise for any embarrassment this may have caused either company.



Stan Duer of Dynacord Beyer, David Lawrenson, I.M. Editor; Lester Cowley, competition winner, Malcolm Green, I.M. Director, Ray Haynes of R.S.D.

PA Competition Winner

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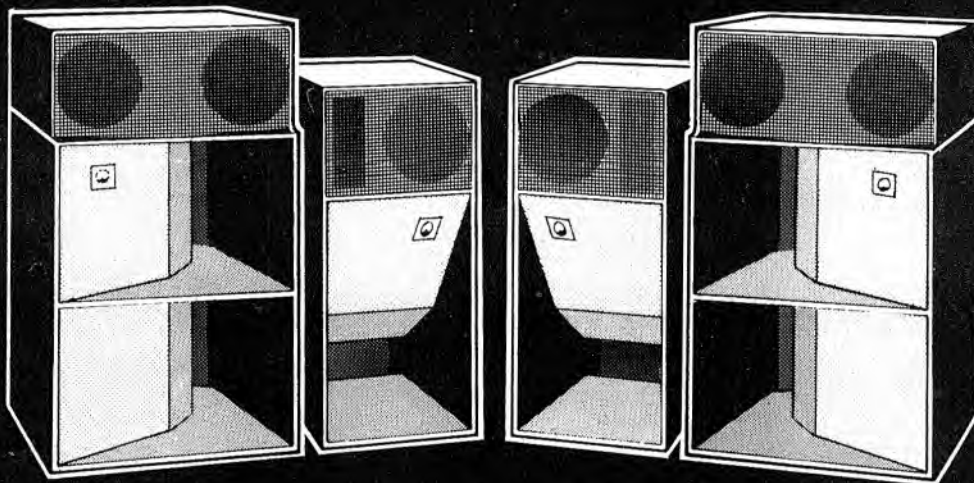
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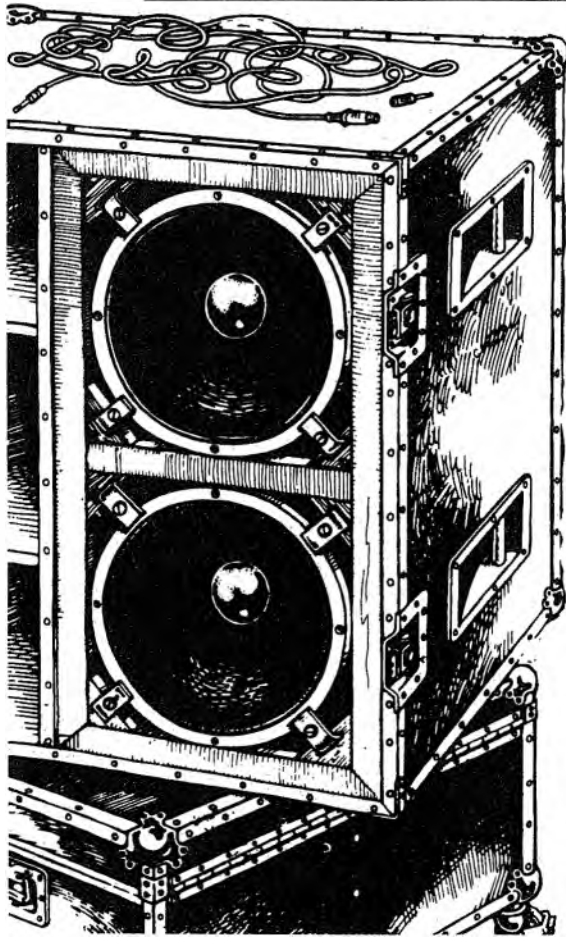
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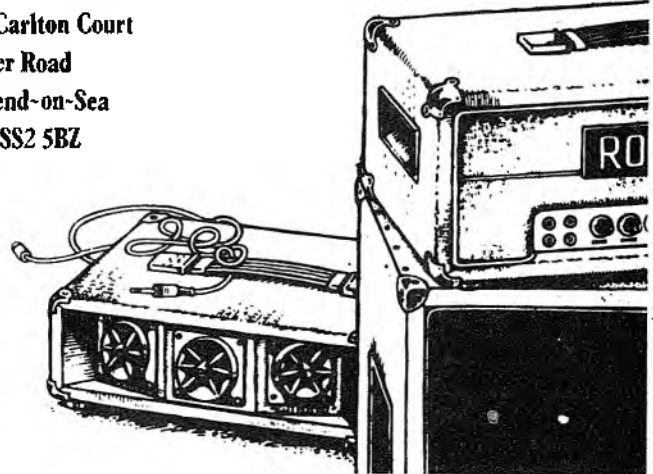
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A2000-2	Twin channel stereo PA power amp. Output 2 x 250 watts RMS. 19" rack mounted. LED overload indication. A1001, 2 x 150 watt version available.	Professional PA systems. Permanent installations.
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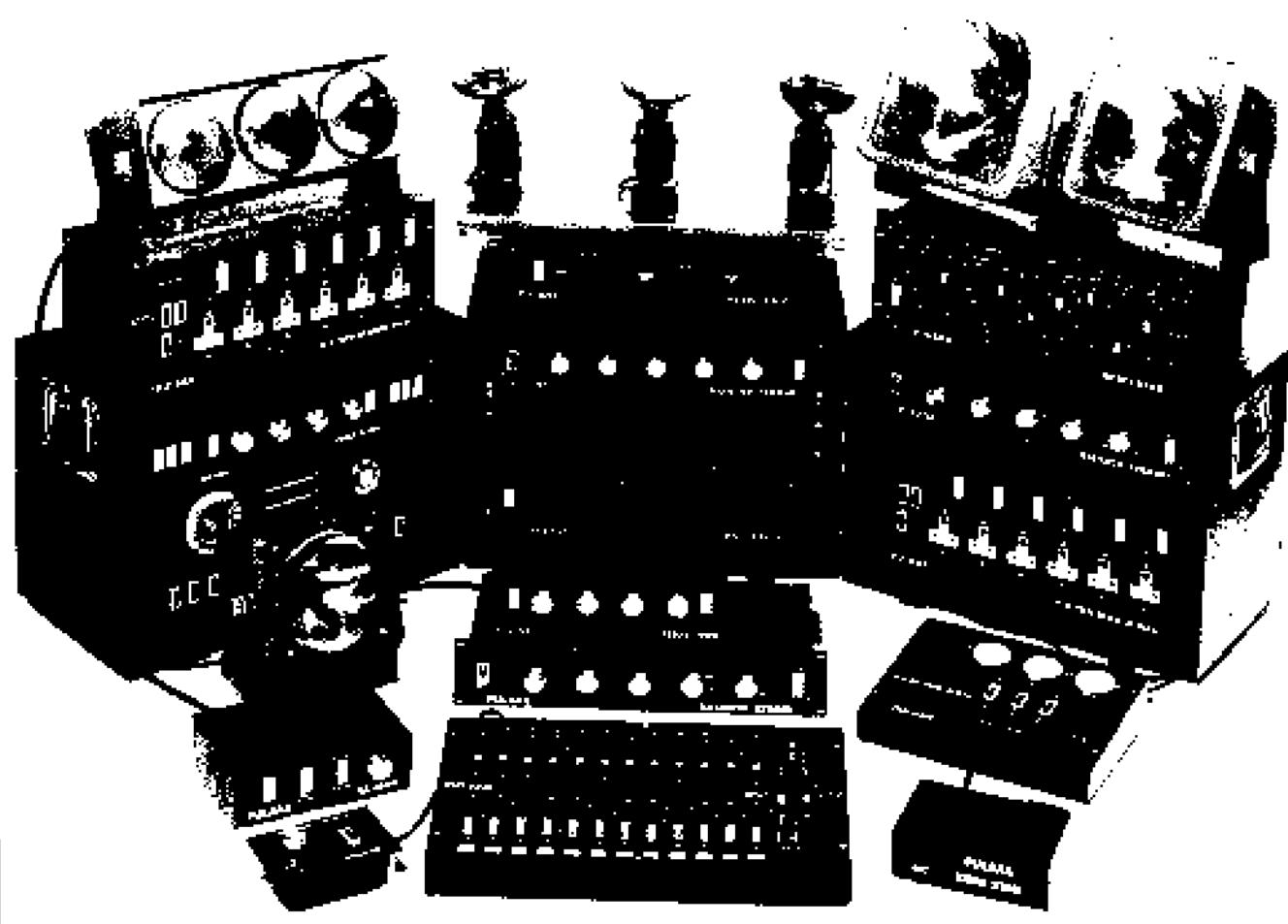
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Shortly before Darryl Hall graduated from music school after five years of tuition he was faced with a decision: did he take his final exams and graduate? Or did he join a bar band? He was studying at Temple University in Philadelphia at this time, financing his college stay by working as a backing soul session singer at the local recording studios for a myriad of acts, including the Temptations and Smokey Robinson.

Hall was majoring in piano and vocals, but he considered that he wasn't learning too much at school, so he joined the bar band. Called Gulliver, it didn't do much except one album on Elektra that sank without too much trace. It was after this period that Hall joined with John Oates, who'd stayed on at university to gain his degree in journalism. Together they've blazed a trail through Seventies rock and soul harnessing a reputation as innovators with their slick, polished graduates music.

The sound and emotional territory they've mapped out has given solace to many a heart-rent professional person. It's the kind of analysis of feelings that Woody Allen would be proud of. On the other hand, Hall and Oates have been capable of illustrating the darker areas of existence in a manner and mood that wouldn't have embarrassed Jim Morrison at his most nihilistic.

Recently, they played eight shows at The Venue in London's Victoria. The point was made to Daryl Hall that the same amount of people couldn't be squeezed into two nights at the Hammer-smith. "We like the idea of playing smaller places, of being more flexible. It means we attain an intimate situation with the audience, but it's harder on us. The people get more of a show, so we prefer it that way."

The performance at the Venue was impressive, if a bit short. Besides Hall and Oates there are four other band members: Charlie DeChant on saxophones, Lyric and synthesizers, Jerry Marotta on drums, John Siegler on bass, and G.E. Smith on guitar. This latter person is a relative newcomer to the international music scene: Daryl Hall discovered him playing in bars. "He's got that energy" says Hall, and he's right.

One unfortunate aspect of the show was the amplification. It seemed that every time John Oates played a power chord his backline amp gave out.

"We blew up so many amps," explains Hall. "John blew up two, while the bass player got through three." He shakes his head, muttering "English rental equipment. Usually we don't use rental equipment, but it costs so much to fly everything over that we only brought our essential stuff this year."

Two items in the catalogue of "essential stuff" are Hall's Mandar and Mandarcello, two guitar-type instruments that enable Hall to masquerade as a guitar hero while on stage. "I'm still a frustrated guitar player, so I invented these instruments so that I could play guitar without actually playing it."

Both the Mandar and the Mandarcello are very similar, but are tuned differently. The Mandar starts its tuning a fifth higher than the Mandarcello, which puts it more in the range of a guitar. The other instrument occupies the tonal range between the rhythm guitar and the bass, filling out the sound nicely, and complementing the bass lines.

Both Mandar and Mandarcello have two sets of four strings each, tuned in fifths. In fact, the difference between the Mandar and the Mandarcello is similar to the difference between a violin and a viola, though much further down the scale.

The Mandar was built about a year before the Mandarcello, by a guy who operates in Los Angeles. The Mandarcello was constructed by Hamer guitars, who also built one for Rick Nielson, of Cheap Trick. It's easily mistaken for a real guitar because of its classic Hamer body shape.

Hall doesn't use these two instruments on stage a great deal; though their droning effect is easily distinguished from the rest of the sound. Mostly he either stands at his conventional Yamaha Electric Grand Piano, or is singing at the front of the stage. At one point, during their rendition of Arthur Conley's "Sweet Soul Music", Hall produces a trombone and plays phrases with DeChant on saxophone.

"I can make sounds on just about anything," explains Daryl, "but those are my main instruments."

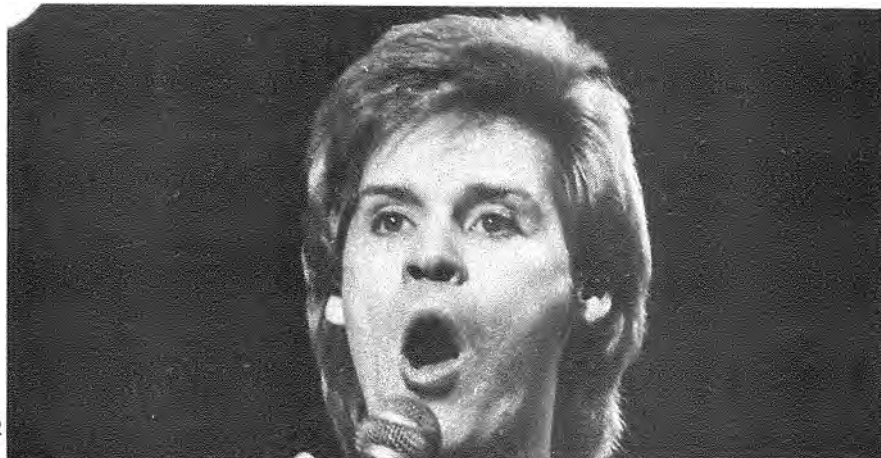
With "She's Gone" in 1972 — from the *Abandoned Luncheonette* album — Daryl Hall was one of the first US musicians to use a Mellotron. Since then he's made increasing use of synthesizers. "Unfortunately I'm a terrible technician. So it's good that there's a lot of pre-set things

happening on synthesizers, because I'm one of those people who's too impatient to patch things and all that. That's why I use Larry Fast, because he's a brilliant technician, not to mention one of the great synthesizer players. He does all the head work which leaves me free to describe sounds and textures and ideas to him. He uses things as triggers, like one of the hi-hat beats will trigger a particular programme on stage."

The biggest development in keyboard technology as far as Hall is concerned is the polyphonic synthesizer. It meant that the synthesizer had become a composer's instrument. "You're not limited to putting down textures in the studio one layer at a time. It opened up a whole range of possibilities. I was really happy."

On stage Daryl leaves the synth playing to Charlie, while he concentrates on singing and playing piano and Mandars. In the studio, however, Hall does all the synth playing. A number of synths have been utilised on stage by the Hall/Oates band. At the moment a Prophet and a Minimoog is in use. Last year they had a Yamaha CS80, and before that a Polymoog. After using these three top instruments Hall's recommendation for live work is the Yamaha CS80. It's a little more complicated to deal with but it's much more durable on the road. In the words of Hall, "The Prophet has been a pain in the ass, it's a very delicate instrument. The Polymoog? Forget it."

In the studio Daryl claims that choice of synth is down to personal preference. He likes the Prophet, so does Larry Fast. Mike Pocaro, however, (another programmer that Hall uses) likes the CS80. "I'm such a bad technician that I don't care — I let somebody else do all the work. I just play it. Each synth has its quirks and produces its own kind of sound. I would say that in the studio both the Prophet and the CS80 are equally as good."



Daryl Hall's vocals have been influenced by such artists as David Ruffin, Phil Wynn, and Paul Lynn of the Temptations. And by James Brown. But he's not sure that their influence has held over to the present day.

"They were my teenage influences," he explains. "As I expanded my experience I got into myself more, and a broader range of singing. Sometimes I sing in a very staccato manner, sometimes my voice will be more wailly, depending on the mood I'm trying to evoke. Some singers don't do that. They always sing one way. It's a bit like acting — the difference between character and method acting."

Despite the success Hall has met with John Oates, not to mention critical acclaim, he's felt the need to branch into other areas of musical activity. The latest fruit of this work is an album made with Bob Fripp, called *Sacred Songs*. It's a whole new dimension for Hall. Recorded two years ago, it's only just being released — in March of this year. Daryl's record company, RCA, have been scared of putting the album out in case it destroyed his image. Problems were also encountered with his second collaboration with Fripp, this time on the *Exposure* LP.

"We did *Sacred Songs* almost two years ago," Hall says. "I've known Robert since '74, and we've been good friends for some time. Eventually we got the chance to go into the studio and we did the *Sacred Songs* thing and it came out really well. I was very happy with it. The problem was it didn't sound like Hall and Oates, and RCA got real scared. They didn't know what to do so they didn't release it. Robert and I were very incensed at the whole thing."

"Then we did *Exposure*. I wrote four of the songs on that one, and sang on all of the cuts except for the one that Peter Gabriel sang on. Then RCA said well if Daryl's singing on all the cuts then it's a Daryl

Hall album. So I had to take all the vocals off except two which they granted me after I fought with them. With the first collaboration we took things into our own hands. We gave cassettes of the *Sacred Songs* record to radio stations and writers, to anybody who would listen to them and told them to write to RCA. Finally they got the point and decided to release it. Now they've realised it's a good album."

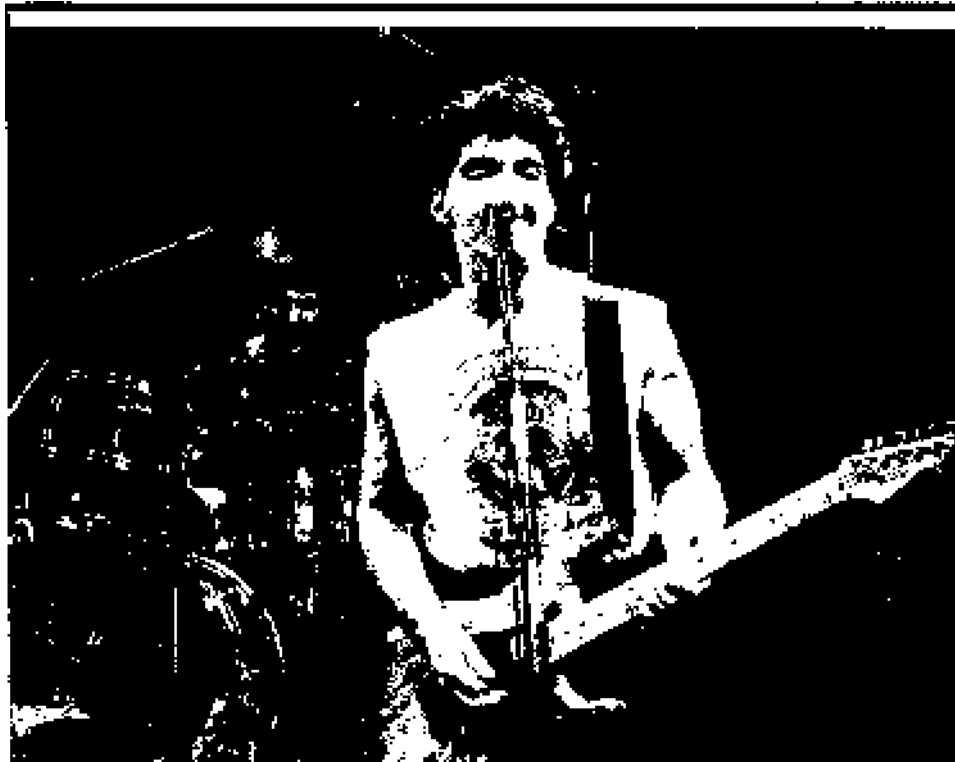
Hall maintains that he and Fripp produce music altogether different to the stuff he'd done with John Oates. It was the first time the ex-King Crimson superno had used his Frippertronics on record. The combination of the hypnotic effect of his tape loops ("it touches a different part of the brain") in juxtaposition with Hall's song structures worked to produce a musical form different to either. It's claimed to produce a wide range of moods, from real tension to euphoria.

While all this work with Fripp was going ahead Hall was making the *X-Static* record with John Oates. It was well received critically when it was released last year, but it still has to make inroads into the top of the charts, especially in Britain. It appears that perhaps Hall and Oates commercial peak was reached with *Bigger Than Both Of Us*, the album released in 1976. It was the year before this that their biggest single hit, "Sara Smile", made number one in the States for 10 consecutive weeks.

X-Static is not a radical departure for Hall and Oates. It's a demonstration of their ability to write devastatingly effective rock/pop songs, though powerful emotions, present on some of their earlier albums, haven't surfaced. Hall expresses a belief that the first three albums by himself and Oates were essentially the foundation for everything that was to come after. Some critics say that the differing styles apparent on those first three records were an indication of instability, of a lack of

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musical direction. Hall refutes this, claiming that initially their sound was so all encompassing that they needed three albums to define it properly.

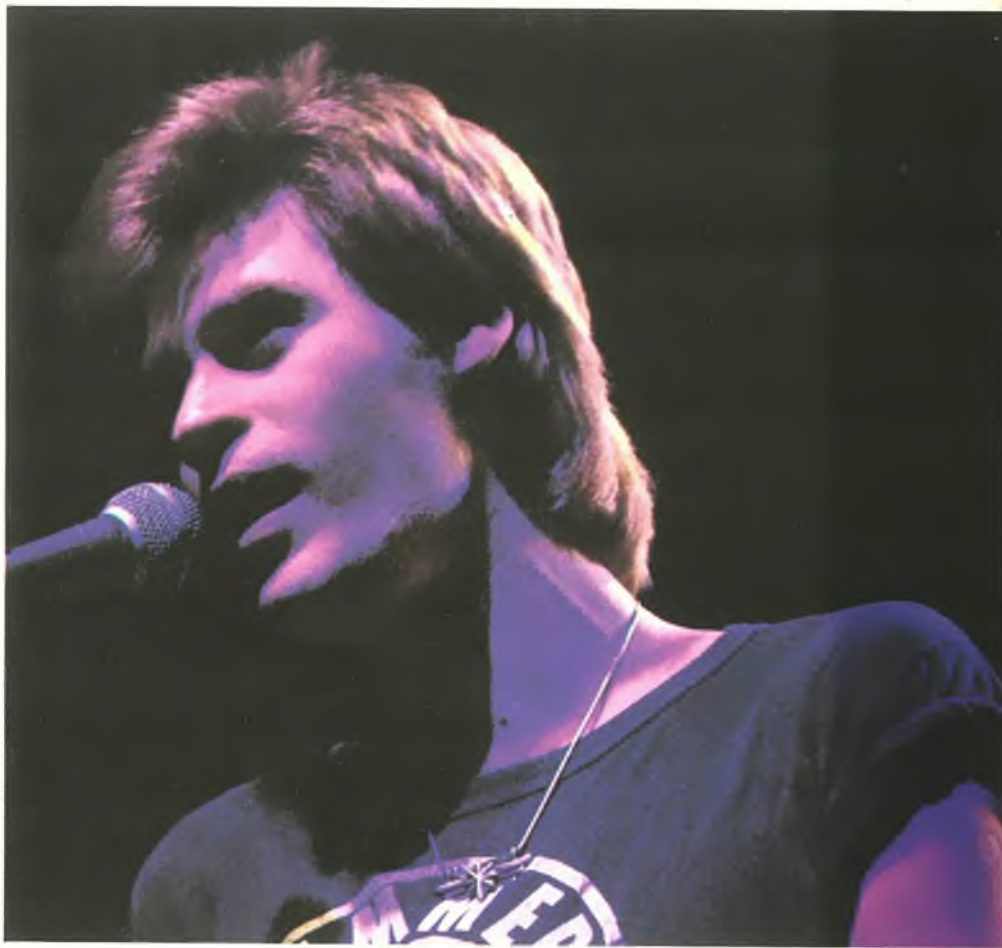
"Those albums should be sold as a package," he says.

Those three records — *Whole Oates*, *Abandoned Luncheonette* and *War Babies* — were made with Atlantic. It was after they'd moved to RCA that their career began the upswing. At the time it seemed a bit strange to have a dynamic duo such as Hall and Oates on RCA, sharing the label with expired country and western stars and Elvis.

Why did they move there? "For the same reason we moved from Philadelphia to New York: I felt we had a choice. In Philadelphia we were offered the position of staff producers and artists for Philadelphia International. We could have done that but we felt that we'd already done that scene, it was only a jumping off point for us. The same thing happened at Atlantic. They were a real family affair and they made their career around that soul feeling — but we wanted to expand, and there were certain things that they just didn't understand, like why we wanted to leave. But we still have a very good relationship with them. Who knows? Perhaps we'll go back to them one day.

"RCA gave us a really good deal financially which allowed us the freedom to experiment. We need a lot of flexibility for what we're doing."

Hall had a relationship with Philadelphia International before he teamed with John Oates. As a session vocalist he was working his way through music school before he met up with Oates at a Record Hop where they were both promoting singles. They didn't know each other at first but soon made acquaintances when a



Photos Daniele Bombasaro

fight broke out in the audience and they both left through the same door.

Pretty soon they were sharing an apartment as Hall needed a roommate. Soon they began composing together. Hall was doing a lot of studio work at the time, this was the late Sixties, and was tired of it. So they packed up a Wurlitzer piano and an acoustic guitar in the back of their Volkswagen and rode around the colleges playing anywhere that would have them. The response was so favourable that they began to look for a record deal — and got it.

Ten albums later the pair are still gigging around the world and producing one record a year. Is this success according to Daryl Hall?

"Successes," he says, "are hard for me to define. I don't have that many failures. I'm real happy with the way things have gone, but I've been surprised a lot. Sometimes negatively and sometimes positively. I wasn't happy with the way some of the songs were interpreted on some of my most successful albums. That's always disappointing when you don't get what you want. You don't even know until after the work has been done. When you're in the middle of something it's difficult to understand properly.

"You feel best when some idea or feeling that you're trying to communicate is put across to people exactly the way you intend. That to me is the most successful part of my career."

Daryl considers that the most significant development in his career was the commercial success of "Sara Smile". It put

Hall and Oates on the big-time map, made people aware of what they were and expectant of what was to come. It was this that gave them a reason to work. *Along The Red Ledge*, too, and the *X-Static* album he considers to be important milestones.

The next album is already under way. Work on it is being fitted into a tight schedule which involves considerable gigging over the next few months. Gigging is important to Daryl, but it must be the right kind of gigging. He dislikes long tours followed by a long time off, which allows him time to become soft. What he sees as the most efficient method is to alternate short periods of touring with short periods of rest.

If that's the case, there's a good chance they'll be back at the Venue before Christmas. Keep your fingers crossed.





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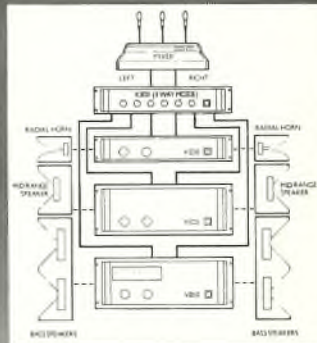
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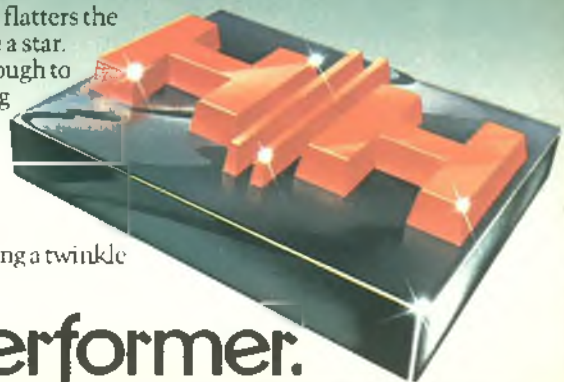
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JOE JACKSON

Looking Sharp

The first thing you notice are the eyes. They penetrate like x-ray vision, seeing right through you. More menacing than piercing, they resemble something out of *Village of the Damned*. But Joe Jackson isn't an alien. Still you wouldn't want to meet him alone in a dark alley. Physically he'd win no prizefights. Rather he's got that silent strength that spells confidence.

The second thing you notice are the feet, protruding from trousers which are inevitably too short. Because of their prominence, there's no escaping the eyes. When Joe Jackson looks down at you from his six foot, gawky frame, those eyes tell you a lot about the man. Sometimes, they simply say "leave me alone." Like his song "Don't Wanna Be Like That," Joe Jackson is most definitely his own man.

And being his own man has made Mr. Jackson a hot property in the current music market. His first two albums have been huge successes on both sides of the Atlantic, backed up by a handful of hit singles, and he has gained fearsome reputation for his live performances over the past 12 months.

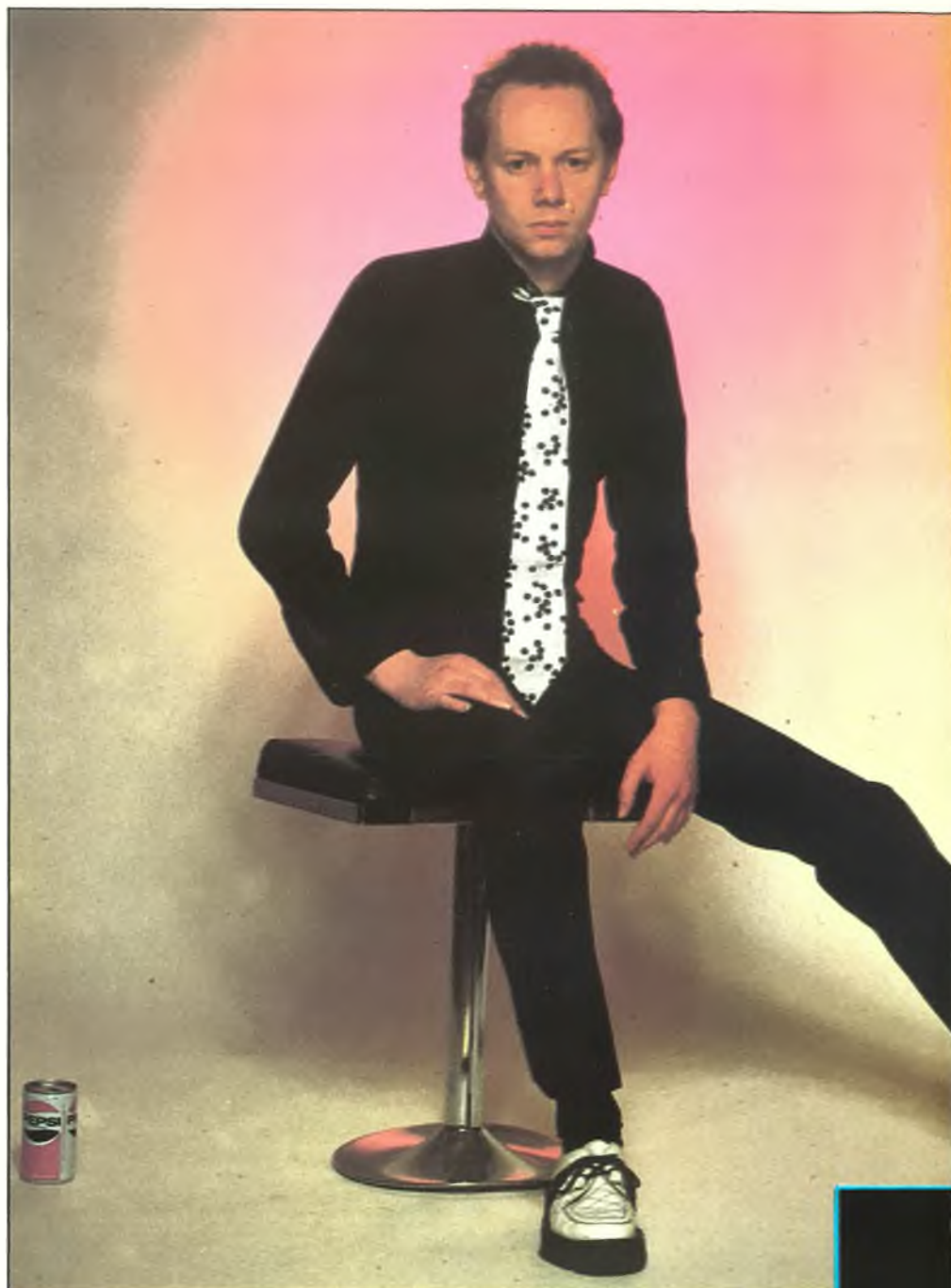
In just about every department Joe scores heavily. He plays excellent piano, writes good pop songs, has a distinctive voice and fronts one of the tightest funky bands around. He is someone who has made it on talent alone, without a lot of the usual London music scene hype (he actually comes from Portsmouth), and despite the inevitable labelling.

"I don't have a membership card in my pocket that says I belong to a) punk, b) new wave or c) mod," Joe Jackson spits out caustically. "I'm an individual. It's incredulous. They call me the acceptable face of punk."

"I had some real bozo at a press conference in San Francisco that said 'What do you think about your music being a diluted version of Elvis Costello?' I nearly hit the guy. I really shouted at him. And he said, 'I seem to make you angry'. I told him I was 100 percent undiluted Joe Jackson. And if he didn't like it, he could fuck it."

He's a bit cagey about the past and doesn't particularly want to go back in time to childhood violin days which eventually won him a coveted place at the Royal Academy of Music. He joined a band in native Portsmouth called Arms and Legs before leaving the womb for London. Joe Jackson is the type of man who prefers charting his own destiny.

by Barbara Charone



"My parents always thought I was crazy," he says stretching his spindly legs. "I'm sure most people thought I was crazy. Only recently with success have they been able to see what I was trying to do. I was always pretty much by myself. Eventually I came to the realization that I was going to have to do things myself. That's why I worked to get money to pay for my demos. I wanted to be independent."

"When I relied on people, things always went wrong. Only when I decided to do it myself and not compromise did things go right. That's the attitude I came into the business with and I still maintain. I simply wanted the control."

Taking charge of his own future, Joe Jackson went to work at a Portsmouth Playboy Club, playing piano to patrons more concerned with nubile bunnies. He didn't like the drunks, didn't like the atmosphere but realized that in order to succeed one has to put up with a certain amount of aggravation.

"You have to keep trying little bit by bit to build up confidence," he says look-

ing at the floor. "It took me a long time to have the confidence to go in and record *Look Sharp*."

Jackson has a refreshingly unpretentious vision of the music business and his own success, always keeping it in perspective. When asked if he had the confidence to work the Playboy Club in order to finance some demo tapes, Joe Jackson stares. Then he laughs. "There was a certain amount of desperation. If I didn't make music I don't know what I'd do. I'm not good at anything else."

He's been writing songs for as long as he can remember. Today his main love is reggae, a fact becoming increasingly prominent on each album as rhythms move to the front. Childhood musical tastes were fairly predictable; he liked the Beatles, the Stones, the Kinks, the Who, the Searchers and the Merseybeats.

"The beat was what I was into. I suppose I liked R&B but I didn't know what it was about. After all, I was only 11."

Despite an erratic "child prodigy" adolescence, Jackson fed on a musical background not entirely divorced from the



average kid. Although his tastes were mainstream, they formed the bulk of his unique and original ideas.

"My musical roots are the same as anyone who lived in Britain and now is in their twenties. People say we have an R&B sound. I don't see it as R&B. I don't know what my style is. I don't want to have a style. It's the content that's important not the style."

Because Jackson stubbornly placed content above all else, he realized the importance of quality songs. Once he journeyed up to London, Joe Jackson literally took his precious demos around to record companies, agents and various show biz entrepreneurs. Doors were shut in his face and that old cliché "don't call us, we'll call you" was often echoed.

Undaunted, Jackson remained determined. He'd made the demos with three musicians who were *more* than merely capable. From his old band Arms and Legs came bassist Graham Maby. Drummer Dave Houghton arrived from the same Portsmouth clique. Londoner Gary Sanford supplied the missing part of the puzzle.

Suddenly luck turned. Jackson met John Telfer who was to become his manager. Within a short space of time a recording contract was signed with A&M records for a five year deal, renewable every year. The four of them went into the studio to record *Look Sharp* before ever

playing live. Considering the album's immediate, energetic sound, it is somewhat unbelievable.

David Kershenbaum was hired as producer. Previously he'd worked with Cat Stevens, Richie Havens, Elkie Brooks and Gallagher & Lyle. To say he was overwhelmed with the Joe Jackson Band is an understatement.

"David had never done anything like us before. He's the only producer I can work with because he'll say 'OK, if you want that sound this is the only way to do it.' So it comes out sounding how I want, a lot of the times a little better. He adds that final professional touch.

"To a large extent I'm the producer because I know how the songs should sound. Basically, I go in and say what I want it to sound like right down to the amount of echo on my voice. Dave has a thousand times more studio experience than me. And he's got better ears."

Although Jackson plays piano and harmonium, surprisingly he doesn't write on the instrument. "I write most of them in my head. I will sit down at the piano and bash an idea about but I don't write the words down. If the ideas are any good, I'll remember them."

In fact, his ideas are what makes Joe Jackson such a major talent. Realizing that credibility rises or falls on the strength of the material, Jackson takes songwriting very seriously.

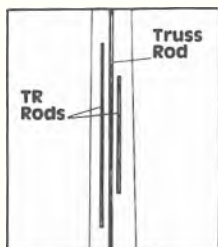




THE BASSICS

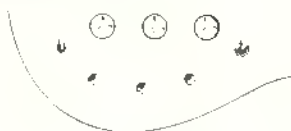
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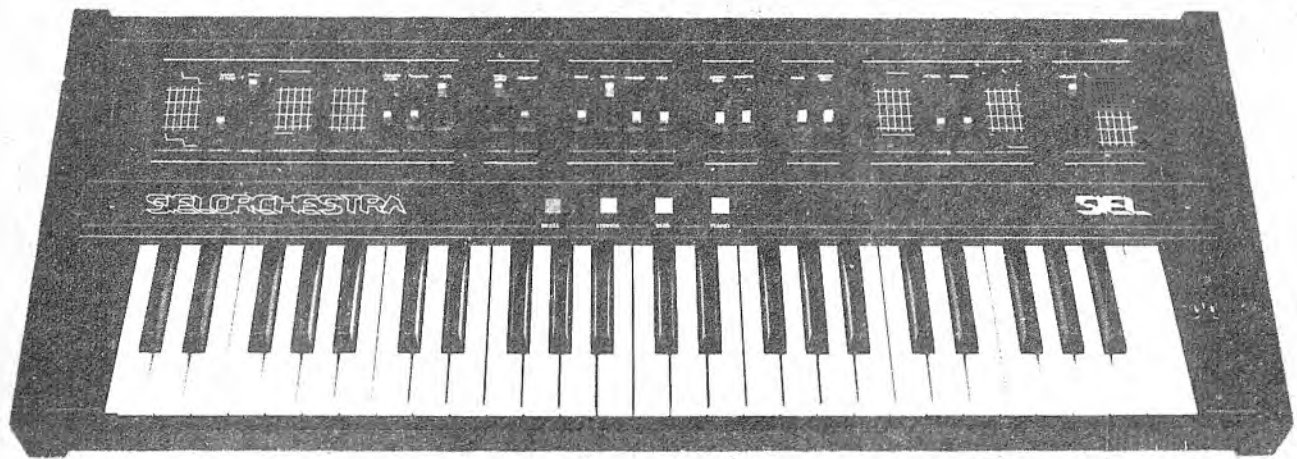
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"I write about things I feel. More often I write about things that make me angry, frustrated or mad. A lot of my songs are satirical because it's much better than saying 'this is great' or 'this is a load of crap.' I'd hate my songs to be one dimensional. I want to come across as a human being. If I'm angry, the song is angry."

Coming from anyone else, that statement would sound like an insincere load of rubbish. But when Joe Jackson says something you listen. If you doubt the words, just look at the eyes.

Joe Jackson writes songs that encourage people to rise above their situation in life, to cope with Eighties paranoia, pressure and responsibility. He's not an untouchable rock star. He's human and it's that vestige of reality stuffed in the songs which make them so convincing.

"I don't want anyone to follow me. I'm not trying to preach. I'm lucky, I got out," he says of his workingclass background. "I have a talent. I have music. Everyone has to find their own way of rising above all the everyday shit that grinds you down. Like the song 'Friday'; it is possible to say you don't have to become a zombie. You can make an effort. I had to work hard too."

The fact that Joe Jackson is a keen admirer of writer Raymond Chandler is evident in many of his songs which chronicle relationships. "Geraldine And John," "Kinda Kute," "Happy Loving Couples" or "Is She Really Going Out With Him?" are about real characters, almost mini-movies.

"The important thing is that the songs have to be good. They should be convincing. And they should come from real life. A song like "Geraldine and John" is pretty straightforward. I have a sense of humour and so should my songs. It's difficult to put humour in songs. My sense of humour is the irony of things. It's like Woody Allen's sense of humour. You have to laugh otherwise it would be too painful to think about. It's like comedy and tragedy are different sides of the same coin."

"It's Different For Girls" is a perfect example of Joe Jackson's Woody Allen persona. "That song is sad, desperate and humorous. It's about going out on a millionth date. It's like 'oh no not again.' I'm just trying to say how ridiculous all those teen romance clichés are. I'm trying to write about things that are real, not fantasy."

"I hate all those heavy metal lyrics. Songs about flaming charriots flying through the cosmic skies make me sick," he laughs. "I'm more concerned writing about how things are rather than how I think they should be. I'm not trying to change the world."

America, however, changed the future for Joe Jackson. He'd been to the States once when A&M first signed him. Shortly afterwards, the Joe Jackson Band toured America. In the middle of the tour the single "Is She Really Going Out With Him?" and its album *Look Sharp*, unbelievably pole vaulted into the Top Ten. Joe Jackson was a star. He, least of all, couldn't believe it.

"It was always supposed to be the Joe Jackson Band right from the start," says this humble 25 year old. "It's silly to say 'tonight Joe Jackson.' One person can't do it. We're not trying to project a group image or the image of a soloist."

"It is a band," he says adamantly. "Not a totally cooperative band but at the same time it's not a superstar and his band. I'm not a dictator. I need a regular band. If anyone gets to the point where they feel they don't have enough freedom in the band, they'll have to leave."

Aside from the fact that Joe Jackson writes original songs verging on the brilliant, his band is equally superb. They play as a unit, all in total sympathy with both the material and themselves. An extra bonus, of course, is that Jackson is a "performer," so exciting it's like watching someone go through a catharsis onstage. Yet offstage he is deceptively quiet.

"Performing came naturally in that it is what I do. And it's natural to try and do it better. I have to be myself onstage. I can't hide behind a persona. People have criticized me for being friendly to the audience. Why not? Hell, they're on *our* side. Just because I don't insult the audience, people say I don't have enough anger or intensity."

Onstage Joe Jackson is magic. He is alternatively vulnerable, aggressive, passionate, sensitive and always an amazing singer. Offstage he is one of the most intense people I've met. One who takes their art seriously. One who will be around for a long time.

Despite massive success in both America and Britain, Jackson refuses to play large halls, preferring comfortable auditoriums where the acoustics are good. "I went to see Blue Oyster Cult in an arena in America. It was unbearable. It had nothing to do with rock & roll."

While Blue Oyster Cult might have little to do with musical aesthetics, Joe's second album, *I'm The Man*, defines the art form. Recorded in 10 days and co-produced by Joe and Kershenbaum, it is a tremendous progression from the first. Much of the difference can be attributed to the fact that the band played much of the material live before recording.

"Playing live is absolutely vital. Everyone compared the second album to the first. I think *I'm The Man* is less poppy and less superficial. Some people don't like this because it's not poppy and now they think we're rat shit. It puts you in a strange situation when you're first album is so successful."

"I'm pleased with success but if your next album isn't as successful people think you're a failure which is ridiculous. Success has its good and bad points. Anyone who thinks success is the answer to happiness is wrong. Now people say they'd change places with me. That's very naive. It's hard work."

One thing Jackson dreads most is becoming predictable. He's recently put Jimmy Cliff's "The Harder They Come" into his show as well as an excellent reggae influenced song "Pretty Boy."

"If you're successful and repeat a formula, you're as good as dead. You've gotta

keep changing. You gotta keep trying. If you stop, you may as well give up," Jackson says in despair. "What I don't want to do is pigeon-hole myself."

Shortly Joe Jackson will begin recording his third album in a career that's only two years old. He says it will be a bit "reggae-fied" with a gleam in his eyes that promises good things. Anyone who thinks white reggae begins and ends with the Police better think twice.

"I don't have a very good memory," Joe Jackson says sheepishly. "I'm reluctant to talk about what I did 10 years ago because I don't remember. I have an obsession with the present. And I don't want to know about the future."

The Band



Dave Houghton

Drums

Dave Houghton grew up in Portsmouth, playing occasionally with Joe and club bands that toured European army bases. He never met guitarist Sanford until they laid down their initial demos. He likes Steely Dan, jazz, reggae and punk.

Not surprisingly, Houghton immediately liked Jackson's material. But he was married and had a family to support. At one time he gave up drumming "because there was no money in it" but quickly adds "then Joe came along."

"It was Joe's idea to make it the Joe Jackson Band which is nice," Dave says. "Joe had always thought of us as a band. When he originally signed the deal it was easier for A&M to push him. But now he wants to call it a *band*. We always knew we'd stay together."

To say the band were surprised how quickly everything gelled artistically, personally and commercially is an understatement. "It's ridiculous. I still find it hard to adjust. Obviously you get used to it after a while."

He has a Premier kit but uses Tama on stage. Although the rhythm section features prominently in the band sound, there are no ego conflicts.

"Why be jealous? It's Joe's album. He wrote and arranged the entire first album."

Doing the demos over a six month period, Joe didn't let the band linger under any false illusions. "If I get a deal together," he informed them, "we're a band. Graham and I are both married and needed security. I was on holiday and got a letter from Joe saying 'it's all go' so I just quit my job."

Stints in previous bands inspired Dave more to drink than play but that situation quickly changed. "Previous tours were not on similar scales. We'd never toured in that category or with those pressures."

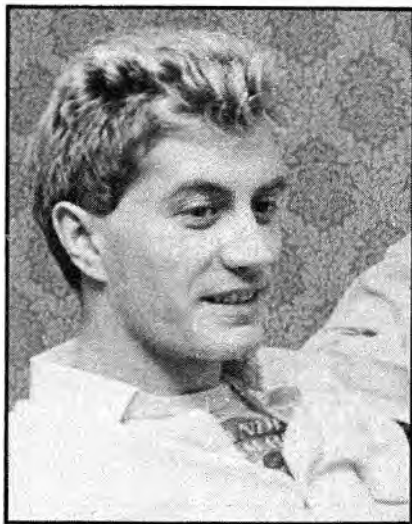
The entire band thrive on the road, striving for a live recorded sound. "Overdubbing bores me to tears. I prefer something to grab me straight away."

When the band insist every show is treated with equal respect, as if they're out to prove themselves continually to virginal audiences, they are sincere. They equally respect themselves and the audience.

"Everything means a lot because there's so much we're aiming for. It's no dictatorship. We're not financially suffering," he laughs. "We've got more energy now. I came from a very laid back background so to play frenetic music was totally different. Now I find it hard to lay back."

Part of their success lies behind the fact that Joe, Dave and Graham have known each other nine years. "When we put ideas forward, little bits that might fit in, they're not discarded. People think Joe isn't easy to get along with but he is. Although he is very demanding."

According to Dave Houghton, the future looks secure. "I know what Joe's writing ability is like. He's got so many influences. The stuff he's played us for the third album is great. And it's different."



Gary Sanford

Lead

"I was a Londoner," Sanford grins. But he soon got drafted into the Portsmouth crowd. Playing in a band called John Doe, he met a friend of Joe's at art college. Eventually, Joe played with them and still later asked Gary to join the band.

Gary's history is, perhaps, the most interesting. He is one of the most exquisite guitarists to come along since the Jeff Beck/Mick Taylor/Eric Clapton blues boom. At 16 he joined a "sorta Irish country and western band" backing an accordion. On a Sunday morning, Gary turned up for his audition in a black velvet suit. Needless to say, he stood out like the proverbial sore thumb.

"Alvin Lee was the first guitarist who set me off. My motivation was a clip from the *Woodstock* film. The energy was dynamite. That was my initiation."

There followed a heavy appreciation of Jimi Hendrix. "Alvin Lee got a bit boring. He always played the same thing. Hendrix remained a hero. After that I didn't have any influences."

The energy of punk inspired Sanford, a fact apparent both on stage and record. Rhythm became increasingly important. "The guitar became a percussion thing for me as opposed to a lead instrument."

He was a natural for the Joe Jackson Band where the bass is pushed full throttle. "We must have had a rapport because we'd only played together three times without doing any gigs until we made the album. It was instant."

Jackson was the catalyst. "Being a piano player, Joe already has the arrangement when he plays us the song. The guitar part would basically be what he played on piano. Immediately there wasn't much I could do to it. Later we'd expand the initial arrangement."

"We've always had as much say as we wanted. It's pointless to change an arrangement if it's good. We've got as much space and freedom as we want or need."

Gary depends on his 1963 Strat which is the first major guitar he bought. He's had it since he was 17. "I've done loads of things to it. I've taken all the pick-ups off, changed it all round. I've never moved the neck position pick-up because I've been totally happy with it."

Now he's got a Gibson RD custom. Despite it's versatility he still prefers the Strat. "With the Strat I've perfected a sound that I've wanted for years."

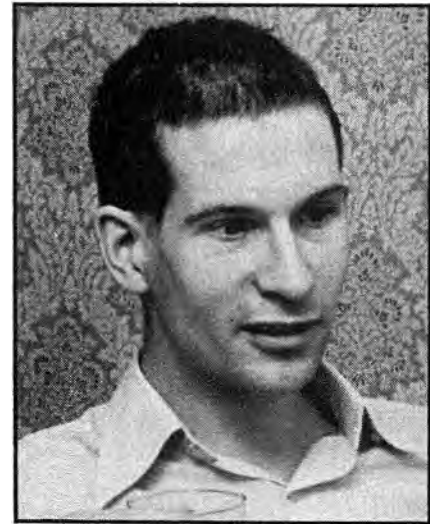
Sanford and Jackson run on parallel ideas. Gary has been writing for some time now and the possibilities of doing a "solo" album are strong. Needless to say, he too is a reggae fanatic.

"I'm happy with the way things are. I'm the type of guy who does what he wants. If I didn't like the music or got frustrated, I'd quit. Nothing is *that* important. I'd rather be happy with myself and my playing rather than do something just for the money or the prestige."

Graham Maby

Bass

To Joe Jackson's way of thinking, bass is the most important instrument in the group. "It's worked out that the bass is dominant. When we did the demos, Joe said he wanted a three-piece where the



bass was more a lead instrument than the guitar. It's worked out fine. Joe's idea of what he wanted the band to sound like was compatible with the way everybody was."

A veteran of numerous bands, Graham stopped counting just how many after reaching the teens. Graham has known Joe better than the others as they were both in Arms and Legs.

"I always envisioned Joe having his own band. There were two writers in our band and they didn't go in *quite* the same direction."

Every member of the band stresses the unity and freedom. "Joe's always been pushing it as a band. That's because he's shy and he'd rather put the blame on other people," Graham laughs. "But it *is* a band. Joe lays down the skeleton of a song and gives us freedom to move. If he doesn't like something you're playing, he'll tell you. But at least we've got freedom."

Graham had to make a decision to gamble with Joe as he too is domesticated. "You don't turn down a chance like *that*."

Graham first became aware of the existence of bass guitar because of the Beatles. "I used to like Paul McCartney. He was the first person who turned me on to bass. I didn't even know what a bass guitar was until then."

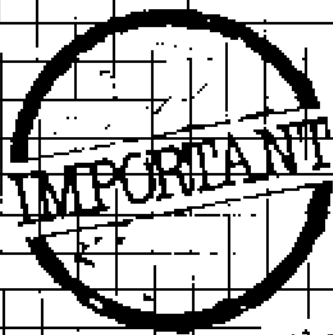
"I'm not a technically gifted player," Graham admits. "But spontaneity is more important than getting it dead right."

Like everyone else, Graham was stunned at the rapid rate of success the band enjoyed. "I was overwhelmed. When it starts to happen, you're in a continual state of surprise. It never stops. You never stop being amazed at what's going on."

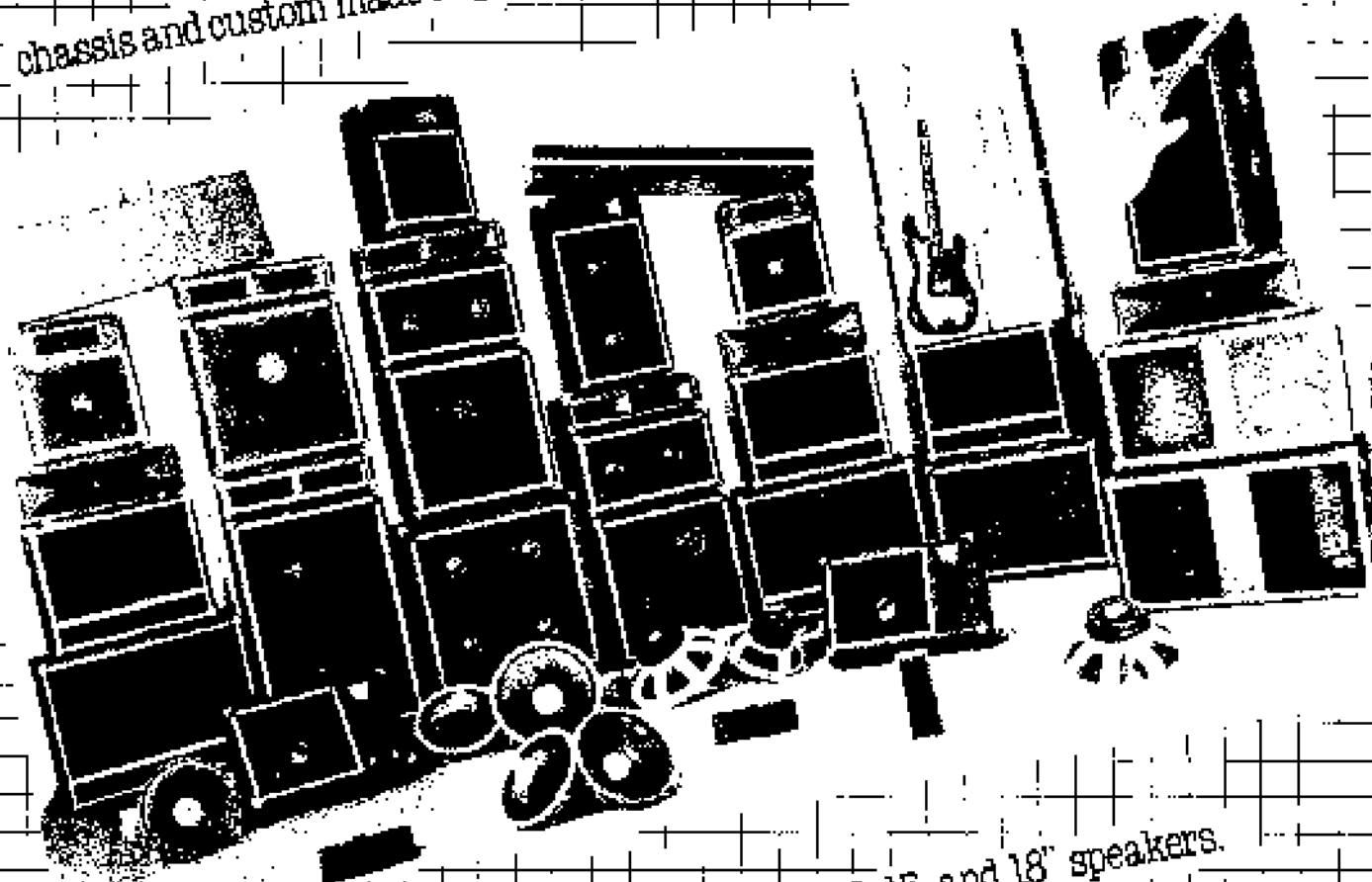
Graham Maby uses an Ibanez bass and a Fender Precision.

After all is said and done, Gary Sanford sums up the situation best. "We'd all spent time on bands doing everything we could to make them work. Then *suddenly* it happened. Before, I was in a band for four years trying to make it big. Within a month of joining Joe, we had a recording contract and a tour. In the past, a year has been such a *long* time struggling. This year has gone by like lightning."

Barbara Charone



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Ginger Hacks At Hack

Dear Sir: I feel that I really must write to you referring to the interview with me published in your January issue. Some of this article was true, the rest of it was half truths and downright lies.

Firstly, the references to the Musicians' Union were basically said in jest. I feel the way Mr. Brennan wrote it was most irresponsible to say the least. At no time since the end of Cream have I had any drug problem! That was all over and done with before Cream. I may have removed my machété to show it to Brennan, I usually show it to interested parties, but at no time did I slice leaves off the tips of the plants.

At no time did I say that I met some of the best musicians anywhere in Nigeria; I said that I met some very good musicians, that's all. Also the statement that I couldn't bring these musicians over here because of H.M. Government. I simply mentioned that Fela is not allowed into this country. The recording studio is in Ikeja not Ajela as stated and Wings recorded a couple of tracks of *Band on the Run* there not the whole album as stated.

The studio in Acton is stated to be 16 track when in fact it is to be 24 track. The book referred to was a drum tutor and the accident was not sustained while playing polo... though it was an accident with a horse.

The references to Ed Shaughnessy were again only partially true. What I said in fact was that I found some of his tuition hard to comply with; and at no time did I say that he was spouting bullshit. I happen to have a lot of respect for the man. I just don't entirely agree with his method of tuition. Also I have never mentioned "the flamboyant days". Going back a bit: "he tried a few exercises and discovered that his playing began to improve". Absolute and utter rubbish. Christ, I wrote the exercises down that I'd been

playing for years. What I said was that playing the exercises again did me good.

Lastly, though I had a few drinks that lunchtime I was not drunk as the article inferred. On the good side the article was very well presented, the pictures and drawings excellent. I did the interview for your magazine because I like it and I feel that Brennan through his own mis-directed animosity (caused by a total lack of any sense of humour) deliberately mis-represented me.

*P. E. Baker (Ginger),
London W3.*

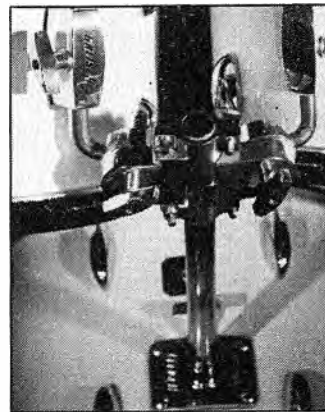
Steve Brennan replies: Ginger's biggest complaint seems to be that I haven't got a sense of humour. He's wrong.

So the references to the Musicians' Unions were said in jest? I'm a journalist, not a talent scout for a comedy show. Baker expounded his point concerning the MU at length — not usual if what you're trying for is a quick laugh. As for Baker's drug problem, how is he to know that I wasn't referring to alcohol? He certainly inferred that Nigerian musicians are to become a world force — how can they do that if they're not some of the best musicians in the world? And Fela Ransom Kuti's crimes — well, I certainly wouldn't want to libel the man, but it was Baker who said: "Do you want me to reel off a list of their so-called crimes?" The mis-spelling of Ikeja is due to the fact that there is more than one dialect in Nigeria. Baker never said his studio was to 24 track at any time, but did say that no studio needed more than 16 tracks. I never stated that Baker's book isn't a drum tutor. So Ginger fell off his horse while he wasn't playing polo! He did say that Ed Shaughnessy was "spouting bullshit". Ginger says on tape — "my playing is less flamboyant than it used to be". He did say that his playing improved after practicing his exercises.

Penultimately, IMRW's photographer will confirm that, indeed, Ginger's general demeanour was highly suggestive of inebriation. And lastly, when I expressed no interest whatsoever in the machété, Ginger pulled it out spontaneously, much to the regret of the pot plants. I was just thankful that it didn't get closer to my person.

New Gretsch stands

In the past, Gretsch have never been renowned for their stands and spurs, but now they claim to have come up with the solution to the problem with their new range of accessories. Pictured above are some of the new items that will come as standard with new Gretsch kits. Their trade name is Giant Hardware, and they are reputed to be stronger and more efficient than the old Gretsch stands and spurs. For more detail see your local Gretsch dealer, or telephone Gretsch on 01-595 1212.



Henrit's Drumstore

While we are talking about drums, it's inevitable that sooner or later we would get round to talking about probably the most famous drumstore in the music business — Henrit's.

The store bears the name of former Argent drummer Bob, who now busies himself between his band Phoenix and session work. It is situated in Wardour Street, in the heart of London's West End, and boasts one of the largest ranges of stock and best informed staff in the business.

Famous clients include Billy Cobham, Carl Palmer and Ringo Starr, and above the door you can see where Keith Moon signed his name. But the Drumstore doesn't just cater for the stars, whether you're a semi-pro or a beginner you'll get the best advice and they also do a tuition course which is run by Joel Rothman.

In keeping with their international reputation, they carry just about every make of percussion and accessories including Staccato, Fibes, Drum Workshop and HiPercussion. Henrit's also have the West End agency for Pearl, and include everything from Duraline heads to drum synthesizers. They also hire out equipment.

The Drum Workshop

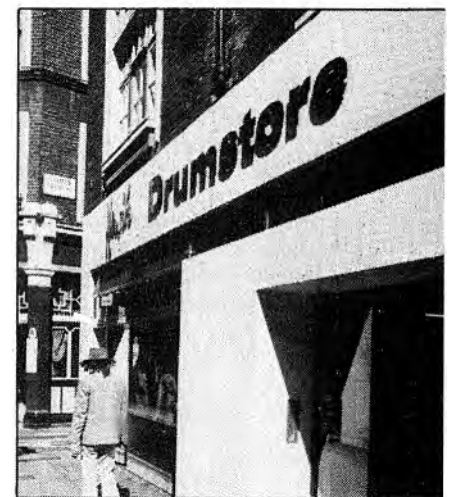
Tucked away in East London in Hackney is a treasure trove of drum goodies for people who are interested in good customised and second-hand gear.

The Drum Workshop was founded by Derek Godall with a view to looking after the interests of people aspiring to learn the noble art of percussion. Derek has been tutoring students for the last eight years and specialises in custom-building kits for students that can be "built-up" to suit each student's requirements — so it grows as they learn.

The bulk of the drum kits he sells are major brands: Olympic, Premier, Gretsch, and Pearl etc but he claims to get his hands on anything you want — to order. The reconditioning work is all done by Derek himself and he specialises in recovering jobs.

Anyone interested in buying, or getting advice on tuition can contact him on 01-985 1344 or write to him c/o 6 Olympus Sq., Nightingale Estate, Hackney, London E5.

John E. Dodds is the store supremo, with the shop being managed by Tom Wilkinson assisted by Steve Rodford.



Premier's new Club

To announce their strategy for the 1980's, Premier ferried a coachload of journalists up to their Leicester factory to look at the processes involved in building a Premier drum kit, and to listen to their plans for the coming decade.

The big news is that the three major Premier outfit brands —

the Resonator, the Elite and the Soundwave — are being joined by a new name, designed to replace the Olympic brand. Called Club, the new range of drums is aimed at the drummer who is perhaps a beginner and doesn't want to invest too much money in a kit but at the same time doesn't want to sacrifice too much quality. With the Club range there are four kits to choose from with a choice of tripod or flush-based stands. For example, kit C4 offers six drums and tripod stands at just over £550. However, most of the kits

that can be made up out of this range can work out very much cheaper.

Out of the four ranges a possible 24 kit options can be made up, so flexibility is a key word for Premier, as ever. For example the 16-drum Elite kit retails at £1913 including VAT.

An all-new snare drum has also been launched by Premier. This is the 2007, a 14 x 6½" concert snare. It has a highly polished brass shell, 10 tension brackets, die-moulded hoops and a specially modified 200 type snare mechanism.



DRUM PLAYING

Jim Marshall



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TONY CRONE <i>(San Francisco Symphony)</i>	ARTHUR PRESS <i>(Boston Symphony)</i>	IRV COTTLER <i>(with Frank Sinatra)</i>	EMIL RICHARDS <i>(Hollywood)</i>
TOM DAVIS <i>(Univ. of Iowa)</i>	GORDON STOUT <i>(Concert Marimbist)</i>	VIC FELDMAN <i>(Hollywood)</i>	GAR WHALEY <i>(Author, Teacher)</i>

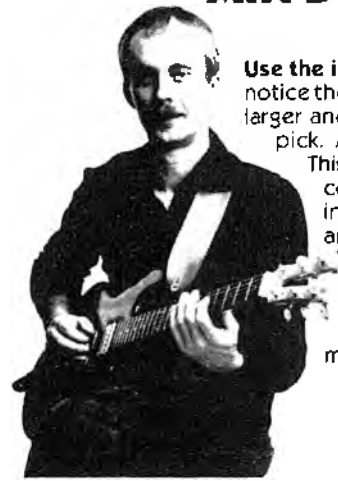
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Last summer, Tony Williams felt he'd reached a new summit in his career as a leader, composer and recording artist. *The Joy Of Flying* (CBS), his first record in nearly three years, was released in early 1979 to both critical acclaim and commercial success, bringing with it a long-awaited feeling of deep personal satisfaction as well as an extensive touring schedule with a new and zealous lifetime. As he remarked at that time, "Actually, this is the first time I've had everything working in the same direction . . . management, agency, record company and band. It feels great".

Then last September, Williams unexpectedly became one of the many top recording artists dropped from major record labels in the wake of the current record business depression, even though *Flying* had sold over 100,000 copies.

What is Williams's reaction to this sudden twist of fate? "It doesn't bother me. What is most important to me is the music and the band. We did a tour of some Jazz Festivals in France and Holland not too long ago, and we got a tremendous reception. So even if CBS doesn't think I can make it, I do. We'll just go ahead with the band and worry about the record later."

Ben Hurwitz of the Monte Kay Agency, Williams's personal manager, felt that CBS shouldn't have promoted Tony strictly as a jazz act. "They advertised him in the jazz press and on jazz stations, kept his records in the jazz bins," he commented, "but Tony has an increasingly large following in the pop field, receiving ecstatic responses with heavy rock-type material." Hurwitz is now looking for a label that can fully visualize Tony's potential as a complete crossover artist.

Williams's swing to jazz-rock and even out-and-out rock music has been evolving since 1969 when he left Miles Davis, having joined the trumpeter in 1963 at age 17. He formed the first Lifetime, with guitarist John McLaughlin and organist Larry Young (and later ex-Cream bassist Jack Bruce), as a reaction to the music he

had played with Miles. Lifetime, dissolved in 1971 when McLaughlin left to form the Mahavishnu Orchestra, wanting to concentrate on his own compositions and concepts rather than those of Williams. In the interim Tony led other bands and did sessions before signing with CBS in 1975 and re-forming Lifetime with Alan Pasqua (keyboards), Alan Holdsworth (guitar) and Tony Newton (bass). Before breaking up a year later, the band waxed *Believe It* and *Million Dollar Legs*, two more-rock-than-jazz discs that weren't promoted very well, resulting in low sales. The V.S.O.P. reunion band featured Tony along with Freddie Hubbard, Herbie Hancock, Wayne Shorter and Ron Carter; he also played a part in the Great Jazz Trio, a strangely compatible recording band with Carter and pianist Hank Jones, put together by the East Wind label in Japan.

After the release of *Flying* he again reformed Lifetime with Tod Carver (guitar), Tom Grant and Bruce Harris (keyboards) and Bunny Brunell (bass). Grant and Carver has been playing with Jeff Lorber's Fusion when Tony found them; he'd heard Harris at a party in Nice, France and has worked with Chick Corea. The group scored many successes but since the Columbia split, Tony has trimmed the outfit and only Brunell and Grant remain. "It's going to be a real challenge," said the leader, "trying to make all the music happen with just three people. We'll still be playing a lot of stuff off the record but I have no doubt that things will be fine".

To make *The Joy Of Flying* Williams enlisted the help of friends he's made throughout his multi-level career: Cecil Taylor, with whom he worked briefly in 1963; Hancock from the days with Miles and V.S.O.P.; and Jan Hammer, Stanley Clarke, Tom Scott, George Benson and many others. The music has a rock-jazz feel with flashy compositions by Williams, Hammer and Benson. There's also a whirlwind acoustic duet between the mercurial Taylor and Williams.

"It was my idea to use all these different players," remarks Tony, "but I did get some suggestions from CBS, like putting Tom Scott with Herbie. Those two cats would not ordinarily play together. I like juxtaposing different kinds of ideas and styles. George Benson's an old friend and he was very gracious to have played with me because I imagine so many people ask him. Stanley and I have always enjoyed each other's music and Jan is a totally committed musician who has a very tender side. He knows how to make his music sound very meaningful and he has a very individualistic sound."

"Morgan's Motion", the duet with Cecil, was completely spontaneous. "We just did one take," says Williams. "We just sat down and played. Cecil had been playing in the studio while we were fixing the mikes and setting up my drums and by the time I was prepared to play, I had an idea of the kind of sound I wanted."

Overall, Williams is very happy with his record but even more so with Lifetime, his main outlet for touring again. Tony loves to play and is not about to let a lost record deal stop a hot band.

He has always been surrounded by music. His father, Tillmon Williams, nine plays sax and when Tony was nine he played on his father's dance gigs getting heavy tips, as much as \$35 a night. He studied with Alan Dawson, worked around Boston with Sam Rivers, then left for New York in 1962 to work with Jackie McLean, taking part in "The Connection" stage play before joining Miles in 1963.

William's main influences were Max Roach, Jo Jones, Louis Hayes, Philly Joe Jones, Jimmy Cobb and Dawson, who he admired for his precision and his melodicism. "These people influenced me toward getting the sound I have now," says Tony. "They each had a personal sound, especially on cymbals, and I watched and learned from the way they approached their kits. I still think about their styles today, remembering them as I pull cards from the file in my mind. They're all marvelous musicians".

TONY WILLIAMS

A lifetime of growth and expansion



Tony's sound has changed since the days with Miles Davis and so has his kit. When he first formed Lifetime he was using a floor tom, an 18" bass drum, a mounted tom and a snare. Now he uses a larger kit and bigger drums to override the electronics of Grant and Brunell. The seven-piece canary yellow set, called the "Tony Williams Drum Set" by Gretsch, for whom he is an endorsee, includes a 14x24" bass, with two toms, an 8x12" and a 9x13" mounted on top; three floor toms, 14x14", 16x16" and 18x18"; and a 6½x14" snare.

"I like the bigger bass drum," says Tony, "because I try to get the kit to help me get a really big sound. Though the 18" bass drum gets a big sound, I wasn't getting the sound back that I need and I wasn't able to hear myself well, so I had to play harder and I'd get tired. I want the set to feel good all the time — without mikes. I should be able to play from very soft to very loud and still be able to hear the definition, hear the tone." Tony tunes his drums not to any specific scales or notes but to sound resonant as a group so that he can hear each one separately and distinctly.

Williams uses the Black Dot plastic heads both top and bottom. "You see," he explains, "if you have heads on both the top and bottom, when you hit the top there's a combustion created on the inside. The sound goes to the bottom head and then comes back and you get this reaction happening. But when you don't have a bottom head, the sound goes 'dddd...', never to return. It's more difficult to play that way because there's no feedback, no ambience.

"I need that push back, because the hardest thing a drummer does is lift his sticks from the drums. Everything you practice is toward learning how to lift up, back. It's very easy to go down, to hit, because you've got gravity helping you. So when you don't have bottom heads on the drums, you're making it really hard on yourself and you don't get a better sound. Most people play without heads because they don't want a tone. They like that flat

'tuh', but I don't".

Tony uses special road cases to keep his set in good shape, finding that with proper care and handling his drums last four or five years. When he gets new drums and heads, he figures about a year for break-in time.

Surrounding his set are five cymbals, which are, from Tony's left to right: 15" medium hi-hats, with no difference between top or bottom; an 18" medium crash; a 14" splash, mounted on the bass drum; a 22" medium ride; and on the far right a 20" medium crash. All cymbals are by K. Zildjian except the splash, though Williams says that the brand doesn't matter as long as he gets the sound he wants. "Sometimes I'll break one on tour and I'll just go into a shop and try a few until I get one that sounds right and I take that one, whoever makes it".

Williams's clean, sharp sound was one of the prime reasons that Miles Davis hired him and, although it's been 10 years since Tony worked with modern jazz's leading figure, he still finds the Davis aura hanging about him. "It's taken me this long to shake him," Tony relates, "to shake a lot of the influence. I'm really just sorting it out now. We did have some great times together and the music was nearly always good unless somebody was sick.

"Wayne Shorter came along after George Coleman and that was the best band. When Ron Carter split to stay in New York, we had Gary Peacock for a year. Most people don't know that. He used to call himself "Gary X" and that got a lot of publicity in the press. But with Wayne, everytime he played there was something you had to be on your toes for. That's what I like, playing with people that try everytime.

"Those years were very influential, from 17 to 23, big years to anybody, so it's no wonder I'm still looking it over. Being around Miles Davis is like living under a cloud. Someone who is that pervasive, who has that much influence and charisma, character and musical depth, it's pretty heavy. It kind of takes a while to

throw all that stuff off".

For several years, Williams has been living in San Anselmo, a small community in Marin County just above San Francisco, enjoying swimming, an activity he recently learned, keeping abreast of world events through his daily reading of two newspapers, and listening to the sounds of the trees and the wind. It was in this idyllic setting that the drummer tried his hand at teaching when work was slow and the challenge to do something new was high. It was a difficult experience.

"So many students had no idea of what to do," he remembers. "First I had to show them how to hold the sticks, how to lift them. Really, every student that came to me had to start with the basics. There are certain things, like holding the sticks properly, that unless you know, you're making it harder on yourself. I learned by watching other people to find the easiest way. I like that, maximum results with minimum effort.

"Many players wanted to know my secret, like it was magic or something. That bothered me. The only reason I play the way I do is that I really worked at it and a lot of students weren't into working hard. I took playing very seriously, so I worked all the time. Students would ask "But isn't it how you feel?" and I'd say "Yeah, it's how you feel but you can love music and have all the best intentions in the world but if you don't sit down and think about it, it's never going to sound the way you think it should sound."

"That's what I learn when I play with a tape recorder. I play something and listen to the playback and I know I played it physically right but it doesn't sound like what I thought I had been playing. So I have to work at making what I deliver appear, and it's hard to tell that to somebody. It's even hard to want to tell people they have to do that. That's why teaching is very hard and I admire people who can do it well and enjoy it".

Though the quiet and serenity of San Francisco is appealing, Williams misses the cultural activity of New York City. When he was younger, he used to do watercolours, his mother still paints and she recently won prizes in local shows. Tony was proud. "I find I'm inspired by artists, paintings, shows," he says, "that's why I miss the island of Manhattan. There's so much going on all the time. It's not like that where I live".

Fine art has interested him for many years and he says he likes the starkness of Van Gogh, the painter's torment striking a sympathetic chord within Williams; and the non-committal work of Magritte. He feels that art influences his person but not his music, but, he says, "Hopefully what I am as a person will come out in my music".

And, if you listen to the broad collection of Tony Williams's live and recorded sounds, you'll hear a man who has been in touch with the world around him and has used that influence and awareness and good taste in producing many moments of high musical expression.

by Zan Stewart

"I need that push back, because the hardest thing a drummer does is lift his sticks from the drums"



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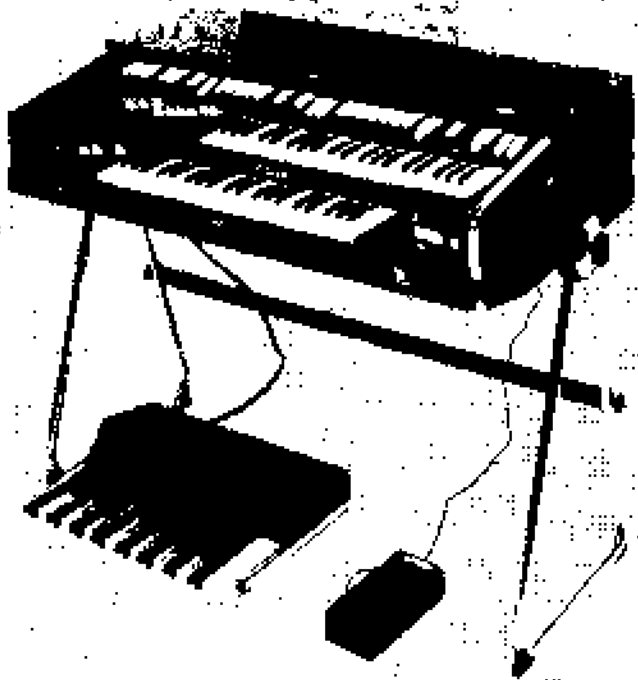
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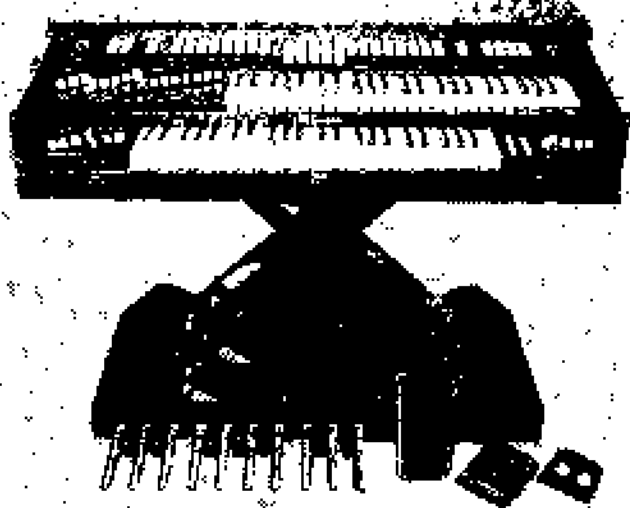
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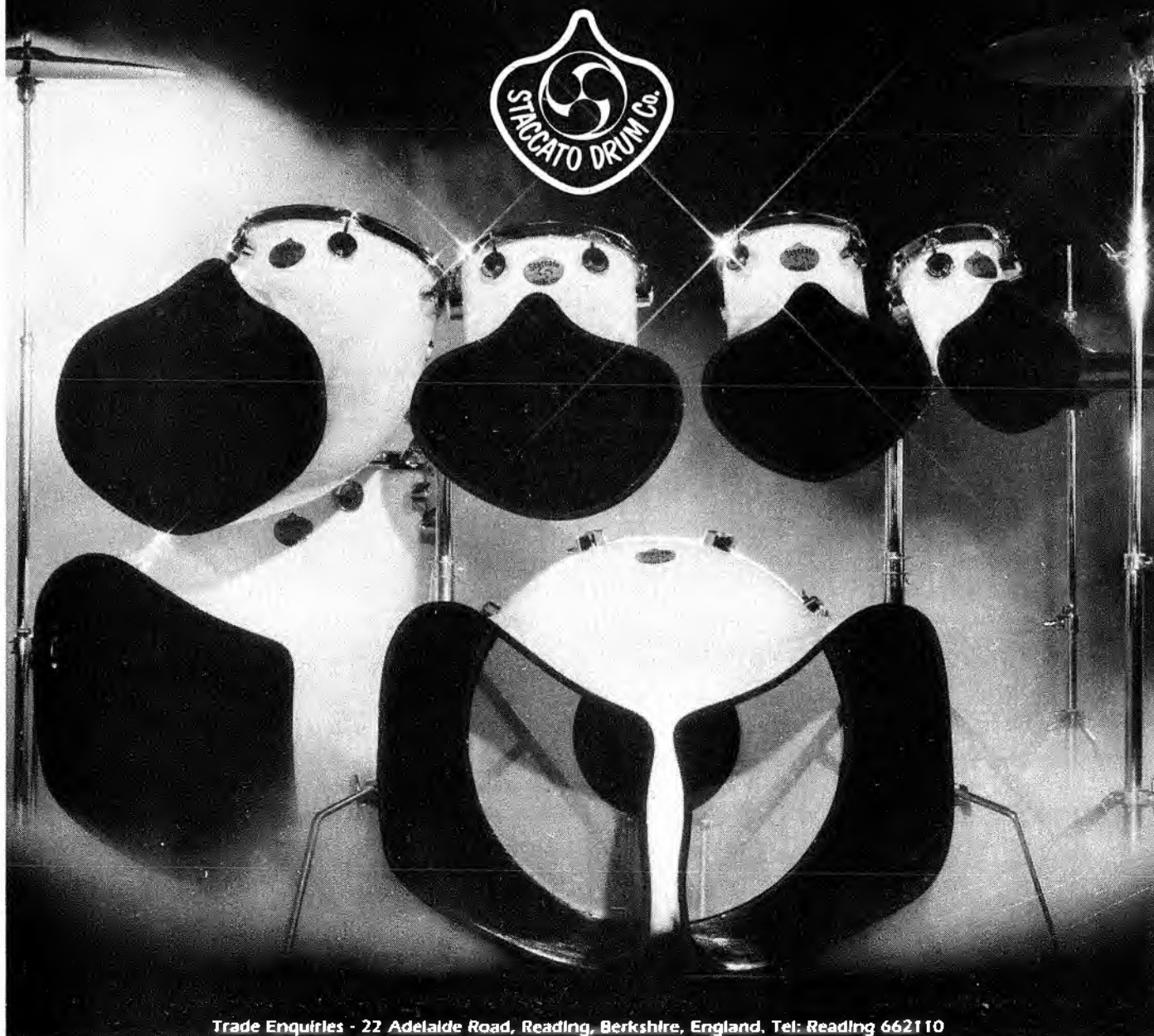
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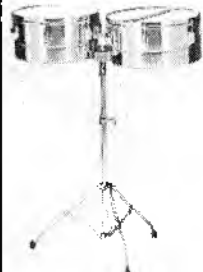
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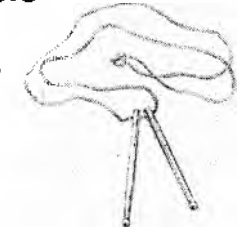
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HiPercussion
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The set under the microscope this month comes from Italy, called the HiPercussion. It's built in Milan by a guy called Caldironi and anyone with a reasonable memory may remember the other drum kits he's been responsible for: Meazzi *Hollywood* which we first saw in the early- to mid-Sixties, and what I presume to be their European mainland counterparts — *Wooding*.

Signor Caldironi has been in the drum making business for the past 30 years and his experience definitely shows. His drum shells owe everything to the *Hollywood* line, but his fixing systems owe nothing to any other concept of drum suspension. As a matter of fact, the tone mounting rails owe far more to the building industry. It's like very sophisticated scaffolding. HiP make what is without doubt the first *modular* system drum set with *en bloc* features. The set I first saw at the Frankfurt Trade Show in 1977 was really impressive to look at and almost awe-inspiring. It looked so complicated that I kept putting off the day when I would have to describe and test one. I advise you to consult the pictures as I describe the set.

The first thing to catch the eye is the tom tom fitting which is best described as *rack mounting*. It uses a *double* rail made from inch diameter chrome tubing roughly 36" long. These two rails are joined to left and right of centre by about 10" of the same diameter tube. All of the joining positions have a unique fixing which is cast and looks like a sophisticated scaffolding joint. The best way to conceive it is to imagine a hand clamped around the tube and locked with an Allen screw through the fingers and out of the back of the hand. The "wrist" is a tubular rod which can join to another

clamp to mate the rails or to mount a plastic ball joint. This holds the angle adjustment and arrest of any tom tom, or even the snare or hi-hat.

Two of these clamps with tube attached locate and screw lock into an ordinary cast female receiver plate, something like Pearl's latest, which keeps the holder rail solid. The angle of the attachment is adjustable as only one rail is fixed to the cast plate. Because of the weight supported by these rails — five tom-toms, several cymbals and mikes in some cases — HiP put a substantial tube below the holder plate from top to bottom inside the shell to stop it deforming under stress.

The set-up of the kit appears complicated at first glance because it *is* complicated! Once the kit is set-up exactly how you want it it's only necessary to remove the tom tom and cymbal arms from their rails. All tom toms, arms and their positions in the sockets on the rail are numbered, plus there's a memory clamp like a Jubilee clip which fixes the horizontal height and lateral position in a simple but elegant fashion. It's shaped in plan like the opposite end of the ball and socket clamp and you simply line it up correspondingly. Once the kit is disassembled the rails and arms are simply put away in the case.

The tom tom arm is exactly like a Hollywood's. A plastic ball, on a standard length of tube about 12" long, has a cast case which fixes around and is locked with a large cast wing nut at its open clamp end with another tube clamp at its opposite end, also fixed with a wing nut and bolt. This tube clamp locates and fixes the rod of the tom tom holder's or the cymbal's arm. Alternatively, it can hold the side drum's stand or the pedal-less hi-hat which allows for



closed hi-hat playing when two bass drums are in use. So, since the cage fits snugly around the ball obviously it and the tube's clamp can be moved to almost any position. There's a fine tuning screw at the other side of the ball from the wing nut to ensure a really snug fit. The tom tom arm connector plate mounted on the side of the drum is cast, but does not allow the arm to penetrate the drum. Instead, it's simply a blind hole in a proud boss about an inch deep and its wall is tapped to take one substantial T shaped thumb screw. This screw is pointed at its end and locates into radial splines set less than an inch from the end of the solid tom tom holder arm, set less than an inch from the end of the solid tom tom holder arm cut at about 45°.

This, too, works very well, and only Hollywood have used this system before. Theirs, though, had an extra drum key operated locking screw. This is the one fixing on the kit which doesn't have any memory joggers on it. I think this one could definitely benefit from some sort of position marker since it determines the ultimate playing angle of the tom toms.

You will see from the accompanying pictures that the whole set except for the two floor tom toms and the pedal hi-hat is mounted on rubber wheels like a trolley. This is not a new idea. Sonny Greer used to have wheels on his Slingerland Radio Kings in the Thirties. However, these wheels are very sophisticated and almost essential. One does not have to have these wheels with the 45 HiP series with the 22" bass drums with five mounted toms and two cymbals. This rig would be impossible to move without running the risk of a hernia. These wheels use the same inch diameter chrome tubing for their axles and the same two clamp joints which locate the tom tom rail into the bass drum. The cast receiver block for these is almost the same as the one on top of the bass drum but is an inch or so longer.

The hand grip type clamp joints are adjustable so it is possible for the wheels to move on their axles and favour either the front or back of the bass drum. The trolley wheels on both sides have the facility but this is of dubious advantage as far as the left side is concerned because the snare drum is attached to this axle and, consequently, there's not too much room to manoeuvre. These wheels are lockable with a twist of their hubs at the front and adjustable at the back on a swivel so the "trim" of the set can be changed to accommodate any irregular surface.

That takes care of the innovations.

It's a nine drum set with five single headed mounted toms from 10 to 15", two floor toms — 16" and 18", a 22" bass drum and a deep wooden shell snare drum. As usual there's a hi-hat and bass drum pedal, one boom stand, a normal cymbal stand and the snare stand. In addition you get two cymbal arms for the "rack" mounting and all the necessary pieces for the tom toms.

Bass Drum

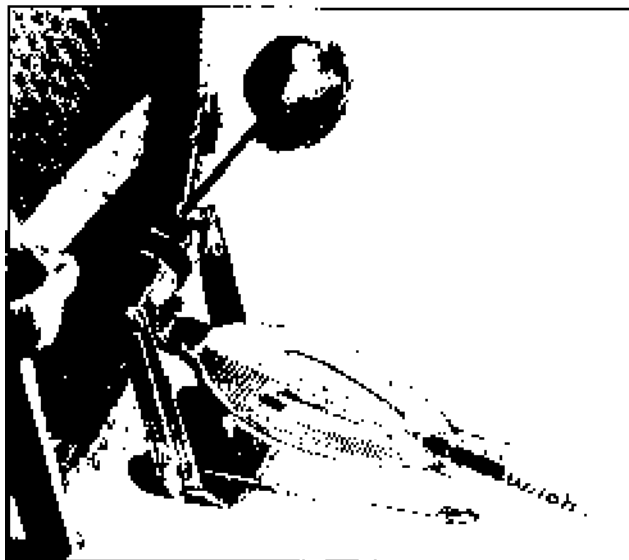
The bass drum is a 22" x 14", the alternative being an 18" diameter option. It's made from four-ply wood, the outside layer walnut and the inside beech with its right angled joints staggered around the circumference to reduce the weak points. The layers are "powerglued" and the natural finishes are polished by hand. The drum sports 20 of HiP's unusual and unique T tensioners which are the same as the old Hollywood ones and swivel outwards on their cast nut-boxes. This means you don't have to remove each tension screw completely to change a

head — simply slacken them off until the claw is clear of the hoops. These claws, too, are cast and joined. The hoops aren't solid but made from plywood like the drum shells. There's a substantial inch diameter tube inside the drum from top to bottom below the tom tom holder to maintain the bass drum's uniformity, and to stop the shell from flexing. It's also handy for putting extra damping material behind. The batter head is fitted with the normal felt strip dampener.

The heads on the drum are made by HiP, look like Remo's, and are indeed made like them from the Mylar film of DuPont's in Wilmington, Delaware. The film isn't exactly the same as Remo's, it doesn't seem quite so permeable. I managed to dent the tom tom heads relatively easily. The plastic isn't fixed into the channels like Remo, either. I haven't taken it apart, but my experienced guess is that it isn't glued and perforated but crimped like Ludwig's. Anyway, the heads sound very good. The front head is peculiar to HiPercussion, it's called a funnel and has a 13" hole already cut into it — it's not at the center but just over two inches up from the inside of the hoop. The overall sound of this bass drum is great — possibly the best I've ever heard with real depth and balls. Everybody who has sat down at the kit has remarked how good it is.

Tom Toms

The set has a couple of unusual sizes in the tom tom set up. All are single headed except for the 16" floor standing which has a timpani-type pitch changing foot pedal fixed to it. There is a 10" x 7" drum with six tensioners, 12" x 8" and 13" x 9", both with six tensioners. The 14" x 9" has eight as has the 15" x 10". The 18" x 6" floor tom has eight tensioners as has the 16" x 16" pedal tom for *each* head. The toms and the snare drum use the same tensioning techniques as the bass drum. Swivelling square headed tension screws fixed to the nut boxes and shell, cast claw hooks which clip to the holeless die cast Slingerland stick saver type rims. These rims are obviously stronger without the holes, as the manufacturer claims, but whether their other claim about them enhancing the sound is true remains to be heard. As with the bass drum the tension screws don't have to be removed to change a head. Simply loosen them enough to release the claw from the



hoop, swivel it outwards and remove the rim and head in double quick time (8/8 to you). This is a real advantage if you break a head in the middle of a gig.

All the drums are fitted with HiP's external damper which operates on top of the head. This spring-steel damper has a one inch felt pad which fits around the rim and is held in place above and below by the tension screw. It's articulated and can swivel from a position about three inches into the head to any position towards the rim to vary degrees of dampening. It's in the "off" position when actually sprung onto the rim itself. It works very well, particularly on the snare drum and so far doesn't rattle. It kills the rings without changing the pitch of the drum.

All the toms are fitted with Caldironi's own tom heads which are see-through with a center reinforcement black dot which, like Remo's, dampens out a good deal of the overtone which helps the fundamental to be more audible — therefore a rounder, clearer sound. These toms, too, are made from walnut and beech but are constructed from three plies. None of the drums have glue rings and I'm a little concerned about whether a single headed drum with a relatively thin shell will stay circular without them. Time will tell. Certainly the toms all sound good, very strident, although the doubled headed floor tom doesn't, and never will sound like the others — I mean to eventually try it single headed and see what that's like.

The 18" tom tom has only three legs on it which is one less than most makers fit to that size drum. Also the legs on the larger drum are made of normal bent steel rod with rubber feet. Top knurling aids grip where they locate into larger than normal cast blocks without O rings inside. They have a thread tapped directly in to them which is not good practice since these sort of blocks invariably strip their threads whoever makes them. The legs on the other floor tom are completely different. Instead of

being bent at their ends as is usual they are bent at right angles in their center like the old Hollywoods. This horizontal part is actually a casting which locates and wing screw locks the bottom part of the leg which is about 10" long. The top part of these legs has indentation grooves cast into it to lock it solid.

The pitch pedal fixes to the two legs of the 16" tom and looks incredibly complicated but is, in fact, relatively simple. A foot pedal with two spurs pushes a connecting rod which rotates a torsion bar which is fixed inside the drum. This bar in turn has a cam which pulls another rod attached to the centre of what can only be described as the spokes of an umbrella — the spokes are flat, however, and attached one to each of the nut boxes through the shell. So, all the rods pull and the bars rotate, the umbrella center goes down and its spokes pull down on the nut box which is hinged, and with this thin arc-like slight movement of the nut box the pitch of the drum changes. The whole pedal unit is adjustable for left or right footed players or indeed for left or right of the bass drum positioning. There is a manual locking attachment for the pitch blocking the foot pedal mechanism so the player doesn't have to keep his foot on the pedal to maintain his new pitch.

Snare Drum

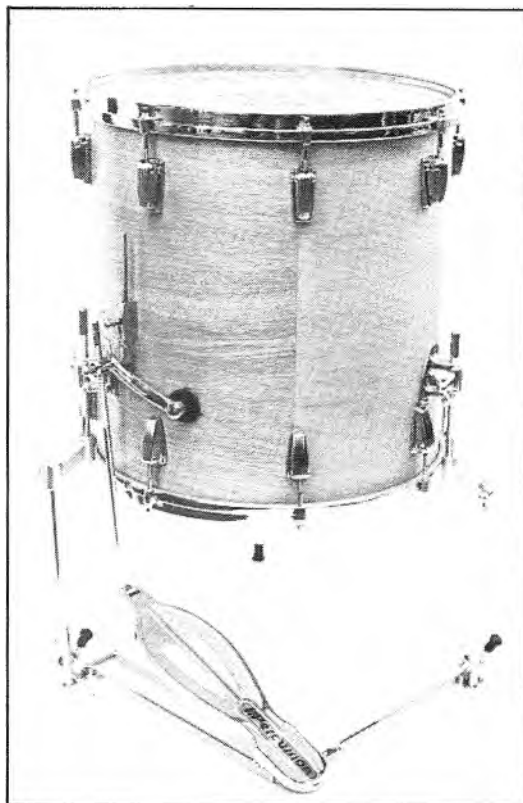
The 14" x 16½" snare drum I had was made from natural wood although they do make a deep, copper-plated metal shell variation. HiP don't make any other depths of snare, their WN drum has 10 double-ended nut boxes with the same swivelling square tension screws, cast claws and rims. There's not an awful lot to the snare drum since it has an unsophisticated cam action snare strainer (like Gretsch's) adjustable in tension at its butt end, and just the simple external damper. The 20 strand snares are attached to the strainer with a plastic strip going through the smallest snare gate I've ever seen. This snare-strainer actually had *Wooding* stamped on it. The snare drum shell is built from three plies like the tom toms and is fitted with HiP's own batter head which is white brush-response coated to make it like Remo's *Ambassadors* — unfortunately, this sprayed-on finish didn't stay on, and in time the floor under the drum became coated with white chunks of the covering material. Fortunately, it doesn't affect the sound of the drum, which is really good — crisp and strong. This snare and the bass sound really remarkable. It's weird because the bearing edges are not very fine. I suppose it's the thinnish shells which make the drums so responsive.

Accessories

The snare drum is also unusual. As I mentioned it's fixed via one of the "hand-grip" joints to the trolley wheel's axle and then goes up through a cast right angle joint to the same ball and cage fixing that the tom tom and cymbal arm use.

Clamped into the pipe socket is the top part of the basket-type snare drum stand. Its right-angled arms are sheathed in rubber, like most other makers'. But the HiP stand has a locking mechanism which is unique to them.

Instead of its basket being locked to the drum by a threaded collar it's secured by a heavily sprung cam lever which works in a solid and positive way. It certainly renders the snare drum immovable and puts it at any reasonable angle and height for comfortable playing.



HiPercussion's supreme bass drum pedal is exactly the same as Hollywood's. It has a one piece cast foot plate with a pair of oval slots in its center and non-slip indentations machined into it, an expansion spring on an adjustable cam which has an unusual *modus operandi*. The cast center axle section is movable on splines. The plate which connects the plate to the cam axle is made from "industrial fibre" and the whole unit attaches with a screw locked clamp to the bass drum hoop in what I call the "undignified on your knees under the snare drum" manner. The pedal is unsophisticated but for all that has a reasonable feel to it, is responsive and appears to work well. Its lambswool/cork beater I felt to be superfluous in this day and age, and it unbalanced the pedal.

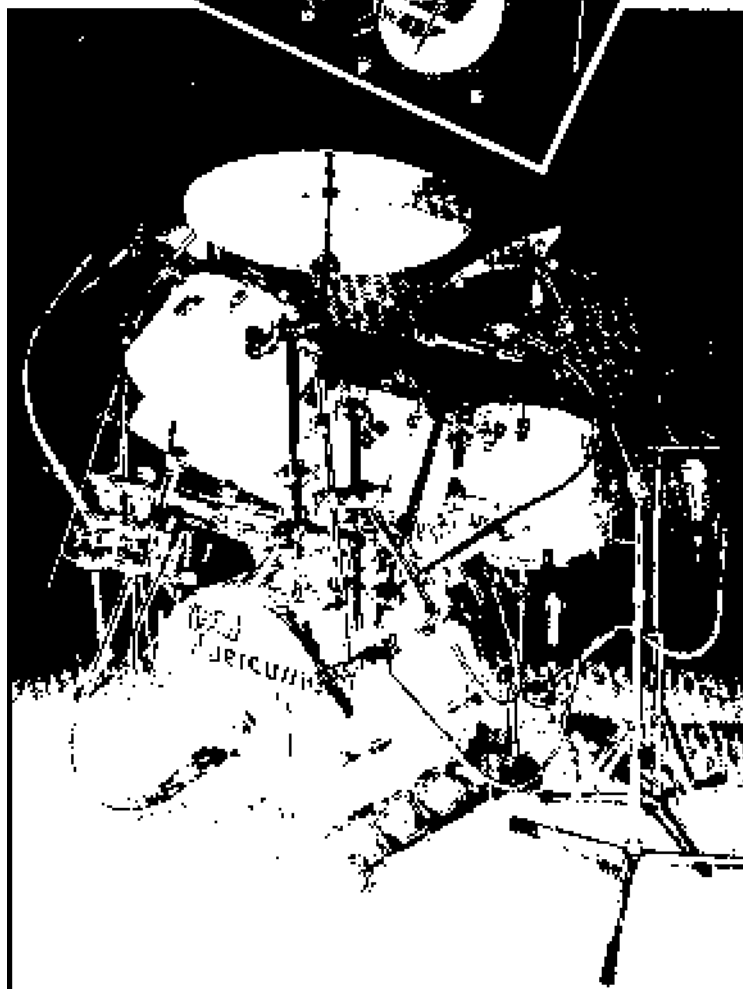
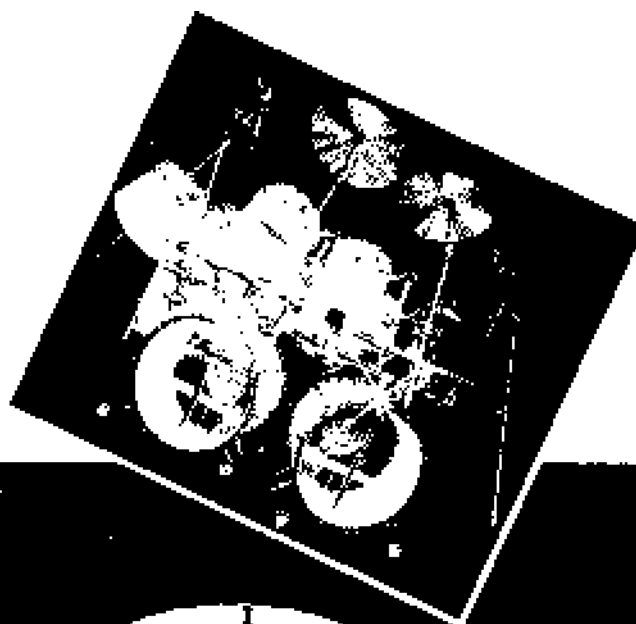
The hihat works better than its bass pedal counterpart. It shares the same footplate with the other two pedals on the set, has two expansion springs which work outside the top tube and are adjustable uniquely on a movable collar which locks with a drum key in the same rod which the top cymbal clamps to. It's more unusual, this pedal, because it's a centre pull model but its bottom tube (the part the legs attach to) is offset by an inch or so and doesn't line up with the top tube. So the mechanism doesn't touch the bottom tube at all — this simply holds the hi-hat up. The actual hihat cymbal pull uses a steel strap, a Premier type, screw adjustable rubber bottom called "seat-cup" and another Premier type top cymbal clutch with two locking washers below the cymbal, ample felts and a sensibly large locking screw to maintain the top cymbal's position on the connecting rod. HiP use what is almost a flush-based but also tripod legged system to support their stands. The three bottom legs which fan out from the centre tube are of inverted "U" section pressed steel with rubber feet and something I didn't notice at first — concealed sharp-tripod swivel spurs inside them. These legs lock into the open position with a large cast wing nut which screws up a captive bolt. Hinge fixed to these legs are three flat steel struts which give added stability and, as in a tripod stand, they join to a movable cast collar with the usual locking screws. I felt the pedal worked very smoothly and competently although it's hardly one of the monsters I'm used to examining these days.

The universal cymbal stand has the same base as the hihat but is bigger with a consequently wider spread. It has only two stages — the top one being solid and knurled and the bottom normal tube. The solid rod stage has two ratchet tilters about six inches apart and above the top ratchet are approximately six more inches of thick rod with their cymbal seating on top. This is a small, squashed rubber cone with a hard rubber washer on top of it and a small wing nut. The other stand is the Giraffe boom which is something else again. The base is the same but at the top of the first section we have the plastic ball and cage exactly as on the tom tom rail, and the pipe clamp locates a tube with cast bosses, and wing bolts at each end. One end locates and adjusts the heavy counter weight, the other locates the cymbal arm section of the stand which, like the *Universal*, has two splined cast ratchet tilters, in this case set about 12" apart. The same cymbal seating is provided which hopefully keeps the cymbal locked into the right position — I have my doubts about this part but suffice it to say that this is the very highest production cymbal which can be set up to have the cymbal seven feet high.

Conclusions

Here is an expensive, good sounding and sophisticated set which is being launched, hopefully, on the market to gather a share of the ultra rich professional's business. It's certainly good enough in image and sound, and with its *en bloc* miking-up facilities would save a lot of roadies aches with dismantling. The fact that it comes in only two finishes, white and natural wood, is a disadvantage. They should, at least, introduce the option of plain black. Aside from these quibbles, if they manage to get the publicity and the players to sponsor the set worldwide, they could stand a very good chance.

Henry Roberts



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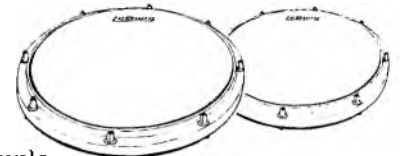
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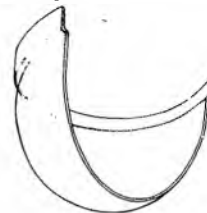
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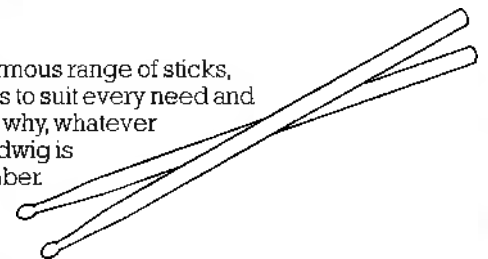
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PAISTE 505 15" Hi-Hats	56
PAISTE 505 16" crash	35
PAISTE 505 18" medium	42
PAISTE 505 18" crash	42
PAISTE 505 20" medium	54
PAISTE 505 20" ride	54
PAISTE 505 22" ride	66
PAISTE 2002 13" Hi-Hats	79
PAISTE 2002 14" Hi-Hats	84
PAISTE 2002 14" sound edge	138
PAISTE 2002 14" heavy	83
PAISTE 2002 15" Hi-Hats	94
PAISTE 2002 15" sound edge	149
PAISTE 2002 16" crash	54
PAISTE 2002 16" medium	54
PAISTE 2002 16" crash	85
PAISTE 2002 18" ride	85

PAISTE 2002 20" crash	74
PAISTE 2002 20" ride	74
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PAISTE 2002 China	115
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PAISTE 602 14" Hi-Hats	109
PAISTE 602 14" sound edge	109
PAISTE 602 15" Hi-Hats	119
PAISTE 602 15" sound edge	109
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PAISTE 602 16" thin	69
PAISTE 602 16" medium	69
PAISTE 602 16" Hi-Hats	29
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Making Drums

A visit to the Sonor factory

Every year a party of "key" dealers are taken to Germany for a long weekend to look around and indeed appreciate the Sonor factory. The complex is a couple of hours or so away from Frankfurt, deep in the middle of Westphalian farming country at a place called Aue (pronounced "hour"). The drum factory was forced to move there in 1950 from Weissenfels in East Germany when the original factory which was established over a hundred year ago was *appropriated* by their government. The only property the company were allowed to keep was their trademark (the two beaters, one reversed) which had been awarded to them in 1907. Sonor (pronounced "Sonnoar" not "Soaner") started out as so many other manufacturers did, making military drums and the company is, and always was, very much a family affair with the present president Horst Link the grandson of the founder, one Johannes Link, who was in turn succeeded by *his* son Otto. One of Horst's sons, Oliver, the youngest, is increasingly involved in his promotional job both at the factory and around Europe.

When the company first set up in their present position, their biggest problem was to educate the local workers in the gentle art of drum manufacture. The majority of the workers were, and to a certain extent still are, farmers. Because of this it ultimately took 10 years to train the locals to build the Sonor product. (I have heard stories of farmers milking their cows first thing in the morning and then wandering off to build "Sonorphonic" drums at the factory. In the summer they can start work at 5am but they have flexible, staggered hours). Nowadays the company employs 200 people who are all highly-skilled locals of which 45 per cent are women. Quality dictates, as the company say, that all assembly be done completely by hand and to the naked eye everyone, but everyone, appeared to be a specialist of some kind. Mostly the factory works hard at producing 50 per cent drums and 50 per cent percussion instruments. Of these 50 per cent of the total go for export. (Although they don't have the lion's share of the market, particularly in America they are recognised as producing one of, if not the, best *quality* drums available today). Monthly the factory produces six to seven hundred sets plus assorted percussion instruments (tuned and untuned) of which 20,000 pieces are glockenspiels. The only drums exported



Sonor's factory at Aue

from Germany are the "top-of-the-range" Sonorphonic ones (with the nine ply wood shells) and to a lesser degree the acrylic sets.

As one would expect with that output the factory has a very high stock level of components and raw materials. Most of the machined parts are made on the premises although certain things like screws, nuts, bolts, straps and springs are made outside. The acrylic shells too are made elsewhere but are, of course, assembled at Aue. A pile of 50 different kinds of wood for the shells and tone-bars is kept in a very sophisticated warehouse which has automatic humidity control and it's skylights open by themselves when and if necessary. This is for the first stage of the drying by air, the second stage is used when the raw materials are needed. They are placed in a large, automated box more like a gentle oven where they are thoroughly dried. A lot of the woods were unknown to me by their German names but I certainly recognised spruce, birch, maple, beech, oak, ebony and the best quality rosewood in the world which is called jacaranda and comes from Brazil. This rosewood is used for xylophone tone bars and the celebrated and expensive Sonorphonic rosewood sets. We saw a dense synthetic wood which Sonor are using for xylophones and marimbas at the moment which is only available now in bars about 2x1 but with the natural raw materials of the world fast running out I wouldn't be surprised to see drum shells available eventually from this substance called "Palisono".

Sonor's wood shells are formed in

special oil-heated circular presses like cannon-mouths warmed up to 250° Centigrade. Three pieces of 3-ply wood are first cut at 30° or so to ensure no right angle joins, then glued, then inserted into the presses with their joins staggered around the circumference of the shell for extra strength. (To put all joins at one position is obviously not the strongest way to build). The guy building the drums actually stood on a small tom tom as it came out of the former (the process takes 15 minutes) with no sign of cracking although it bent a bit — this guy was a big fellow, too. The smaller drums do not have centre cores when in their presses but the larger drums do to make sure they are perfectly round inside too. The shells are now ready to have their bearing edges machined and then their sides covered or polished. (Sonor spent a great deal of time working on these bearing edges and they are the main reason for the Sonorphonic drums' good vibrations.)

Sonor's covering machines are the best I've seen — absolute precision instruments. The company developed these machines specially which hold and slowly turn the glued shell while the glued plastic sheet is *pressed* against it. It's an impact adhesive which goes on absolutely smoothly and looks fantastic. The outer edge of the plastic is lapped over and raped then held solid in drying position in yet another clamping machine to ensure a clean lap joint. The next step is to drill the shells in one operation on another purpose-built precise machine — the drum is then ready for its padded nut boxes and other extraneous bits and pieces to be fitted *by hand*. Each Sonor drum has a serial number on its badge which serves a two-fold purpose — if your drum is ripped-off it will at least be traceable, and, if the drummer has any complaint about his instrument, the problem can be sorted out without too much trouble.

While I think about it, even though there are a lot of dirty and dusty operations going on in the factory, one *never* sees undue mess and rubbish around. This is because of a sucking machine which is like an octopus who's tentacles are hoses which run all around the workshops and suck up the unnecessary waste at source. It seems that getting rid of all the waste at the time it's generated means that ultimately the processes which suffer from dirt and dust in the air like glueing and polishing are kept cleaner and therefore better.



Sonor possess an amazing machine which is rather like a large horizontal lathe. Its purpose is to draw *seamless* metal shells and hoops. The drum shell starts life as a round $\frac{3}{16}$ " thick metal plate which is fixed to the machine; like magic the plate spins and within a very short time the shape is pressed and formed — it looks a bit like a seamless biscuit tin evidently until the bottom is cut out. The flanges and centre bead are pressed in later. Some other companies have machines like this but I haven't seen one which made one piece triple-flange hoops before. Sonor's machine uses the waste from the snare drum shells (the bottom of the biscuit tin) to make the smaller hoops. This machine also *spins* cymbals around a former but these are only for beginners, really, and don't actually leave the country. Whilst I was at the factory the machine was making the hoops so all my information is from hearsay but I think it's substantially correct. Horst Link's company have just spent 350,000 DM on an up-to-date chroming plant. First of all the metal parts are thoroughly cleaned and degreased in an ultrasonic bath. Then the parts are put into three more electrolytic baths — one of copper, one of nickel and finally one of chrome. The process is called triple chroming. The whole thing takes quite a long time but anyone who's seen Sonor's chrome finish would appreciate the quality.

Of course, the company make all their pedals and stands on the premises from scratch — as I mentioned earlier a few materials are brought in from outside but all the fabrication processes are done on the site. Their rivets are not of the bifurcated or hollow type but are solid. They are, of course, more expensive to buy but are not so prone to breaking or loosening with wear. It's just another indication of Sonor's attention to quality and small details.

Oliver Link gave me some very interesting information which shows how complicated co-ordinating drum manufacture can be. They make drums in fourteen different colours and twenty-two sizes; this gives 308 permutations of size and colour. So, if they stock just ten sets in each colour this leads to 3080 drums!

Sonorphonic snare drums are all factory tuned before they are shipped — they use a microphone, a strobotuner and a chime bar. The 'strobe' is set up first with the chime bar (i.e. tuned) then matched by the drum with microphone held close to each tension position. The drum swivels on a platform at about 30 degrees or so. The batter head is tuned quite high by modern standards to C sharp II, the snare head is slightly lower at F sharp 1. All snare drums leave Aue with a Remo Diplomat batter head which I

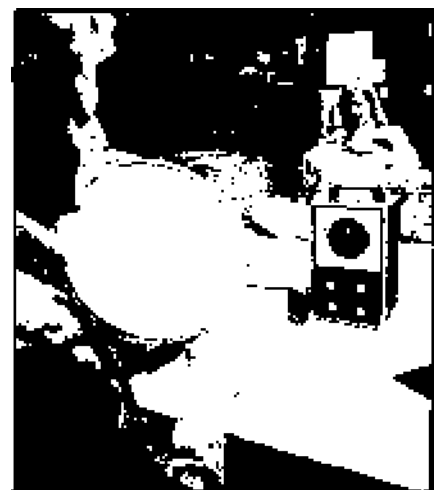
found rather strange.

Besides being a factory Sonor's premises are also a bonded warehouse for Zildjian cymbals and Remo heads. They distribute these around Europe. (A bonded warehouse is a high-security building which is locked and inspected by the customs since duty is not paid until the merchandise leaves it). This, of course, means the company do not have to have lots of bread tied up in duty. When you consider they hold up to 15,000 heads and 6,000 cymbals you can appreciate the beauty of a bonded warehouse.

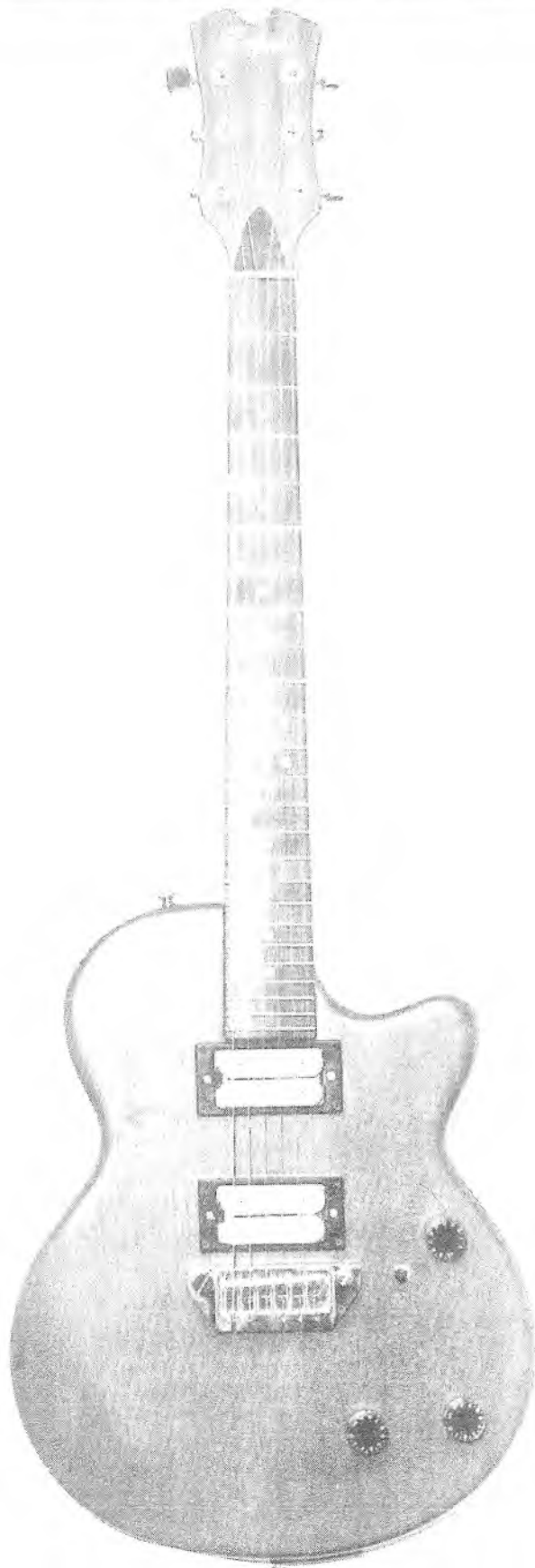
After the factory visit we all went off to a seminar which was conducted by Gordon Williamson, Sonor's European Sales Manager. Besides product education and familiarisation we were shown some very fine unison playing by a couple of young German guys who were pupils of Danté Agostini. They were called 'Drum Battle'. They did things together which I had never seen before. All their parts were written down and included cross-sticking and well controlled crescendo and diminuendo. My favourite piece was "Spectrum" from the Billy Cobham album which they had transcribed and played in *unison*.

It was unequivocally a very successful and relaxing weekend. I'm sure everybody learnt a lot, enjoyed themselves and would like to be invited back to Aue for another visit.

Henry Roberts



HOFNER S5 PA

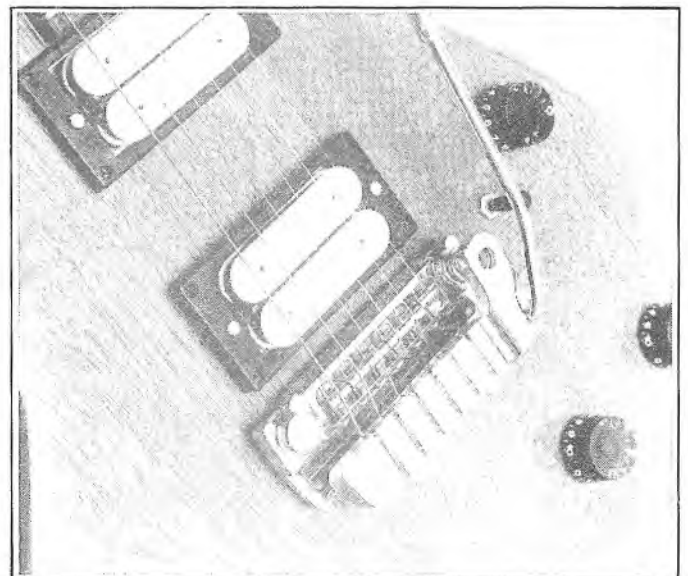


Driven by two Hofner twin-coil 'Super Humbuckers', the new S5 PA guitar provides a deep, rich sustain that won't vanish when the volume goes up.

Built for power, it features a specially designed pre-amp which, when activated by lightly depressing the volume control knob, provides an extra 10dB signal boost — enough to overdrive any amplifier. Press the volume control again, and the guitar returns to the original mode.

With many 'active' guitars, dependence on batteries can occasionally give problems — not so with the S5 PA. The pre-amp uses so little current that the installed life of the power cell is almost as long as its shelf life. And when it does run out, the guitar does not cease to give a signal — it simply reverts to the 'standard' non-active mode.

Particularly suitable for high volume work in either recording or live situations, the new Hofner S5 PA delivers the sound you want with the versatility you need.



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Unit is very nicely presented and has a nice, substantial feel to it.
From a performance aspect there are more surprises. Whereas we have come to expect an almost linear impedance curve from this maker, here we find the normal, rising curve that is characteristic of most loudspeakers of this type. Conversely, RCF's strong point has never been low distortion, but in the case of the L12P/24, we find a figure right down at just 3% at full sine wave power, and this only increased to 5% on a re-test at 150w. There are however no surprises in the sensitivity figures. Somehow, RCF always manage to extract the last ounce of acoustic output from their loudspeakers, and the unit now under review is no exception, returning a figure of 101db, which is up among the very best achieved in this 'Speakercheck' series. This is without doubt, an excellent loudspeaker and is certain to come into its own once the market starts to search for alternatives when the Cobalt shortage really starts to take its toll of the Alnico type magnets, and prices rocket up. At this price, it is a good buy in any event, but seems to have been largely overlooked by the market.

**We couldn't have
said it better ourselves**

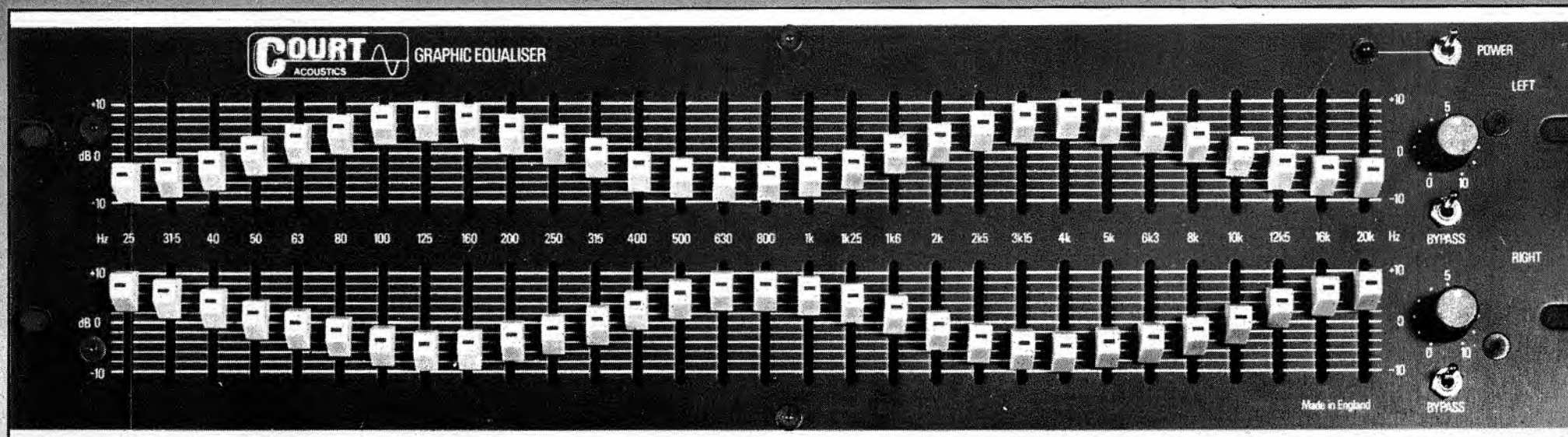
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Reviewed by KEN DIBBLE—December 1978

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Spirogyra

Horslips

Little Feat

Spirogyra

Catching the Sun (MCA)

The second effort from one of the most successful fusion bands that have come onto the scene in the last few years.

Like the title track of the *Morning Dance* album, this title track "Catching the Sun" also has a catchy melody and could be a surprise success if it followed suit to "Morning Dance" as a single.

The key to Spirogyra's smooth sound is a mixture of tight brass arrangements and equally tight rhythm section, set-off against Mr Beckenstein's controlled sax work and funky compositions — it's more rock than jazz. Jay Beckenstein has a curious 'short' sustain to his playing, which coupled with a sharpish attack has the effect of always understating the mood, balancing a funky, uptempo style against staying mellow. He even takes Spirogyra to the limit of sentimentality, making use of strings without ever, I think, exceeding the bounds and becoming slushy musak — a feature in much crossover material which has brought cries of "Sell-out, bland-out!" in the past.

Side one is a more varied mixture than side two, containing styles from funk with a Latin feel ("Cockatoo") to "Autumn of Our Love" in a more 'romantic' mood. Side two comes more from the same 'jungle jazz' stable and deserves to be explored at more leisure than even review time affords. Needless to say, the addition of musicians of the calibre of John Tropea on guitar and Randy Brecker on trumpet (playing through what sounds like a wah pedal!) and flugelhorn are general indicators of the excellent high standard of this album's contents. Special mention, too, for the ace production job by Jay and Richard Calandra and the nice cover graphics — even the vinyl quality was excellent — a rare occurrence these days (clean record with a fairly dry Martini). Definitely one for listening to in your hammock.

Mike Feasey

Produced by Jay Beckenstein and Richard Calandra of Crosseyed Bear Productions for Amburst Records. (Assistant producer, Jeremy Wall). Recorded and mixed at Secret Sound Studios, NY by Michael Barry and Jack Malken. Mastered by Bob Ludwig at Masterdisk, NY.

Horslips

Short Stories, Tall Tales (Phonogram)

From "Dancehall Sweethearts" and "The Tain" a direct line can be drawn to the Horslips of the present day. Those early albums, based on the traditional music and myths of their native Ireland built them an enormous following that they have never lost despite the steady, gradual change in direction and sound that they have undergone.

Short Stores, Tall Tales then is a natural progression from their last album *The Man Who Sold America*, with as the title suggests, short, well produced song-stories that amply display the instrumental virtuosity that has given the band a distinctive sound, falling, as it does, somewhere between Thin Lizzy and Jethro Tull. Horslips have never had the wide ranging success of either Lizzy or Tull but this album may well go far in amending that.

All the songs on the album are well constructed, with much more of a vocal basis than previously.

The sentiments are more obvious, the arrangements more pronounced and the sound much more solid and finite than any of their past epics.

Hopefully *Short Stories* will give Horslips the same sort of break in Britain that they have had in the USA and Ireland.

Tim Oakes

Produced by Steve Katz. Recorded at Windmill Lane Studios, Dublin. Engineer Dec O'Doherty.

Little Feat

Down On The Farm (WEA)

The first song to really hit me on this latest and last offering from Little Feat was "Love Is A Perfect Imperfection". It was followed closely by "Front Page News". In quick succession both "Be One Now" and "Down On The Farm" wormed their way into my synapses — I was singing all four numbers back to back on the way to work, going home, out for the evening.

What's characteristic of these numbers is their water-tightness, completely devoid of a weak chorus, verse or bridge. Every chord in the various progressions in each songs displays fresh yet harmonic resolution from the chord preceding it. This isn't a new trait of the Feats, but it's good to hear after an album such as *Time Loves A Hero*, which in my opinion wasn't representative of Little Feat at their best.

Naturally, the rhythm section of Ritchie Hayward and Kenny Gradney is totally distinctive, computer-precise boogie with a funky programme, about as potent as a steamroller on uppers.

Above their matrix, George's slidework skims and settles tantalisingly, warm and sensual, cool and intelligent, an object lesson in how to do it for a great many imitators.

Down On The Farm is the last will and testament from a guitarist who was rapidly becoming one of the premier musicians in the world of rock. George died of heart failure not long after this album was completed, and the band themselves refer to it as "the real last record album". At its best the LP is a *tour de force* of the Feat's style of boogie, despite what a lot of their detractors say. Personally, I feel that *Down On The Farm* harks back more to *Feats Don't Fail Me Now*, without repeating any of the musical statements made on that record.

However, not all of this album is my meat, though the bits that aren't hardly poison me. "Six Feet Of Snow" I find unacceptably tainted by more than a dash of country music, likewise "Feel The Groove". As I have a tendency to break out in hives every time a country song presents itself to my ears, these numbers had to go without being raped by my stylus.

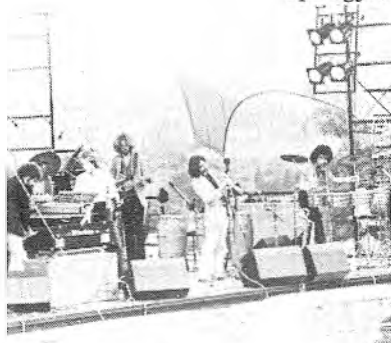
It's fairly obvious that Little Feat will never recover from Lowell George's death. Not only did he contribute a great deal of the material but he also produced the band, achieving a distinctive, magnificent sound for the group — rich and full but not devoid of edge and spark.

Little Feat deserved more than they got — especially in the States where their following never got much past the cult status, a kind of big support group. America will never know what they've passed up.

Steve Brennan

Produced by Lowell George & friends.

Spirogyra



Lowell George



Horslips



Ramones

End Of The Century (Sire)

For their latest album, the Ramones have teamed up with Phil Spector, a partnership which perhaps seems a little strange, but has produced some interesting results. Following their excellent *Rocket To Russia* set, the follow up, *Road To Ruin*, was a little disappointing, so the band had to come up with the goods this time.

The opener, "Do You Remember Rock 'n' Roll Radio" has the basic Ramones sound filled out with sax and piano, and is an almost football chant type tribute to the great days of rock 'n' roll. It is only really on the following track, "I'm Affected" that Spector really makes his mark. The drum sound is really terrific and punctuates the song up front while the rest of the band are kept simmering in the background.

There are plenty of standard Ramones rockers like "Chinese Rock," "The Return of Jackie and Judy" (which sounds like a rip-off of the Sex Pistols' "Pretty Vacant"), while "Rock 'n' Roll High School" is a dead ringer for "Rockaway Beach."

I suppose it was rather inevitable that an original Spector classic should be included, and "Baby I Love You" works well enough. Joey's anguished vocals are supplemented by a string section which delivers a really catchy riff. A hook which would make it a successful single.

Overall, *End Of The Century* is an improvement on the Ramones' last effort, and Spector has added some nice touches, in particular some interesting little guitar sounds from Johnny. The meeting of classic old pop with new pop has been rewarding.

David Lawrenson

Recorded in Los Angeles at the following studios: Gold Star, Excalibur, Devonshire Sound, Salty Dog and Original Sound. Produced by Phil Spector.

Warren Zevon

Bad Luck Streak In Dancing School (Asylum)

Warren Zevon always makes me laugh, flaunting a slightly demented brand of black humour. His third album is no exception. While most singer-songwriters scrape the bottom of the barrel, Zevon has surpassed his two previous efforts, *Warren Zevon* and *Exciteable Boy*. The material is excellent, the lyrics superb, the twisted song constructions arresting and playing inventive. Zevon is now firmly established among the higher echelon of contemporary writers.

Produced by Zevon and Greg Ladanyi, the album smoothly transcends Californian archtypal sounds. But there is nothing predictable about Zevon. Compelling lyrics are balanced with moody accompaniment. He's incorporated strings to great effect, using them as a dramatic counterpoint rhythm. He's never sung better, accompanied harmonically by such LA cronies as Linda Ronstadt, Jackson Browne, JD Souther, Glen Frey and Don Henley. Yet Zevon's voice shines above the rest, earthy and emotionally strong.

Like Browne, Zevon writes with a sensitivity all too often missing from music. Emotions seem to be considered a negative character trait for men. Luckily Warren Zevon ignores such erroneous beliefs. "Empty Handed Heart" is as sad and beautiful as was "Accidentally Like A Martyr" from his second album. The musicians complement the sentiments while Linda Ronstadt sings a duet with

Zevon stuffed with heartache. It sends *chills* down your spine.

The basic band consists of drummer Rick Marrota, bassist Lee Sklar, guitarists David Lindley, Jorge Calderon and Waddy Wachtel while Zevon plays piano, harmonica, guitar and string synthesizers. Joe Walsh and Don Felder make guest appearances. Concert master Sid Sharp is responsible for some ingenious arrangements.

The entire album is virtually one highlight. "A Certain Girl" is a lot of rock 'n' roll fun while Browne and Marrota answer back Zevon's vocal pleas. "Play It All Night Long" is a typically bizarre Zevon competition. Punctuated by a wonderful Lindley slide guitar, Zevon sings of a family where grandpa doesn't give a damn, Bill hasn't been the same since Vietnam, grandma's got cancer, the cattle are diseased, but the optimistic narrator insists "we'll get through somehow."

Familiar themes are included. Guns figure heavily in "Jeannie Needs A Shooter," written by Zevon and Bruce Springsteen. The amusing "Gorilla You're A Desperado" takes off musically and lyrically where "Exciteable Boy" left us hanging in mid-air.

The playing is far from sterile and the entire collaboration must be one of the finest to emerge from the West Coast since the Eagles' *Desperado* and Browne's epic *Late For The Sky*. The music is consistently original, intriguing and fascinating while the lyrics are quite brilliant.

Accompanied by his own stark piano and harmonica, Zevon sings the haunting "Bill Lee." One verse stands out: "You're supposed to sit on your ass and nod at stupid things/Man that's hard to do/But if you don't they'll screw you/And if you do they'll screw you too." While Zevon paints a depressing portrait of society, he's one man who won't get fooled again. And for that we should be thankful.

Barbara Charone

*Produced by Warren Zevon and Greg Ladanyi.
Recorded by Greg Ladanyi and Jim Nipar.
Recorded at the Sound Factory, Los Angeles.*

Donald Byrd

And 125th Street, NY

Donald Byrd is one of those musicians who hedges his bets. On one hand he's well-known for his ventures into hard bop and his subsequent jazz, on the other hand he's responsible for some fine commercial soul music, notably in the form of the Blackbyrds. This album is an exploration of his latter character. Did I say exploration? I should've said recital, for the music on this album lifts above the level of disco funk only very occasionally. Nevertheless, it's played with verve and professionalism, as you'd expect from a veteran jazzier.

Mostly the music veers towards disco with all its unadventurous clichés, but Byrd's superlative trumpet playing adds considerable class. His tone is clear, resonant and assured, especially on *Marilyn* and *Veronica*, two downtempo lyrical numbers.

The rest of the songs display a well-worn approach to the usual disco formula, appealing to those into middlebrow funk (à la Crusaders) rather than proper jazz. This is just what everybody has had a surfeit of recently.

Naturally, the players on this album are superb — white-hot session players, never a mistake made. Really it's production line virtuoso crossover funk.

Ramones Warren Zevon Donald Byrd

The Ramones



Warren Zevon

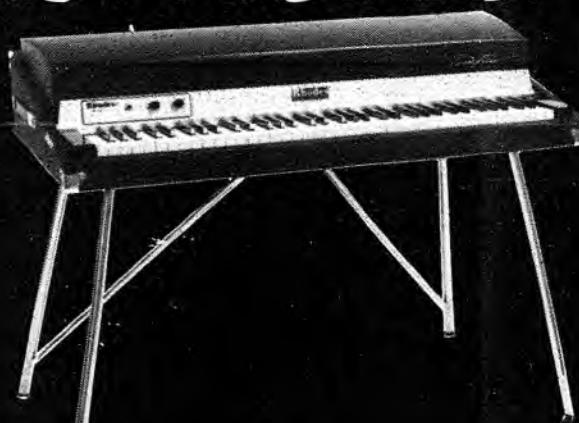


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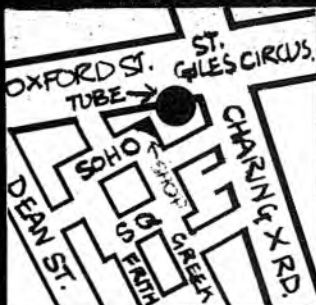
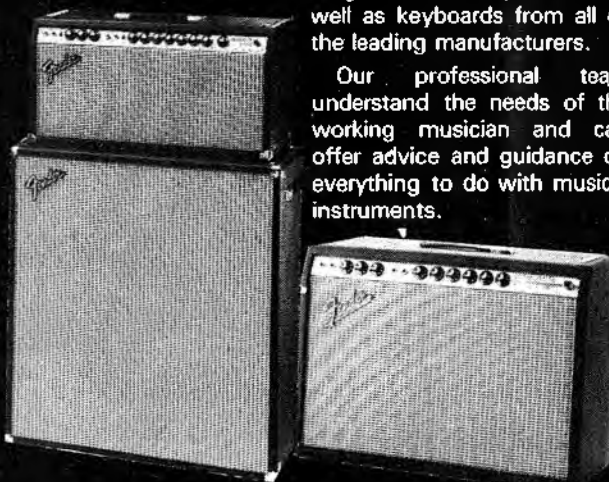
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Clare Fischer's keyboards are impressive, while the chick singers sound uniformly black and appealing.

A lot of the themes as hooks sound twee and weak, rescued only by the rhythm section. This album is for music as backdrop while entertaining guests. Or maybe party music. The cover illustration by Ernie Barnes is sensational.

Steve Brennan

Recorded at The Sound Factory, Hollywood, California. Produced by Donald Byrd.

Planxty

After The Break (Tara)

There are those who say — and I freely admit that I am one of them — that if the so-called Celtic Revival had given us nothing but "Well Below the Valley", it would still be worth the publicity given to it. Having returned after a two-year interval, Planxty re-affirm themselves as having a very special place on the traditional music scene.

After The Break is up to the standards of previous albums. In fact, it may exceed them — perhaps the lads have been practising. The instrumentals are as well arranged as ever and the production has succeeded in mellowing and softening the sound of Liam O'Flynn's pipes. This gives an interpretation of the naturally "throaty" which is possibly less faithful than on previous recordings, but which blends appreciably better with the flute, fiddle, cittern etc. An excellent showpiece is "Smeceno Horo", Planxty's (unexpected!) arrangement of a Bulgarian dance tune, which does more to point up the common roots of traditional music throughout Europe than a dozen learned tomes on the subject. I hope it doesn't start a fashion as these dances are in 9/16 time and remarkably hard to play.

The most instantly attractive of the songs is "The Good Ship Kangaroo", is one of Trad's later efforts and a lovely piece of whimsy. After two plays, however, you appreciate the musical subtleties of "Rambling Boys of Pleasure" to the full, and in particular the delicate string harmonies which bespeak a production by Donal Lunny. This really brings out the togetherness of the band — their ability to keep in communication during instrumental breaks where the beat is slowed almost to stalling speed has rarely been equalled, but the way the guitars fit in with each other on a Stones track like "No Expectations" is another instance where the production exploits this ability in a band. We have, however, been unable to ascertain whether Donal was even consulted during the cutting of *Beggar's Banquet*.

Paul Ashford

Produced by Donald Lunny. Recorded at Windmill Lane Studios.

Elvis Costello

Get Happy!! (F-Beat)

"I don't intend to be around to witness my own decline." Elvis Costello's manifesto of two years ago was partly theatrical, but was also born out by his frenzied performances and the manic tone of his songs.

Rock music does not yet have a tradition of sustained creativity like black music. A poor or light-weight album by a James Brown or Smokey Robinson is regarded as a lapse rather than the end of a career. Costello's music — not to mention the man himself — certainly needed to ease up. That is what *Get Happy!!* more or less represents.

Immersed in Sixties soul records, this album is still hardly light-hearted. Delayed because of legal difficulties following the British demise of Radar Records, extra interest was aroused by the news that it would have 20 tracks and some 50 minutes of music. It's soon clear that the songs' brevity reflects no slowness of content.

The lyrics are as dense and self-conscious as ever, toying with familiar phrases ("Love For Tender"), making cryptic statements ("It means much more than it might") and generally skirting desperation. For much of the time the listener must make do with tantalizing snatches as Elvis' voice, formerly clear and audible above the excellent Attractions, is now half-buried in the overall sound.

Sometimes this works well, but "I Can't Stand Up For Falling Down" — an old Sam & Dave B-side — definitely suffers. The verses pale beside an oddly memorable chorus. Signs of the singer's Tamla/Stax crash course are small but telling: a title like "Beaten To The Punch," the central role of Bruce Thomas' magnificent bass playing on songs like "King Horse" and "Time Is Tight".

Generally this influence emerges less in style than in attitude. The playing is economical in the extreme, with not a solo in sight. Steve Naïve contents himself with basic organ fills and the occasional buoyant piano phrase. Costello's habitually devastating guitar is unobtrusive, whether clean and simple on "Opportunity" or low-register on "Secondary Modern".

A greater warmth and abandon in the singing is another side-effect more relevant than before. To hear Costello soar up the vocal scale is as delightful as it is unexpected. His repeated lament on the fade of "Motel Matches" has the spirit of vintage Van Morrison. On a more contemporary note, the brisk lode of "Human Touch" is reminiscent of his production work on the *Specials* album.

Get Happy!! is stuffed with reminders that this is not Elvis Costello's *Nashville Skyline* or *Self Portrait*. For example, the almost casually innovative "B Movie" brilliantly merges a disco bass line with tricky drum patterns and sharp guitar punctuation.

Costello seems incapable of trying less than his hardest, but *Get Happy!!* sounds less agonizing than usual.

Harry George

Produced by Nick Lowe. Mixed by Roger Bechirian. Recorded in Holland.

Planxty Elvis Costello

Planxty



Elvis Costello



Albums

Lene Lovich Fiddlers Dram Lynrd Skynrd

Lene Lovich

Flex (Stiff)

A new album from Lene Lovich displaying the expertise we have come to expect from that lady. The tracks are brilliantly arranged and together provide a good contrasting variety.

Numbers which immediately stand out are "Joan" and "You Can't Kill Me." "Freeze" has an almost medieval-chant-like quality about it and evolves around an Aborigine-type rhythm beating away mercilessly in the background. The chanting backing vocals are very similar to those on "Birdsong," while the synth effects on this track, as on many of the others, contain some interesting ideas.

Throughout the album Lene displays her talent with a wide variety of vocal textures, particularly on the first track, "Birdsong," a hit single. The many tone colourings include (among the best), beautiful vibes on "The Night."

I suppose there may be a danger of the effects being overused but there isn't really anything to offend the ears. Perhaps it is a result of so many people producing, although the production cannot be faulted.

However, this is an excellent album — well worth buying, dare I say it, even if you already possess some of the tracks in single form. I just wish L.L. would lay off the sax and stick to the things that she is good at.

Janet Angus

*Recorded at Wisseloord Studios, Holland.
Produced by Lene Lovich, Les Chappell, Roger
Bechinian and Alan Winstanley.*

Fiddlers Dram

Fiddler's Dram (Dingle's)

It seemed for a while that it wasn't even worth thinking about success as an electric folk band unless you had either been a member of Fairport Convention, or had played with someone who was. Admittedly, at the last count, these categories covered about a third of the population of the British Isles, but it's still good to see a band who have made it to the top without the benefit of the Hutchins/Pegg/Thomson escalator.

Following the catchy single that nearly gave them a Christmas Number One, Fiddler's Dram have released an album of very diverse and interesting material played with a spirit and good humour which seems to be their trademark. The music is unashamedly eclectic and there are some fascinating arrangements — usually leaning heavily on the musicianship of Ian Telfer (fiddle and viola) and Will Ward, whose speciality is playing crumhorn with his tongue in his cheek. Cathy Lesurf's voice often sounds fuller and steadier than it did on "Day Trip to Bangor" and may become one of the great voices in this kind of music. Her singing style reminds me of Anne Lennox-Martin's, which is interesting since Anne's name appears on the credits for the album although we're not told why.

Among the most compelling tracks on the Album are "Thirteen Pence a Day" to a tune by Chris Taylor (long-necked instruments, mandolin, mouth-organ) which rollicks along as enthusiastically as ever a Steeleye Span number did, and the equally boisterous "Farmer's Cursed Wife" which goes to the tune of "Lillibullero". "Day Trip to Bangor" is of course included, but perhaps the most memorable track, and the most musically complex, is Dram's version of "The Newry Highwayman" which they

call "The Flash Lad". Since this is a ballad about a highwayman awaiting execution, the haunting, almost nightmarish accompaniment has a kind of *mise en scene* commonly lacking in "straight" folk and the bravado of the lyrics is appropriately desperate. "Whiskey" is good folk-rock and if a couple of tracks don't quite make it for me ("Fedora" is a Cajun tune and seems to miss the swamps, squeeze-boxes, and drawing vocals of its nativity, and "Mumma's Ill" is a lyrical lightweight) this can be written down to the great variety of the record. In general it's a first album that's full of vitality and crammed with good ideas. I think we need more bands like Fiddler's Dram.

Paul Ashford

Produced by David Foister.

Lynrd Skynrd

Gold & Platinum (MCA)

Compilation albums, on the whole, have to draw the line between the tracks that the fans idealised, and those that the band credited as their finest works. Not so with *Gold & Platinum* which splits the two units into separate albums. This has been tried before, but the interface between both the distinctions usually ends up in a poor generalisation of the band's career as discerning musicians, whose opinions and critical appreciation of their own works overrules that of the audience's. Lynrd Skynrd present a problem for any album of this type anyway, since the band's leader, Ronnie Van Sant was killed in the air crash that also ended the life of the epitome of Southern boogie bands.

Tracks from the very first album rest alongside songs from the last in a total disregard for any chronological order. But, strangely enough, it works.

Epiraphs of this kind are rare, nothing is left to gather dust in the archives of the record companies. "Gimme Three Steps," "Gimme Back My Bullets," "South Down Junkin'" and the perennial "Freebird" paint a picture of a long and successful bout of boozing and touring (in that order). Some of the choices seem a little strange, seeming to be totally out of their era, "Sweet Home Alabama," the return shot to Neil Young's "Southern Man" is dated, and "What's Your Name (Little Girl)" sound as naïve as the question.

It is pointless to pick too hard at what is essentially a very fine compilation album, since there is no chance of it being repeated. It seems hard to believe that this is not an interim report but the very final farewell. The album should have ended as "Freebird" began: *If I leave here tomorrow, will you still remember me?*

Tim Oakes

Compilation by Lynrd Skynrd. Recorded at various locations.



Fiddlers Dram



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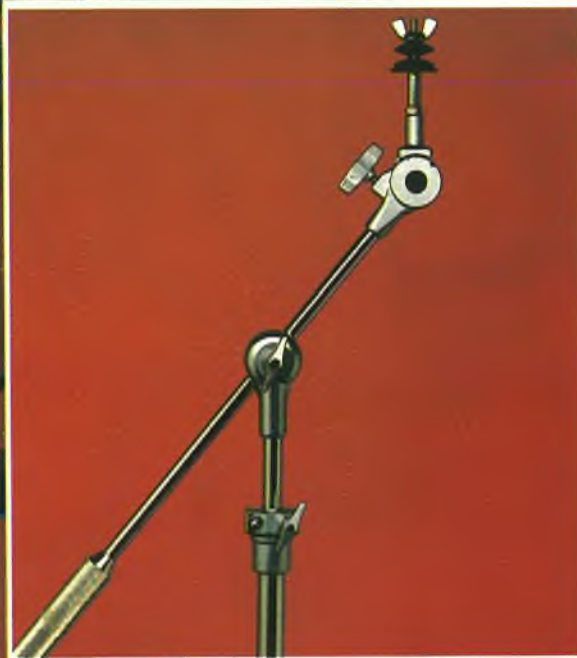
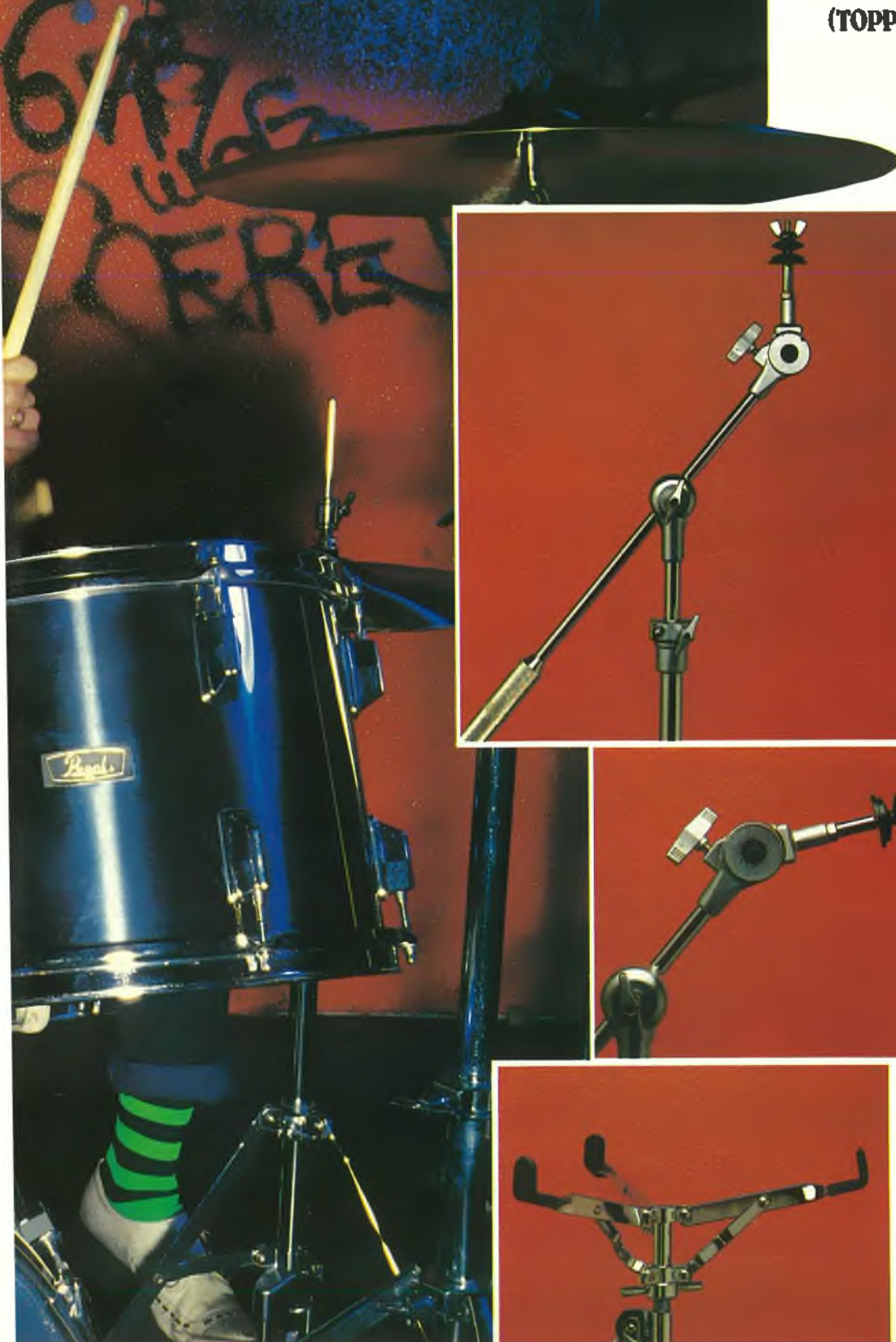
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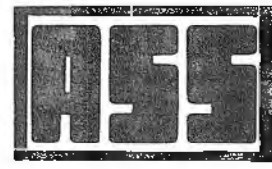
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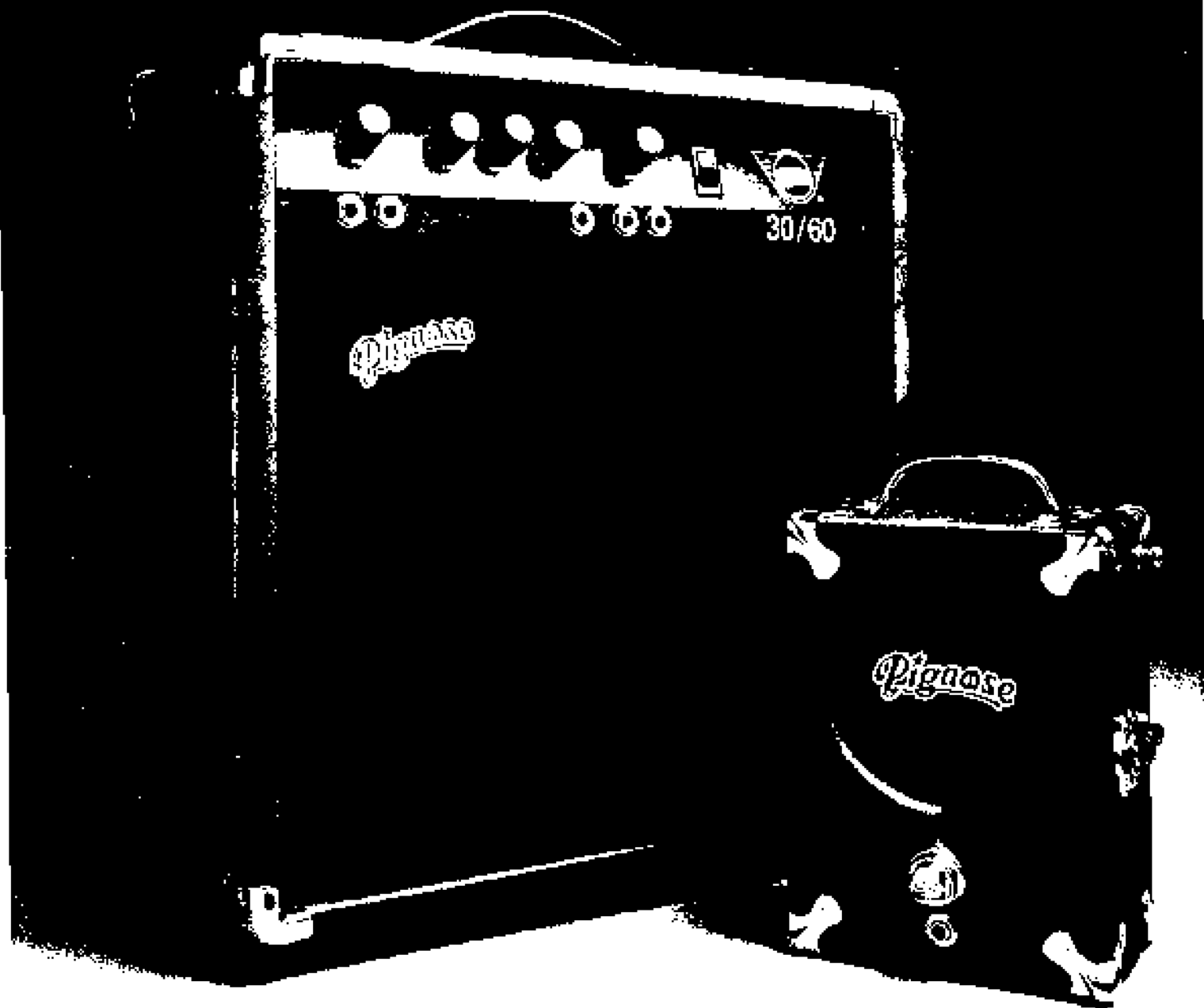
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KRAFTWERK

Since the inception of rock 'n' roll, the predominant influences in modern music have come from either Britain or America. Of course there are the inevitable crop of summer holiday hits from Torremolinos or Majorca and maybe the odd disco single from Europe, but at best, the rest of the world have been pale imitators. In rock music at least, we have an unbeatable export.

Still, you would think that there would be some spark of originality out there. Well, Ralf Hütter, a German, is one such spark who refused to be such an imitator. He formed his own electronics band and even had the nerve to use a German name: Kraftwerk.



Even by rock's standards, Kraftwerk are a somewhat bizarre outfit. Their music is typically Germanic sounding, harsh and stark conjuring up visions of factories and heavy industry — in fact the very name Kraftwerk means power station.

They rarely make public appearances, and when they do you are more likely to see dummies of the band, rather than the musicians themselves. Still, their sound has proved commercially successful and has been a considerable influence on a number of artists including David Bowie.

The band in fact began as the Ralf Hütter Organisation in 1968, Ralf working with Florian Schneider. They changed their name to Kraftwerk and set up their own studios, Kling-Klang in Düsseldorf, and recorded their first album with two other musicians — Klaus Dinger and Andreas Hohman, on a multi-track tape recorder.

The music was heavily influenced by English experimental bands such as Pink Floyd, but by the third album, they had established a very original and distinctive sound. In 1973 they replaced Dinger and Hohman with Karl Bartos and Wolfgang Flur, and recorded their critically acclaimed *Autobahn* album. This opened up the US market for the band and even provided a hit single in both Britain and America.

Their line-up has been the same for their subsequent albums *Radio-Activity*, *Trans-Europe Express*, and *Man Machine*, all of which have helped their reputation as one of rock's most interesting contemporary bands. It is truly "Music of the Eighties".

In a rare appearance for a German TV programme recently, they stood almost motionless, in a uniform-like get-up, with luminous tubes draped round their necks, to present a true image of their music: We are the robots.

This year, Kraftwerk's new album is due for release, and it has been produced and recorded in the "lab" of Kling-Klang Studios in Düsseldorf. Wolfgang Bongertz met Ralf Hütter during the production of this album, their ninth, and talked about the band and their music.

He began by asking Ralf about the little noise-snippets they use in their recording in a kind of sound-collage technique.

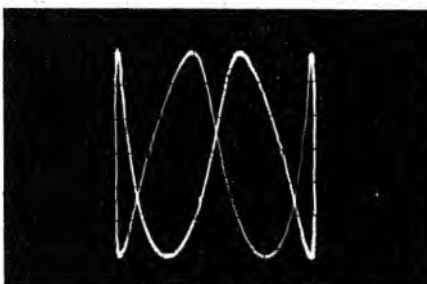
Ralf Hütter: "We have always collected cassettes of various recordings and 'quoted' them on our albums, — in sound collages, there is nothing particularly sophisticated about that. We have found that people who are into technology do things with such over-sophisticated means as to destroy what they are trying to do. It's like catching a butterfly: it flies, you spot it, catch it in a net, put it in chemicals, pin it up and keep it behind glass. Then you put a label on it and you've got it — but it isn't a butterfly anymore.

We find this syndrome in the whole area of musical technology, especially in England. What happens is that the living creative idea dies on record and becomes boring. You use 48-track technology, all kinds of gadgets, but you play the record

and there's nothing on it. Some singers are made out to be all Beryl Reem and deodorants, and you have everything on the record, only it comes over as 48 deodorants.

On listening to American albums you notice how much more spontaneous and "live" they sound, and that is because they work in a much more casual way, in some old barn with second-hand equipment from a radio station. I've been to a place like that somewhere in the South US, and the scene was kind of humming dragonflies outside and humming technology inside the studio.

We only work on 16 tracks, recording directly quite a lot — just press the button. We have simplified technology for our use to a point where all we do is press a red button and let it run. We don't want to make intellectual music, everything is as far removed from the drawing board as possible. Most of our ideas are spontaneous, they are, how shall I put it... accidental, they just come flying in.



Wolfgang Bongertz: *So you just switch the tape on and play?*

Yeah, that's it. Our situation used to be different, just hoarding all the ideas and then going into a commercial studio. That used to be very expensive. So, 10 years ago we rented an old laboratory and made it into our own Kling-Klang Studio, and we locked ourselves up with a simple Revox tape-recorder. Occasionally we used to go to other studios, because we didn't have all the technical facilities for mixing and so on, but the basic idea, the ovum, if you like, was recorded here.

We never polished anything excessively, no "mechanical" finish. Quite rough, and that is probably why our music, despite all its technological sound, always has a primitive edge to it, it never sounds polished.

But you do a lot of experimenting on your sounds?

In order to achieve a certain sound or realize some idea, we sometimes fiddle around for a month.

Do you begin by playing around with your equipment until you get the sound you want?

Yes, we want to make the thought into sound. What we do is actually more like film, acoustic cinema — take *Autobahn*, for example. On the cover there is my old VW, we were on the road in Germany for five years, all over the place, Munich, Hamburg, Berlin, everywhere. And always on the motorway, always listening to the radio. And suddenly we said, 'why the hell isn't that *our* music coming out of

the radio?' That's when we did that thing. Just about everything we do comes out of our experience — the real thing."

So you put your music together accordingly?

Everything happens really quite spontaneously, and the planning consists in having no planning! If you over-plan to a point where you know that at half past eight next Friday you are going to record such a note on such a frequency, you're in danger of losing your way because you can't see the road for maps, and terrible accidents could occur.

So you don't have track-plans for your recording sessions?

Sometimes we write things down, much in the way of a formula, like a chemist would do.

So you design single sounds and afterwards patch it all together?

Yes, but quite often we just let things happen. The equipment we use plays on its own. We have mechanized most of our gear, it has become a kind of assembly-line music. So we can go away and leave it alone for a while, and it keeps on playing. We have liberated ourselves for a moment. Our role is much like that of a machine minder at an assembly-line. We only interfere where we are really needed in the music. And we don't waste our time on routine stuff like rehearsing, that's really the worst thing I can think of. We all started off with classical music, and that is really the German method: Rehearse, rehearse, reproduce... I think that is very much the reason for our mental blocks. Maybe it wouldn't be so bad had we had some different living musical background. You realize there is no actually "living" contemporary music in Germany like there is in Jamaica, for example.

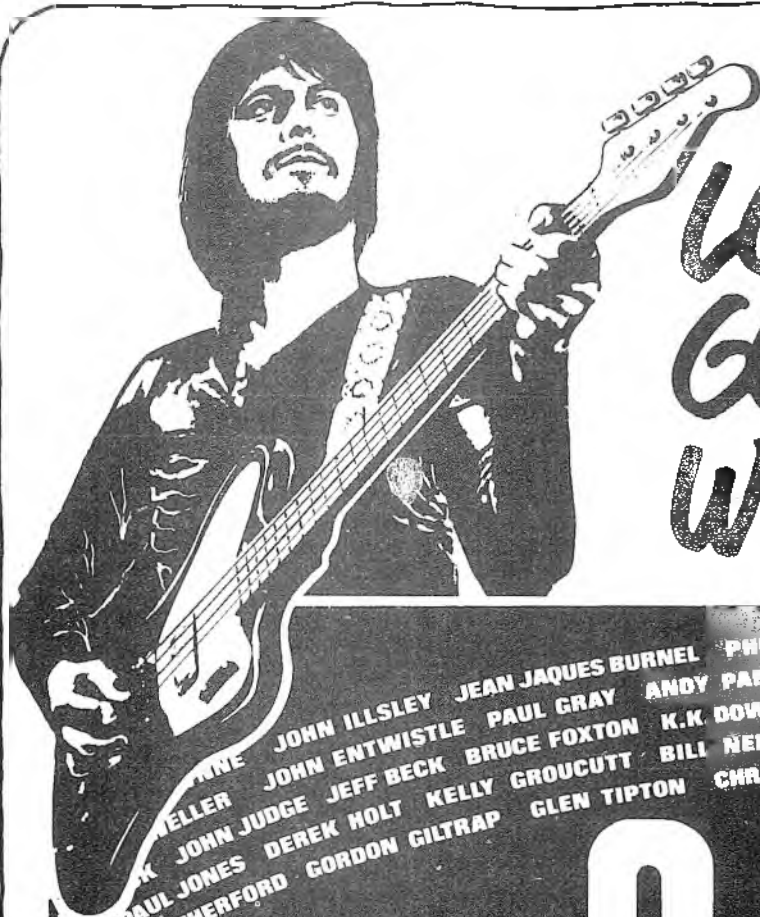
This rebellious attitude has helped us to develop our own ideas. Written music, rehearsing — all that has been made obsolete by the introduction of vinyl for ultimate reproduction. Within that music the aim is to play identically today, tomorrow and the day after tomorrow... and that is absolute crap. The problem has been solved by records and tapes, they play identically every time. The guys in classical orchestras are wasting their time and taxpayers' money, they might as well go and do something useful. Through observations like this we came to do something different.

You mechanized everything so you could be free to do other things?

Yes, we have even done physical reproductions of ourselves — we produced several doubles of each of us. Our fantasy is to play gigs in more than one place at one time. The technical facilities to do things like that exist, and I am sure we will be doing it in the Eighties. We want to use it creatively and not just for the sake of reproduction.

Is your equipment programmed to a point where everything happens automatically?

Yes, it's programmed but with variables. We never play identically, even though it is specific songs we are doing. Our compositions are simple enough not



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to have to waste a lot of energy on formal things. We don't have to concentrate so much on what we are playing as on how we are playing.

Have you built most of your own equipment?

Yes we have. We also use some standard units like Minimoog and Polymoog. We found that it is not enough to rely on commercial music technology if we want to express ourselves (to make our thoughts heard). We have to go further to make some impact. We have taught ourselves some technical knowledge and worked with friends who are purely in communications technology.

If you want to do anything remotely meaningful, you can't just say, I am a musician. I live in a musician's world, my world is in the studios. This obviously makes you degenerate into a specialised idiot. Our main inspiration comes from engineers, and we regard ourselves as scientists, really. Some work in circuitry, we work in sounds.

Out of this collaboration we have developed quite a few instruments. In our opinion you have to use a new range of instruments in order to make new music. The music of the twentieth century cannot be played on age-old instruments.

When you get an idea of a sound, do you talk to a technician and explain it to him, so that they build whatever it is you need?

We work everything out together and fiddle around a lot with our ideas; the concept of reproduction is of particular interest to us. We fantasize about travelling to gigs with only a little pocket calculator.

So your aim is to develop new instruments which (at the same time) reduce the usual hassle involved with using a lot of gear?

Right. People often blame us for playing the music of the "Age of Technology" at such tremendous expense. This just isn't true. We probably use about a third of the gear a conventional guitar band

needs. For us, it is not all about how many tons you are carting around, but about something like . . ."

More like quality than quantity?

Maybe, only, quality sounds a bit "off". We simply aim to make everything a bit more mobile. I said we think of ourselves as scientists, like doctors who always use the most modern means to detect an illness. We have always managed without the established music business, without publishers, managers, producers, studios, owners, employees and workers, etc. From the very beginning we made do without certain things, for the simple reason we did not have them. We started an alternative production by producing ourselves. Our first albums we did practically with our own hands, like in pre-industrial times. Studios were really expensive in those days. We were students on small grants and made money by playing the odd gig. We went into a studio, played everything in a flash to waste as little time as possible, and *that* was our record."

Did these odds help you to develop all your own ideas?

Well, necessity is the mother of invention!

Can you tell me about some of your patents?

You can play electronic instruments at all kinds of volumes, but you cannot do that with a drumkit. The sound on drums starts after a certain point, and that forces music to a very powerful volume. This inverted limitation with volume has always nagged us. So we started by leaving the drums out completely and putting electric pick ups on everything. The next stage was purely synthetic. And that is where we have been at for a long time; everything is programmed, but everything can also be interfered with manually. We can play on them spontaneously or just let them play. So once the programme is set, it does not necessarily go on and on and on, we can control it manually or by

triggers.

There are other triggering devices. We are all of us really into dancing, we like to jump about. So we invented a device that can be triggered off by body movements, through electrical pulses with photo cells and the like. We played around with these things, I think, for the last time in '76, and some people just stared and couldn't believe what was happening. You lift your arm and there are sounds coming from somewhere! Where is the instrument? We're still working on that!

How do you do your recording work?

We work in our lab, our studio, every day, like real scientists. We have been working on our recent opus for almost two years and we hope to finish it soon. We do our job, and when it's finished, that's it."

When recording, the Kraftwerk don't always record straight onto the tape, sometimes they use microphones and most of their technical equipment is self-built.

They try to reflect the sounds of their environment in their music. To them, an aeroplane is more than just a means of transport — it turns into a musical instrument in the same way the *Trans-Europe Express* did. In their own words — "Going from Krefeld to Dortmund on a train you sit through a kind of a 'Sound Symphony'."

Kraftwerk do visual work as well as acoustic stuff. They have done several short films together with a friend of theirs who is a camera technician. The film shown on *Rockpop*, German TV rock show, came out of a collaboration with the TV film crew. "We played in it, and our robots played in it, and it was hard to tell who was who!"

They look at their music as medicine for the brain, and Ralf Hütter's comment on their experimental work sums it up: "When you start doing anything, all you've got to lose is your chains."

Wolfgang Bongertz



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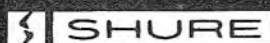
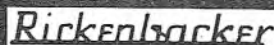
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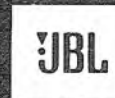
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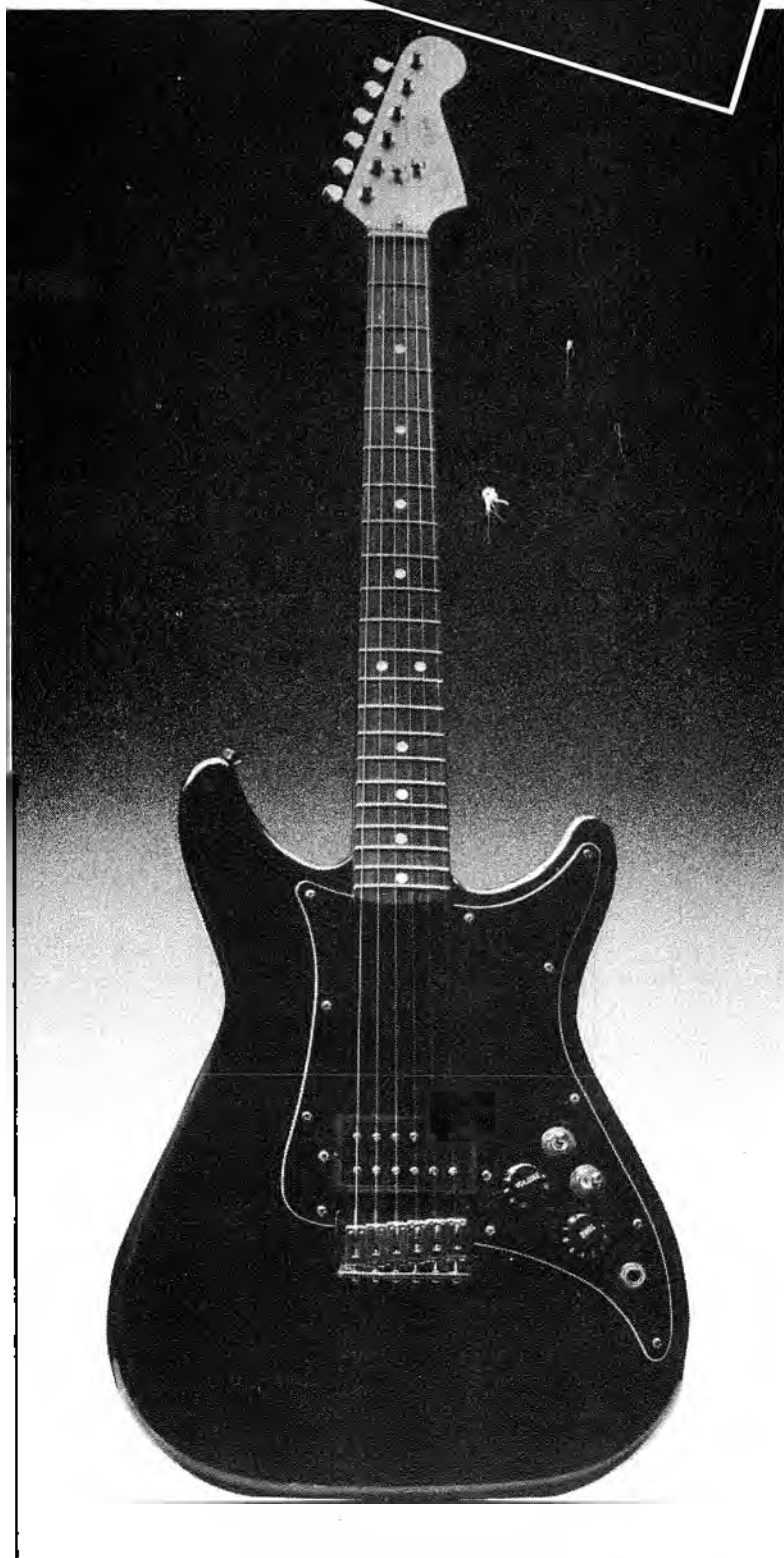
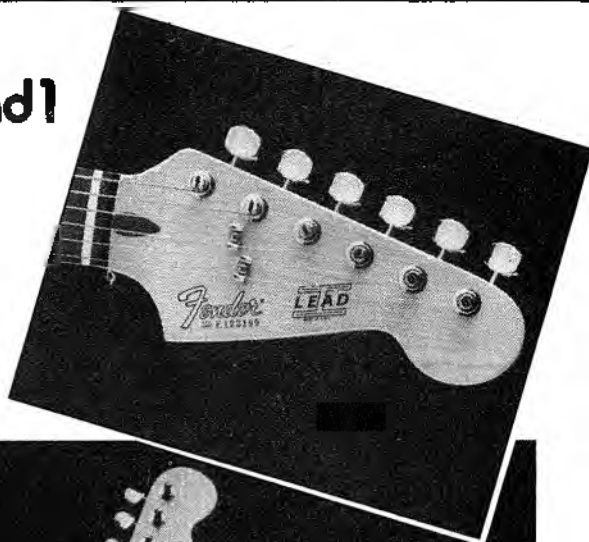
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Guitarcheck

Fender Lead I
£285.20
inc.VAT



One of the guitars which has remained in my mind since the last Atlanta NAMM show is the Fender Lead I. I suppose the idea of a totally new Fender solid-body guitar with just one pickup next to the bridge (and that pickup a large black humbucker) is sufficiently against previous tradition that it *would* stick in the mind. Actually, I saw two new Fender models at the show: there was also a Lead II with two single-coil pickups, but otherwise similar to the Lead I. While I was on Fender's display stand, I tried both guitars as well as I could under the rather noisy and busy circumstances. I instantly disliked the Lead I and, almost as instantly, took a liking to the Lead II.

Of the two samples sent for review, I find that I am not very impressed by the Lead II after all, and I am much more interested in the sound and the neck of the Lead I. So either the two models have been changed around a bit since Atlanta or it is a fine example of why you should not buy a guitar at an exhibition. Exhibitions are great places to see all the new products and possibly to make up a short list of interesting instruments... but not perhaps, to make the final choice.

The Fender Lead I has a heavy ash wood body finished in a semi-transparent high gloss red lacquer. You can see the wood grain distinctly, but it can look a bit "washed-out" if lit from the wrong angle. Under most circumstances, it looks pretty good.

The neck and fingerboard are made in one piece, from maple, and finished in hard clear lacquer. The frets are smoothly finished on top and at the ends. I did not find any sharp edges under my fingers and string bending had a silky smoothness without any of the fret scratch or fingerboard stickiness which one sometimes finds on new guitars. This is partly because of the lacquered fingerboard and partly because someone has bothered to polish out any scratches or roughness in the frets. (This takes rather more time than just buffing the frets so they *appear* to have a mirror-finish.) The neck on this sample is reasonably straight. It *could* probably be adjusted by the truss rod to give slightly better playing conditions. However, on this sample the truss rod adjustment is at the body end of the neck and the scratchplate does not allow enough clearance for a reasonable sized screwdriver.

I have met this problem before: I usually remove the scratchplate and cut the relief notch in the edge larger, until there *is* enough room to adjust the truss rod. If you are not bothered about appearances, you can leave the plate where it is, and hack out a larger notch with a strong craft knife and sandpaper wrapped round a pencil. Of course, it really shouldn't be necessary. Fender have been making guitars for a long time and I would like to think that they have got such things right by now. I have had some difficulty in obtaining samples of Lead I and Lead II for this review, and I suspect that the two which I have, may be from very early production, intended as assessment samples. If this is so, then later instruments, intended for sale in music shops, may be finished and adjusted more consistently.

On our sample of Lead I, the treble strings sometimes catch on the frets during heavy string bending, "choking" the note. I think that some slight adjustment to bridge and truss rod would allow the guitar to work without any choking of bent strings, and at a reasonable action. It is only the work of a few minutes. (... or it *would* be only a few minutes if I could get at the end of the truss rod).

The machine heads are the usual solid but fairly simple type used by Fender. They feel slightly sticky when first moved, but they all work smoothly and accurately. They are still almost unused and I would expect the initial stickiness to disappear with a little more use.

The nut on this sample is not well adjusted. The strings five and six are sitting in v-grooves which are too narrow for the diameter of the string. Consequently, they are wedged, part-way down into the slot. Slight wear or small change in string gauges, is likely to change the string clearance over the first few frets. I would estimate that the 6th string will be rattling on the first fret before it wears down to the bottom of its groove in the nut.

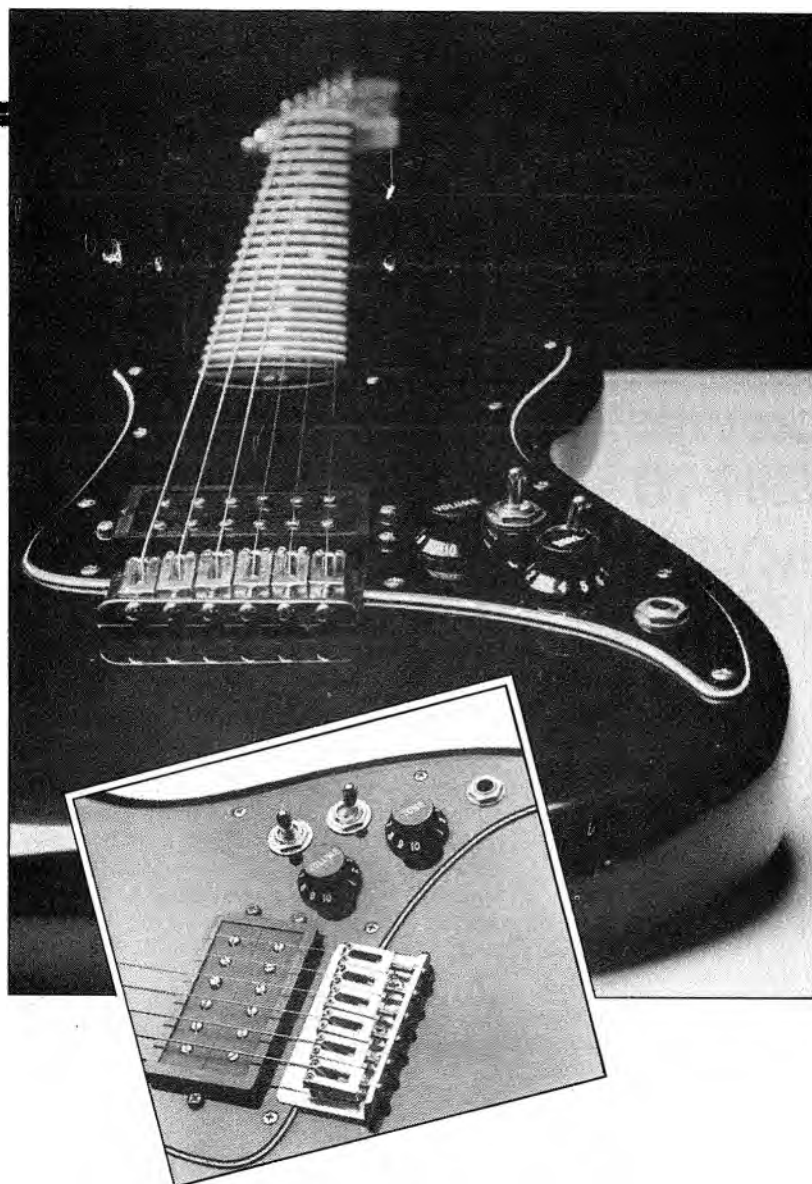
It looks as though the slots for the three bass strings have been cut to almost the same shape with the same v-shaped file. Fender *make* strings: they should know that strings come in different thicknesses. They may not know that a large round string in a narrow, v-shaped slot is not a particularly stable proposition, but I gladly offer the information without charge.

It may be quite a good thing for Fender to have a couple of genuinely new guitar models available at the moment. It is likely to attract some attention and it also offers Fender enthusiasts a wider choice of instruments. This Lead I is potentially more than just an attention-grabber. I believe it will stand the best chance of success and survival if every single instrument is set up so that it works well and will continue to work well without giving unnecessary trouble.

In common with most Fender instruments, the Lead I and Lead II have bolt-on necks. In this case, Fender seem to have returned to the original four-screw fixing, without the neck tilt device. Although initial setting up may take a little longer, I think this is generally a more rigid arrangement than the three-screw system used on other instruments. At some stage in its evolution, the four-screw back plate acquired a plastic washer underneath. This does not seem to make the neck joint any better or any worse, but it probably stops the lacquer cracking around the corners of the plate. As supplied, the neck was a bit loose, but most new bolt-on necks need some re-tightening when they are unpacked. I tightened the four screws with moderate force and the neck is now held quite solidly to the body.

The electronics of this guitar are most unusual for a Fender solid, but the system works, and it will probably delight Van Halen fans. We have here a guitar with a good long sustain, a (very) solid body like a modernized Strat and one powerful humbucking pickup next to the bridge. The pickup looks unlike any other company's products and is probably made by (or for) Fender. It has 12 adjustable pole-screws and even with the screws level, the top string is loud enough to balance with the others. The magnetic field falls off rapidly between the pairs of screws, but as the pickup is right by the bridge, even heavily bent strings never move very far from their usual positions and the volume level stays fairly constant.

The guitar has one volume and one standard tone control, both of which work well. There are also two toggle switches, which select different single-coil and twin coil pickup arrangements. Although the controls are packed close together, I found them conveniently placed. It is just possible to pick the strings, palm-damp them over the bridge and wind the volume control up and down at the same time. I



Scale length	648mm
String spacing at bridge	52mm
Fingerboard width at nut	40.5mm
String spacing at nut	33mm
Depth of neck at fret 1	22mm
Depth of neck at fret 12	24mm
Depth of neck at fret 15	26mm
Action as supplied	1.4mm treble/1.3mm bass
Lowest recommended action under our Standard conditions	1.4mm treble/1.8mm bass
21 frets on fingerboard	
Body joins at fret 20 on treble side	
Heel starts at/around fret 16	

can't think offhand why anyone should need to carry out all three manoeuvres at the same time, but if you want to, you can do it.

Conclusion

This is not exactly a subtle instrument, but there is not a lot of subtle music around at the moment, so that should be alright. It is a solid, meaty guitar with a loud and powerful sound when you turn the amp up. At lower levels, and with some careful picking it can also sound like the guitar parts in some recent TV and movie productions. Our review sample was neither adjusted, nor checked, as well as it should have been but I think the design is probably about right for the 1980s.

Stephen Delft

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.

Guitarcheck

**Aria
'John Joyce'
6-string
acoustic
£189.90
inc V.A.T.**

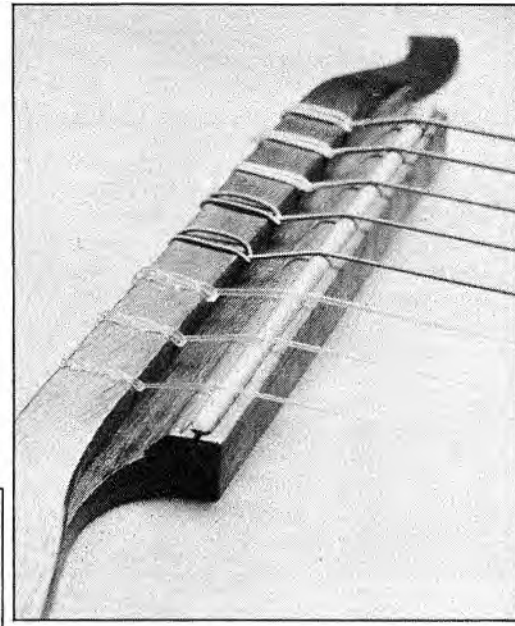
The label inside this guitar says that the guitar was "Created by the Aria Musical Instrument Co. of Japan, from an idea and design of John Joyce of London." That tells you tidily and efficiently what it is all about. Of course, John Joyce is the very same Johnny Joyce, of "Joyce's choice mixture" fame. As you might expect from this, the guitar also does its job tidily and efficiently.

Apart from his well-known musical activities, John has for some time been in charge of guitar adjustment and quality control with Gigsville Ltd., who are the UK importers of Aria guitars. If I understand things correctly, Aria have very high standards for their guitars, and John makes sure that they stay that way. The end result has been a lot of very happy customers, and I am not really surprised to find John Joyce and Aria jointly involved in a pair of new guitars. (There is also a matching 12-string guitar.)

Construction

I understand that the whole of this guitar is made from solid wood; there is no laminated construction at all. It is difficult to verify this without breaking up our sample . . . and apart from the expense, it would be a waste of a good guitar. The back and sides appear to be solid and the front certainly is, because one can see the edge of the wood around the soundhole. On our sample of the six-string, the front is made from an attractive piece of spruce, or something very like it, showing a quarter-cut "satin ribbon" effect.

Old German bridge



This is an unusually crisp sounding guitar front: I think it is partly the qualities of the wood and partly the old style "pyramid" bridge fitted. You may have seen a similar type of bridge on some old American guitars. It was certainly used by the Martin company and also I think by the old Stella and Washburn companies. I am sure examples can also be found on other American guitars from the same period. In spite of its delicate appearance it is a very reliable bridge, old examples are usually still in good working condition. The pyramid shape of the bridge ends has existed in all degrees, from a square "log" of a bridge, with a hint of a pyramid carved on each end, to a more finely-worked design with the two end pieces almost uncoupled from the centre part. Perhaps scientific readers would prefer the term "de-coupled". I believe this is a significant factor in the way this kind of bridge works with the soundboard.

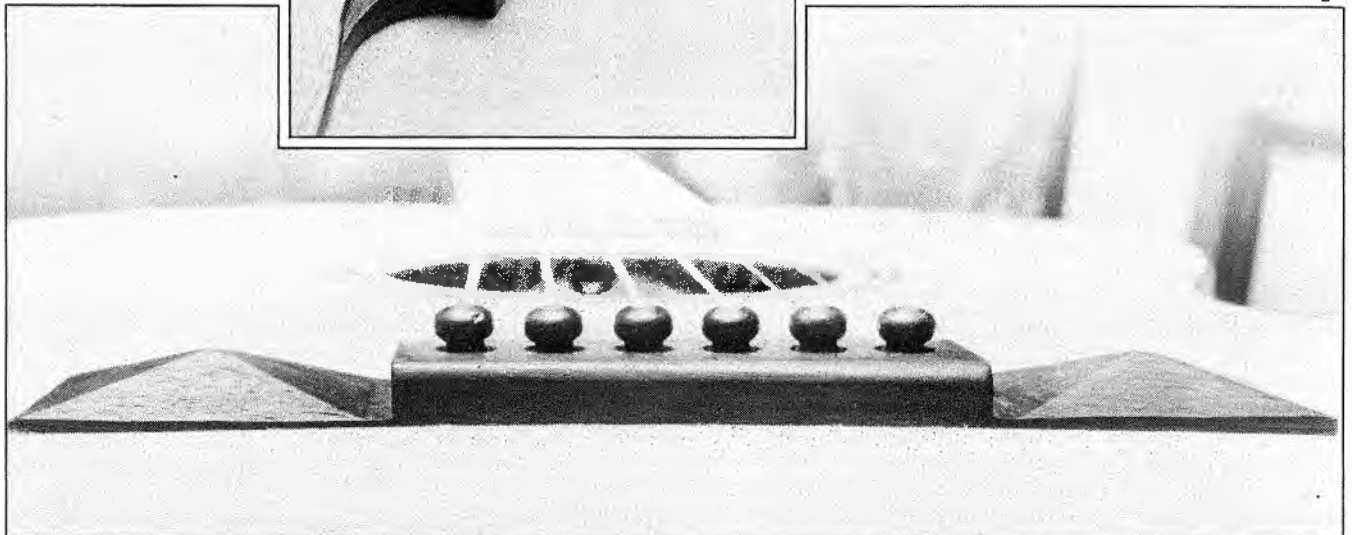
There is a fundamental conflict between the requirements for a bridge which is large enough to provide an adequate area of glue joint underneath and a bridge which is light enough and of the right proportions to vibrate properly. I must use a huge oversimplification here to save space, but roughly speaking, one solution has been to take a large bridge, and *almost* cut the ends free from the middle bit. The whole area of the bridge is glued to the soundboard, but the smaller middle section can vibrate by itself to a limited extent, without the additional weight of the end pieces to slow it down.

There is an old bridge from the German guitar-making tradition, in which the small piece of wood which connects the string saddle to the guitar front, is almost cut away from the rest of the bridge by a deep groove. On the German bridge, the groove is much deeper than necessary for fitting the tied on strings; on this Aria bridge, the grooves between the centre and the ends, almost cut the bridge into three pieces. (If you look at an old Maccaferri guitar, the bridge probably *is* in three pieces!) It is possible that both of these bridges were originally made this way for artistic reasons, but I am not so sure. Instrument makers have a long tradition of doing the right thing, *before* scientists find a name for it.

The Sound

Whatever may be the important factors in this particular guitar, the end result is a powerful and responsive instrument with a fairly extrovert nature. There is little blurring between groups of notes, the

Aria 'JJ' bridge



mid range is not masked by the treble and bass strings, and in my experience, fast picking comes out sparkling and with good articulation. I think it is primarily a guitar for players who know what they are doing and who want to be heard. By the same token, this is not a guitar for the faint hearted or fumble-fingered. If you play a wrong note, or you can't get your fingers in the right places tidily and on time, then your errors will also be heard, clearly and with good articulation.

In spite of the considerable size of the body, this is not at the moment a very "boomy" guitar. The bass is there and it is not weak sounding, but it is crisp rather than boomy. It is likely that more real bass will appear as the guitar plays in; if it can also keep the crispness as well, it should sound very impressive.

The top three strings, particularly the E and B strings, have a full sound and a smooth and fairly long sustain. The tone begins to sound less good on these strings beyond about the tenth fret, but the guitar is practically new and unplayed. It is difficult to say by how much the tone will improve at the top end of the fingerboard. The best thing to do is to play it up there as much as possible, for a few months.

Overall, it is an interesting guitar with a slightly different tone from the "Dreadnought" shaped jumbos. Most big steel-string guitars tend to have two good areas in the bass and a weaker area between them. On this guitar the weaker area is around the open string and first two or three frets on the D string, and there is a "wolf" (too much resonance) around G at the fifth fret. The fullest bass notes are around G and A on the bottom string. Subjectively, this guitar has a rich humming sound at the bass end, rather than a drum-like boom. The wolf around G makes the D string more likely to rattle against the frets when played hard. This guitar has rather a low action. With a higher action the buzzing problem would be much less, or perhaps disappear entirely.

The Head

Unusually for such a large guitar, the head is slotted like a classical guitar, with the machine heads fitted from the sides. This makes a nice change from the usual solid head, but it does reduce the choice of suitable machine head units. The Japanese units fitted to our review guitar are really not up to the standard of the rest of the instrument. I have seen very similar Japanese machine heads which had a better performance, with smoother tuning and no creaks from the gears and bearings. There are also certain Schaller machines which could be fitted and the head is solid enough to take them. Your local shop may have to obtain side-fitting Schaller machines on special order: there are *no* Japanese copies or equivalents as far as I know.

The Neck

The neck is a rounded-over triangular shape at the back and nicely blended into the edges of the fingerboard. This shape would not be *my* choice to put behind a fairly narrow fingerboard, but even so, I do find it a very "fast" neck. I must accept the contradiction that I can not play as fast on some other necks which *feel* more comfortable to me. The fingerboard is rosewood and the frets are fairly high and narrow, with very rounded tops and ends. The nut is well adjusted and seems to be in exactly the correct place. However, if I was intending to use

light strings with relatively high frets, I would be inclined to move the nut a little nearer to the first fret (about 0.5mm). If you have trouble keeping first position chords in tune, this *may* help.

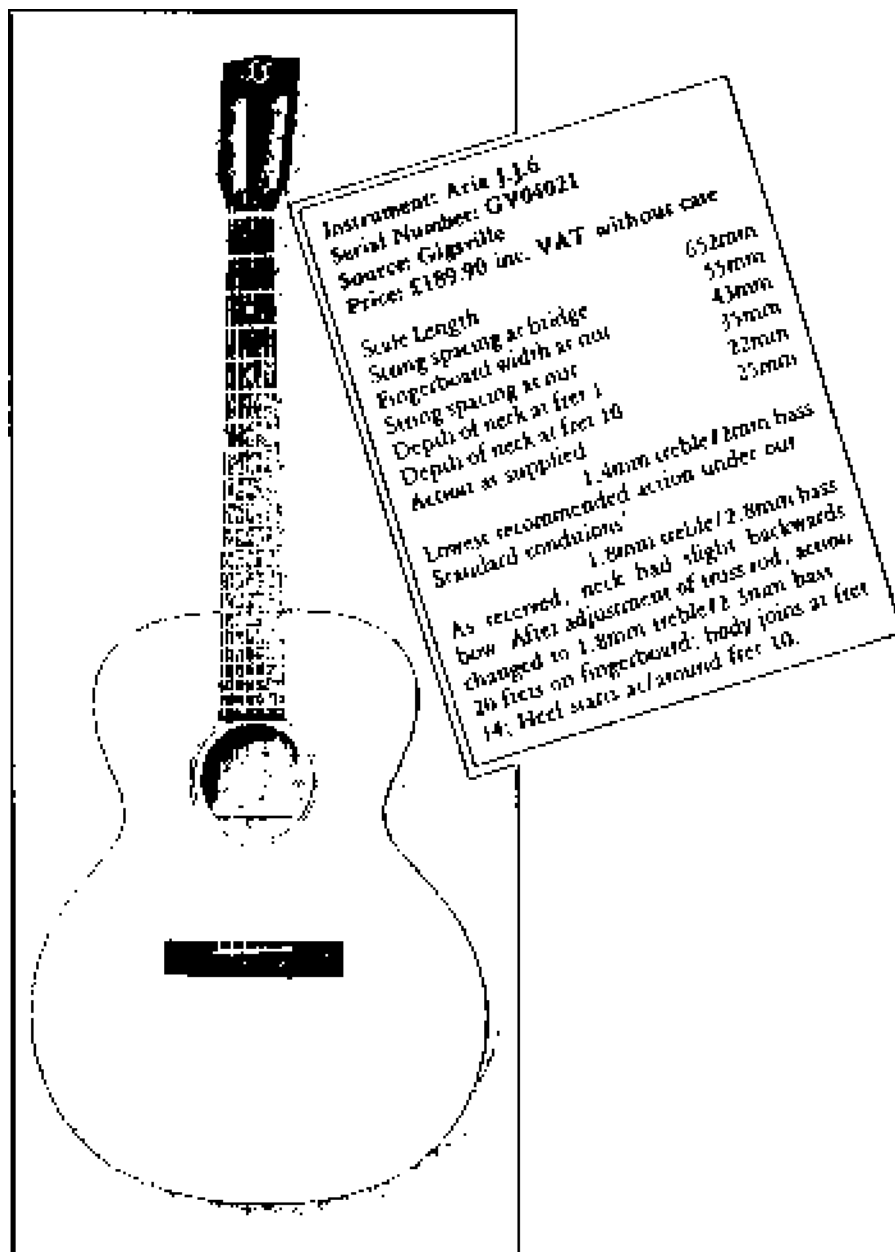
It is a very crude, average compensation, but I find it is better than none at all. Of course, when you use a capo, your compensation is lost, but you will probably have so many other tuning problems from the capo, that you will not notice the small loss.

Conclusion

I enjoyed playing this guitar during the period of the review and I also liked the matching 12 string, (which I shall try to review at a later date). They both remind me a little of old Stella guitars.

The J.J.6 is a large sensitive guitar which should please street musicians, acoustic rockers and extrovert folkies. It should also record well when played gently. It is nice to see a simple and attractive guitar design with a discreet trimming of wood herringbone inlays and a minimum of plastic bits. I think something should be done about the machine heads and I would actually prefer the action a bit *higher*.

Stephen Delft



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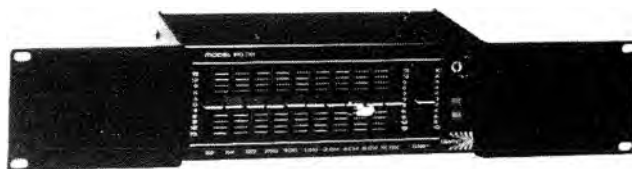
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JPS Power Slave 2002 £374.49 inc.V.A.T.

JPS Associates are a Park Royal-based firm in London involved in the design and manufacture of professional audio products. The current production lines include a family of 19 inch rack-mounted power amplifiers ranging from the smaller model the 1002 which is 100w + 100w to the larger model the 5002 delivering about 500 watts RMS continuous per channel. The total system conception is another speciality of JPS — their new system 8000 consists of a stack mounted group of three power amplifiers, with a total power of approximately 1.6kw driven by an active three-way electronic crossover.

The signal is divided by the crossover into low, middle and high frequency output, and JPS have chosen three independent 19 inch power modules — 500w + 500w for the 'low', 200w + 200w for the 'Mid' and 100w + 100w for the 'High'. At the same time JPS claim that if this system is going to be used for disco monitoring, a special sub-sonic filter has been built in to help overcome problems associated with turntable rumble and/or low frequency feedback.

All JPS products are fully guaranteed for five years from the date of purchase and a number of options and accessories are also available. These can be fitted on request. The 2002 model multi-purpose power slave amp is used in JPS's System 8000 as the "middle" range power driver and this model is the one chosen for this month's Soundcheck.

Construction

The 2002 amplifier is quite a typical 19 inch rack mounted power slave designed to deliver 200 watts RMS (continuous) per channel into 20Hz – 20kHz band when working with 4 ohms speaker load. JPS specification also claims 130 watts RMS per channel with the same frequency band, when the 2002 amp is driven into an 8 ohms resistive load.

The control panel — divided into two symmetrical boxes, is equipped with a rotary gain control, operating level LED's arrays, and a pair of separate channel safety features consisting of two red/yellow LEDs for "thermal out out" and "protection". The power control on/off switch and its neon indicator are placed in the central part of the fascia, with a pair of black matt anodised aluminium handles completing the panel.

At the rear each channel's input circuit uses a ¼ inch jack with more flexibility on the output side i.e. both jacks and Switchcraft XLR connectors are present. If you look more closely at this rear panel you will see a more than average amount of built in fuse holders (seven!) — 20mm devices provided individually on both the positive and negative DC supply rails in each channel and then followed by

three AC fuses, all the same current rating of five amps. As the 2002 amp is equipped with a cooling fan, the air inlet grill occupies the middle area of the rear panel with its on/off push button control switch. One of the last things at the rear is the mains socket — an IEC three-pin earthed type and the JPS leaflet states quite categorically that for reasons of absolute safety, it is essential that all 2002 amps are earthed. The mains earth is connected only to the case/chassis and will therefore not create hum or earth loops.

As for what's inside I took off the amp's cover which is fixed to the enclosure by six Phillips screws. The enclosures incorporate four ventilation air intake grills and these should never be blocked or restricted in any way during operation.

In a short description of the 2002 internal design I would say it is unusual in many ways. For example, both channels have a separate power supply unit with individual transformers but a common PCB incorporating all rectification and smoothing components. Also two large channel PCB's and a common type of power stage heatsink module carrying eight 2N 3773 (Motorola) power transistors. The conception of individual power supplies explains the reason for the large amount of fuses on the rear panel that I mentioned earlier.

The 2002 models, in common with all other 8000 series amplifiers, are fitted with protection circuits that prevent damage to the loudspeaker system in the event of DC reaching the output stages. The yellow "protection" LED on the front panel shows when the circuit is operating and the output socket remains disconnected until the fault is rectified.

Thermal protection is provided by means of a pair of widely used Elmwood sensors fitted directly to the heatsink. With regard to the power stage, load impedances should be nominally 4 or 8 ohms. It is possible to run this amp into higher impedances, however, the greater the impedance, the lower the expected maximum power output. JPS state that when working into less than 4 ohm loads, the power output will be reduced as a result of internal current limiting circuits and obviously the thermal shut-down risk will be increased.

The JPS LED display provides a useful visual indication of power output under low light conditions. The scale on the front panel shows the percentage of power output into 4 ohms only. When driven into 8 ohms, the display under reads by approximately 20 per cent, i.e. at 100 per cent there still remains a certain power amount in hand before clipping sets in. Remaining a while on this subject, my measurements of the power output at onset of clipping indicate more power available than JPS claim and even with a 16 ohms load, the amp delivers well above 130 Watts Ref. 1kHz.

The protection features of the 2002 amp are efficient and simple in a positive sense. Our short circuit test proved that thermal protection operates nicely (see the results). But JPS do state that should thermal "cut-out" operate at any time without the fan running, the recovery time will be greatly reduced as compared with continuous fan running situations.

Conclusion

As the amp is basically designed for a 19 inch rack operation, I feel that ventilation ducts should be provided on the sides, rather than on the top, because of the restricted airflow in rack systems. The current ducts are perfectly OK when using the



simple unit, the forced ventilation being provided by means of a high efficiency fan unit seems to be very effective, but when stacking a couple of units together the system will circulate warm air from one unit to the next, so air outlets on the sides would allow a more significant cooling process.

One remark referring to the LED arrays, we used this amp for a couple of evenings on a standard stage PA set-up and under poor light conditions — which I think is very probable — both arrays proved to be very effective indeed. One thing I have to mention is the corresponding calibration scale printed in white letters on a black background — these cannot be seen at all in dull light and it is here where illuminated VU meters score points against LED arrays.

It seems strange to me that so far no-one to my knowledge has incorporated an illuminated scale on the arrays, which would solve this problem. Quite honestly, one doesn't buy LED arrays for flashy appearance as their job is simply to be precise indicators. Obviously at this point we are not talking

about levels above 70 per cent when the red light changes to green (100 per cent). The attack/decay characteristics of both arrays seems to be quite satisfactory, however the calibration (see results) could be slightly improved.

The frequency response of this amp with 0.2dB Ref. 10Hz - 22kHz can be regarded as very good and both THD and IM distortions levels are low and remain low across the whole power bandwidth from 0.1 to 200 watts.

Sensitivity-wise, the amp is slightly more sensitive than specified (0.775 Volt RMS) and typical hum and noise performance is better than 114dB ref. 200 Watts RMS into 4 ohms.

The 2002 power amplifier has almost everything you would expect from a high class professional unit, obviously the ventilation aspect mentioned earlier is a separate issue to be constructively reconsidered by the manufacturer. Its measured performance matches JPS's figures and the quality of workmanship materials and components is high. In all certainly worth serious consideration.

Mark Sawicki MSc (Eng) Ph.D is a consultant in electronics who also designs and builds electronic equipment.



PARAMETER	RESULT	TEST CONDITION	COMMENTS
Specific Power Output Watts (RMS) R → right channel L → left channel	240.25 WRMS 242.18 WRMS 149.09 WRMS 150.51 134.11 WRMS 136.20	R. 4 ohms } L. 4 ohms } dummy load Ref. R. 8 ohms } 1kHz measured at L. 8 ohms } onset of clipping. R. 16 ohms } L. 16 ohms }	JPS Associates claim the following figures: 200 watts RMS continuous per channel Ref. 20Hz - 20kHz, both channels driven into 4 ohms resistive load. 130 watts RMS continuous per channel Ref. 20Hz - 20kHz, both channels driven into 8 ohms resistive load. Power bandwidth: 10Hz - 20kHz ±0.2dB.
Level Arrays Calibration	215.22 WRMS 58.14 WRMS 3.92 WRMS 225.12 WRMS 65.61 WRMS 5.88 WRMS	Ref. 100% } Ref. 50% } 1kHz into 4 ohms Ref. 15% } (Right channel) Ref. 100% } Ref. 50% } 1kHz into 4 ohms Ref. 15% } (Left channel)	Two arrays of LEDs provided individually in both L&R channels. The calibration of both not too accurate, but attack/decay characteristic are quite good. Both arrays are percent calibrated and colour coded, i.e. red LEDs used below 100 per cent indicator, green LEDs used for 100 per cent indicator. The 100 per cent levels are adjusted "safely" below clip point (see measured power figs).
Input Sensitivity VRMS for 200 Watts RMS (28.28 VRMS) output signal Ref. 1kHz	R. 0.710 VRMS L. 0.708 VRMS	Ref. 1kHz, four ohms dummy load applies. Measured digitally using Sangamo-Weston Model 6000 Digital Multimeter.	Slightly higher sensitivity than specified. Manufacturer claims: 0.775 Volts RMS, which corresponds to 200 Watts if the power output is measured into 4 ohms load. The difference in JPS figures (i.e. L&R) is practically negligible and can be regarded as satisfactory.
Total Harmonic Distortion (THD%)	better than 0.04% (typically 0.039%)	Ref. 100 Watts/1kHz/4 ohms	Very good. JPS spec claims the following less than 0.05 per cent THD from 0.1 Watts - 200 Watts RMS Ref. 20Hz - 20kHz into 4 ohms.
Intermodulation Distortion (IM%)	better than 0.04%	Ref. 100 Watts; 60Hz/7kHz SPMTE; 4:1 test.	Intermodulation Distortion figure stated in technical spec are virtually same with our results and refer to power levels of 0.1 Watt - 200 Watts RMS. Ref. 20Hz - 20kHz into 4 ohms.
Frequency Response	± 0.2dB	Ref. 10Hz - 22kHz	Excellent frequency response classifying this amplifier for practically any applications.
Input Impedance	approx. 22 Kohms approx. 15 Kohms	Ref. Minimum Levels 1kHz Ref. Maximum levels	Satisfactory. Input impedance varying with different channel settings of level control however its lower end is higher than 15Kohms.
Hum and Noise	better than 114dB	Ref. 200 Watts RMS into 4 ohms dummy load.	Virtually identically with JPS hum and noise figures. (115dB below rated output.) Satisfactory.
Slew Rate	9.4 volts per microsecond.		
Capacitive Load Test	OK	2 µF non-electrolytic capacitor and 8 ohms dummy load.	Very good stability margin. checked in both Stereo/Mono modes of operation.
Open Circuit Stability Test	OK	dummy load removed. Both channel gain controls at maximum, cooling fan - ON.	JPS technical spec states unconditional stability with any type of the work load configuration or source impedances.
Short Circuit Test	15 sec	Cooling fan ON FULL Drive into 4 ohms. Both channel test, but carried out separately.	We intended to make usual 30 second S.C. Test, however after 15 sec thermal cut out device was activated also. "Thermal Cut/Protection" LED went on. Protection system reset (automatically) after approx. 30 secs. Worked perfectly after. Very good protection of output stage devices. Seems to be reliable as well).

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**Peavey
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Musician
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Nowadays, when combination amplifiers have nearly become the Audio Industry standard amplifier instrument (thanks to all those comfort loving people), brand-new designed head amps do not appear as often as in the good old days. So after such a prelude, you are bound to realise that a head amp is under my scrutiny this month for review, and to be quite precise, it is a brand new product from the well established Peavey Electronic Corporation of Meridian, Mississippi, and called the Mark III Musician Instrument system.

First impressions of the Mark III, was its very carefully designed control panel, and I hate to repeat that overused word ergonomics but the layout of the various types of controls seem to be pretty clever and sensible to me. As for practical use, the Mark III goes mainly with the lead guitar, so in short, a good sound with an incredible variety of tonal combinations and effects, assuring us of the amount of design effort and technology that Peavey have put into this package in order to create a comprehensive system which will cope with the difficult requirements of contemporary music.

Construction

The Mark III Musician features start with specially designed pre-amplifiers — two channels and four inputs — which incorporate pre and post gain controls, enabling efficient controls over the dynamics and gain of each input pre-amp circuitry. The "pre-gain" — rotary and calibrated from 0-10 — operates as standard gain controls, while the "Post-gain" acts as an individual channel "master gain". The reason for this pair of gain masters is the next Mark III feature — the E.Q. Automix mode. As each channel of this amp sounds and operates quite differently — the reason being that Channel A has an active shelving equalisation, while Channel B has the traditional passive type of "series" tone controls. These EQ features allow for certain kinds of pre-programming and auto-mix either through or around the graphic, so yielding an effective tonal variation when switching from channel to channel. To conclude the EQ description, a few words about both channel A and B types of equalisation.

Channel A — active with low and high controls designed with symmetrical and shelving characteristics — both very effective, although one remark about the "high" control would not go amiss and that is, that it seems to be a good idea (Peavey's words) to avoid extreme boosting of high frequencies, since this may tend to encourage emphasis of residual pre-amp noise and also make the amp sound strident and unduly emphasise string noises. The dB range (swing) of this control goes well over +18dB which is quite a lot by any EQ standards.

Channel B — Low and Middle and High, is more traditional and a well known configuration used in several respected English built amps. The most effective again is "High" control, however, the most significant tonally is naturally the "Middle" band.

Effects? Yes, Phasor is available through Channel A and a Hammond type IV Spring Reverberation is fitted into Channel B. What is more, both these effects can be mixed together with the possibility of creating a sort of Leslie or Rotary speaker effect. The Phasor controls are Colour and Rate (both rotary and calibrated 0 + 10) and Master Reverb acts as the usual Reverb Level control.

The Mark III Musician features quite a nicely designed six-band active graphic EDQ with its centre frequencies defined at: 100Hz, 600Hz, 1.5kHz, 3kHz, 8kHz and a family of the first three filters is called

"Low Range" with a 3kHz band onwards "High Range".

Patching facilities i.e. "InLine" and individual channel "Out/In" jacks are provided on the panel for stereo operation as Out/In sockets are separate in Channel A and B. Peavey also claim an output power of 210 watts RMS @ 1 per cent THS into four or eight ohms. Our measurements indicate (at onset of clipping) about 229 WRMS into four ohms and approximately 124 WRMS into eight ohms, which can be regarded as not too bad for this type of instrument amplifier.

Another look at the Reverberation section — here the electronic driver design is a fully complementary type of configuration and the reverb control is extremely effective. Thus, you will find adequate reverb can be attained at relatively low level settings. Peavey claim that this provides significantly more pick-up reverb gain in order to enable deep reverb effects that might be desirable from time to time, especially when using the reverb for colouration and enhancement of the Phasor effect. During test we found very interesting combinations while varying the level of reverb when the phase circuit was also operational.

Conclusion

The Mark III phasing effect is a really good one, dependant on simple introduction of a variable frequency notch in the amp passband which finally produces this very characteristic sound. Additionally, this particular Phasor is capable of producing Tremelo and Vibrato sounds as its clock oscillator operates even in extremely slow or high speed regions. A small but nevertheless important point is that the Phasor circuit will not operate by the remote footswitch if the Rate Control Limit switch is in the Off position, as this takes precedence over the remote control.

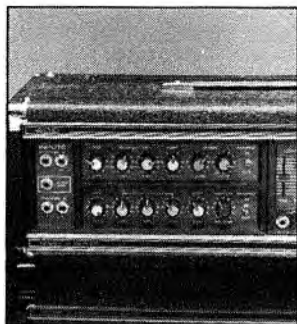
The Graphic EQ is effective, not always reaching the specified +15dB boost/cut, however, at its lower end it is quite close to these figures. And, again important, because of the amount of tone controls provided in addition to the graphic EQ — a "double" EQ enables a really high amount of cut/boost but one has to be critical sometimes to avoid creating "boomy muffled" sounds or noisy operation, especially at the high end.

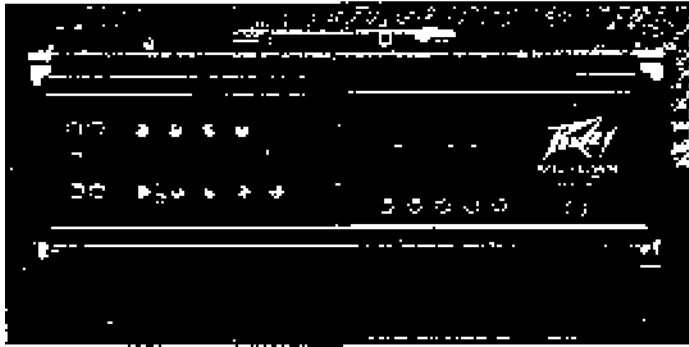
As for the specification — this is generally difficult to compare with the manufacturer's figures as again not that much is included in the Owner's Manual provided. Generally the Mark III performance in the lab tests was quite good, with a relatively large power level available, the exact levels of harmonic distortions needed, with may be the input sensitivity of Channel A (1) slightly higher (Peavey Claim 15mV) — for my results see my table — but even so this does not present any practical problem.

The output protection — the Mark III tolerates without the slightest problems a one minute short circuit test at full drive and the manufacturer claims it has a special voltage/current limiting circuit and a thermal safety trip protecting the power amp section from damage caused by overload conditions.

The Mark III Musician Amp is classy with an unusually wide range of features, quality materials built to a high standard and providing a universal and highly comprehensive package.

Mark Sawicki





PARAMETER	RESULT	TEST CONDITION	COMMENTS
Specific Power Output (Watts RMS) Ref. 1kHz	229.52 WRMS 124.03 WRMS 86.41 WRMS	Onset of clipping into 4 ohms Onset of clipping into 8 ohms Onset of clipping into 16 ohms	Peavey claim 210WRMS @1% THD into 4 or 8 ohms. The speaker output utilizes standard 1/4 inch jacks marked for 8 and 4 ohms operation. Operating this unit from 8 ohms tap into 4 ohms or from 4 ohms tap into 2 ohms is acceptable if proper ventilation is provided.
Total Harmonic Distortion (THD %)	3.25% 2.71% 1.93% 1.225% 0.95% 0.46% 0.19% 0.08%	@ 200 WRMS @ 160 WRMS @ 120 WRMS @ 80 WRMS @ 60 WRMS @ 30 WRMS @ 15 WRMS @ 7.5 WRMS	Ref. 1kHz into 4 ohms dummy load. These figures are measured from Input no. 1 on Channel A to the main speaker output. Tone controls being set at FLAT and graphic EQ in OFF position.
Input sensitivity for 200 WRMS (28.28 VRMS) output Signal	Input 1 21.9 mVRMS Input 2 44.2 mVRMS Input 1 15.8 mVRMS Input 2 30.6 mVRMS	Ref. Ch. A: Tone controls-Flat Post Gain @7 Phase-OFF EQ-OFF Ref. Ch. B: Tone controls-Flat. Post gain @7 Master Reverb-OFF EQ-OFF	Manufacturer's spec states input sensitivity figure as 15mV @1kHz with Tone controls Flat Volume 12:00. No information provided as to which input and channel this refers to.
Tone Controls Range (swing in B)	Ch. A Ch. B	23.12dB Ref. Low @100Hz; High-Flat; EQ-OFF 36.91 Ref. High @5kHz; Low-Flat; EQ-OFF. 15.12dB Ref. Low @100Hz; Mid/High-Flat; EQ-OFF 15.51dB Ref. Mid @800Hz; Low/High-Flat; EQ-OFF 29.35dB Ref. High @5kHz; Mid-min; Low-Flat; EQ-OFF	Channel A: EQ control is an active shelving type and symmetrical on both low/high ends. Channel B: "series" type at Lo/Middle/High tone controls. Middle being most significant tonally. Both CH A and B tone controls can be used as pre-programmed in EQ Automix.
Graphic Equaliser (swing in db)	Low range 27.45dB 25.51dB 23.71dB High range 22.35dB 23.68dB 21.65dB	Ref. 100Hz Ref. 300Hz Ref. 600Hz Ref. 1.5kHz Ref. 3.0kHz Ref. 8kHz	Ch. A: T/C-Flat; Remaining EQ bands centre position Ch. A: T/C-Flat; Remaining EQ bands in centre position. Quite effective. Each EQ band filter selected for adequate frequency points — mainly guitar work, combining characteristics and precise bandwidth ("Q") to handle the frequency spectrum of the instrument. Peavey claim 30dB range, i.e. 15dB boost or 15dB cut in each of the six bands.
Signal/Noise Ratio	74.01dB 66.16dB	I.E.C. Curve "A" weighting D.I.N. "Audio Band" weighting	Peavey's signal to noise ratio figure is 70dB Ref. to 50Kohms source impedance, while input impedance is claimed to be 220Kohms. True RMS reading on High sensitivity ANM2 Radford Noisemeter.
Pre-amp output level	approx. 1.794VRMS	Ref. 200 Watts/1kHz output	The Pre-amp signal is connected through a switching contact to the input of the amp's power stage. Output impedance is 600 ohms.
Line OUT level	approx. 1.701VRMS	Ref. 200 Watts/1kHz output	The signal from this output is a low impedance (600 ohms) unbalanced and measured figure is lower than 2VRMS as specified.
Reverberation			Very Good.
Capacitance Load Test	OK		Does not show any tendency to instability.
Open Circuit Stability Test	OK		Stable during O.C.S. test.
Short Circuit Test	60 seconds		Protection system limits voltage/current levels and also uses a thermal safety trip protecting the power amp section from damage caused by overload conditions.

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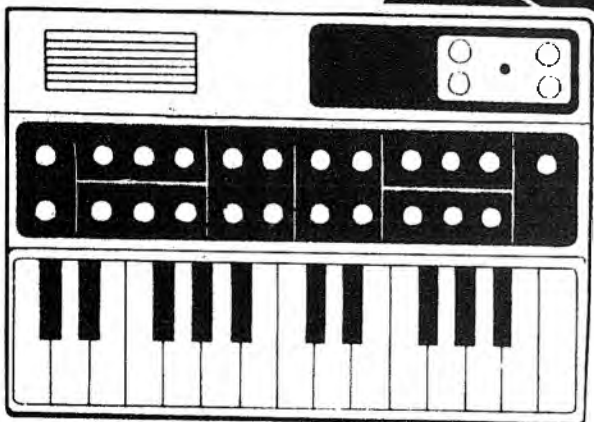
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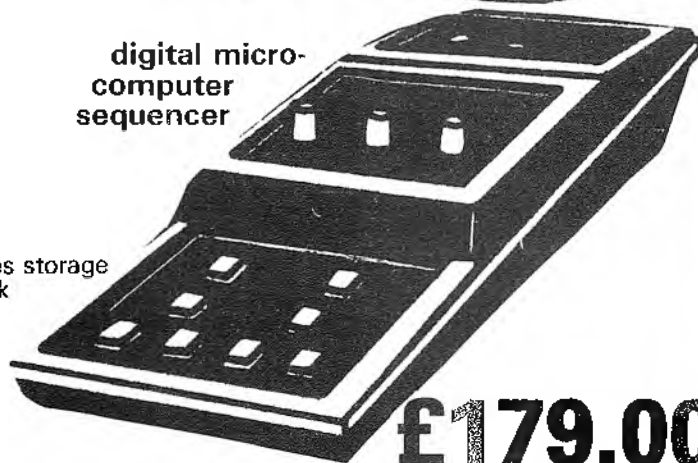
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Keyboardcheck

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When Yamaha introduced the CP70 electric grand a couple of years ago there was little doubt in anybody's mind that a major breakthrough had occurred for the benefit of keyboard players. Here at last was the answer to all those problems that arose from having a grand piano on stage and trying to get it heard in the context of electric music. Pickups for acoustic pianos were (are) fiendishly difficult to set up and unless they are set up *absolutely* correctly certain notes will sound far louder than others — feedback is always lurking ready to jump out at you when you least need it, and anyway half the pianos aren't worth bothering about in the first place.

So, what follows is less a review of the electric grand — more an enthusiastic appraisal coupled with a description for those not fortunate enough to have encountered one yet. Also, note that this particular instrument, the CP80B is a logical development of the original CP70 in that it has 88 notes (i.e. the full piano compass up to C⁵) whereas the CP70 has 73 (*cf.* Fender Rhodes 73 and 88). Now as well as manufacturing a vast array of electronic musical equipment (synthesizers, organs, amplifiers, mixers, domestic speakers, PA's...) not to mention motorbikes, outboard motors and guitars, Yamaha has been making acoustic pianos for many years.

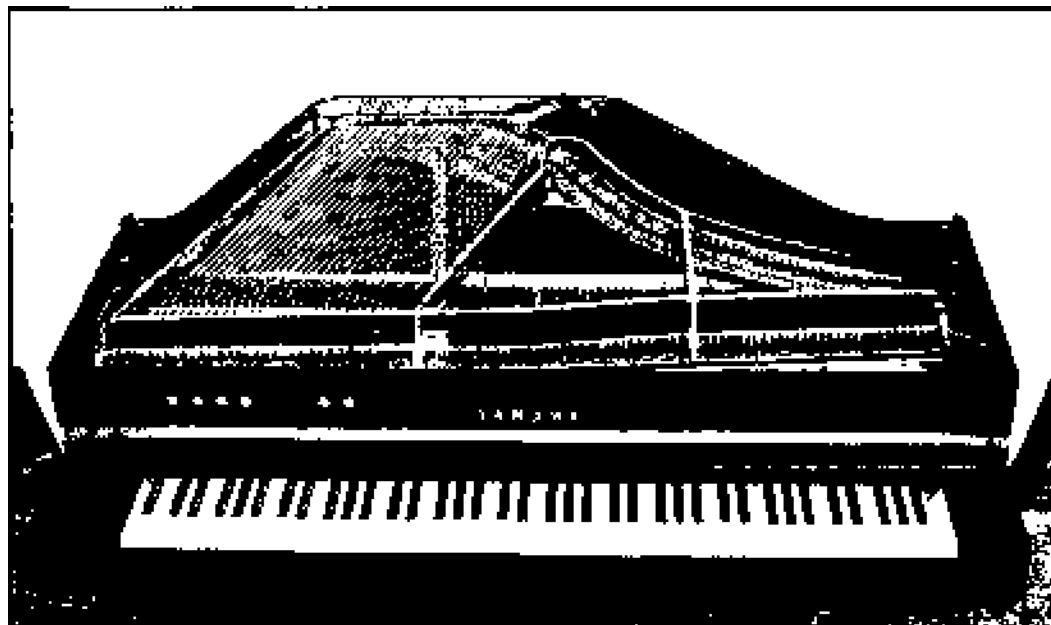
Their concert grands are fine instruments with superior tonal characteristics, displaying massive bass and the singing brightness that one expects from the best pianos such as Steinway, Bosendorfer etc. So it follows that with all this experience to draw on, Yamaha was ideally placed to produce an instrument that merged both acoustical and electrical properties. Naturally, the new piano would have to be more compact and robust than the concert grand (which doesn't travel too well at the best of times). This philosophy (ease of transport and maintenance) was taken a stage further by the simple (!) expedient of designing it in two sections — (1) Strings and main frame which fits onto (2) the action and support.

The main design problems were producing the "grand" tone from the necessarily shortened strings and in keeping the action as similar in feel to the concert grand's, yet able to stand the travel and

occasional mishaps that occur on most tours. The strings are the same as those used on the acoustic counterpart, except for the lower two octaves where they had to be specially developed. In reality, it is the bass end which shows the electric grand to be the compromise it is — no criticism intended and Yamaha forestalls any when they state that the piano has "very nearly the sound and feel of a concert grand". That "very nearly" is a good example of the integrity and thought that has gone into this design. How unlike the claims made by the makers of the more inferior species of electric pianos who will glibly put the label PIANO on a rocker switch and then go on to state in the unfortunate owner's manual, that this will produce a "really lifelike piano sound" or some such falsehood. Watch out for them — the shops are full of instruments like that.

Anyway (tirade finished), the bass end *does* lack the sonorous bite of the larger acoustic instrument. Moving further up the keyboard the quality of sound, providing you are putting it through good clean "hifi" amplification and monitors, is realistic and, even though the electronic element is easily detectable, a pleasure to listen to — to be even more subjective for a moment, I've always found the sound of these instruments quite inspiring — and makes you want to play. The action is conducive to this as well — it's almost identical to the repetition action found on the concert grands, the only differences being the adoption of harder wearing buckskin on the hammers and improved damping. The action helps to make the piano extremely responsive; it is positive, no trace of lateral movement and medium-heavy in weight — just like the real sorry acoustic thing in fact.

We've established that the instrument sounds good or better than that and is great to play. What more can you ask for? That it should stay constantly in tune? It's not quite as simple as that. It does need tuning fairly regularly (every other gig) if you are touring, though it is much more stable than an acoustic grand would be. Yamaha has worked hard on this problem. The tuning-pin block is weather-proof (short of direct contact with rain!) and the pins lock in position solidly though when you do want to tune, this is facilitated by the fact that the



pins (a) won't rust and (b) are designed to turn easily when required to. For the rest you can only be careful and hope it won't get dropped off the back of the truck.

The principal behind the electronics is basically simple — a piezo-electric pickup for each string mounted at the point furthest from the hammer, a pre-amp that mixes the highs, mids and lows together in a curve that as nearly as possible resembles the real thing. This may be further modified by the three tone controls (plus/minus) and (on the CP80B) a three-way switch that boosts any one of these areas. I've always favoured a slight increase in the treble control but beware of turning the bass up too much — if there's a lot of noise on stage the vibrations can build up (transmitted through the floor probably) and the Yamaha will start to produce a low howling feedback — you start looking around enquiringly to see where the fog horn is, but as I mentioned earlier, that's the only way you'll get extraneous noises out of it and the answer is probably to have it standing on a piece of foam.

There is a jack input and output for effects, and pedals but I don't feel that phasers or flangers do a lot for an instrument which, despite being electronic, sounds so acoustic. But echo/reverb does sound good and certainly it's a good thing that the option is there. There is also a tremolo section with an on-off switch and controls for speed and intensity. As there are two outputs from the instrument the tremolo is in stereo, the same way as

that on the Fender Rhodes with which you may by now have noted the Yamaha has many features in common. Incidentally, there is a choice of outputs — balanced XLR 3-pin or phone jack.

On the last tour I did, the electric grand stood out in the mid-day furnace heat of a Spanish bullring, suffered the moist humidity of a wet Mediterranean night, shivered in the cold breeze of a Norwegian open air festival and never once let me down. So I'm biased — if you can afford the extra money, the CP80B is the one to have — it takes up more room and is slightly heavier, and while we're on the subject these pianos are portable but by not less than two people. One last thing — if it is a choice between one of these and an acoustic grand (preferably medium to large) and the instrument is going to stand in your front room with the express purpose of being played there, then choose the acoustic instrument — I'm sure Yamaha would agree with me. After all you could always buy one of theirs.

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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MORE MUSIC SUPERSTORES

Surprise, surprise, yet another string machine turns up for review. Quite small this one, and packed into a neat case formed by cabinet and lid. At first glance, the control panel across the top of the keyboard doesn't look too interesting — but it has a tidy layout with wood end pieces enclosing a matt black finish panel on which the white labelling for the slider controls stands out clearly. It's only got 10 sliders and an illuminated on/off switch, with not much at the back either, just the AC mains socket, expression pedal, low (680 ohms) and high (3Kohms) impedance output jack sockets and a tuning control. In goes the mains lead, expression pedal and output lead to the amp and I switch on.

Hello — not another faulty instrument? — the notes are staying on as I play. And what's this chorus and tremolo for? Well, yet another surprise — a few control adjustments and up comes no ordinary strings this time — in fact, I really couldn't believe my ears when I started to work on the sounds that this instrument gave.

Check that price again, as I did, and the Godwin String Concert becomes a very good string machine indeed, not just for its sound but for its value for money. This instrument has been made in Italy by Sisme and is a by-product of their large range of organs on which the string tone is an important feature. It could have turned out to be just another string sound but with only 10 controls it produces rich strings and impressive church organ effects.

The circuitry on this machine is very well laid out and servicing is easy, with the top panel lifting out and the keyboard hinged to reveal the circuit board stretched along its length underneath the keys. The instrument works on the usual system of one master oscillator controlling the tone generator from which all the notes are obtained by dividing down the frequencies to the bottom C of the 49-note keyboard. The tuning control on the rear panel can change the overall pitch by \pm a semitone. The keyboard has electronic switching for "no-thump" or "click" operation and the three pitches available are filtered and fed to a three-stage phase modulator section before reaching tone controls and output.

Panel Controls

Every one of the slider controls is useful and to get the best out of this instrument you have to make use of the variety they can give in performance. There are three main sections: Levels, Tones/Modulator and Controls. In the levels group are the three pitches of string tone (basically a sawtooth waveform) available — 16' cello, 8' viola and 4' violin. Balancing these in different ways gives a lot of tone variation — much more than on instruments with fixed preset tabs.

In the second group, the two tone sliders are for bass and treble boost or cut. Here again is an interesting feature — the treble control will give you a terrific amount of boost and make string tone really bright and silky — why didn't someone put this in before? On to the "modulator" with chorus and tremolo sliders. These two controls alone give the instrument its rich quality and will change the sound from church organ (with both controls at minimum) to heavily phased strings (both controls at maximum). This is one of the first string machines that has variable control of the phasing effect. Chorus produces a fairly slow deep modulating effect and tremolo makes a fast gentle modulation of the string tones. These simple, but

effective controls provide two speeds which interact together as the sliders are raised, to give the characteristic string orchestra sound. Another special feature is that if you slide the chorus control fully up fairly sharply, you can hear the chorus effect gradually start up, and changing quickly back to minimum will give the same sort of sensation as a Leslie cabinet speaker stopping its rotation. Very nice!

The final "controls" section has attack, sustain and overall volume sliders. This section caused my little problem at switch-on, for sustain was full on and this means that every note after release will stay on for almost 45 seconds! There is separate triggering on each note too, so sounds overlap in true string orchestra "Hollywood Bowl" style. Attack takes up to 15 seconds to bring the sound on and that's more than you'll ever need. It's useful when set high (along with high sustain) for bringing washes of sound, with particular notes highlighted by holding on a little longer.

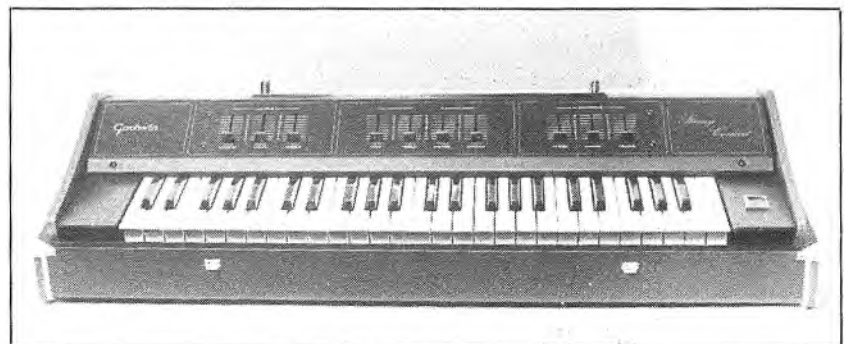
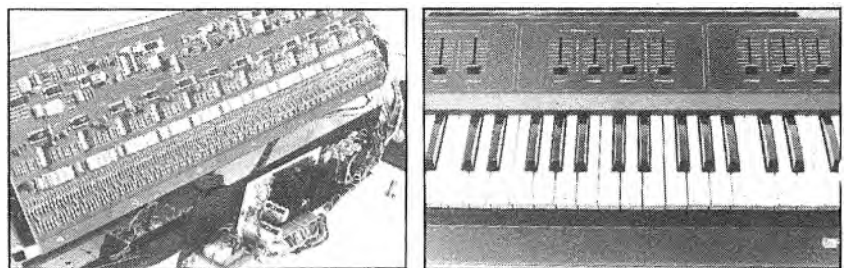
A small comment about volume. The control is useful for setting overall output gain, but more attention needs to be paid to the "levels" section. A single tone will not distort at maximum setting but when using all three tones it is advisable to reduce the level at about three quarters for best quality.

To get the most realistic string orchestra sound, I set the treble, chorus and tremolo at nearly maximum, with attack and sustain controls at approximately halfway. The three string pitches and bass were adjusted to tailor the cello, viola and violin qualities. "Church organ" uses little or no chorus, no tremolo or attack with slight sustain added for depth.

It's a good idea usually to add a little echo and reverb to a string machine for the concert hall effect and this added the finishing touches to a very usable extra keyboard. Light enough to go anywhere and very portable. If you haven't got a string machine, this one's a winner.

Mike Beecher

Mike Beecher is a musician and keyboard consultant. He composes and performs his own electronic music using multi-keyboards, in a style based on his wide experience of progressive jazz and classical music.



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The History and Development of The American Guitar by Ken Achard. Published by Musical New Services Ltd.

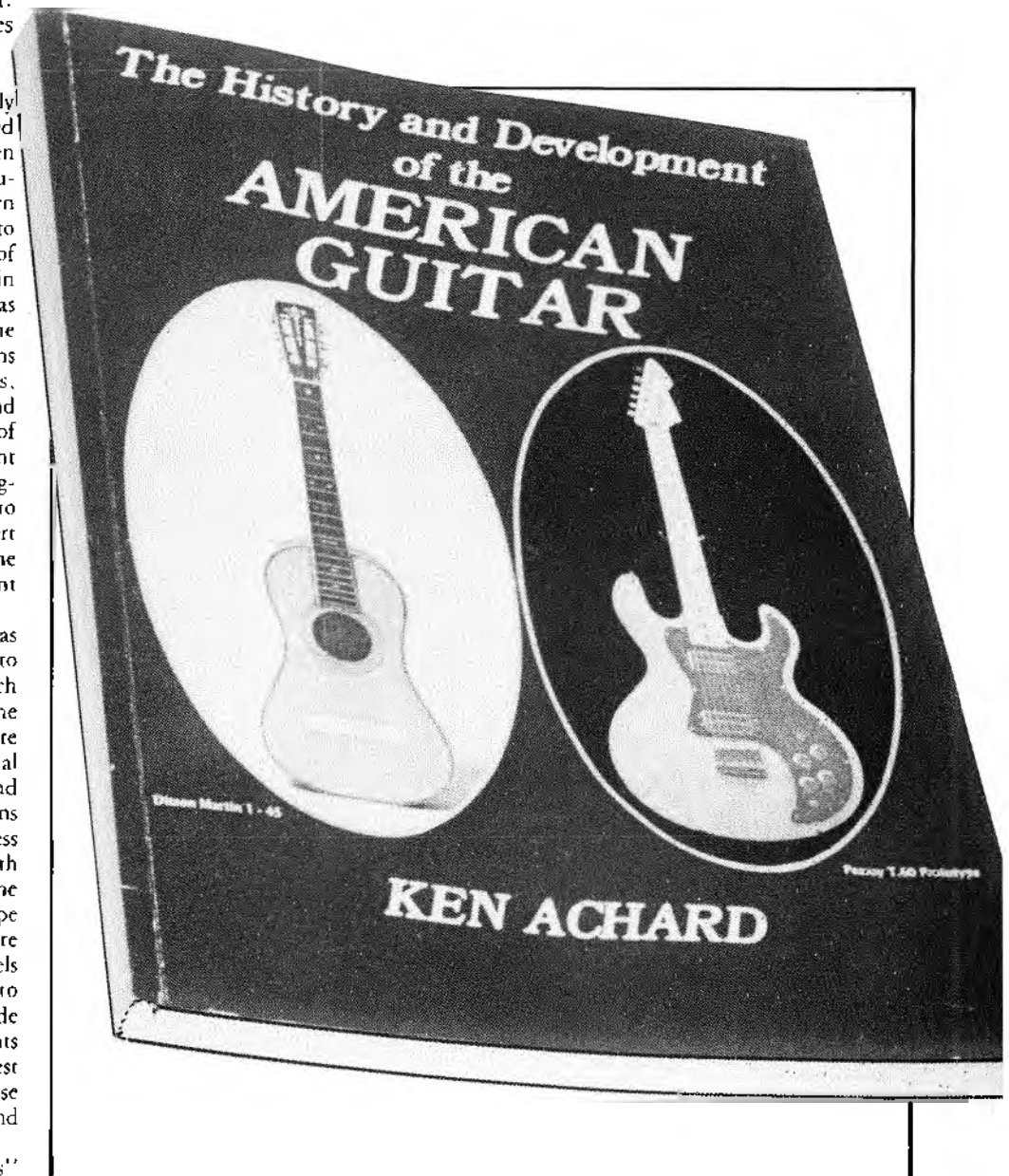
A book that has very obviously been compiled with the unhurried dedication of a labour of love. Ken Achard has made an important contribution to the documentation of how modern folk and rock guitars have evolved into their present variety of forms. The story of this evolution is, of course, largely set in America and since the author has taken as his time-scale the period from the production of the first hand-made Martins to America's latest, the Peavey models, which are products of automation and proud of it, he has missed nothing of significance. He follows the development of the American guitar from drawing-room to bar-room, from bar-room to dance hall, and from dance hall to concert hall, and backs up his narrative on the different companies with excellent photographic illustrations.

The book is arranged chronologically as far as possible, but the author prefers to dwell on the role of each company in each particular era rather than deal with the guitars strictly in the order they were produced. We learn of the continental influences that inspired early Martins and Gretschs and to some extent Washburns and Gibsons, and we follow the progress of the guitar from "The Nineteenth Century" to "Between the Wars" and the emergence of the beautiful waisted shape that is still sometime copied today. We are told how the 'cello-built' models originated (Ken Achard always likes to introduce readers to the men who made the guitars as well as the instruments themselves) and some of the book's finest photographs adjoin the text on the rise and fall (and rise?) of National Steel and Dobro.

Then we have "The Fabulous Fifties" and drawings from early patent plans supplement the photographs. Here the research is very close and there is a wealth of technical detail — the author is talking about designers many of whom he has been able to meet personally and he gives a highly detailed picture of the birth and meteoric rise of the electric guitar.

The Fifties give way to the Sixties and it shows in the style — guitars are being made first for beat and then for a more way-out kind of music — acid rock has its own acid-looking guitars. And of course, like every period in the development of these guitars, this one has had its contribution to make to the styles and performance of the guitars we have today.

Finally, Ken looks at what the Seventies have given us, and finds enough to make you wonder momentarily what all this



nostalgia for older models is in aid of. He ends on a definite note of affirmation for the guitar industry in America, finishing the book as it begins to make guitars which exploit but are not restricted by the latest space-age production techniques and which therefore cannot be copied at a lower price.

Throughout, this book is informative rather than opinionated although there is no lack of intelligent comment — an interesting speculation, for example, evaluates how far guitars have been influenced by music styles, and how far it's been the other way around. *The History and Development of The American Guitar* might be a starting point for several such lines of thought, but

finally it is simply a book for lovers of the guitar. It will be an invaluable work of reference for collectors, but the reason most people will buy it is that it is a well-written, attractively laid out document on the greatest and most beautiful instruments that have come out of the half-dozen or so major American manufacturers and a number of less well-known ones.

Paul Ashford

The Frapp pickup review mentioned in the February issue will appear in 'In Brief' in the April issue.

Speakercheck

Professional 15" Drive Units Part 2

This month we publish the final set of 15 inch results and include the Fane Crescendo 15/175, the Celestion Powercell 15/250, the Peavey Black Widow 1501 and 1502 models and the JBL K145.

As I promised last month, we have left any making of comparisons between the various units submitted, until all the 15 inch professional results have been published. Although we are now tending to provide more information in the individual reviews, I am often asked to summarise my opinions on the units by way of an overall assessment — as we used to do un-

til about a year ago in fact.

One or two "critics" of mine have recently been heard to imply that *Speakercheck* is losing its sting and tending to gloss over any defects that we might discover. Having given some thought to such comments, I really don't think that this is so.

What has happened is that the general standard of loudspeaker units submitted for review has recently, been appreciably higher. Gone are the sharp chassis edges and huge magnet covers, housing more fresh air than magnet that we used to find. Gone also are the airy-fairy bargain-

basement type of specifications, exaggerated sensitivity and misleading frequency response and power rating information which we used to find on manufacturers' published literature. In fact, many of my earlier grouses were concerned with exaggerated specifications rather than bad products, where we found a perfectly good speaker coming up with a quite acceptable overall performance for its intended application, but nevertheless, falling well short of the published specification. Generally, this no longer happens and it has been said that our *Speakercheck* project has been largely responsible for this by pub-

Group 1 General Purpose	Sens. (dB)	SPL (dB(A))	Power (Watts)	Price (£)	Price/dB (£/dB)
Celestion Powercell 15/250	101	124.5	250	89	0.88
HH Acoustics 1500E	101	120	200	85	0.84
Fane Crescendo 15/175E	104	123	175	115	1.10
Electro-Voice EVM/15L Series II	103	123	200	137	1.33
Peavey Black Widow 1501	101	120	150	112	1.11

While the HH 1500E comes up with a very good overall performance and the best price per decibel ratio, I consider that the additional 4.5dB(A) of output level for just an extra 50 watts of input power is justification for its place at the top of the list. Despite the Fane's extraordinary sensitivity figure and good overall performance, it is down at third place because of its relatively high price and associated highish price per dB. The same goes for the EVM and the Peavey, both of which are superb loudspeakers with high sensitivities and confirmed high power handling capabilities, but they are more expensive on both counts. The higher sensitivity and additional power handling of the EVM/15L outweigh the price differences and push the Electro-Voice unit in front of the Peavey.

Group 2 Bass Instrument	Sens. (dB)	SPL (dB(A))	Power (Watts)	Price (£)	Price/dB (£/dB)
RCF L15P/06C	98	116	150	107	1.09
Peavey Black Widow 1502	98	119	150	112	1.14
JBL K145	98	113	150	178	1.80

With this particular group we must be a little careful, as although the sensitivity figure has been averaged over a lower band of frequencies than is the case for the general purpose loudspeakers, this still only goes down to 200Hz and for this reason, the sensitivity figure does not tell us the actual energy levels developed at low frequencies below 200Hz — which for bass use is what we should be concerned with. For this information we must refer to the individual frequency response curves for each unit.

We find that the JBL K145 maintains its output levels considerably better than do the other two, with the RCF L15P/06C running a close second and the Peavey — although still good, is well down by comparison.

It must also be realised that our standard test enclosure is not really large enough for these drive units and they would all benefit from a larger tuned enclosure. It can be seen from our table that all three have a similar sensitivity and the same power rating and apart from the response factor mentioned, there is little else to choose between them.

I think that on a value for money basis, the RCF at £1.09 per decibel must be favourite, followed by the Peavey, and with what is really the best loudspeaker of the three, the JBL, bringing up the rear purely on account of its very high cost. The pro musician of course will just go for the best whatever the price and so the K145 must be the choice under these circumstances. It should also be realised that these loudspeakers — the RCF in particular, are often also used as the bass driver in PA bins where a really solid bass sound is required and as they will provide good bass with-

out a large elaborate enclosure, are also used as bass drivers in floor monitors and as backline cabinets for such instruments as synthesizers, Rhodes pianos, etc. which make excessive demands of loudspeakers of lighter construction.

Group 3 Low Frequency Drivers	Sens. (dB)	SPL (dB(A))	Power (Watts)	Price (£)	Price/dB (£/dB)
JBL 2220A	101	118	100	144	1.42
Vitavox AK157	99	118.5	100	155	1.56

These are the type of drive units primarily intended for driving low frequency horn-loaded bins at high efficiency and are quite different animals from the bass instrument loudspeakers. Many of the general purpose drivers listed in Group 1 are also suitable for this purpose but these do not generally have the efficiency over the lower registers that is available from purpose designed drivers.

As with the bass instrument units, the sensitivity figures do not give a real indication of the actual energy levels that would be produced at very low frequencies, and also, the units were not horn-loaded during testing. Both these drivers are confirming the maker's specifications, both are efficient and work very well indeed in their proper enclosures — such as Vitavox Thunderbolt and JBL 4560 and 4550. My order of merit is based on little other than price, as both are very similar indeed in overall performance.

Well, I hope that that little lot will be of some help. Next month we take a look at 18 inch bass drivers.



lishing information that would otherwise not be available to the majority of loudspeaker users. There is just no way that the guy in the street can confirm or otherwise prove the performance parameters of a moving coil loudspeaker unit.

If *Speakercheck* has been instrumental in bringing about the change, then we have served our purpose and I would suggest that it is this that is largely responsible for the less controversial reviews we publish these days. Where we find faults that are worth reporting we still do so — but we must be careful to make sure that we do not engage in nit-picking or we shall lose the confidence of the manufacturers. The results we publish today are equally as

honest as they were in 1978 and are probably more informative. It's just that we find less to moan about these days!

Anyway, to consider the results of the last two months reviews, it is first necessary to split the 10 samples up into groups according to their intended application. Otherwise, any comparisons will be meaningless. Then, we shall tabulate the main features of interest, i.e. sensitivity, SPL, power rating, purchase price and price per decibel of basic sensitivity and consider the picture that builds up in each group. So as to keep things simple, I will keep the results in the tables. I should state for information, that the sensitivity figures are for one watt input measured at one

metre distance. The SPL (sound pressure level) figure is a wide band measurement at full rated input power, the power figure is the maker's stated continuous power rating. The price is either the maker's listed retail price inclusive of VAT or a representative VAT inclusive selling price — the price per dB being an integration between the basic sensitivity figure and the price.

Ken Dibble

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

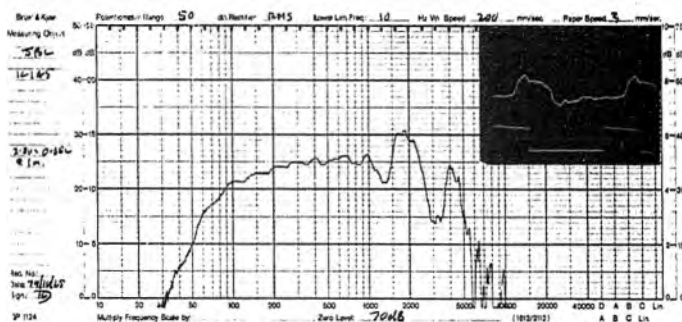
JBL K145 Ser. No. 19227 (USA) Price around £178.25

Parameter	Manufacturer's Rating	Test Result
Frequency response	40Hz-2.5KHz	Useful to 5KHz.
Sensitivity	98dB @ 1w @ 1m	99dB @ 1w @ 1m av. 200Hz-2KHz — see text.
SPL	Not stated	113dB(A) @ 100w RMS sine wave — see text.
Power	150w continuous 300w program	Confirmed @ 150w RMS sine wave — see text.
THD	Not stated	Around 6% @ 150w — see text.
Impedance	8 ohm nominal stated (12 ohm actual — see text)	10.5-40 ohms.
Resonance	Not stated	70Hz in std. 90ltr. enclosure.

This is JBL's leader in 15-inch bass instrument transducers and is built on a specially modified version of the standard JBL shallow, eight-spoked, cast aluminium chassis. The modification consists of a very thick, cast aluminium front ring fitted over the front rim of the standard chassis so that both chassis depth and overall diameter are increased appreciably. The purpose of this it would seem is to accommodate a deeper than usual cone assembly, which appears to be surprisingly lightweight for a bass instrument loudspeaker and also, surprisingly for JBL, this is carried by a heavily doped double roll paper front suspension. Another departure from JBL standard practice is the omission of any vent grille at the rear of the very large and very heavy Alnico-type magnet assembly. The whole unit is impeccably finished in matt black stove enamel with the edges of the magnet face plate and the outer rim of the thick front ring in machined natural aluminium. The unit is obviously intended for front loading and in this mode, the thick front ring stands a good 25mm proud of the baffle panel and has a very individual appearance.

My only criticism of the mechanical features is that the eight mounting holes are too close to the baffle aperture and are likely to break through unless great care is taken, and that the bolt heads bed into the rubber front gasket before getting any purchase on the aluminium rim casting, usually chewing it up in the process. The K145 is a prime contender for a bolt and clamp assembly, but this would spoil the superb frontal visual aspect and also, due to the thickness of the rim, I doubt if clamps of a suitable design are available. None are supplied with the unit.

From a performance aspect, the manufacturers' ratings are fully confirmed and the unit has an incredible low frequency performance. However, all this was not without some hassle, as initially our figures were just not shaping up to the figures as published — and this is unusual for JBL. However, after a telex to the States, we discovered that this particular unit was designed as a 12 ohm loudspeaker despite the fact that it is listed as



an eight ohm unit. Therefore, as our tests were conducted on the assumption that it was an eight ohm unit, we have had to adjust some of our results accordingly — hence all the 'see text' references in the results table. As an example, the actual sensitivity test was conducted on a 2.83 volt test signal calculated for one watt into eight ohms. Into 12 ohms, this gives 0.65 watts. We actually measured 95.5dB at one metre at 0.65 watts input, and this works out to near enough the maker's stated 98dB at one watt at one metre after the sums have been done.

The same applies to the SPL figure, and as it happens, a 150-watt test signal into eight ohms gives 100 watts into 12 ohms, so one-and-a-bit dB's must be added to the 113dB(A) SPL figure given to arrive at a true full power figure assuming that no significant compression effects were in evidence. As it happens, we did run a power test at 150 and 300w — calculated on the basis of eight ohms impedance again, and as there was no significant problem at either power level, we can confidently confirm the 150w RMS power rating and also be reasonably certain that the THD will not be much higher than about six per cent at this level. The impulse response trace shows the most faithful reproduction of our test pulse we have yet achieved with very little overshoot and immediate settling between pulses. However, the attack is slower than some we have measured and the unit should give excellent fundamental response characteristics over the frequency band it is concerned with.

There is no doubt that the K145 delivers the goods, as superimposing its frequency response curve over that of any other 15 inch bass instrument loudspeaker shows that the K145 is delivering appreciably more low low frequency energy. In a more elaborate tuned enclosure, this performance will be still better. Its sensitivity is good for a bass driver and it has met the maker's figures in all other respects — except of course for the confusion over the impedance figures. I am assured that the new E145 — to be introduced later in 1980 will be a true eight ohms unit. As with all JBL component loudspeakers, the standard of finish and presentation is superb, with no frills. The K145 is very expensive indeed on this side of the Atlantic, but you are certainly getting something a bit special for your money.

Speakercheck

PEAVEY Black Widow 1501 Ser. No. 034650 (USA)
Price around £112 incl. VAT

Parameter	Manufacturer's Rating	Test Result
Frequency response	Not stated	Useful to 5KHz (-12dB).
Sensitivity	103dB @ 1w @ 1m	101dB @ 1w @ 1m av. 400Hz-3KHz.
SPL	Not stated	120dB(A) @ 150w @ 1m pink noise.
Power	150w continuous 300w programme	Confirmed @ 150w RMS sine wave.
THD	Not stated	2% @ 150w RMS sine wave.
Impedance	4 ohms nominal*	4-9 ohms.
Resonance	70Hz free air	90Hz in std. 90ltr. enclosure.

PEAVEY Black Widow 1502 Ser. No. 012891 (USA)
Price around £112 incl. VAT

Parameter	Manufacturer's Rating	Test Result
Frequency response	Not stated	Useful to 7KHz (-12dB).
Sensitivity	101dB @ 1w @ 1m	98dB @ 1w @ 1m av. 300Hz-3KHz.
SPL	Not stated	119dB(A) @ 150w @ 1m pink noise.
Power	150w continuous 300w programme	Not confirmed — see text.
THD	Not stated	10% @ 150w RMS sine wave.
Impedance	4 ohms nominal*	4-10.5 ohms.
Resonance	50Hz free air	80Hz in std. 90ltr. enclosure.

* Also available in 8 ohms impedance.

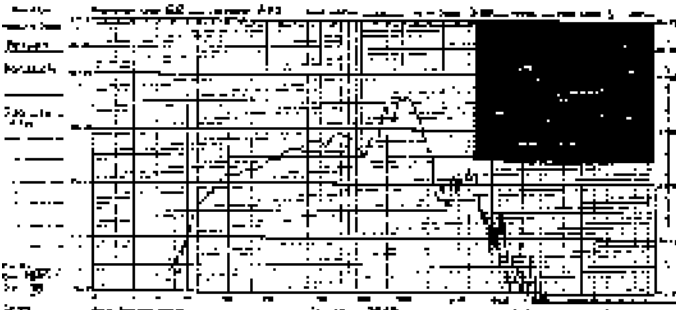
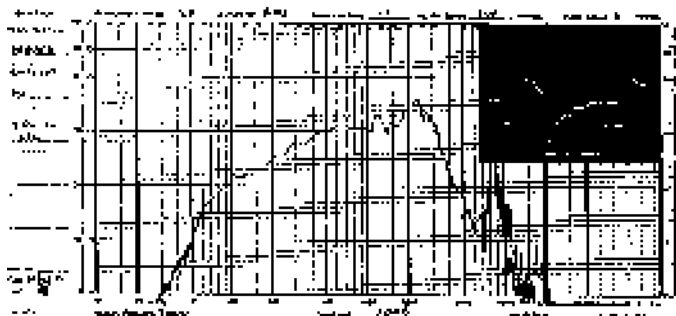
The Peavey Black Widow is another range of loudspeakers, which, like the HH range, will be readily available in high street music stores due to a strong nationwide network of franchised dealers. The BW 1501 and BW 1502 are of identical basic construction and the only visual difference is the type of cone fitted and we will therefore review the two together as is our usual practice in this situation.

The chassis are cast aluminium and are of the eight spoke shallow pattern as used by JBL and RCF, the main difference being that the spokes of the Peavey design are semi-circular in section — which is a very effective way of improving rigidity. A rather neat pair of colour coded plastic terminals of the sprung tab variety are fitted on some sort of fibrous panel securely fixed to the chassis by rivets in a sensible position for convenient access. One feature of particular interest is that the complete chassis and cone assembly for 15 inch Black Widow loudspeakers can be purchased separately at £59 incl. VAT so that by simply removing three Allen-key bolts at the rear of the unit, the magnet can be removed from the back of a damaged or blown loudspeaker and fitted to a replacement cone/chassis assembly in a matter of seconds.

The only other cone loudspeaker which to my knowledge offers a field replaceable diaphragm is the Vitavox AK157 and 156 which we reviewed last month, although the mechanics of the Vitavox system are somewhat different, and has been available for very many years. Another unusual feature of the Black Widow is that the coil former and centre dome are formed in one piece from very thin aluminium, and after the voice coil has been wound on, the whole assembly is cemented to the cone. Apart from the obvious advantage that it is impossible for the centre dome to fall off — which from my own experience is not an uncommon occurrence, the maker's claim that considerable benefits in terms of heat dissipation are offered by such an arrangement.

The 1501 is intended as a general-purpose musical instrument unit and is fitted with a curvilinear shallow profile, lightweight cone and the usual stiffish linen suspension system, while the 1502 is intended as a low frequency reproducer and is fitted with a heavier, straight ribbed cone and a rather more compliant concertina-type linen suspension. Both have aluminium centre domes as indicated above. From an engineering aspect, these loudspeakers are nicely, if simply, made, but visually, to me, they look a bit cheap and cheerful, and are certainly not finished to the standard we have come to expect in this price range — not that that has any effect at all on the performance of course, which is really what matters!

Peavey have a fetish about not publishing a frequency response figure

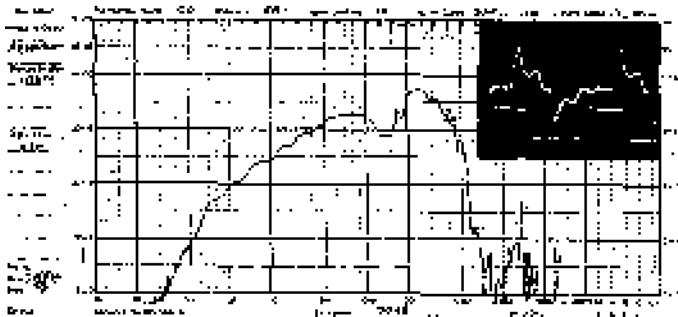


for their loudspeakers, saying that it is the actual sound produced that is important and not figures written on a spec sheet. While I would not argue the reasoning, I do not see how one is expected to design a system without a frequency response specification for the component drivers. Peavey say that if they state that a given model is intended for a guitar, or a bass, then it will have an appropriate frequency response for the intended application, but this does not seem to be borne out by our response plots, as I would have expected to find the large 'presence peak' in evidence on the 1502 to have been present on the 1501 instead — or at least as well if the aim is for a bright bass sound. Also, from our figures, the 1502 — the bass driver — has a better top-end response than does the 1501, reaching 7KHz as compared to 5KHz at -12dB points. Obviously, Peavey are after a specific sound quality from these units, but why not publish the response curves so that we can see what is going on?

It can be seen from the results tables that both loudspeakers have high sensitivities which are about average of their respective types at this end of the market, although we have not been able to average the 1502 down to 200Hz as is usual for a unit specifically intended for bass applications. While the 1501 fully confirmed the 150w power rating at just two per cent distortion — which is by far the lowest distortion we have measured in this particular *Speakercheck* series — the 1501 clocked up 10 per cent and by our distortion-related criteria for the assessment of power handling capability, this particular unit does not comply for agreement of the power ratings as published. Remember that our assessment is based on overall electrical, mechanical and acoustical performance and at this level of distortion we assume that some part of the loudspeaker is under stress — not necessarily that the coil etc. will not handle the 150 watts from an electrical standpoint. If you want a heavy, coloured sound quality OK, but THD at 10 per cent usually quite audible and this is the only 15 inch unit we tested to come up with distortion levels of this order.

The impulse response traces certainly confirm the difference in application between the two units, with a very live performance from the 1501 and a more sluggish response from the 1502, and while the 1501 is coming up with faster attack and transient characteristics, the 1502 is better controlled and settles better between pulses. I use the word "better" in comparing the reproduced pulse shape with that of the input pulse. As we have previously stated, a musical instrument does not necessarily benefit from accuracy in this respect, as it is the transients and overshoot characteristics that give each loudspeaker its individual sound qualities, so these two units should be about right — especially the 1501, which should be especially bright and sharp, and full bodied into the bargain.

A very interesting pair of units indeed. They both have good sensitivity, and are loud, with useful frequency response characteristics and are nicely engineered, but the overall standard of presentation is not outstanding and they are not exactly cheap. Although, neither are they excessively expensive by today's prices. It's a pity about the high distortion with the 1502, but otherwise, I quite liked them.



CELESTION Powercell 15/250 (UK) Price around £89 incl. VAT

Parameter	Manufacturer's Rating	Test Result
Frequency	30Hz-5KHz	Useful to 5.5KHz (-12dB).
Sensitivity	99.5dB average	101dB @ 1w @ 1m av. 400Hz-5KHz.
SPL	Not stated	124.5dB(A) @ 250w @ 1m pink noise.
Power	250w RMS	Confirmed @ 250w RMS sine wave.
THD	Not stated	4% @ 250w RMS sine wave.
Impedance	8 ohms nominal*	8.5-22 ohms.
Resonance	45Hz free air	80Hz in std. 90ltr. enclosure.

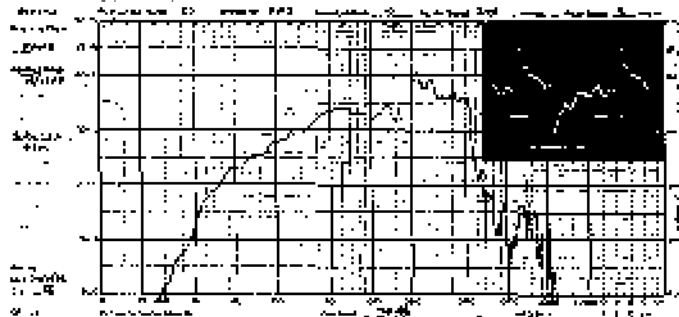
*Also available in 16 ohms impedance.

This is another substantially-built loudspeaker with a very large ceramic magnet assembly and a very high power rating. The chassis is of cast alloy and is so designed that the magnet is accommodated within the casting, rather than being simply bolted to the back plate of the basket. It is a four-spoked design, and although these spokes are of a reasonable thickness and adequately braced with ribs, the point of contact with the front rim looks to me to be a weak point when magnets of the weight of the one fitted here are used. It might well be perfectly OK, and I confess that I have not heard of any problems involving fracturing of a Powercell chassis, but I would be happier with a little more metal at this point.

It is, indeed, a pity that more manufacturers do not pay such attention to the mounting arrangements when chassis are designed. A very deep, straight cone is carried by a concertina-type linen front suspension of medium compliance, and is fitted with an alloy centre dome over a 76mm voice coil. To my way of thinking, the voice coil feed wires are a little on the thin side considering the very high power rating, and also seem somewhat brittle. Also, the small Pozidrive screws mounted on a scrappy piece of Paxoline do not seem to me to be the world's most substantial form of termination, and these would be particularly awkward if the unit was wired in cables of a gauge appropriate to the power rating.

It can be seen from the results table that this is the loudest loudspeaker we have yet reviewed and this is due to a combination of high efficiency, good linearity at high power levels and high sensitivity. Note also that the incredible 250 watt power rating is fully confirmed at just four per cent distortion, which is very good indeed. The impulse response trace shows good attack and a fairly lively overall response, although it would seem that the cone has only just come to rest before the next pulse is delivered — about one millisecond, and I would expect the Powercell 15/250 to be suitable for either PA or instrument applications. Its low frequency performance in our enclosure is not that good and it can be seen that response is rolling off below about 500Hz, but as we have often stated, a properly designed, horn loaded or ported enclosure will lift the bottom end performance to a considerable extent — although even so, I doubt if there will be a great deal of useful output at the maker's claimed 30Hz low frequency limit.

There can be no doubt about the fact that this is a very good and very powerful loudspeaker indeed and at the lowest price of any unit tested in the "professional" category, it is truly remarkable. My two quibbles — chassis strength and terminals are minor details and are likely to affect only a very small proportion of users, and in all other respects, this is a first class product at a very attractive price — very nicely made and presented.



FANE Crescendo 15/175E (UK) Price around £115 incl. VAT

Parameter	Manufacturer's Rating	Test Result
Frequency response	60Hz-8KHz	Useful to 6KHz (-12dB).
Sensitivity	104dB @ 1w @ 1m av.	104dB @ 1w @ 1m av. 400Hz-5KHz.
SPL	Not stated	123dB(A) @ 175w @ 1m pink noise.
Power	175w. RMS (120w if used with bass guitar)	Confirmed @ 175w RMS sine wave.
THD	Not stated	4% @ 175w RMS sine wave.
Impedance	8 ohms nominal*	7-11.5 ohms.
Resonance	70Hz free air	100Hz in std. 90ltr. enclosure.

*Also available in 16 ohms impedance.

In the HH loudspeaker catalogue there is a photograph showing one of HH's shining new cast magnesium chassis alongside a battered and distorted pressed steel chassis. While in the Fane brochure there is a photograph of a Fane 15 inch pressed steel chassis and "a cast magnesium chassis" in a press, with the magnesium chassis cracking up and the pressed chassis intact! The Crescendo 15/175E is built on just such a pressed steel chassis, and Fane would now seem to be the only manufacturer still using this type of chassis in the professional market.

It is a six spoke design, of heavy gauge steel and is very well ribbed and braced to ensure rigidity. The magnet fitted is probably the largest we have yet found in terms of physical size and weight and the pressed chassis would certainly seem to be quite adequate. It really is a very sturdy pressing indeed, and my only quibble is that with a magnet of this weight, the raw edges of the pressing tend to cut into one's fingers when the unit is handled — a problem which was not in evidence in the case of the Classic 150 reviewed last month, and which employed an identical chassis with a much smaller magnet.

Turning now to the results of our test, it is probably pertinent to ask just how much more efficient cone loudspeakers are going to get. 104dB for one watt input in full confirmation of the maker's stated figure! Incredible. And there do not seem to be any sacrifices elsewhere, as the 175 watt power rating is confirmed at just four per cent distortion and there does not seem to be excessive compression at full power — 123dB(A) is very loud indeed. Note also that the impedance curve is virtually linear — a feature we have hitherto only found on certain RCF cone drivers, and while RCF would seem to be loosening the reins in this respect, Fane seem to be taking them up.

The impulse response trace is certainly among the better recorded, with a fast attack, good tracking on decay and not too much overshoot, although the cone does not seem to have fully settled before the next pulse comes along. This, along with the presence peak and low frequency roll-off characteristic would probably be better suited to musical instrument applications where the very low bass notes are not required, and a certain amount of 'bite' is required. It would also be interesting to see just how this unit behaved driving a horn-loaded PA bin.

This amazing sensitivity figure means that when compared to a typical sensitivity of say 98dB for a unit in our general purpose category, the Crescendo 15/175E will require only one quarter of the input power for the same volume — except that there is no way that a single unit with a 98dB sensitivity could generate 123dB(A) anyway unless it had a power rating of the order of 350 watts! This is certainly a very useful loudspeaker, although the price is getting higher than we are accustomed to paying for Fane products and the presentation is a little basic. Nevertheless, it stands out on its own merits as far as performance is concerned.

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STUDIO DIARY

London

Trident Studios have once again been busy, following their cut back on staff. That elusive contributor to IMRW, Robin Lumley, has been doing a bit of producing, namely for Orleans who have been mixing their newest album called *Wind*. The engineer was Colin Green . . . Buggles have been paying them another visit . . . Arista band The Act were working with Howard Messey producing and Chris Stone engineering . . . The band Beethoven are still there recording for RCA working with Ian Bennett and once again Chris engineering . . . Chris was also helping out at the controls with Steve Short for Charlie who are doing an album called *Here Comes Trouble* . . .

Rampart Studios have seen Saxon wandering in and out doing bits and pieces to their album. It is being co-produced by Peter Hinton and the band and Will Reid Dick is engineering . . . Wendy Wu and her band the Photos have been in recording for their album on CBS. Roger Bechirian was producing and engineering . . . Joan Jett has also been in again. She had three men working with her — producers Ritchie Cordell and Kenny Laguna, and engineer Mark Dodson . . . Some mixing has been going on for Steve Gibbons with Bob Pridden co-producing . . . A new young band the Sky Scrapers were laying down tracks for their first album on Zilt records . . . and finally Kelly Groucutt was working on some singles with engineer Will Reid Dick once again behind the controls . . .

Basing Street and the Island Mobile have been as busy as ever. The Vapors have been working on an album produced by Dick Smith with Vic engineering . . . Howard Kilgour took the mobile to Ireland to record the European Summit Meeting at Dublin Castle for Granada . . . The Only Ones dropped in to do some vocals (get it?) . . . Roxy Music are still working at their leisurely pace on their album, calling in at the studio when they feel like working. Ho hum . . . other visitors include the Beat . . . Elvis Costello . . . Joe Jackson (working on a backing track for the Kenny Everett Show) . . . AC/DC did a backing track for *Top Of The Pops* . . . Paul Carrack was in with a new band . . . Murray Head worked on some overdubs with Robert Ash engineering . . . Dick Smith did some Jam mixing . . . the Quick . . . the Ramones . . . Mott the Hoople . . . the Clash gig at Lewisham was attended by the mobile . . . Lol Creme and Kevin Godley sneaked in but we don't know what for . . .

The newly done up Marquee studio

Who's been recording what, where...

Below: *The Only Ones*. Right: *The Photos*.



has been popular this month. Producer Pip Williams and engineer John Eden teamed up to work with Blonde on Blonde on a single for Pye . . . Catherine Howe . . . and John Lodge . . . Patrice Fabienne was still there working with Phil Harding . . . Other visiting artists include Edith Nylon . . . Miki Dallon who was laying down some tracks for Polydot . . . the Boys . . . Lucio Batiste . . . Eddie and the Hot Rods whose producer was Ben Edmund and their engineer was Steve James . . . The link up facilities with the Marquee Club were used to record the Crooks gig on March the first.

Magnitte Studios in Harmondsworth have been entertaining a band called 1080 who were recording their new single for Magnet with Eric Hine engineering and producing . . . Mungo Jerry worked on some tracks for a single with Ray Dawset himself producing and Dan Priest twiddling the knobs . . . A new band, the Sausages, were, quote, working on their sizzling new tracks for CBS. Their music is very "new wave rock funky reggae," end quote. Dan Priest was producing this one . . . Blowpipe Assassin were in doing "I

was Kaiser Bill's Batman" (It takes all sorts) . . . Legion Music put in an appearance to do some remixes with Elmer Gantry . . . Ex-New Seeker John Franklin was working on a new single for RCA . . . Stripe Music put Sue Wilkinson in the studio to work on some tracks for her album with a lady producer (Hooray) called Tricia O'Keith . . .

San Francisco

Over at John Altman Studios Roy (Flamin' Groovies) Leney and his Phantom Movers have been completing their disc for Solid Smoke Records . . . Heavy metal guitar ace Sammy Hagar has been ensconced at Wally Heider's/ Filmways getting a little help on the co-production and engineering side from Tom Scholz (Boston) . . . At Sonoma Sound Recorders Donald Kinsky formerly with Bob Marley, Peter Tosh and Albert King, is working on an album with his band the Chosen Ones . . . At 1750 Arch Street Studios the David Grisman Quartet is putting together an album . . . and Tim Wehr is recording an acoustic album for Kaleidoscope Records . . .

THE

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The Fall; Joy Division; Gang of Four; Not Sensibles; Certain Ratio; John The Postman; Trax; Rhesus Records; The Teardrop Explodes; Kraken; Vibrant Thigh; Fast Products; Section 25; Fast Cars; Mekons; Visitors; Faulty Products; Alien Tint; Here and Now; Factory Records; Zyclon B; Armed Force; Frantic Elevators; Deepcut Records; Reducers; Hot Water; I.Q.Zero; Silver Screen Girls; Dirty Max; Dennis Bovell; Units; Koral; 25 Rifles; John Dowie; Scars; Granada TV; Echo and the Bunnymen; The Teardrops; Ludus; D.A.F. The Hoax; Mitosis; Rat Scabies; Flowers; Oldham Tinkers; Years; Oscillators; Durutti Column; Roaring Eighties; X-O-Dus; Steve Garvey; V2; Fakes; Victor Brox Blues Train; Jailer; Zoo Records; Sweet Chariot; Subterfuge; Wayne Fontana; Aircraft; T.J.M. Records; Child's Play; Orchestral Manoeuvres; Sister Ray; Object Music; Martin Hannett; Diversion; Accident on the East Lancs; Black Fire; Donkeys; Two Tone Pinks; Rock Steady Records; The Tunes; Reg Coates Experience; Foreign Press; E.M.I. Records; Pipedream; Excel; Bill The Murderer; Radio 5; Virgin Records; Famous Chappell; Shake; Pink Military; Bernward Bieder Bande; Private Sector; Polydor; Killermeters; Dawnweaver; Mingard Music; Dedringer; Charly Records; Buffalo; Red Rhino Records; John Peel; Eric's Records; Topic Records; Defectors; Smirks; Lori and the Camelions; Akrylykz; Warrior; Elti-Fits; Saddle Tramp; Johnny Briggs; Sebastian Bed; Anniversary; Cardiac Arrest; Slight Seconds; 7th Angel; White Fire; Legend; Homegrown; Love Lane; Streets Ahead Productions; Victim; Mediators; Picture Chords; Cairo; Gem Records; Equius; Wofflers Band; Sherry Flips; Voltage; The Game; Mellotrons; Twisting Ferraris; Absurd Records; Cuba; Sire Records . . .

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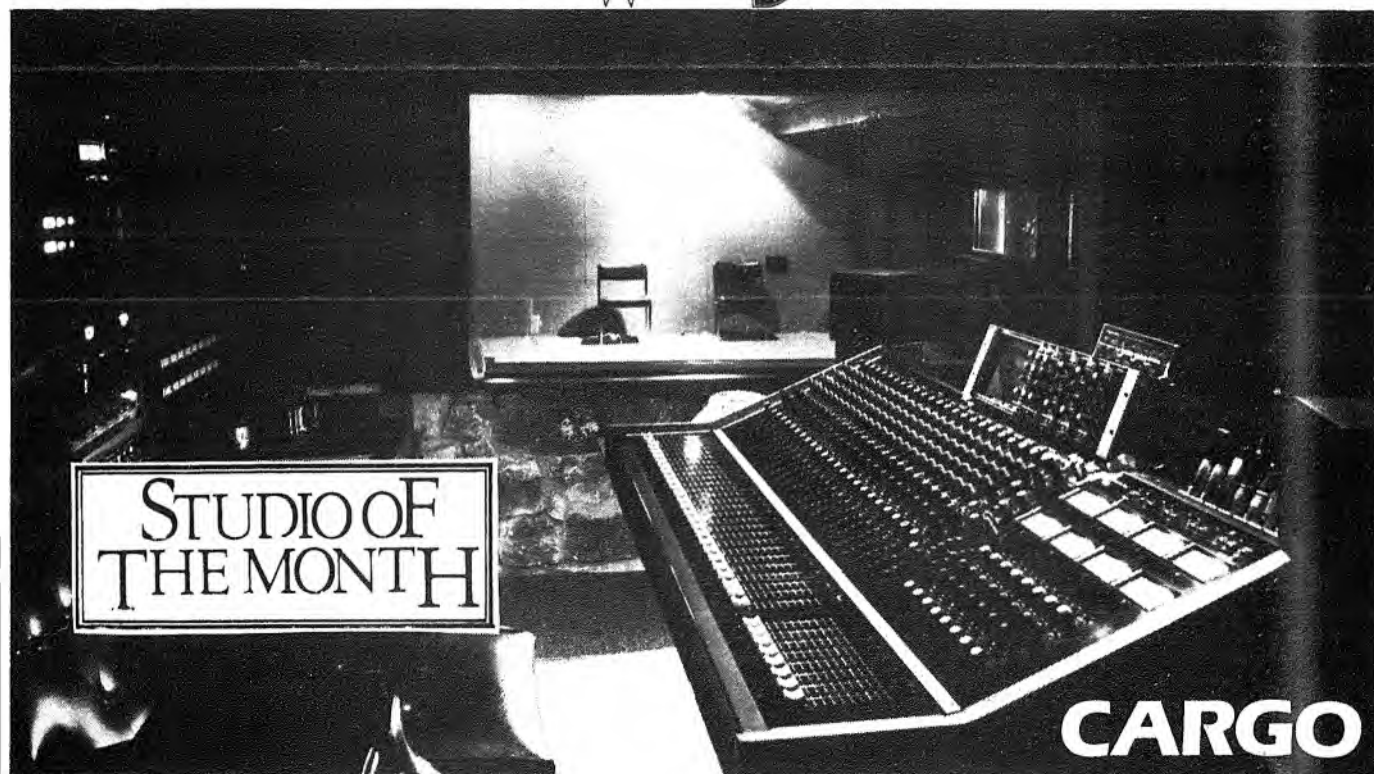
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215 demo's

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One cold February day this intrepid reporter boarded a train at Euston station and set off for the frozen North. Many long hours later I arrived in Manchester, bravely approached a Mancunian taxi driver and managed to explain (in the end!) that I wished to cross that fair city in order to embark on my journey to Rochdale. Finally I stepped off the little Paytrain on sighting a single board bearing the name Rochdale. I had arrived.

Anyway, as it turned out, my journey was worth it. Cargo is a small 16-track studio situated in Kenion Street above the Tractor Music shop. It may be small, but in this case, small is quite beautiful. The owner, John Brierly, and his engineer, Colin Richardson, have been run off their feet ever since the studio started operating. They work round the clock, John operating (mainly 16 track) during the day, and Colin operating at night, dealing mainly with the eight track work, and they are booked solid day and night almost continuously.

John is a totally self-taught engineer. Normally, I would expect this to cause all sorts of problems, but there is always an exception, and in this case it doesn't seem to have made any difference whatsoever. He has built up an enviable reputation — one which is spreading quite far and wide. Bands seem to like the studio for two things — the sound achieved and the atmosphere they work in. John does seem to go for an unusually live sound. The studio itself is quite live, and they do not use any screening, thus leading to a lot of spill on the tapes. I was surprised to hear just how good it did sound.

They have an impressive collection of disc sleeves on the reception walls, singles and albums, including such names as Here

and Now, Tracks, Gang of Four, Cairo and Pink Military.

It has been estimated that over half the independent record labels deal with Cargo, and that isn't a bad achievement for a studio which has been operating for less than two years.

John has always been a fanatic about recording. Before he set up Cargo he was a cameraman for Granada TV. However, in his spare time, he was busy constructing a studio in his parents' home. (What understanding parents he must have!) Not only that but there was actually an album released from there entitled *Where We Live*, appropriately enough. I was amazed to discover that, having found the studio premises, he managed to convert them single handed into a working studio. Not only that, but it seems that the entire operation only took him three months.

On arrival in Kenion Street the ease of parking is immediately obvious — an advantage for any studio. The premises are quite small but comfortable. There is a reception area for relaxing in which is looked after by John's sister Suzanne. The studio and control room are quite spacious and there is a nice open feeling about it. The control room houses a 16 track Cadey tape machine with varispeed, a Soundcraft 24/16 desk with sweep EQ on every channel, JBL/Quad monitoring, Dolbics, Trident limiter/compressors, Rebis noise gates, MXR digital delay and harmoniser, Roland Space Echo, ADT, echo, reverb and analogue delay. Cargo are now the proud owners of the first new improved MXR harmoniser to be installed in a British studio.

The two luxurious chairs behind the desk are reclining. I'm not quite sure what the purpose of this is unless the producer might feel a little over worked and decide

to take a quick nap! Seriously though, John has a thing about not creating a relaxing atmosphere. To his mind a band go there specifically to work, and if there are too many distractions such as snooker tables and games rooms it is quite likely that people will not work to their full capacity. So they aim at being comfortable while maintaining a hard working atmosphere.

They deal with a wide variety of bands turning out both demos and masters. The engineers find themselves doing a lot of production work. Young bands very often turn up without a producer and since they do not know what the desk is capable of doing they are not in a position to choose. John did do some jingle work quite a while ago, but he does not find it enjoyable or rewarding. So he is very content with the type of work that has been pouring in.

You won't find the studio packed with spare instruments and amps. They haven't found a need for it really with Tractor Music so nearby. The only instruments there are a Sonor drum kit, a piano, and incredibly, a harmonium — a great instrument, donated to them by a local church which was installing a new organ.

Cargo will arrange for cuttings, pressings and distribution of your work if so required.

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TAKING CARE OF BUSINESS

Turning a song into a record

Whether the budget is £50 for a demo or £5,000 for a master, the nuts and bolts of the recording process are the same. You take a song and record it in such a way that it is shown to its best advantage and is also worth money. Yes that's right, real pounds of profit can be made if you do the job properly. This article could make you rich as well as talented, and I'm not even giving away any real trade secrets of the record producer, or should I say real producer (there are many who can not be seen to contribute anything to the recording process at all).

Turning a record into a single is, technically-speaking, record production but there are several areas in which producers work. Record producers generally fall into four main categories: The musical sort who help with lyrics, arrangements, book and direct session musicians and are able to put their finger on why something is not working musically.

The engineer sort, who hire arrangers and musical directors and concentrates on making it sound nice. He can be very successful working with bands and artists who write finished songs and do good

basic arrangements but can come unstuck if there is a musical problem.

The budget controller sort who is usually in the A&R department of the record company footing the bill who sometimes will interfere with the record but generally is good at the plastics and cardboard side of things, doubling on release dates and bullshit.

The good old-fashioned trendy hustler sort who somehow convinces all concerned he knows what's happening but in the event does nothing except supply booze, drugs and hope the good vibes will cure any



snags. He is capable of selling refrigerators to eskimos and could easily make a living selling plates from a stall in Petticoat Lane market.

Ideally, a producer is a combination of all four and many more talents besides. Being able to handle nutters is a useful one, along with knowing if an artist has just given their best or can do better. However less of subtle skills with personalities, how does this affect the final outcome, the finished recording?

The only really valid opinion is that of the record-buying punter who puts his own money where his fancy is. The producer is spending the artists' advance money, the record company is spending somebody's royalties, so only the punter is really backing his own judgement with his own money.

Should you find yourself in the studio with any but the musical type of producer, quite a lot of work needs to be done pre-studio, even more so if you are going in on your own to make a demo which will open a record company's piggy bank.

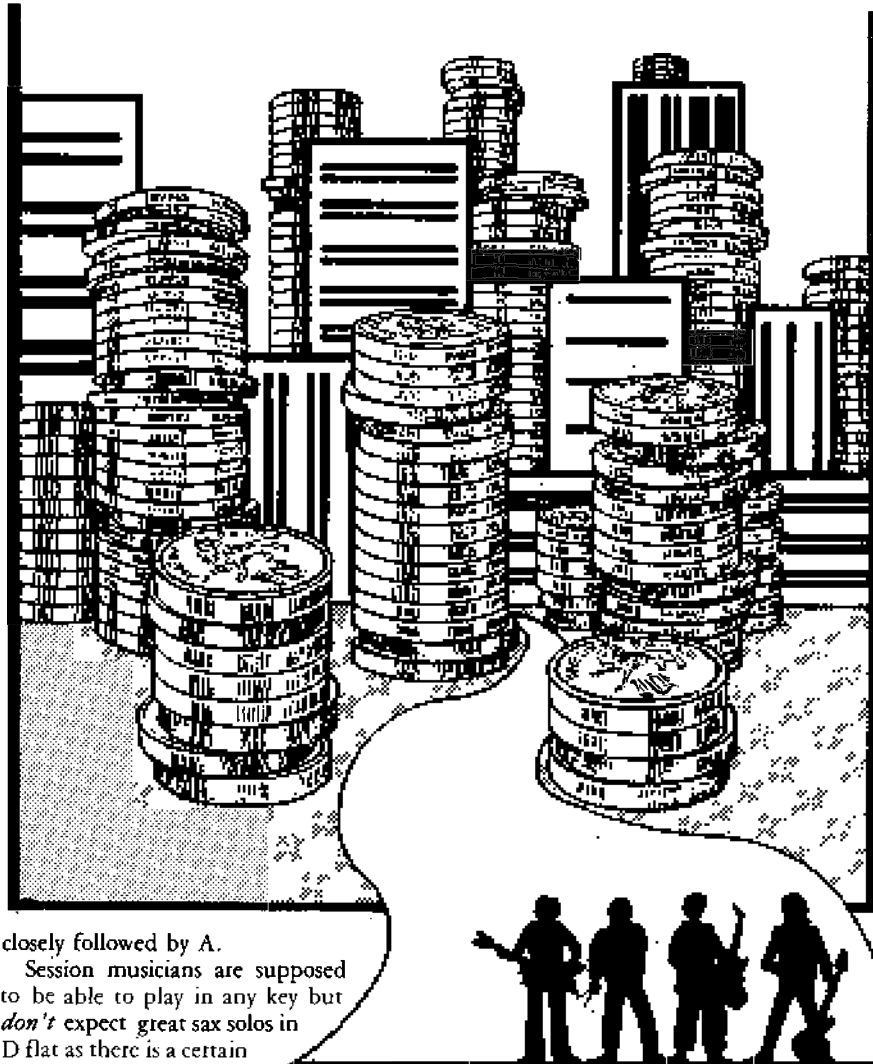
Before you go into the studio

First, and most important, is the song really finished? Write out a lyric sheet and see to it that the words make sense to the point of being understood by the record buyer. Have you really done enough writing? Two verses and a chorus is not enough by modern day standards. At the very least you need a middle, so study construction by working out how the current top twenty songs are put together. Intro, verse, chorus, verse, middle, chorus etc.

Make a very rough tape or cassette at home with just the lead vocal and some guitar or keyboards to work from. Then borrow a second cassette machine with a pause control and use it to experiment with edited versions. Try variations like: Intro, verse one, verse two, chorus, verse three, chorus, etc, until you arrive at the most effective combination for the construction.

You should also consider how much time radio programmers are giving to the airplay of singles. If the Beeb is only allowing two minutes then its fairly essential that you get a couple of choruses in, otherwise your record buying public will not find themselves singing the hook line in their bath and be compelled to get a copy to find out how the rest goes.

Now that you have something that is hopefully in its best form of construction, it is now, we hope, like a gem which needs to be polished and set into a backing. A vital part of a successful record is getting in the right key. Consider the voice of the lead vocalist and try to fit the range of the song to the best part of his or her vocal range. You may find the voice is best at the extreme top or bottom of the range. In either case establish which is their top note and make the highest note of the tune one tone below it, ditto for the low end. This is because under the stress of performing in a studio, the tension will often lose a tone off the voice as comfortable range. Also, be aware of the musicians who will have to play in the key. Instruments have a different sound in various keys with the obvious guitar key of E being best for 'fat' sounding heavy metal or rock



closely followed by A.

Session musicians are supposed to be able to play in any key but *don't* expect great sax solos in D flat as there is a certain lack of resonance in some

keys. If the backing track is not going to be done by session men then make the key as easy as you can to save studio time on mistakes. C or down to C, but even with session men, sharp can be adjusted half a tone up to D you are not doing yourself any favours by making their job harder.

Incidentally, should you be lucky enough to be able to afford really top session musicians — the sort that charge double rate or plus 50 per cent, don't be fatuous enough to write out bass lines, complete drum patterns etc. Accurate chord charts with numbered bars and accents for the drummer are sufficient. If a bass player or drummer is getting towards world class, they are going to come up with ideas that a non drummer or bassist could never conceive. They get their extra fee for coming up with the goods, so don't be silly and waste them.

Next, think about the tempo. If you want people to dance then there are only a few natural dance tempos so get a metronome, preferably electronic, and set a tempo which fits the lyrics and suits the type of record. The tempo is probably the factor which can really make or break a song. Too slow and it drags, too fast and it sounds rushed. Experiment with your metronome before going into the studio, where tempos rise with the adrenalin, and establish a fastest and slowest speed which you can take with you and start off on the right track. This is where the electronic metronomes score, as it doesn't have to click and annoy the engineer. You can just have a light flashing. With bands who are producing themselves it really is

essential to have a way of checking whether the drummer is speeding up with successive takes.

So, having got the construction, key and tempo decided, style and feel can be considered. As for the style try and project your thoughts from three to six months ahead as this is the likely time it will take before a release. Even if you already have a deal it will take a usual six weeks after delivery of the master before release. So if you allow for the contractual wrangling you're talking about three months for a master and six for a demo.

As long as the bass and drums have a good feel you can always replace keyboard and guitar tracks.

How do you know when you have the right style and a good feel? Producers get paid extortionate fees to come up with this end result as very large numbers of people don't know what a good 'feel' is or possess a crystal ball to predict what will be commercial in six months time. If you accept that this 'knack' is something which you just can't spell out in so many words then we're all in with the same chance, but some of us have some ability to help out a bit. (You don't really think they would pay all that money to producers for nothing if it could be avoided!)

The session

Right then, on with the session. The backing track is down with a guide vocal, but what about all the strings, brass, extra keyboards, harmonies etc! As far as a demo is concerned, the backing track and a good vocal should be enough. But, if ▶

you want to impress A&R men and you require strings and brass, you might as well try and make it sound as finished as possible. Get two good lead vocals and mix them down into one track keeping the best bits of each and go for a non-ADT double-tracked chorus. If in doubt, leave it out, as the trend seems to be going away from densely-layered production to fairly basic-sounding tracks.

One invaluable tip is to put your backing tracks down at one session and then take them away in rough mix form for about a week so that you can think at leisure about what needs to be overtracked. Then go in for an overtracking session when you are *really* sure what is required. There's nothing worse than having a great idea when the recording is finished and it's too late to do anything about it!

Next goldplated tip coming up. If you want all the other musicians in the band to play well and not get bored, get the drummer set up an hour before the others, to take care of the drum sound, miking up, eliminating squeaks, rattles, damping, taping the skins and that sort of thing. Remember good musicians need to be handled as carefully as a finely-tuned instrument and if they have to sit around for half an hour or so while the drummer gives his impression of a busy building site, the edge of keen enthusiasm soon gets replaced by boredom and clock watching!

Invest in a tuning meter between the members of the band. It will soon pay for itself in saved tuning-up time between takes. Doing the whole track again because the bass is out of tune or manually tuning the guitar and then over dubbing it because it has dropped, can easily ruin



your schedule and cause you to run out of time or overrun and get into overtime.

What about the sound? Well, if it isn't steaming spot-on out of the amps in the studio then no amount of knob-twiddling is going to compensate in the mixing room. I could mention one producer who has a big heap of drums sent along to the studio and then auditions them till he finds one he likes and goes on to build up a drum kit. This same guy will also go through every click stop of equalisation the desk has, just on the bass drum sound. What a waste of time! He's tried everything and once managed to spend £250,000 on one album.

If you want the sound of a 200 watt Marshall stack at full steam then get one. A combo will *not* do. Crank it up and

retire to a safe distance with the mike set to pick it up from about 15 feet. Ditto for drums — if the chap is not whacking them they just won't sound heavy. If the singer can't find the same amount of voice as at live gigs then get him or her a tame audience but dispense with them immediately you get the required result from the vocalist.

The engineer can be of great help in getting the sound you need but should be regarded in the same way as a musician. Treat him carefully, do not insult his intelligence by telling him his job. If you have a very specific sound then take along a record with it on to play in case he hasn't heard it. Sound is best demonstrated, as it obviously does not "translate" too well into the verbal. Try to get on his wavelength as recording should be fun, but can only be that if everyone is trying to get the best out of each other and not indulging in tantrums and ego trips.

Also, don't get too drunk or high as you all have to exercise a great deal of accurate judgement. You wouldn't try to drive a racing car drunk so why try to drive an instrument drunk? You need all the speedy reflexes you possess to turn in a top class performance. I once saw a sign on a record company office wall. It said: "Boring people make boring records." What's more boring than a boring person? A drunk boring person. So have a couple if you really need it to relax but remember it's not a gig down the boozier. It's a chance to earn more money from one record than you could make in years of gigging.

If you don't know what you're doing, hands off and don't bullshit! Just because you've read this and know a little more than the next chap don't pass yourself off as a producer and start throwing

your weight about. Stick to spending your own money only. If someone wants a record produced think of the artist and let them get a professional who can handle *all* the problems. Don't screw up people's lives and waste their money till you learn the other 90 per cent. Just imagine Robin Lumley with Stanley knife whipping out your appendix, that's the sort of job you might do for an artist as a producer. They may not survive your attentions.

See you on "Top of the Tops"?

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The name Acoustic is probably best known to bass players in this country. With the likes of Jaco Pastorius endorsing their products, it is not surprising that this American company has earned quite a reputation in the amplifier stakes over the past few years.

However, aside from the bass end of the market they also market quite a selection of guitar amplifiers and PA equipment. The latest unit to roll off the assembly line is destined to raise a few eyebrows among the country's axe brigade.

The Acoustic 165 combo is a tasty little item which is basically a valve amp incorporating FET's capable of delivering either 60 or 100 watts.

Construction

A detailed run through of the front panel controls will give you some idea what the unit is capable of, and also the type of technology which has gone into its building.

To begin with there is a standard input jack which has an impedance of 22k Ohms. Next comes two volume controls, the inputs of which are split. Number one is on all the time and has a red LED to indicate when active, number two controls the level of signal allowed to pass to the first volume control. Each control is a concentric type with the centre knob acting a sensitivity control and the outer a master volume. So by putting the sensitivity down low, and the master up high you get a nice clean sound — reverse them and you're getting into a dirtier sound.

You can switch between these two controls via a rocker switch at the end of the panel and also on a footswitch at the back. So if you want you can alternate between a lead and a rhythm sound.

Next comes the tone control section which contains bass, middle, treble, and presence. When you pull out the bass knob it gives you 16dB of gain to the pre-amp, but it bypasses bass, mid and treble controls. The treble control can also be pulled out, and this activates the brightness control which gives boost to all high frequencies. The final rotary control is reverb.

An increasingly popular feature on instrument amplifiers these days is a graphic. The 165 is no exception and has a five band equaliser operating on plus or minus 18dB for sound shaping. The last four controls on the panel is the volume selector switch which was mentioned earlier, the 60/100 watt switch to provide you with a choice of power at the touch of a button. Next is a standby control, and finally a power on/off switch.

Turning the amplifier around reveals some interesting features. Through the open back you can see the unit's facility for a valve or FET front end, and it's possible to switch over between the two so you can get the best of both worlds. It should be noted, however, that you can't switch between the two with the amplifier on, you have to use the standby.

There's switchable impedance if you're going to use an additional speaker, and a whole selection of pre-amp outputs, a direct input for recording, footswitches, for EQ, reverb and volume and a ground reverse switch. The speaker is an Electro-Voice EVM 12L 12-inch.

Sound

The 165 can get just about any sound you want if you're prepared to do a bit of knob twiddling. Of particular interest was the nice clean sound which we came up with, and it also sounded particularly good on power chords. But probably the watchword of

this amp is versatility, you can go from smooth cabaret to a dirty rock and roll.

In the power stakes, you're not likely to be disappointed on this amp a 100 watts means a 100 watts — stand well back when you wind it up for the first time and make sure the plaster in your ceiling is secure.

Conclusion

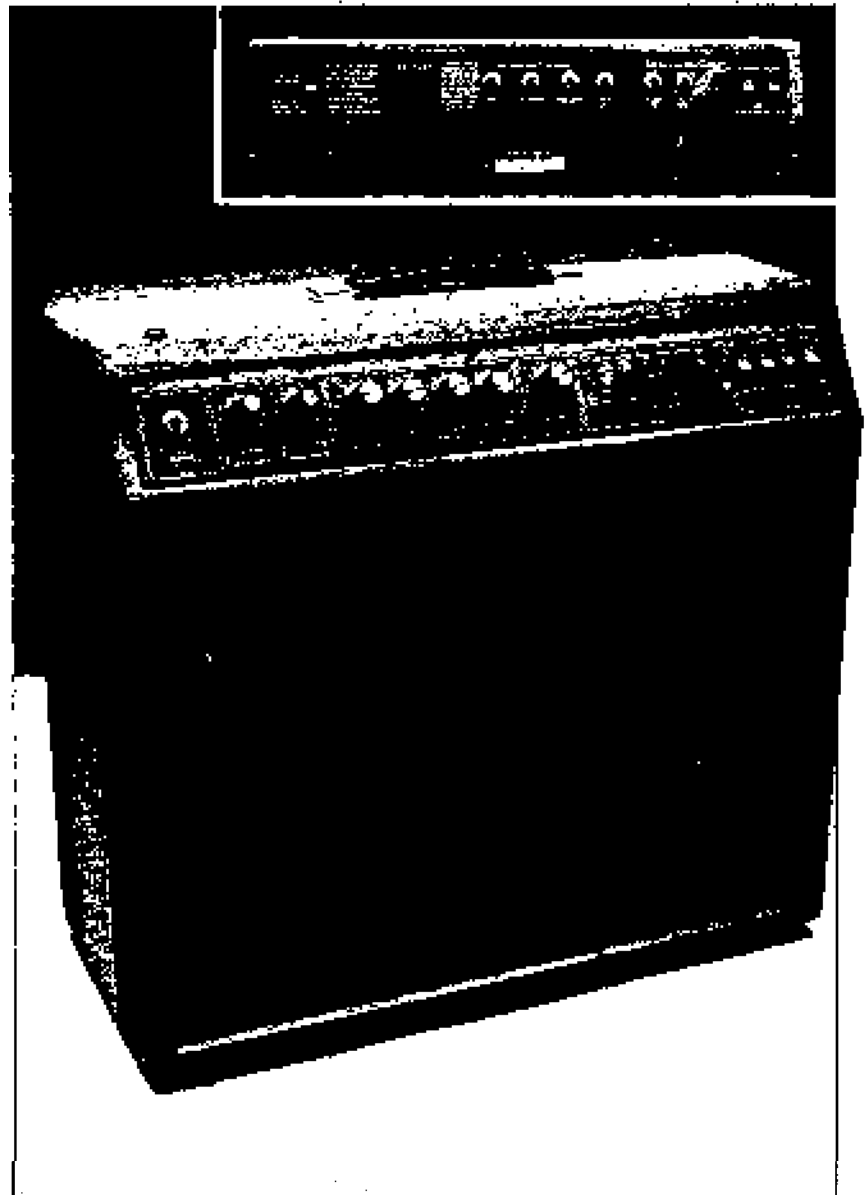
The appearance of the 165 is an immediate eye catcher. The one we had on test came in a beautiful solid oak and walnut cabinet. Great for the front room but not, perhaps for the road, you may think. Well it does come in heavy duty vinyl — but at least have a look at the wood finish first.

The case is solid, the panel and the knobs look good and overall you get the impression that it is a beefy piece of equipment. Having said that it is quite a unit to move around, but then again it's nothing that your average roadie can't handle.

The review sample came direct from Kitchens of Leeds who import direct from the States and as a result can offer the amps at the excellent price of £650 inclusive.

Mike Cooper of Kitchens also tells us that he is working on an idea to provide flight cases for the amps at cost price. Sounds like a good deal all round.

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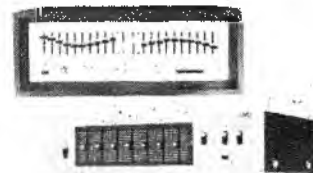
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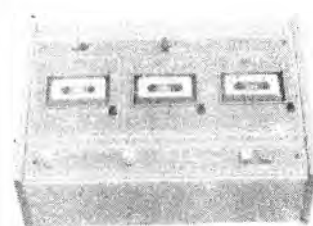
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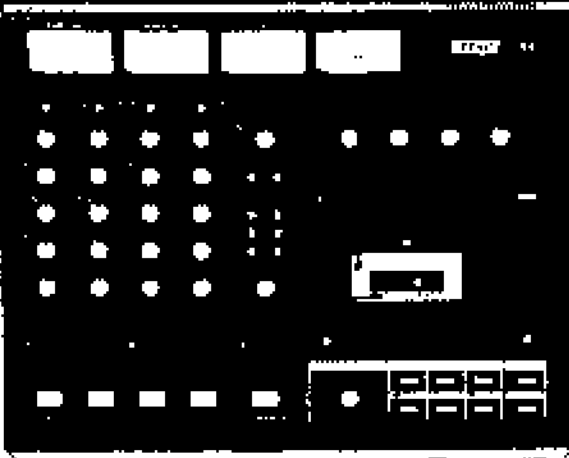
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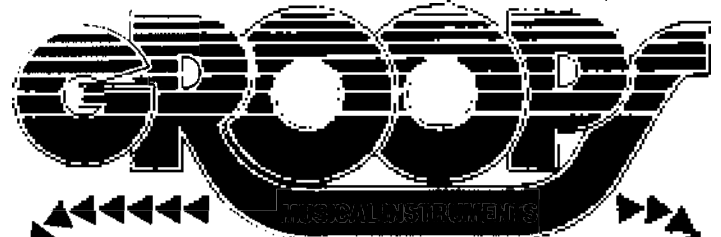
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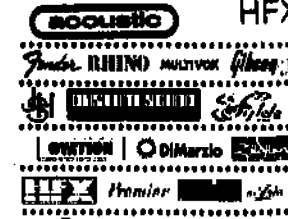


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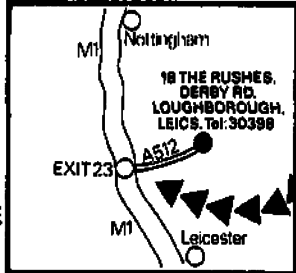
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Adding harmony tracks—Part 8

When making a multitrack recording using a synthesizer, often together with other electronic or acoustic instruments, it is usual to record rhythmic parts at an early stage which later act as the timing reference for the whole arrangement. Parts added subsequently, such as improvised solo lines, can then be rhythmically more complex or free, the overall "feel" of the number already having been established.

So far in this series I have covered basic recording techniques, timing tracks, the synthesis of percussion instruments, multitracking a percussion ensemble and bass parts, and in this article I am going to assume that at least one of these has already been recorded for the reason already given. The next stage in making the multitrack recording may well be to fill out the harmony by adding the middle parts of the arrangements and some of the ways this can be approached are outlined below.

Polyphonic instruments

In a live performance, a band will almost certainly contain a rhythm guitar or keyboard instrument, such as piano or organ, or both. All these instruments are *polyphonic* (i.e. they can produce more than one note at a time); any one of them can establish the harmony if necessary, and chords of different character (e.g. Em, B7) can be played after one another in quick succession. Unfortunately this is not possible with the majority of synthesizers, which mainly for reasons of cost are *monophonic* or *duophonic* (i.e. only one or two notes can be played at a time).

Although it is possible to "multitrack" chords a note at a time, or to use more than one oscillator to form a chord as described later in the article, there is no

doubt that a polyphonic keyboard of some kind is an enormous benefit, particularly at the stage in the recording where the harmony is being filled out. A polyphonic synthesizer is the most flexible (and expensive) but an electronic piano and/or string machine is also a very valuable asset, not to mention a guitar synth!

Altering sounds

It is possible to modify the sounds of any electronic (or even acoustic) instrument using a synthesizer's VCF and VCA as shown in Fig. 1. Effects such as phasing are best introduced *before* the VCF to minimize the noise contribution of the phaser at the VCA's output. The VCF of course alters the sound quality and can be controlled in all the usual ways (manually, by the LFO, ADSR module, etc.). The VCA alters the loudness of the output, and if it is controlled by the ADSR module (as shown) can completely alter the dynamic characteristics of the external sound source.

As an example, let's suppose a sustained chord is held down on a string machine connected into the synthesizer as shown in Fig. 1 and also let's assume that the *synthesizer's* keyboard gate pulse triggers the ADSR in the usual way. In this situation, by tapping a rhythmic sequence on the *synthesizer's* keyboard, the string machine's sound will be broken up by the VCA into separate chords, the dynamic (e.g. attack or decay) characteristics of which are determined by the ADSR module's controls. Alternatively, the ADSR could be triggered by the LFO instead of the keyboard gate pulse to produce regular, equally spaced chords.

There is a further possibility arising from the fact that some electronic

keyboards themselves provide a gate pulse suitable for feeding into a synthesizer (the Roland RS202 string machine is just one example). In this situation (indicated by the dotted line in Fig. 1), the synthesizer controls the dynamic characteristics of each separate note or chord played on the string machine, a new gate pulse starting only when *all* keys on the keyboard have been released. Whichever way the ADSR is triggered, the sound of the string machine can be completely transformed by the VCF and VCA.

Harmony with a monophonic synthesizer

If you do not have a polyphonic keyboard and if the synthesizer you are using only has one VCO, you can (with a lot of patience!) multitrack chords by any of the techniques described in the early parts of the series. However, it is worth remembering that a VCF can be made to oscillate by advancing the resonance control, producing sine wave oscillations at (or near) what was the cut-off frequency before oscillation set in.

If the VCF is controlled by the keyboard voltage, as shown in Fig. 2, then the VCO and resonating VCF can together produce two notes any interval apart. (To do this, you must be able to feed the VCO directly into the VCA, bypassing the VCF, and the VCF's sensitivity control to the keyboard voltage input must be properly adjusted.) The two notes produced might be, for example, the C and E illustrated in Fig. 2 which are a major third apart. When a new key is pressed down, two more notes will be generated, always separated by the same interval, in this case a major third (e.g. A and C).

It is of course possible to achieve the same end result (without the restriction on waveform) with a monophonic synthesizer having two VCOs, using the VCF in the usual way, and if more oscillators are available, three or four note chords can be synthesized without resorting to multitracking. The important limitation however is always the same: that if the oscillators are all controlled by the one keyboard voltage (marked "CV" in Fig. 2), the musical intervals between the oscillators will remain fixed irrespective of the key depressed. So, for example, if the note C was initially depressed on the keyboard and three VCOs tuned to form a C minor triad, (C, Eb, G) then depressing D would result in a D minor triad (D, F, A), and so on.

Duophonic keyboards

Some synthesizer keyboards produce

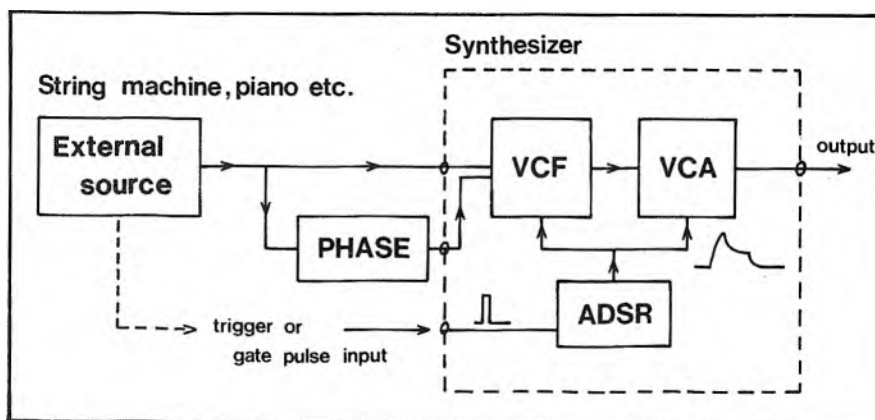


Figure 1

A synthesizer can be used to alter the sounds of other electronic instruments. Some electronic keyboards provide a gate pulse which can be used to trigger the synthesizer's ADSR module directly (dotted). Alternatively, gate pulses can be generated by tapping the synthesizer's keyboard. So, for example, a sustained chord played on a string machine can be broken up by the synthesizer into a rhythmic sequence.

two independent control voltages each of which can control one VCO, enabling the player to perform and record two completely independent parts at the same time. Such a keyboard is said to be "duophonic" and clearly possesses an advantage over the monophonic variety. However some care is needed with playing technique, because when only one key is pressed down, both control voltages return

to the same value (unless the keyboard has what is known as "dual memory"). This somewhat unexpected result means that if you pressed down two keys then released them "together", the VCOs would return unpredictably either both to the higher or both to the lower note depending on which was actually released last. Knowing this effect can occur, it is as well to anticipate the problem in the scoring.

Moving sounds

If you have reached the stage of having recorded a bass line and the middle parts of an arrangement, you might like to experiment with the spatial positions of the instruments prior to a mixdown during or after which solo lines and fills will be added. For example, is the sound better if the bass is on the left and middle parts on the right, or should they both be central? The stereo positions are usually controlled by the pan-pot settings of the mixer, but given a synthesizer with two VCAs, this is not necessarily the case.

Figure 3 shows how two VCAs can be used to position a signal left, right or anywhere in-between. One signal, say from a string machine, is fed to both VCAs. If VCA 1's control voltage is high and VCA 2's is zero, an output will appear only from VCA 1, which might feed the left channel of a power amplifier. Similarly, if VCA 2's control voltage is high and VCA 1's is low, the output will appear only on the right channel. If both control voltages are equal, the outputs of left and right channels will be equal and the sound will appear to emerge from the centre.

Let's now consider what happens if an LFO and inverter are used to supply the VCAs' control voltages as shown in Figure 3. Because the inverter turns the LFO's output upside down, the output of one VCA is loud while the other is soft and vice versa. In other words, the sound moves from left to right at a rate determined by the LFO's frequency. This effect is quite startling and can be introduced during a straightforward mixdown, while adding a new part during mixdown, or even in a live performance situation.

Next month I will be saying more about introducing effects during a mixdown, and recording solo lines and fills.

by
A. Horsman, B.A., Ph.D.

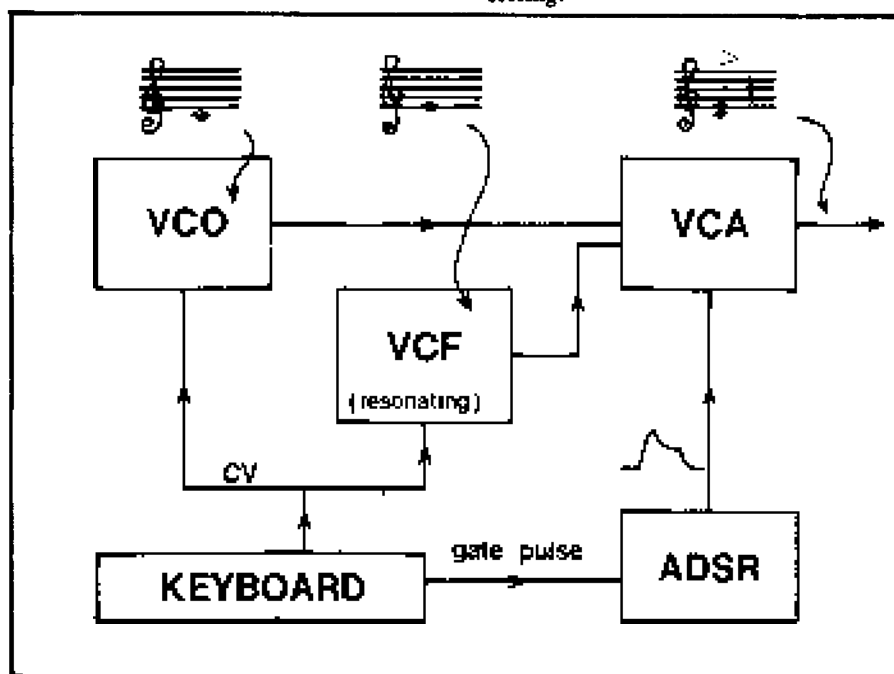


Figure 2
If a VCF's resonance control is advanced far enough the VCF will oscillate, so two notes can be produced by one VCO, VCF and VCA. If the keyboard voltage (CV) controls both the VCO and VCF, the two notes can be made to move in parallel, synthesizing a sequence of major thirds for example.

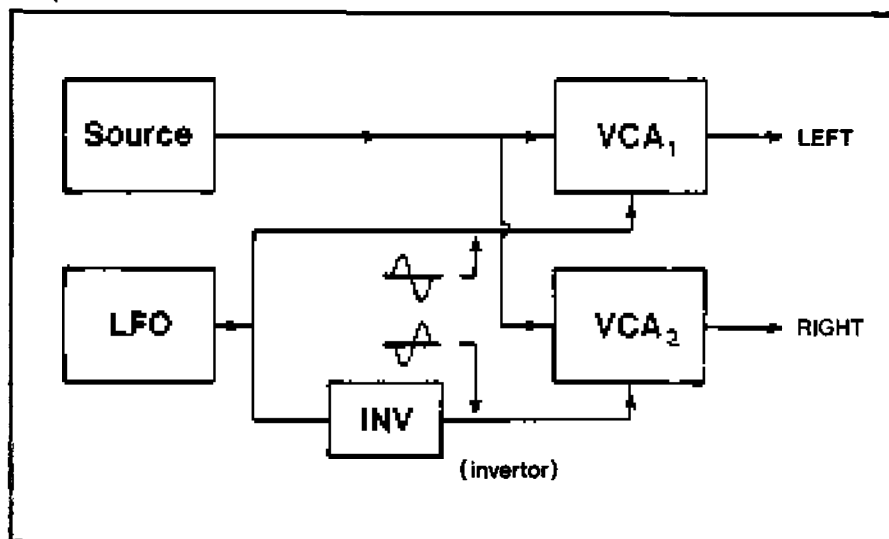


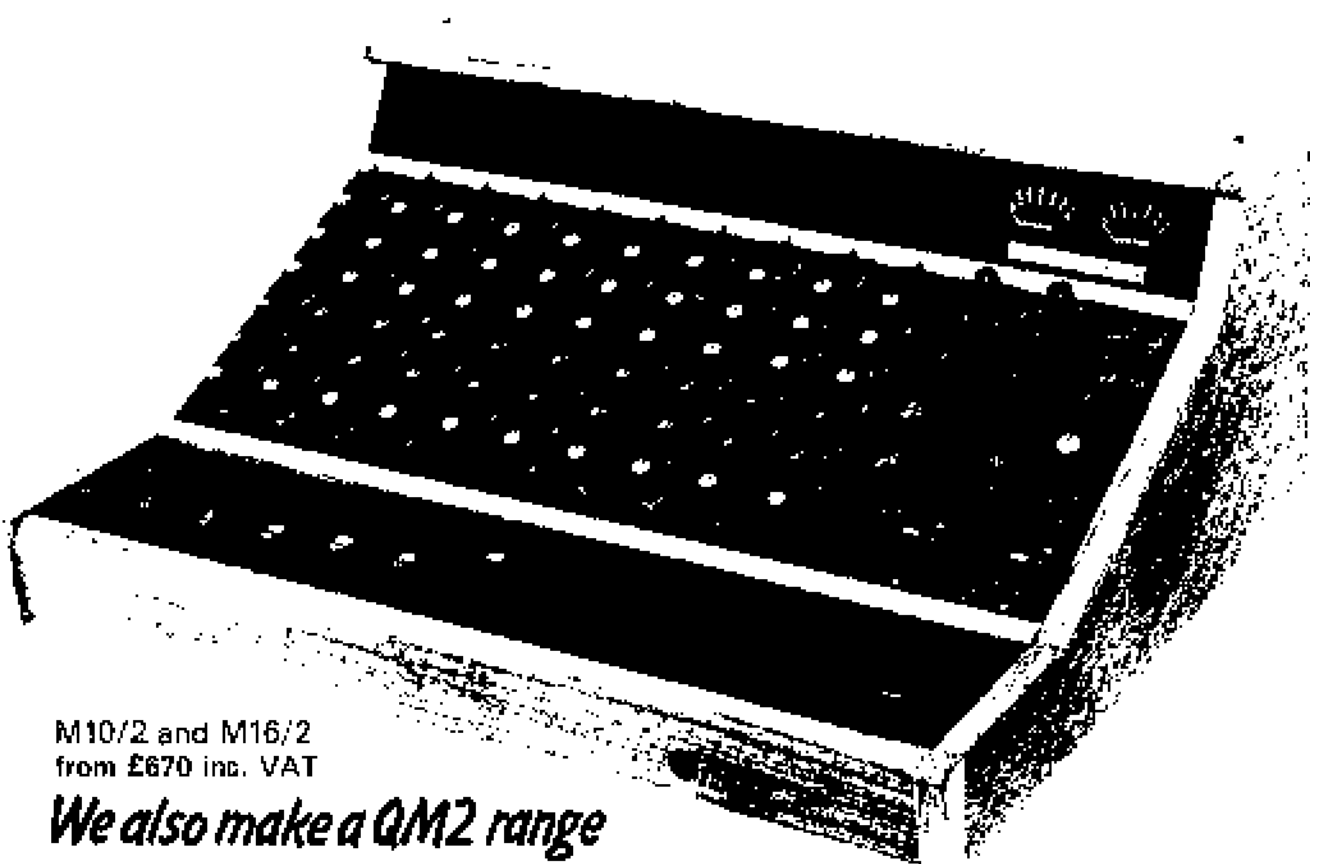
Figure 3
By means of two VCAs, an LFO and an inverter, the sound from any source (e.g. string machine or tape recorder) can be made to move periodically from left to right. This arrangement provides an automatic panning movement useful in both studio and live performance situations.

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TEST BED STUDIO

Last month, we had found suitable premises and had to decide what to do with them. We already had a rough idea what would go where on first sight of the premises. Basically, these were three rooms, two of which had been treated with an elementary form of sound control. This was largely to stop sound travelling between the rooms rather than any internal acoustic treatment. It was decided that as this treatment did fulfill a certain function and was solidly built, we would leave it in position for the meantime and try to build our acoustic 'cell' within it. The smaller of the two treated rooms was designated the workshop/store-room and the larger was to become the studio area.

The third room was completely untouched having bare brick walls and concrete ceiling and floors. This was to be the control room but at this stage it needed a lot of imagination. The room is highly irregular in shape but with careful arrangement we felt it should make a good control room.

The Control Room

At this stage we decided to concentrate on the control room first, as this needed most attention. Visual contact with the studio area was the first priority and to this end a scale drawing of the floor area of the control room and studio area was produced. By approximations of the possible positions of a mixing console in the control room, we calculated the optimum size of window required to keep visual contact with musicians in the studio area.

This was done by drawing lines of sight from the operator's position into the studio area until the maximum area of the studio area was in view without moving the operator's position. The results showed that with a nine foot wide window, about 95 per cent of the studio was visible but filling holes in the wall with plate glass of this size is extremely expensive and according to the builders was going to prove somewhat of a problem. Under the weight of these combined reasons we decided to compromise. So referring back to the drawing we found that if the window was in the correct position, a window of six feet wide would only reduce the visible area by 10 per cent which was considered a satisfactory compromise. The height of the window was decided to be three feet which gives ample visual contact from a seated position and discourages people from standing up in the control room which tends to destroy a relaxed atmosphere.

The problem was that because of the internal treatment in the studio area and



very irregular walls, we were not completely sure of the exact alignment of the rooms and so the position of the window in the wall. We got the builder to knock a hole in a place where we were sure the window would be and decided the exact positioning after establishing visual contact.

The glass we used was two sheets of 12mm thick plate. This is extremely heavy so the construction of the window was left to the builders, having provided them with a design for the construction that we felt would give a good acoustic separation between the rooms.

Back in the control room there also existed a small window in an alcove position. As we wanted to use this wall, it was decided to brick this off and save a great deal of trouble with the window and wall shape even though it meant losing a little of the floor area.

At this stage, a rough approximation of the layout of the control room had to be made so that the path of cable runs could be decided and lengths calculated. The position of patch boards and terminal blocks is fairly critical in terms of economy

and performance. Placing a cable run too far one way may quite easily add over 100 metres of cable to the final requirement. The positioning of the cable runs should also try to avoid cable carrying high-level signals or mains electricity and if they have to cross them they should do so at right angles and so minimise contact.

It was decided to lay 24 mike lines from the studio area terminating in XLR sockets in two boards of 12. These were positioned at opposite ends of the studio to minimise the length of free mike cable in the room to get tangled. All the cables passing through the control room/studio wall terminated in blocks so that more cables could be built in the wall than were required immediately and could be picked up at a later date if they were required. In the control room they terminated in a terminal block at the wall end and in a XLR plug board at the other. Most studios would use a Post Office-type jack field at this point but we decided that for a situation where we would be changing equipment around continually, XLR connectors were more suitable and flexible.

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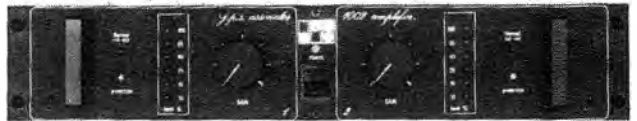
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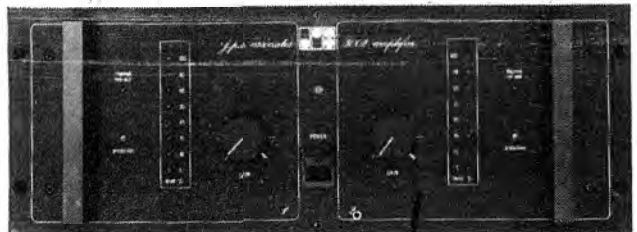
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STUDIO TEST:

The Roland Rack SVC-350 Vocoder

The SVC-350 is a simple-to-use vocoder with all the necessary controls and a few useful extras. It is also the most expensive item in the Roland Rack System so far available but it is still reasonably priced in comparison to other manufacturers' units offering similar facilities.

For a vocoder to function, two inputs are required — the modulator and the carrier. Put simply, the vocoder analyses the modulator input to determine the frequency content of the signal and their relative strengths. It obtains a "blueprint" for the modulator signal which is converted into control voltages. These control voltages are subsequently used to alter the frequency shape of the carrier signal, so that the frequency-strength distribution parallels that of the modulator input. For a vocoder to be effective, the modulator input should be a signal with a detailed changing frequency distribution or "blue print". One of the best and most commonly used modulators is the human voice itself, having many obvious advantages.

The SVC-350, being a performance orientated vocoder, labels the modulator input Microphone. There is a choice of inputs, XLR and jack sockets and a level control with a green and red LED. The gain should be adjusted so that the green LED is alight all the time but the red not at all. In performance this may prove tricky to achieve as it is too easy to get taken by an impulse to singer louder. In testing I found that the occasional flash of the red LED was a useful warning of approaching overload and it really had to be alight almost constantly for distortion to be heard.

The requirements for the carrier signal are almost the exact opposite. Ideally, it should be a harmonically-rich signal with a low dynamic range and preferably a sustained sound such as an organ or string synth. The harmonic content is required to enable the blue print to be effectively transposed onto it. The dynamic range is largely taken from the modulator and a gap between notes in the carrier input means no output from the vocoder for that time.

For the carrier input, there is a choice of inputs, Guitar and Instrument. The instrument input is a jack with a three position level switch marked -30, -15 and 0dB. Roland have recognised that a guitar is going to be often used as a carrier input and have designed a special input. The guitar is not an ideal carrier input and it has to be modified for better results — to reduce the dynamic range and increase the harmonic content. The guitar input

has no volume control but has a built in compressor across the input. The control labelled Harmonics increases the harmonic content of the guitar sound and so makes it more useable for the vocoder.

These inputs are not exclusive and can be interchanged for certain effects. I liked the sound I obtained by plugging the guitar into the Instrument input while playing a slow arpeggio pattern and this benefited from the increased dynamic range but care had to be taken to avoid overloading this input if used in this unorthodox manner. Both of these inputs have their own red overload LED but share a common green. It is also possible to use both these inputs at the same time should you wish.

The Voice Character control enables the user to adjust the tone quality of the vocoder output to allow for problems caused by the choice of inputs. Sometimes vocoders can give rise to nasty peaks and resonances caused by a number of factors but these 11 slider controls proved very useful in reducing problems like this. They can also be used to increase intelligibility of the sound by boosting sliders 6 to 9 to increase the clarity of the 'spoken word'.

The Balance control mixes between the vocoder sound and the microphone input so you can control the amount of effect in the output. The Volume control is to adjust the level of the vocoder so that when changing between vocoder in and out, there is no volume change.

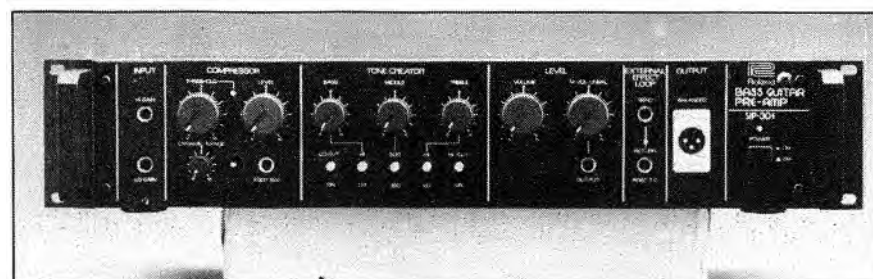
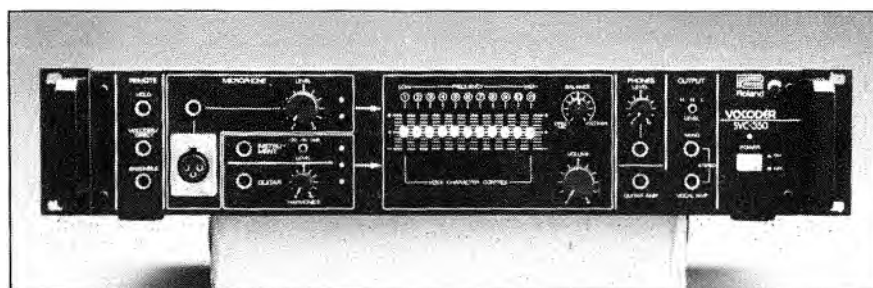
The output section offers a choice of outputs enabling the use of guitar, vocal and vocoder outputs separately, the last two outputs having a switched level control. There is also a headphone output with volume control in addition.

On the extreme left of the unit is the remote section with provision to control by footswitch vocoder bypass, ensemble in/out and hold. The SVC-350 has an Ensemble mode which is on all the time unless this footswitch is pressed and then it goes back to just a single voice. The Hold enables the 'blueprint' at the time of pressing the footswitch, to be held until the switch is released. This is intended for uses such as pressing the switch just before taking a breath while singing so that the voice characteristic carries over without a break in the vocoder output.

The rear panel has no features at all except a grounding post.

It is always very difficult to judge how well a vocoder functions as it depends a great deal upon the external sound sources used. Roland recommend the microphone to be a dynamic rather than a condenser and I would agree in general with that. For this review I used a Sennheiser 441 which is a high quality studio dynamic microphone now also quite commonly used on stage as well. It also has variable bass cut and I found that the vocoder produced a clearer output if a cut was used.

I also experimented with the tone on the guitars I used and found a change in their tone did not make such a marked difference to the operation of the vocoder as with the microphone, but more precision in the output sound was achieved with the bridge pick-up. This of course assumes that you are after clarity. Effects are equally useful with other settings but where the passage is fast or only a part of many other instruments at the same, bass cuts on the instruments are a good idea. You can bring back any bass lacking on the Voice Character controls of the vocoder.



THE ROLAND RACK/Part 2

The Harmonic control is useful such as when you are playing single notes and the harmonic content of the note is not really enough for the vocoder to function effectively. Increasing the harmonic content enables the output to be made much fuller with more vocoder effect. If you play chords with a lot of harmonic control added, the output sounds 'distorted' but it is only the presence of large numbers of unwanted harmonics causing the output to lose it's musical quality.

The Ensemble effect is very good and switching back to single voice sounds a little flat in comparison but to have the choice is useful.

In the studio the vocoder can of course operate on already recorded material equally well. One thing I like to try on vocoders is to feed a master tape or record into the instrument input of the vocoder as well as to a high quality monitor speaker. Then mike this speaker as close as possible with a good microphone and plug this into the microphone input of the vocoder. When the volumes of the two inputs are adjusted in level, the music should emerge almost as normal. This technique tells a lot about the internal working of the vocoder but when comparing results you have to always use the same equipment. The SVC-350 came out of this test fairly well. There appeared to be a couple of frequency notches missing and a colouration of the high frequencies. These effects, I assume are due to phase cancellations and the frequencies chosen for analysis on the modulator input. This does not really amount to a criticism as there is no reason to use the vocoder in this way but it does give a guide to what is happening.

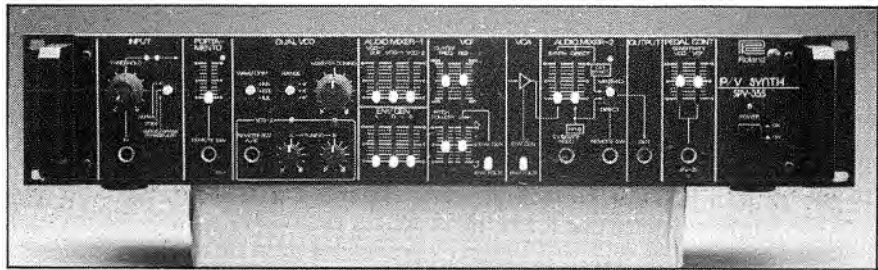
Conclusion

This is another unit in the Roland Rack that cannot really be faulted when one bears in mind it's price. It was quiet in operation and is simple enough to use that it would make a very useable unit on stage (surely the final nail in the voice box coffin) while retaining enough flexibility for studio use. There are some things it can't do that may be required from a vocoder by some users but there are other manufacturers who can provide them at over twice the price of the SVC-350. You pay your money . . .

Roland SIP-301 Bass Guitar Pre-Amplifier

The concept behind the SIP-301 is very similar to the guitar pre-amplifier but it is of course designed for the demands of the bass guitar.

As with the guitar unit, there are two inputs, high and low, but rather than an overdrive section, these feed into a com-



pressor. Compression is an extremely useful device, almost all instruments benefit from a degree of compression in multi-track recording. With bass guitar it can add 'punch' and 'tightness' and in some cases it is a necessity. Even on stage the benefits are soon obvious particularly if you play with fingers rather than a pick.

The compressor section contains three controls — Threshold, Dynamic Range and Level. The unadjustable parameters of the compressor have been well chosen and the section performs very well. The External Effect in and out sockets will prove very useful here as the release time on the compressor is fairly short for optimum musical effect but of course this means the noise level rises as well. The compressor itself is as quiet as most such devices. However if noisy effects pedals are used prior to the compressor, the noise level will rise as the compressor releases until the next note is played. This is not a problem peculiar to this unit but with all compressors and is easily overcome with the SIP-301 by using the External Effect Loop which is positioned after the compressor.

The Tone Creator section has the same features as the guitar version but with different turnover frequencies more suited to a bass instrument. I found them to be well chosen turnovers and they gave an extremely wide range of tone colour.

The Level Section is the same as the guitar version with a Volume control input to this section, and an output jack with a volume control. Remaining on the front panel is the External Effect Loop send and return socket and an XLR socket balanced output.

The rear panel contains an output jack and a second send and return effect loop but the real goody here is a high and low biamp output with a knob for altering the cross-over frequency.

I found that I liked this unit a lot and it also proved popular with a number of different players who used it in testing. It was able to obtain most bass sounds these musicians required and they were all impressed with the flexibility of the unit.

Just to see what happened, I also tried a guitar through it and the result was superb. The compressor certainly was an

active part of this sound but the low turnover frequencies of the tone creator gave a very full beefy sound.

If I wanted to buy a pre-amplifier for my guitar, I think that I would certainly try the SIP-301 pre-amplifier as well as the regular guitar version. And of course it works well on bass.

Roland SPV-355 — P/V Synthesizer

The SPV-355 is a pitch-to-voltage converter with an integral synthesizer. The front panel is the most complex of all the Roland Rack units, so I have included a diagram of it to aid the description.

First a little background information. The synthesizer has become regarded as a keyboard instrument but the only reason for this is that the keyboard provided the easiest way of controlling the functions of the synthesizer electronics. Almost any instrument or technique could be used to control the electronics of a synthesizer but the problem is extracting the information from the sound output of the instrument. This sound output has to be converted into a control voltage that the electronics can 'understand' and use. The most important information to be extracted from the signal is the pitch of the intended note.

Some instruments have such strong harmonics that the fundamental note is not obvious to any pitch/voltage converter. The SPV-355 has been designed to try and overcome this problem and convert an audio input into a control voltage, to in turn control either the internal synthesizer or an external one.

Starting on the extreme left we have a jack input and a three position switch to select the type of input — Guitar, Voice and Wood/Brass. The Threshold control adjusts the input level required to obtain an output from the synthesizer section and when this is functioning, a green LED illuminates and if it goes into overload, a red LED illuminates. This concludes the pitch to voltage converter section and the rest of the unit is standard synthesizer technology so I will pick out the interesting features and the rest can be seen on the diagram.

The unit contains two independent oscillators, 1 and 2 which can be switched

to Sawtooth, Square or Pulse waveforms over the range of four, eight and 16ft pitches. The technique for setting up the oscillators is to play a note on the selected instrument and listen to the natural pitch of the instrument and VCO 1. They should be the same pitch already but if they are slightly out or a different pitch is required, then the master tuning control should be adjusted. Once this has been done, add VCO 2 and that can be tuned to whatever pitch desired within the selected range by the adjustment of Tuning B. Tuning A can be used as a separate adjustment on VCO 2 and by plugging a footswitch into the remote socket beside the tuning controls it is possible to switch VCO 2 between the two tunings at will.

Next to this section we find Audio Mixer 1, which controls the balance between the oscillators and also enables the addition of a note one octave below the setting of VCO 1 giving three notes if all the oscillators are used.

Audio Mixer 2 enables a balance to be made between the synthesized output and the natural sound of the input instrument. Provision is made at this point for switching between the selected balance and just the input sound by footswitch as well as a Hold remote to enable the synthesized output at the time of pressing the

footswitch, to be maintained until it is released. With this control in, sustaining a note you can still play the direct sound over it.

It would be possible to write an entire book on this unit and the things you can do with it and all I can do is to list a few of my experiences with it. I spent about three days trying to get on top of this unit and I still didn't run out of ideas about how to use it in connection with other pieces of equipment such as sequencers and synthesizers with preset controls.

There are a few rules that you must learn before operating the SPV-355 but Roland list them all in their manual and I will mention only the important ones. Stability — the unit has to be turned on about 15 minutes before it maintains its accuracy but I found that provided it had been in a constant temperature for the previous hour, it was in fact stable after about five minutes. You also have to watch your playing technique. The unit only operates on single notes only and chords cause the unit to 'hunt' and wildly mistrack. This also applies to odd notes being played by accident — you have to play very precisely and keep other strings damped if you are playing guitar. Also on guitar there are limitations as accuracy of the tracking decreases below the fifth fret and particularly on the bass strings.

Better results with guitar are obtained by using a neck pickup and also care with the choice of guitar.

Roland Rack Summary

The Roland Rack System is well designed and very practical to use. The construction is very sound but the mounting of the PC boards in some of the units although adequate could be improved. When one bears in mind the price of these units this cannot really be faulted.

All the units have provision for the addition of further sockets on the rear should this be required in a permanent installation. One point about all the units is that I would in future like to see all the units have the same 19 inch mounting system as the two power amplifiers where the brackets are an integral part of the front panel, rather than an add-on fitting. The finish on these fittings is not up to the high standard of the rest of the unit and when moving the units around to different positions in the rack, the black paint flaked off around the screw. A small thing but on such a good range of units as these are it is a shame.

There is one remaining unit to be tested, the Stereo Flanger SBF-325, and this will appear in our Test-Bed Studio reviews in a future issue.

Keith Spencer-Allen

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Starting this month we will be doing a brief run down of eight tracks up and down the country. You will probably be surprised, as we were, at just how professional these studios have become. Read on . . .

Octopus Studio *Stowupland, Suffolk*

Now here is a studio which will provide everything you could possibly ask for from good quality recording to good home cooking. They have only been operating for a couple of months but already their reputation is spreading fast. Situated in a converted blacksmith's workshop-cum-barn, it is run by Tony and Dave and their secretary.

The studio equipment includes a Soundcraft one inch tape machine, Soundcraft 16/8 desk and a Revox A77, with Dolbies if required. The main object is to achieve a clean sound. They can provide you with the free use of "hundreds" of instruments including a six-piece Ludwig drum kit, Polymoog keyboard and pedal, various acoustic guitars, Aria and Ibanez electric guitars, Fender precision bass, and they also make their own custom-built cabs and bins. They have a Vintage Marshall 50 amp and a Roost amp. Session musicians are readily available. They can also offer an on-the-spot photographer to do your glamorous publicity shots for you. They have an arrangement with Dead Good Records of Lincoln for the cutting and pressing of your master pieces, and they also have contacts for promotion of various different types of music. What more can you ask for?

This spacious studio is yours for a mere £7.50 an hour or £70 a 14 hour day, and their phone number is 04492 76842.

Archipelago *Pimlico, London*

The staff of the Archipelago studio in Pimlico are all musicians, and can consequently supply a complete production job if it's required by, say, a songwriter without any backing musicians. This service extends to providing a string section. All this is optional, of course.

Four engineers use the equipment — no, not two tracks each, but alternately. Archipelago utilises a one inch Ampex 404 tape machine, with an Allen and Heath 16 into 8 desk. Mix down is on a Revox B77. An A77 Revox is used for echo. Both these have varispeed. The effects consist of an

Orbon Parasound Stereo Reverb Unit, a Roland Space Echo, Compliment Stereo compressors and limiters, and a Soundcraftman graphic equaliser. Mikes are Neumann, Shure, Sennheiser and AKG. Power comes from a Quad 405 amp.

Equipment supplied is a Studio bass amp, a Roland 120 Jazz Chorus, a Pearl kit plus moveable drum booth, a Jeff Gayle fretless bass, and a Fender Telecaster.

Eight pounds an hour is the rate for the place. Ten pounds hires you the tape. A £10 deposit is also required. A Technics cassette machine is used to produce demo cassettes, but the engineer who spoke to me said that for him, copying work was generally "a drag". Sally Pullinger and Michael O'Connell are the directors and you can contact them at Archipelago on (01) 834 9303.

The Elephant Recording Studio *Long Lane, London SE1*

This studio uses three permanent engineers and two freelance, the rate being £6.50 per hour, but package deals are available — such as £60 for eight hours which includes use of equipment (listed below) and tape hire. The desk is a Tweed Audio 12/8, feeding into a Brennell one inch 8-track tape machine.

The Brennell is interfaced with a TEAC A-3300SX and a Revox A77, both two track. Their monitors are Tannoy. The amp for monitoring is a Quad 405, and the foldback is taken care of by a Quad 303. Effects number a Stereo Reverb unit, a Roland Chorus Echo, an Analog Time Processor, a Klark-Teknik stereo graphic equaliser, and DBX compressors and limiters. Elephant use a Sony cassette for copying and among the instruments are Korg string synth, an upright piano and a drum kit by Hayman. Amplification consists of an assortment of Marshall cabs, tops and combos. They have been open for two years and deal with mostly rock bands.

Elephant's telephone number is (01) 403 3505.

Black Wing *Southwark, London SE1*

Black Wing has been the scene of demo-making for superstars such as Wilko Johnson, the Young Ones, Wild Horses,

the Trendies and many, many more. Part of the Wharfe co-operative, the studio is situated in South-East London. As well as the studio, there are also rehearsal facilities. There are two engineers — Eric Radcliffe being the chief.

The studio is built in a converted church which accounts for the enormous size of it — for an 8-track anyway. The control room measures approximately 400 square feet and the studio area itself is between 800 and 900.

Control Room equipment includes the Hill 16/8 D series — much customized by Eric, Tascam 8 track with DBX noise reduction, a TEAC two-track, JVC cassettes, Tannoy Arden monitors as well as the usual Autatones. Other gear includes Dolbies, stereo graphic EQ, compressors, limiters, ADT flanging, reverb/echo and Neumann, AKG and Shure mikes.

As far as instruments go, the company also has a backline hire, so they can provide you with whatever you need with ease. Black Wing will cost you £10 per hour flat rate, and can be contacted on (01) 261 1263.

Rook *Stourport*

Rook Studios are in Stourport, Worcestershire. Peter Williams is the chief engineer and in the past they have worked with artists such as Clifford T. Ward, the Bear and what used to be Band of Joy (now reforming as "Split Jeans").

The studio equipment includes an Allen and Heath desk, Leavers-Rich 8 track, two Revoxes, a Teac, Klark-Teknik EQ, Reverb and ADT flanging and phasing. As their advertisements say they've got all the usual facilities plus much, much more.

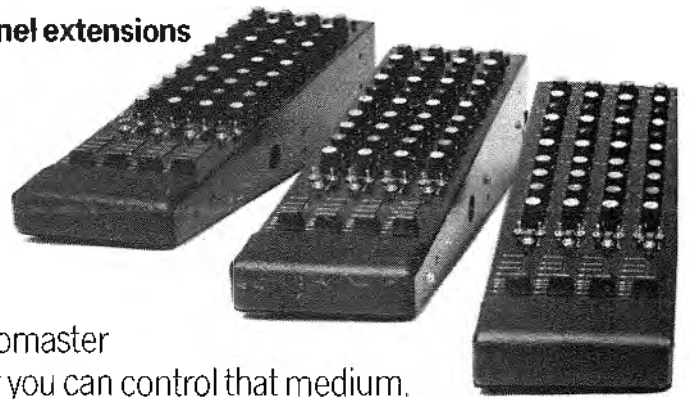
Rook are in a position to provide any instrument you might ask for since this is done in association with their Rook Retail. There is also an acoustic piano resident in the studio.

Rook will cost you £8 an hour, flat rate, on week days, and £10 an hour at weekends. Tape hire is nice and easy — £8 per session. Cassettes are available at the very reasonable price of £1, and ¼-inch will cost you 50p per running minute.

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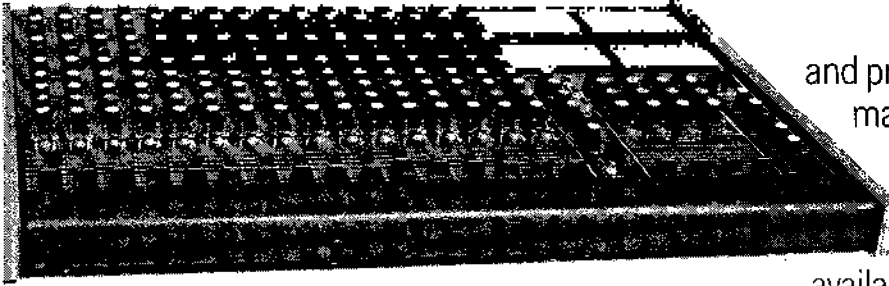
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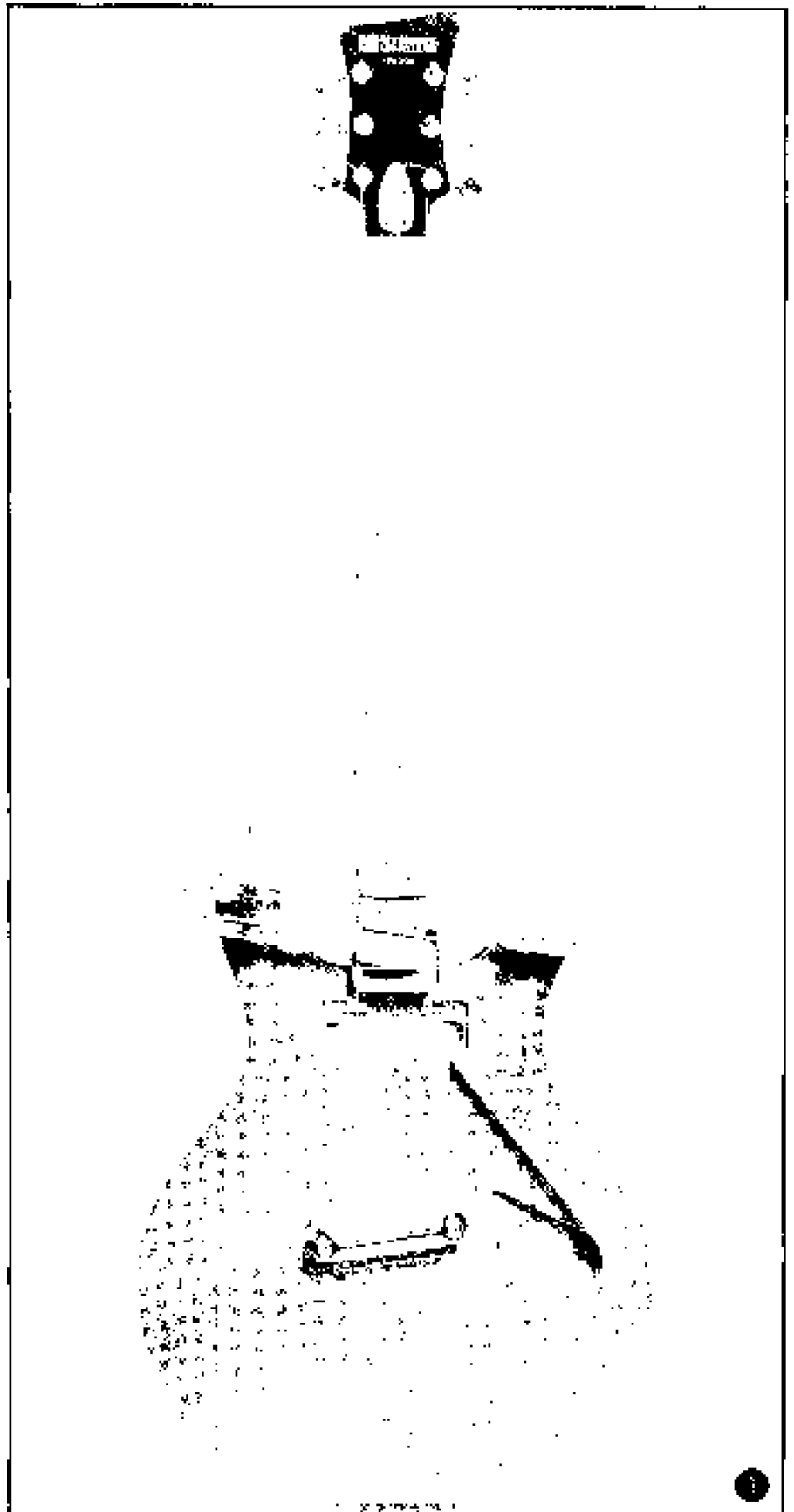
Pickups/Part 3

In part 1, I referred to an old wrecked Dan Armstrong guitar which I was converting into a "test bed" for pickups and different wiring arrangements. From the photos this month, you can see how it is progressing. In photo 1, the body is cleaned up and the neck glued back on. Note the two lengths of white cotton, pulled tight, for checking the neck alignment and action during assembly, and until the glue is completely hardened. The clamps have wooden pads under their feet, to protect the frets and also to ensure that the clamps do not touch the white threads and give a misleading result.

The body looks more attractive than before, but it has not been re-sprayed. I scraped off the old black paint stains very gently with a sharp chisel, held upright, and then cleaned the whole body with a slightly damp cloth pad and T-Cut. There is a lot of hard rubbing involved but it is less work than a re-spray. In this case, the lacquer was in good condition, but very dirty, and T-Cut was all that was needed. It is always worth a try on a small area, before you consider complete refinishing. For general use, even T-Cut is more abrasive than necessary, and you should try a mild, non-silicone, non-oily guitar cleaner first. For most practical purposes, a non-silicone cleaner or polish is one which *states on the label* that it does not contain silicones. Even a cloth moistened with warm water and a few drops of vinegar will often take off the grime and old polish residues.

Photo 2 shows the guitar fitted with 4-wire converted Guild pickups and the small tag strip, as described last month. This guitar has no internal screening at the moment and the inside of the front recess is clean, lacquered wood, so I have fitted the tag strip directly to the body with two very small woodscrews. If there is much dirt, or foil lining, or even faint traces of screening paint in the recess, you must make sure that the backs of the tags do not touch the wood surface. A little strip of scrap "kitchen table" plastic laminate (such as Formica) will make a good barrier under the tags and will not be melted by the heat from making solder joints. You may as well learn to make things neatly, so cut the barrier strip just a little larger than the tags and tag strip, and make a small hole at each end for the fixing screws to pass through. Then it can not slide out of place while you are working.

On the left of Fig. 2, you will see a rough template for the control panel made from card and bits of masking tape. The controls are stuck to the underside with tape. It is difficult to arrange controls so they look and feel right on top of the



panel, while having enough clearance underneath for easy assembly and wiring. If the card template doesn't come out right first time, you can patch it with tape and cut holes in different places until it is right. In this case, I have chosen one volume, one tone and a Japanese five-way selector switch. They are not the best switches in the world, but they are cheaper than the American ones, and repeated re-soldering, in an experimental setup such as this, can wear out switches quite quickly.

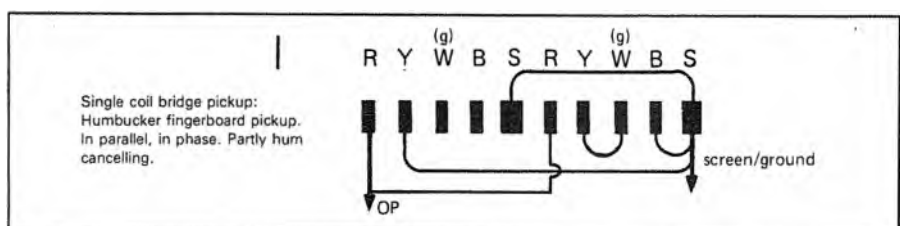
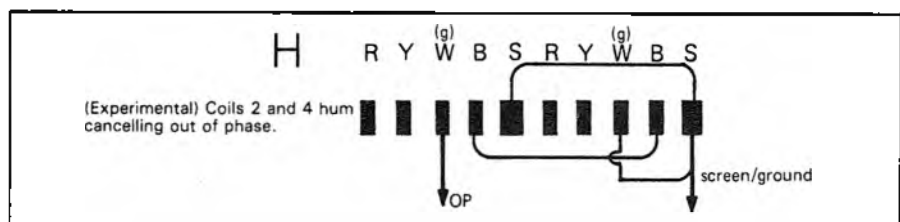
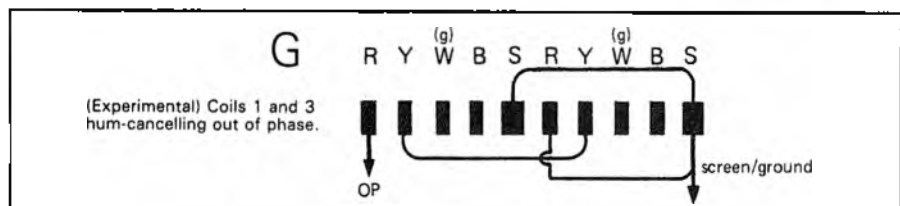
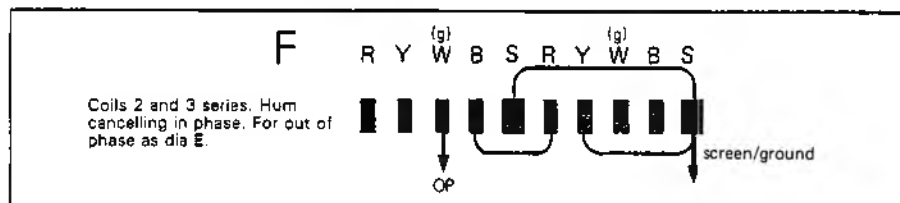
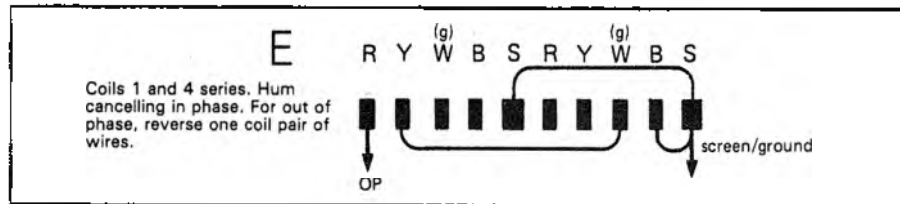
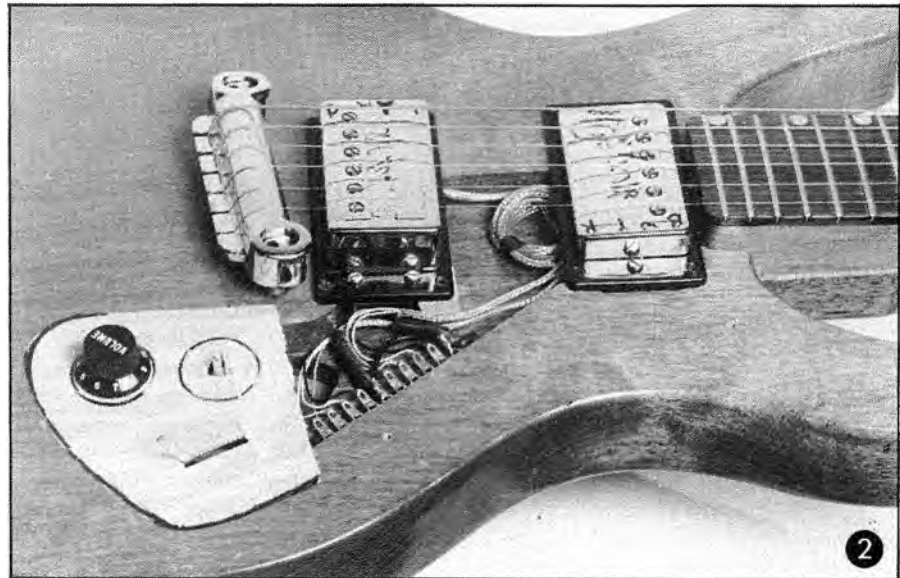
Also in Figs. 2 and 3, one corner of the bridge pickup is supported on a small block of wood, with a long screw going through it, into the body. There is no special advantage in this: my test-bed guitar happened to have a big recess under the bridge pickup and this was the easiest way to fasten the pickup surround down. At the other end of the pickup I had to cut a bit of wood away. Don't take out more than necessary, especially around the bridge posts and the neck joint.

In answer to the 17 or so readers who are likely to enquire about the bridge unit on this guitar, as far as I know, there is no further supply of these bridges (unless someone happens to know where the moulds are).

Photo 3 shows the finished control panel, which in this case was made from a manufacturer's free sample of black plastic. If I am to believe the label on this sample, it was made by the Nobel Dynamite company — I know celluloid is highly inflammable, but exploding scratchplates ... ?

The intention of making a small control panel is to leave the best possible access to the tagstrip. Another matching panel will later be fitted as a cover over the wiring. In photo 3, certain of the tags have been linked together, to give either standard humbucker wiring, or "all in series", according to the selector switch position. This is one of the more complicated arrangements, as you will see from the number of additional wires leading from the tag strip to the selector switch. Imagine that lot without any tag strip! For the moment, don't attempt anything fancy like this until you have tried all the pickup wiring diagrams which will appear in each section of this series. Fit a switch to the panel if you wish, but don't wire it up yet. As there will be more of these tagstrip wiring diagrams, I suggest you turn to last month's article, ("Pickups, part 2"), and label the four diagrams A, B, C and D, from the top down. This month's diagrams will start from letter E.

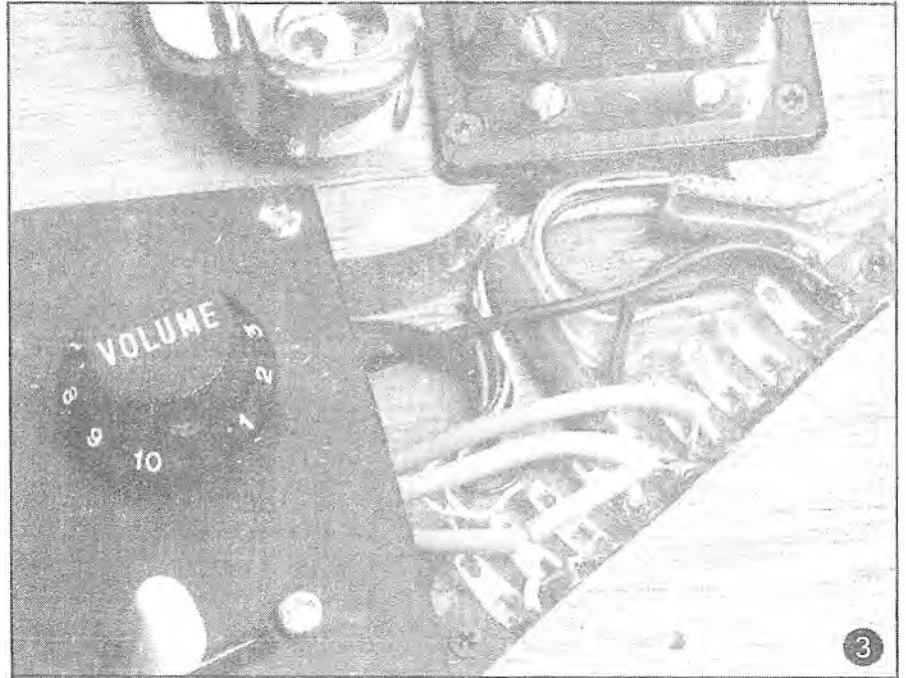
Diagrams E and F use one coil from each pickup, while still working on the



same principle as a standard humbucking pickup. Because the spacing between the connected coils is increased, the usual cancellation of certain string harmonics shown by twin-coil pickups will still take place, but will affect a different group of harmonics and give a slightly different sound. On any of these split-coil or unorthodox wiring arrangements, the hum-cancelling property may be reduced, or sensitive to the distance and direction of the hum source from the guitar.

Diagrams E and F may be converted to out-of-phase arrangements, by reversing the pair of connections to *one* of the coils. Alternately, you could try diagrams G and H, which should give you an out-of-phase sound which *is* hum cancelling. G and H are experimental, which means that I have n't tried them yet. They should work, but you might need to reverse one of the pairs of coil wires. Either way round is a perfectly valid arrangement, but one way should be out-of-phase and hum-cancelling at the same time.

Diagram I is an interesting mixture of one humbucker and one single-coil (by the bridge). It will also work the other way round, but I think it sounds less interesting. There are several more variations of this which I shall try to give next month.



Meanwhile, at the time of writing, I am off to the Frankfurt Music Fair in a couple of days, so I may have some interesting new bits and pieces to tell you about in next month's issue. With the help of my humbucking crystal ball, I see neat rows of amp manufacturers' exhibition booths, all

featuring rather similar, tiny combo-amps. It is not so long ago they were telling us that a small, loud, reliable combo was impossible, or at least impossibly expensive. Don't you believe it! See you next month

Stephen Delft

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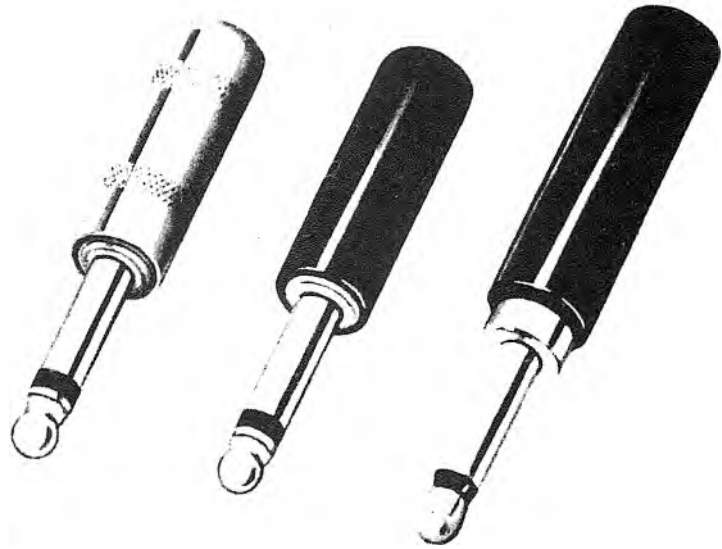


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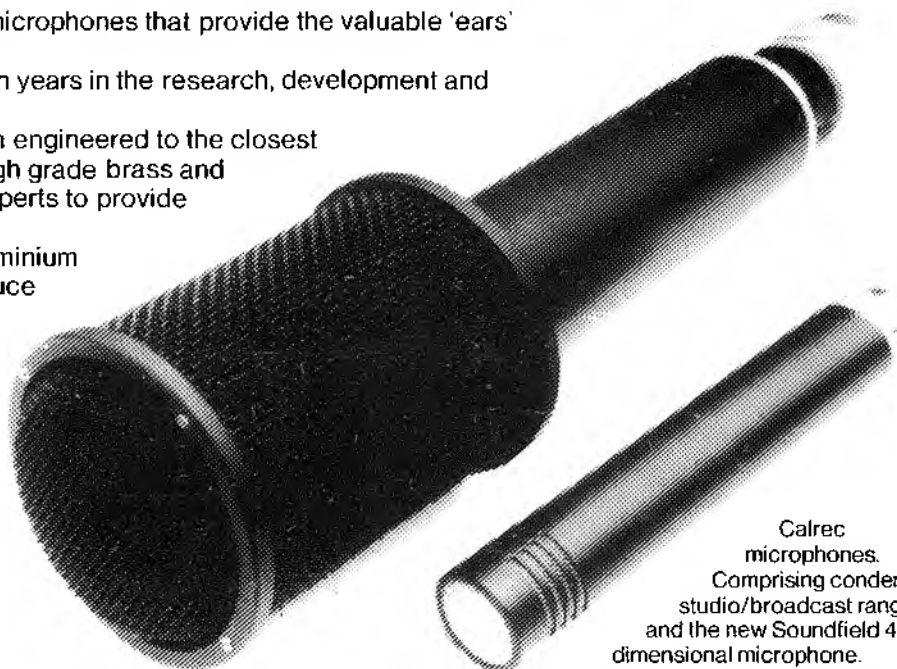
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Microphones

Part 6 Connectors, Cables and Wiring

So far in this series we have looked at the historical development of the microphone, basic microphone types, directional characteristics, the loading effects of screened cables, impedance matching, balanced and unbalanced circuits and phantom powering arrangements for capacitor-type microphones. This month we will consider the practical aspects of microphone connectors, cable types and how these should be wired.

Connectors

There can be no doubt at all that by far the most reliable type of microphone connector, the most robust, and the one used almost exclusively by the professionals in studios or on the road, is the Cannon XLR/3. The way in which this type of connector is to be used for audio purposes is defined in the international standards document IEC 268 part 12, but despite this international recognition of the connector type, it still has no IEC type number and is therefore generally known as a "Cannon" or as an "XLR" in the business, despite the fact that fully interchangeable connectors are also manufactured by Switchcraft, Neutrik, Amphenol and R.S. Components — although the R.S. components connectors are in fact manufactured by ITT-Cannon with the R.S. name stamped on them.

All these XLR type connectors from the various manufacturers have different type numbers peculiar to each manufacturer and each have their strength and weaknesses. For example, the ITT-Cannon types have by far the most durable mounting system for the contacts as these are set in rubber to prevent shattering and to ensure good alignment. However, the shell assembly employs many small screws and other parts and is therefore fiddly to assemble and you often end up losing some of the parts.

The Switchcraft, Neutrik and Amphenol versions, however, have solid plastic inserts which do tend to shatter when abused, but have much more simple shell assemblies that are much easier to put together. Also, the ITT-Cannon versions are much more expensive than the other three so you "pay your money and takes your choice" as they say.

One important feature which is common to all makes is that a good, sound cable clamp is incorporated into the design to ensure that there is no mechanical strain on the soldered termination. The XLR system is such that the signal coming out of microphones, mixers, tape recorders, etc. appear on pin contacts and that signal inputs into equipment — mixer, tape recorder, power amplifier etc., are terminated at socket contacts. Therefore all cables will have a free socket at one end and a free plug at the other, thus permitting cables to be linked end-to-end when long lead lengths are required.

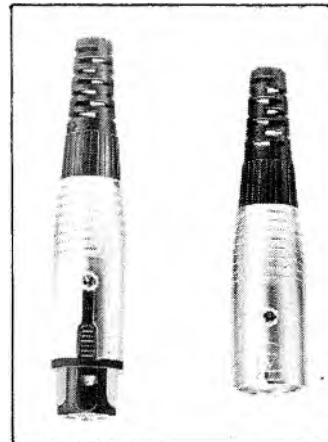
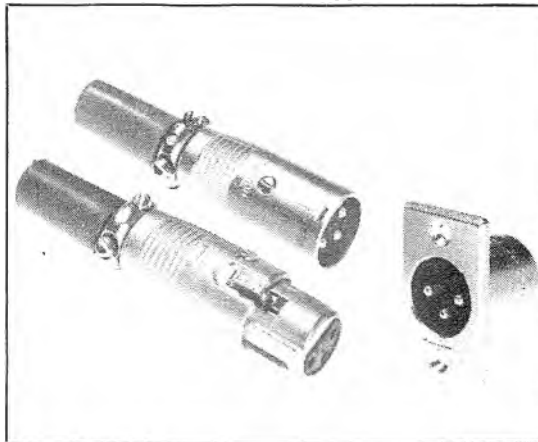
Most makes of microphone intended for professional or semi-professional use are now available with the male XLR connectors incorporated into the body shell and cost little, if any more, than the versions fitted with the more delicate DIN type connectors. The pin connections to XLR type connectors has been standardised by IEC 268 and is as follows:

Contact 1 — Screen	
Contact 2 — Signal or Phase connection	Balanced circuits
Contact 3 — Return or Anti-phase connection	
Contact 1 — Screen/Return	
Contact 2 — Signal or Phase connection	Un-balanced circuits
Contact 3 — No connection	

If an unbalanced microphone (or other signal source) is to be connected to a balanced input, then Contact 1 is linked to Contact 2, which then shorts out one half of the input transformer winding. Similarly, if a balanced microphone is to be fed into an unbalanced input, the wire that would otherwise go to Contact 3 in the balanced mode is instead commoned with the screen on Contact 1.

It should be noted that some manufacturers — surprisingly Allen & Heath among them — have not yet adopted the IEC standard wiring and are still using an old studio system whereby the use of contacts 2 and 3 are reversed, with the screen remaining on contact 1. When using balanced circuits, and providing that the entire system is working through the same mixer, the only problem is that the mikes are out of phase — but as they are in phase with each other, this does not matter much. What does matter is that when unbalanced circuits are used, the system does not work at all and the connectors all have to be re-wired. All this of course totally defeats the immense benefits of standardisation. I should add that it is only a minority of manufacturers who are still using the old system.

ITT Cannon and Neutrik XLR/3 type connectors.



DIN Connectors

This is the other main group of connectors to be found on microphones and as with the XLR/3, there is an international standard, IEC 268 part 14, which defines the use and wiring arrangements. Microphones are usually fitted with the standard three contact connector with the pin contact half incorporated into the microphone body.

Although these connectors employ the same contact inserts as do the DIN connectors used on domestic hi fi equipment, the types used on microphones have a screw-locking ring-retaining system. While these connectors are certainly a considerable improvement in terms of ruggedness and reliability over the domestic counterpart, they are, nevertheless, not comparable to the XLR type of connector in this respect and do not generally stand up to the abuse microphone leads tend to get on the road.

Another international standard, DIN 41-524 specifies the construction of these connectors and DIN 45-594 specifies the various wiring arrangements. These are in agreement with the IEC standard and most microphone manufacturers refer to the DIN standards when specifying the connector types and wiring arrangement used on their microphones. The most common are the balanced and unbalanced configurations listed below:—

Contact 1 — Signal or Phase connection	Balanced Circuits
Contact 2 — Screen	
Contact 3 — Return or Anti-phase connection	
Contact 1 — Signal or Phase connection	Un-balanced circuits
Contact 2 — Screen/Return	
Contact 3 — No connection	

As with the XLR/3 type of connector, a balanced input fitted with DIN connectors can be unbalanced by linking together contacts 2 and 3, while to feed a balanced mike into an unbalanced input, the return or anti-phase wire is commoned with the screen on contact 2 and no connection is

made to contact 3. However, in live performance sound systems, or in studios, there is very little equipment fitted with DIN type connectors and it will only be on rare occasions that these wiring configurations will be used. Even when microphones are used which have DIN connectors built-in, the lead is usually terminated in an XLR/3 or a jack.

Amphenol MC4M (Shure Unidyne 3 and Unisphere 1)

There is no standard method of use or connection for these connectors and they are used only by a single manufacturer to my knowledge. However, there are probably as many microphones in use on the road fitted with this type of connector as there are fitted with XLR/3's and so we must include the details. The MC4M is the familiar four pin connector that has been fitted by Shure Bros Inc. to the Unidyne 3 types 545 and 545S and to the Unisphere 1 types 565 and 565S for more years than I care to remember and is used to make both low and high impedances provided by a tapped transformer within the microphone available at a common connector.

The wiring is as follows:—

Contact 1 — Screen and plug body (via metal cable grip)
 Contact 2 — High impedance signal or phase (Red)
 Contact 3 — Low impedance return or anti-phase (Black)
 Contact 4 — Low impedance signal or phase (White)

The colours shown refer to the colour coding used on the special three-core screened cable as fitted by Shure to this connector. The possible wiring arrangements available are given below assuming the use of jack or XLR/3 input connectors:

(a) High impedance

Red wire to 'tip' contact or two pole jack plug and screen to 'sleeve' contact. On XLR/3 wire red to contact 2 and screen to contact 1. White and black wires are not used.

(b) Low impedance Balanced

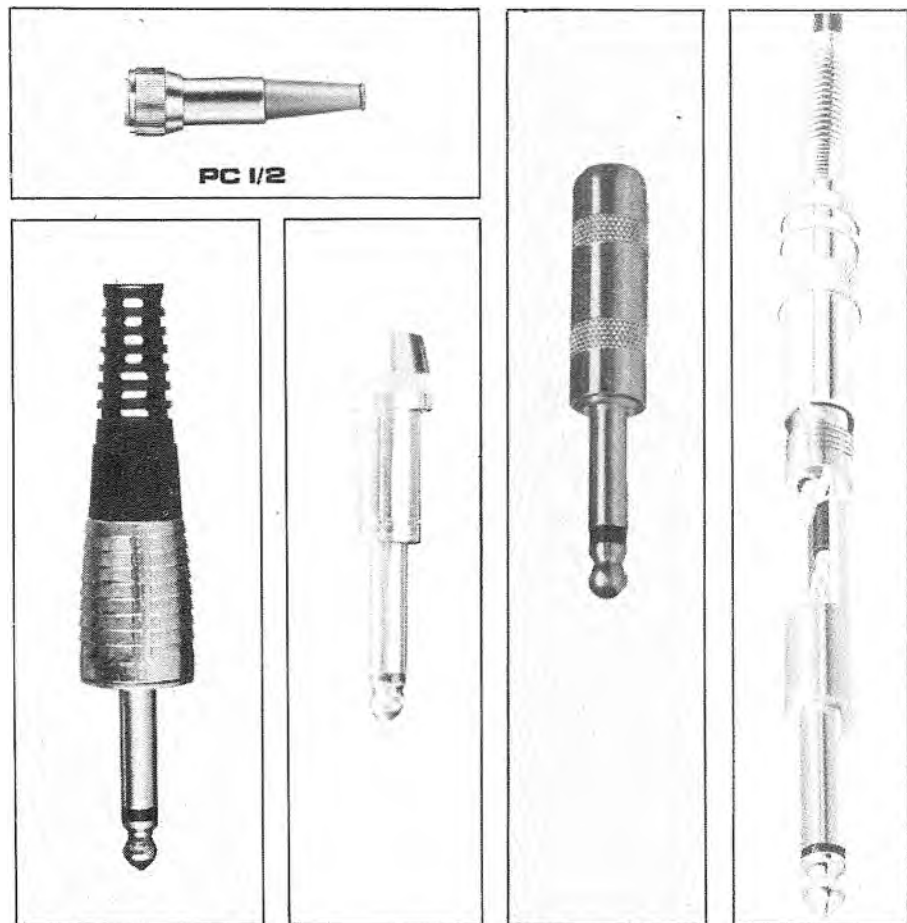
White wire to 'tip' contact of three pole jack plug, black wire to 'ring' contact and screen to 'sleeve' contact. On XLR/3 wire white to contact 2, black to contact 3 and screen to contact 1. Red wire is not used.

(c) Low impedance Unbalanced

Wire white to 'tip' contact or two pole jack plug, and black and screen commoned to 'sleeve' contact. On XLR/3 wire white to contact 2 and black and screen commoned to contact 2. The red wire, and contact 3 on the XLR/3 connector are unused.

Other connectors

There are a number of other types of connector in general use, but either the wiring arrangements are so obvious as to



Neutrik, Switchcraft, and Whirlwind heavy duty screened jack plugs.

require no explanation, or else, they are so few and far between that the space required in these pages to cover them all is not justified. These include the single pole screw-on connectors similar to the Amphenol MC1F as used on some of the lower priced Shure mikes as well as on a host of cheap Japanese products, the Amphenol MC3M as fitted by Shure to a special low impedance only version of the 545, the European Tuchel connectors as used by Sennheiser on certain of their models, and the XLR/5, as used on some earlier AKG microphones to provide selectable output impedances of 50, 200, 600, and 60K ohms all on the same connector!

Another oddity to watch out for is the Caltec 600 series of capacitor microphones where a standard screw-locking three-pole DIN connector is used, but instead of being phantom powered, contact 1 is signal, contact 2 is screen/return and contact 3 carries about 40 volts DC to power the microphone's electronics. There are also a small number of these mikes in use which have an XLR/3 connector wired with screen on contact 1, signal on contact 2 and 40v DC on contact 3. Obviously, great care must be taken to ensure that conventional balanced or unbalanced mikes are not inadvertently plugged in to connectors wired for this type of mike or you can expect trouble!

Jack Plugs

Before we leave connectors, a word or two about jack plugs might not go amiss. Badly designed, difficult to wire, fragile jacks have been responsible for more sound system faults than any other individual cause. Obviously, the reliability of a cheap jack can be improved by particularly careful wiring and by not subjecting the plug to abuse — but on the road, this sort of care and attention just is not on.

There are a number of infinitely superior jack plugs available, which apart from being easier to assemble and of an altogether more satisfactory design, are far more robust and much better suited to use on the road. These do cost quite a lot more than the standard cheapo varieties, but the hassle they save is well worth the extra cash. Three fine examples are the Whirlwind Viper Tip and the Neutrik NP2MC, and the Switchcraft 470. Another type, not quite so special but never-the-less far superior to the run of the mill rubbish is the Rendar 266-09 (available from R.S. Components as catalogue No. 477-983). Prices will run from about £1.30 for the Rendar/RS item to about £2 for the Neutrik. All these plugs have brass or steel body shells, sensible terminals and adequate cable clamping arrangements and are generally able to accommodate heavier grades of cable.

Microphones

Cables

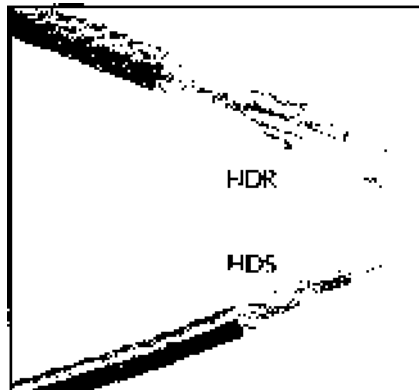
As with jack plugs, there are many different types and grades of screened cables which would seem on the surface at least, to be suitable for use as microphone leads. However, there are a number of factors which in effect, make one type far better than another. As we have seen in part four of this series in the January 1980 issue, the capacitance between the conductors and screen or between conductors in a twin screened cable can have a serious detrimental effect upon the performance of a microphone by attenuating the higher frequencies and causing amplifier instability. It therefore follows that cable should be selected with as low a capacitance value per metre as can be obtained.

As an example, cheap lightweight single screened cable can have a capacitance approaching 400pF/metre, while specially designed low noise cables have a capacitance of less than a quarter of that figure. For cables of any length on a high impedance microphone, the effect of the capacitance can be considerable and the additional cost of the low noise type of cable is more than justified. However, at low to medium impedances, the matter is less critical and capacitances of 200 or even 300 pF/metre are acceptable.

You should select a cable type that has at least 14 strands of wire in each conductor to ensure adequate flexibility as the popular seven strand lightweight cables, and cables with solid wire conductors will fracture in use. Also, cables with a proper braided screen are far more serviceable and electrically superior to the lapped screens normally used on less expensive cables.

The other main area of concern is that of mechanical durability and the heavy duty cables of the type normally supplied with the professional microphones from the Shure range, or some of the Belden microphone cables are particularly good, if a little on the costly side, while at a more reasonable cost and usually more readily available, some of the better quality R.S. Components screened cables are quite good — especially their low noise types. Shure do supply their cable separately and Belden is available from the Whirlwind jack plug people and from many of the hire companies. Another supplier, Future Film Developments offer two ranges of microphone cable. Their CAB-Std type has a PVC outer sheath and is available in many different colours to aid identification of channels, and their CAB-HDR (twin) and CAB-HDS (single) shown in Fig 1, are a heavier duty cable with a tough rubber sheath.

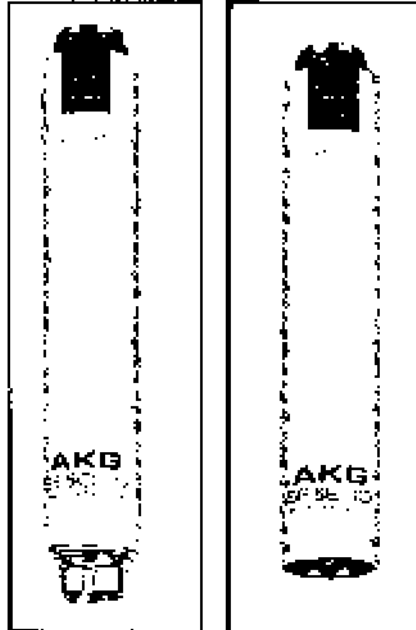
In this article, I have specifically mentioned a number of manufacturers and suppliers by name. This is not a free publicity exercise, but most of the items we have been discussing are not readily avail-



Future Film Developments heavy duty twin and single conductor microphone cables.

able from normal retailers and if you want to buy good quality jack plugs, XLR connectors or decent mike cable, you will probably have to order them specially. If you can go to your dealer and tell him just what you want and who supplies it, he should be able to show you the catalogue and order the items for you. Otherwise, some of the firms mentioned do advertise in *IMRW* so maybe you can write direct if you feel so inclined. Be warned, good quality connectors and cables cost money — up to three times the cost of the indifferent items you normally find in shops, so find out the prices first!

Pre-amplifier sections of AKG CMSE Capacitor microphone. Shown with at least 14 conductors and 14 Phil. XLR-3 cable connectors fitted.



After this practical digression, next month we return to the more theoretical aspect of microphones and consider microphone specifications. After that we shall move on to applications — another more practical aspect in which we shall discuss the best ways of using different types of mike on different types of musical instrument, for voices, for recording and for live performance use.

Ken Dibble

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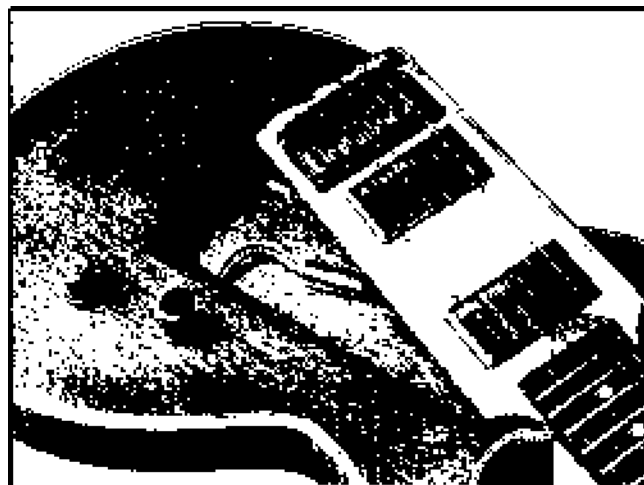
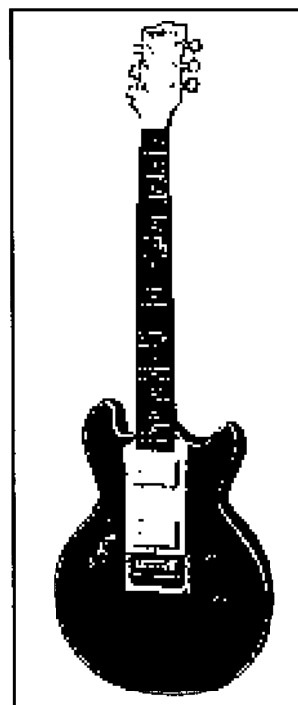
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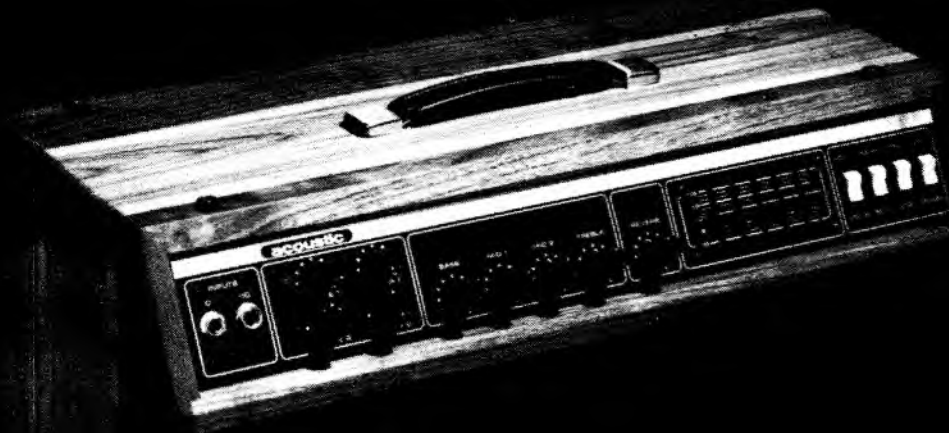
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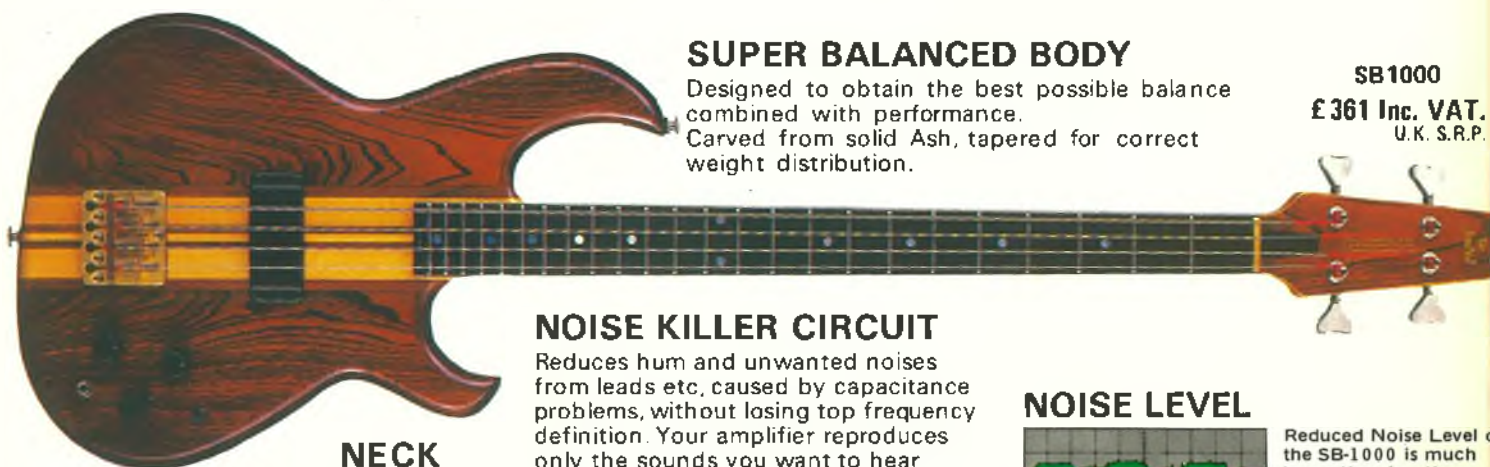
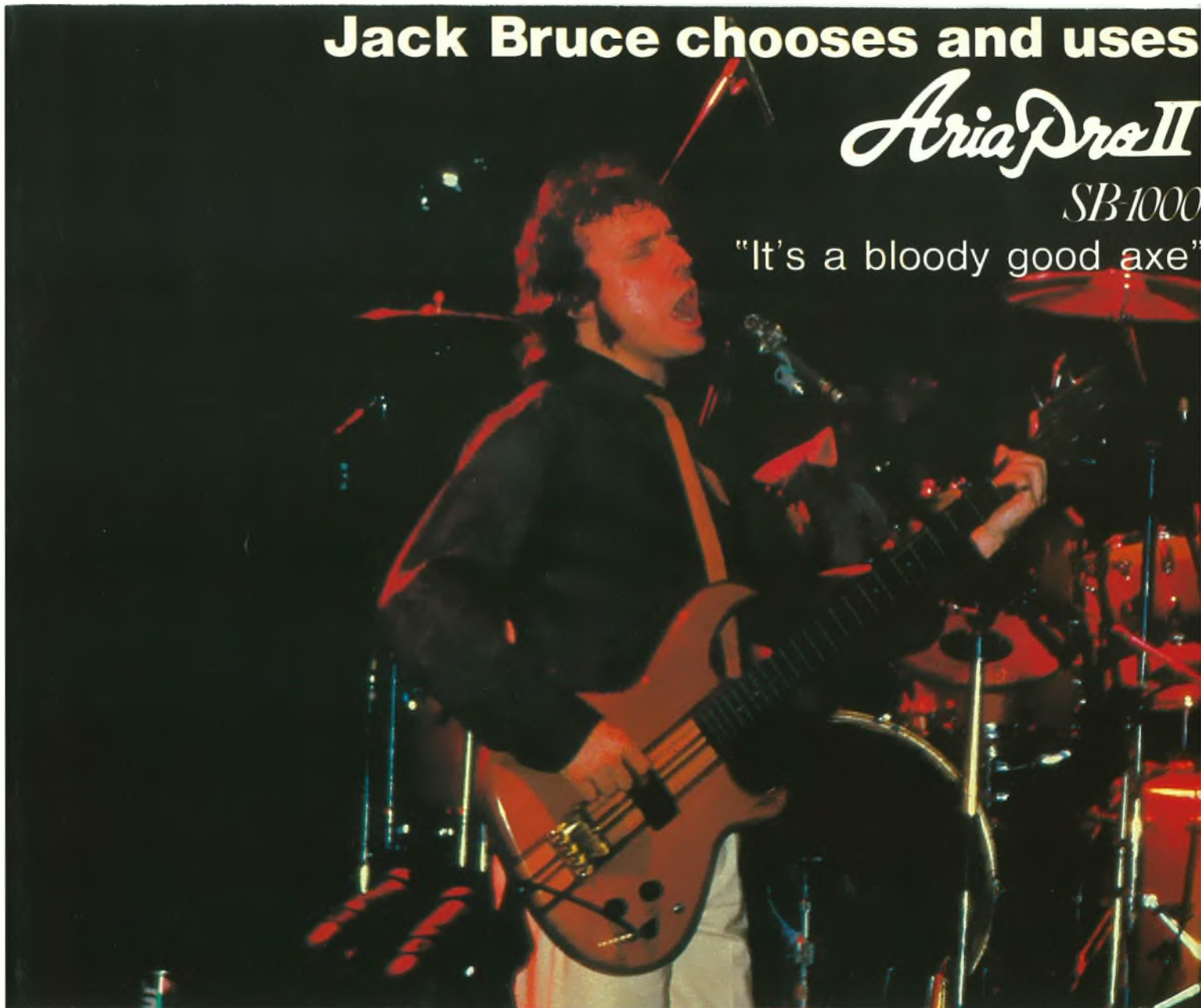


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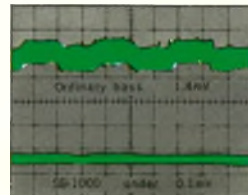
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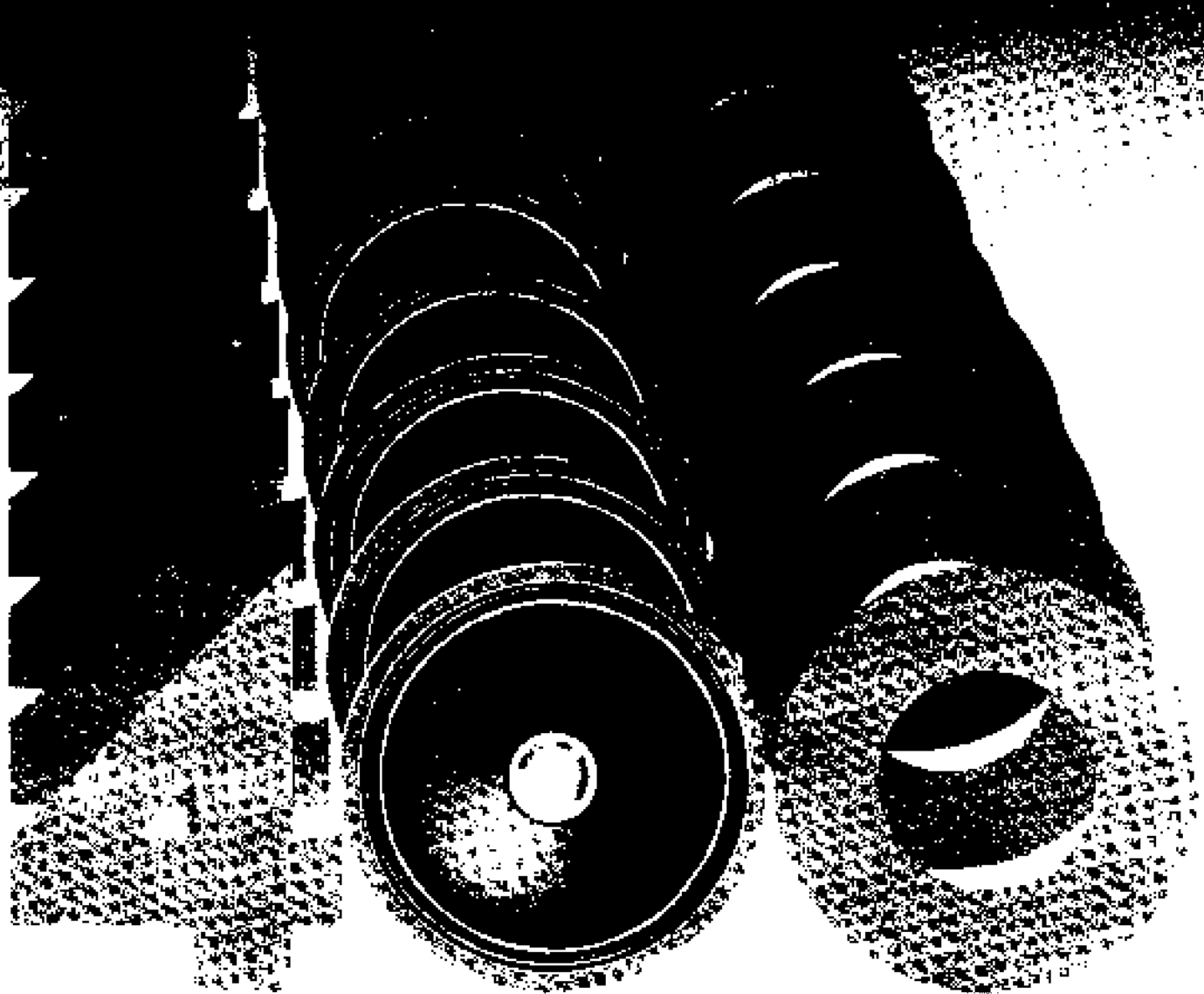
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All night sessions. A Bishop confesses.

Johnny Guitar, whose face and name-plate you see over there to the right, is the guy on lead with the Bishops.

Behind him, if you look closely, you'll see the three friendly, familiar letters that spell out Vox.

(Vox, having paid for this advertisement, quite like to see their name mentioned. This is perfectly understandable. If you were Vox and you were paying, you would, too.)

Anyway, the Bishops are just back from seven weeks in sun-soaked Australia so we kicked off by asking about that and then drifted around to various other topics.

(Like Vox amps.) *We're the italics by the way.*

... Australia was great... there's a whole scene going on down there that nobody knows about... most people think Australia is just AC/DC and leave it at that... we had a great time... it got a bit dodgy towards the end... the crew quit on us and we got this other guy in who managed to blow up half our equipment... compared with Britain it's all very different...

How did you find recording when you were starting?

... a studio, any studio is fine as long as you have an engineer who's got a bit of sympatico... you want an engineer who listens... there's a guy called Alan Winstanley down at TW who's really good for that... you all feel as tho' you're working towards the same end... I hate being rushed in a studio... you know, all that looking at the door and thinking we've gotta be out of here in another three hours and we haven't even got the rhythm track down right...

Do you use many toys?

... you mean foot pedals and such?... no, that stuff isn't really part of our sound... I think the most important thing is to get the sound you're after and just play... I always record with an AC30... I've got an old white one that's really settled down now... a new AC30 needs a couple of months to break in and after that it's fine... I suppose in all I've had about six or seven Vox's - one got nicked in Spain... the others have all gone to good homes...

What was the worst experience you ever had in a recording studio?

... ah, a few years ago we had a bash at this direct to disc bit... the theory of it's fine... you know, no tape stage so you can get all the transients and a really open sound... didn't work out like that tho'... the sound they were getting in the cutting room was totally different to the sound coming off the monitors... and the cutting room was four floors up and there wasn't an intercom... nightmares, nightmares... the best way to record tho' is when you're not rushed... it's funny but if you're not panicking you get everything down really fast... all you need to get a decent track together is enough time and an engineer who's interested enough to do it into the small hours... once you got those you're flying...

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Silence. The Step Beyond.

Even more important than what an effect adds to your performance is what it doesn't add. Noise—pops, clicks, and hiss can make a good effect virtually unusable in a performance. That's where BOSS effects are different, and it's a difference you'll notice from the moment you turn them on.

You see, all the different effects on the market share the same noisy problem—they all use the same kind of mechanical footswitch, and no matter who makes it, it still has the same problem—it makes an audible "click." That can be a pain in the studio where you have live mikes, but even worse is that a mechanical switch is prone to make popping noises in the signal when it's engaged, and that's a real problem no matter where you are.

Circle 779 on Reader Service Card

BOSS effects have been designed differently. We incorporate what is called F.E.T. switching. This means that there are no mechanical contacts in the signal system, so it won't make an audible click—and it can't make a pop. The switching is done totally electronically and cleanly.

But that's only the beginning of the beauty of BOSS pedals. You'll find a host of other features the competition has yet to catch up with. Features like battery eliminator jacks on every pedal, skid pads that work, and a unique design that allows you to change the battery without exposing the circuit board. And, back on the subject of silence, you'll find BOSS pedals to be the quietest pedals on the market with signal to noise ratio consistently better than 80 dB.

You'll find a BOSS pedal to fit any need—from phasers to flangers, to equalizers to compressors to the new CE-2 Chorus Ensemble, a compact version of our legendary CE-1.

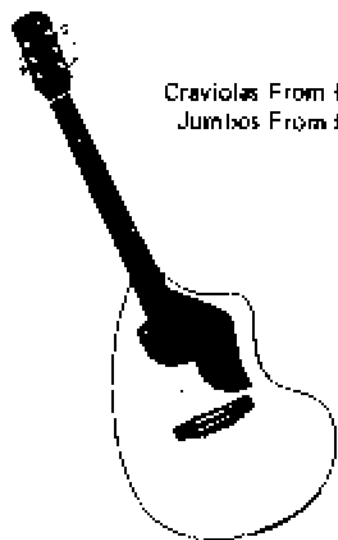
None of the BOSS pedals make noise. No clicks, no pops, no hiss. And that's pretty important. Cause if you're serious about your music you know that what you leave out is as important as what you put in.

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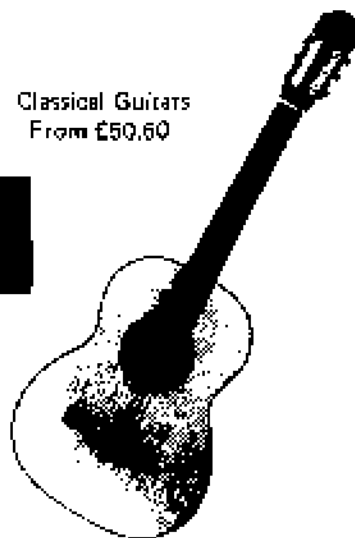
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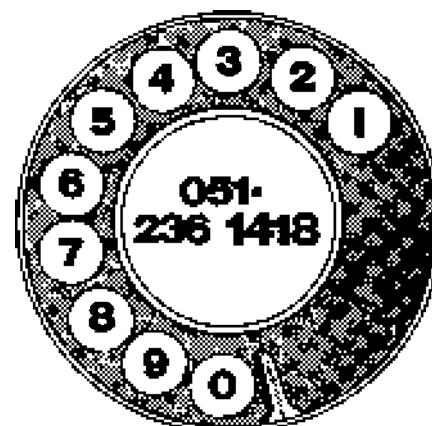
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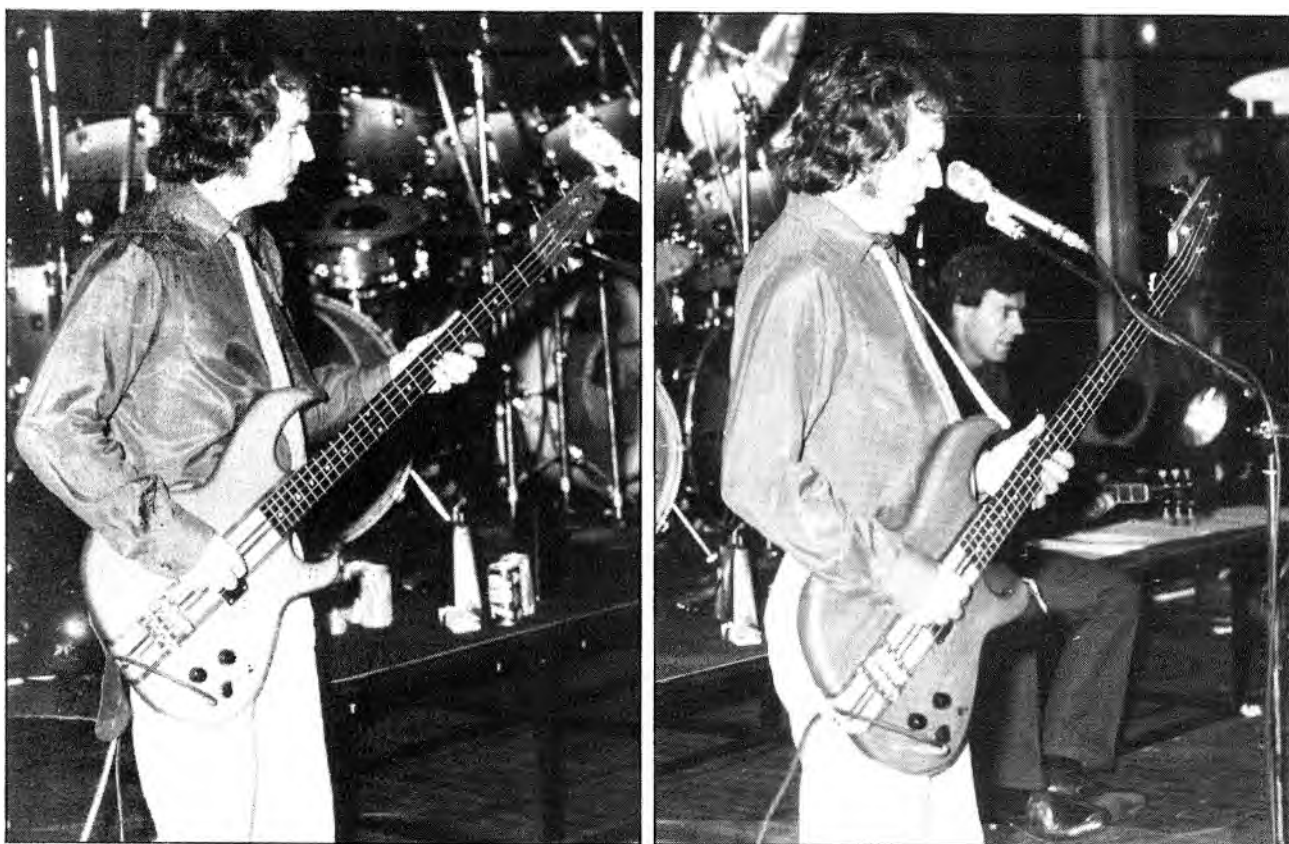
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HESSYS MUSIC CENTRE



THE INEVITABLE RETURN OF JACK BRUCE

David Lawrenson

If Jack Bruce had been around in the Middle Ages he would undoubtedly have been a wandering minstrel in the Highlands of his native Scotland. Singing for his supper (and accompanying beverage) would have suited Jack quite well. As it is, he has had to settle for the Twentieth Century equivalent — rock & roll.

There is definitely something of the wandering minstrel in Bruce. During his 20 years in the rock business he has covered just about every aspect from superstar rock musician to get-away-from-it-all recluse. Yet the name of Jack Bruce still retains a bit of magic and a whiff of expectancy.

1979 was a good year for Jack. It could be said that he "re-emerged," although he would probably maintain that he has never been away. The highlight of the year was undoubtedly Jack's teaming up with John McLaughlin, Billy Cobham and Stu Goldberg for a series of European concerts. Following this, in true renegade fashion, he ended up playing a series of bar and club gigs with Rocket 88, a play-for-fun blues outfit which included Charlie Watts, Ian Stewart and Alexis Korner, among others.

Soon America will see another side of Jack Bruce because he is embarking on a tour with a new band. And what a *band!* Billy Cobham on drums, David Sancious on keyboards and Clem Clempson on guitar.

"Oh, my new reggae band?" he laughs. "It sounds good. I've got a manager now, and he had the idea that I should re-emerge in America. The European thing with McLaughlin was successful, but there wasn't really much scope for me in that line up, it was John's band and rightly so.

"Anyway, my manager thought I should put a band together to do a little American tour. I thought it would be difficult having to scratch around for musicians." That turned out to be the least of his problems. David Sancious had indicated that he wanted to work with Jack. When Billy Cobham found out that he was putting a band together, he was most upset that Jack hadn't approached him first, so Billy was in.

For a guitarist, the bass man chose ex-Collosseum and Humble Pie man Clem Clempson. Jack had worked with Clem on Cozy Powell's album, *Over The Top*, and liked his light, lyrical guitar lines. "It's

become a reggae band," Jack explains, "because Billy was born in Panama, his mother's from Barbados and he loves reggae but has never had the chance to play it.

"There was one song we did with McLaughlin, where a bit in the middle went into reggae and it was really good. Billy really understands where the beat should be in reggae, because it's very complicated. I think it's a very exciting development. It's the first new thing rhythmically to happen in a long time because you're turning the beat around.

"When I say a reggae band I'm being a bit facetious, but I hope it will have that kind of feel. I've been a bit gloomy for the last 10 years. I feel cheerful now."

Those last 10 years spanning the Seventies proved to be a period of ups and downs for Jack. The era started well: two critically acclaimed solo albums and a stint with 'Tony Williams' Lifetime, a phenomenal band who were ahead of their time and paved the way for the Mahavishnu Orchestra and countless other rock influenced jazz bands.

Jack later went to the other extreme, teaming up with Leslie West and Corky Laing in a power trio that didn't exactly set the world ablaze. Later he worked with Carla Bley and Mick Taylor before dropping out of the limelight for some time.

Still you can't keep a good bass man down. He renewed an old acquaintance with John McLaughlin for his *Guitar Player* album, and was subsequently recruited to John's touring band. "I like being involved with different things, I like playing different styles of music," said Jack. "I would get very bored just playing in one band for ever. I would like to have a regular band where we could go off and do our own projects."

Jack's resurgence has coincided with his conversion to a new bass. For much of his career, particularly with Cream when he proved that bass players weren't just people who hadn't mastered guitar properly, the Bruce bass has been a Gibson. Not any more.

"I played Gibsons and then spent a long time not being happy with anything. I was trying Music Man, fretless basses and I couldn't get anything that I was really happy with. Then I just happened to find an Aria. I went into a music shop and there it was. I like it and so I bought it.

Since then I've had the company build a fretless, ebony one for me.

"I really love it, and I think it's the best value bass around for the money. It's not an Alembic but then I think they're clumsy. The only thing I think that approaches the Aria is the BC Rich, but they're a lot of money. The ones I play are about £400, and that means you don't have to be a millionaire to buy one. I think an Alembic's about £1,100 to £1,200 over here."

Jack uses the fretless for stage work, but prefers the fretted instrument for recording to get a really hard rock & roll sound. Rotosound strings are an integral part of his sound. For amplification he utilizes a Gallien-Krueger transistor, made in California, with a Cerwin Vega and a Marshall. The combination gives him the cleanness, the balance and the edge he likes.

Of all electric instruments, the bass is probably the hardest on which to establish a personal sound — a feel yes, but not a sound. Jack Bruce was one of the first electric bassists to establish a distinctive sound, a hard, trebly tone which really cut through.

"I think that the way I get my sound is that I play too hard. I use three fingers and a thumb instead of a pick. I think it's all down to playing a little too hard, so the distortion is actually coming from my fingers. It doesn't matter what amp I play through, it always sounds the same.

"I think engineers have gone crazy trying to get a non-Jack Bruce bass sound out of me, but it can't be done. Now when I record I take the Aria and just DI it. I don't even use an amp, it's not necessary."

Over the years he has been playing bass, both equipment and technique has improved, not to mention the host of new players who have turned the four stringed instrument into a specialist art.

"I'm really glad that over the last few years some really good bass players have emerged. There was a period when there was nobody really saying anything on the instrument. You obviously absorb new influences in your playing, you're bound to.

"For instance, I play fretless which I should have done years ago, but I never really thought about it. I think the technique that I had, the older technique, was bending the strings a lot more and bass players don't usually bend strings.

"I used to use very light strings and bend a lot, playing it like a guitar. Now I think I've been influenced by these new bass players. The bass sound has also improved so much that you can't just go on stage with a 100 watt Marshall stack and plonk. People want to hear a good bass sound. But as far as any musical influences go I still listen to Mingus."

Hand in hand with the distinctive Bruce bass sound comes his distinctive vocals. Remember those soaring vocals on "White Room" and "Spoonful"? Well, Jack exercises his consils for one number with the John McLaughlin band, and proved that the old magic was there. In fact, he's convinced that his voice is getting better.

He only really began singing with Cream. "I never thought of myself as a singer. But *someone* had to sing. It was either Eric or me, and often with Eric gone I had to sing. So I didn't really think I could sing until somebody said, 'You know you've really got the most distinctive voice; you should sing,' so I did."

Thoughts of an American sojourn conjure up memories of the days when you could pick up superb old guitars in pawn shops for next to nothing. Not an avid guitar collector, Jack has managed to acquire some excellent instruments over the years.

"It used to be good fun in American pawn shops, especially the mid-West or Alabama. They always kept the best stuff in the back and would finally bring it out. You'd say, 'how much' standing there all poor and scruffy and they'd say \$100. So eventually you buy it, get into your Cadillac and the guy's going, 'oh no!'

"The funniest story is of Jeff Beck actually going on American tours without a guitar. Apparently every time they played, the roadie had to go to the local music shop and borrow one. I think John McLaughlin finally gave him one."

Although a man who's done just about everything in the music world, there was a definite twinkle in Jack's eye at the prospect of the up and coming tour with his new band. He has written a whole range of new material for this venture, and will be featuring material by all the individual members as well as some personal oldies.

"I think we might spend some time in the States," Jack says enthusiastically. "That country has got so depressed it needs me!"

BOSS Special Effects

Roland's range of Boss pedals is one of the most comprehensive on the market today. The 11 units cover just about any effect that a guitarist or keyboard player is likely to want, and all come in the usual standard comprehensive package.

The seven smaller pedals are all of similar construction, small, neat and well designed. They are based on a one piece die-cast chassis, measuring approximately $2\frac{1}{2}$ " with a full width pedal mounted on top.

Access to the battery underneath is simply done by undoing a single retaining screw (which can be done with a coin, incidentally). Apart from allowing easy replacement of the battery, it also isolates the electronics, which can be got at from underneath — a sensible idea as it is all too easy to damage delicate cables when changing the battery in a rush.

Each unit has its operational controls mounted on top just behind the footswitch complete with an LED battery indication indicator.

Two jacks are provided — one for output, one for input — which also switches on the footpedal. Lastly on the back of the pedal is a socket for external power supply.

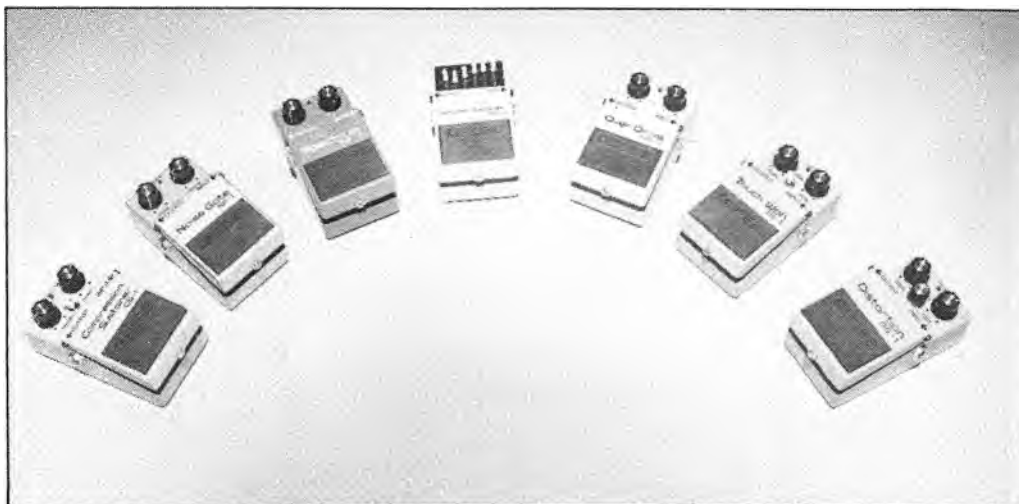
Once connected and energized, operation of the effect is produced by electronic switching activated by pressing on the pedal. This provides click-free operation from effect to normal. Additionally each time the pedal is pressed the red LED on the top panel lights up, provided the battery is in a good condition.

The four large footpedals are all mains energized with the exception of the *Boss Driver*. These are larger (approximately $6" \times 6"$) and again rather sturdy.

Spectrum SP-1

Operational Controls
Balance
Spectrum

The equalization provided by this unit (as a centre frequency adjustment spectrum control) and considerable boost (balance control). It provides a very useful amount of boost over a wide range of frequencies, suitable for providing extra bass boost for bass guitar and especially mid or high frequency boost for lead guitar. Because of the parametric type design it is very versatile, and can for instance pick out a particular guitar sound, or correct a deficiency of the guitar itself. In fact, when used prior to a distortion stage (i.e. another effects unit or a valve sound amp), some very interesting effects such as bringing out the spectrum plucking sound can be produced.



Distortion DS-1

Operational Controls
Tone
Output Level
Distortion Level

This unit is designed to provide fuzz box type distortion. In fact a considerable amount of distortion can be obtained even when a low output guitar such as a Strat is used. Of course this unit does not pretend to produce distortion other than the usual transistor type clipping but considering that, the sound is not noticeably "edgy" and is quite pleasant. By adjusting the output tone and volume controls it is possible to obtain an excellent range of sounds from the balanced to the straight-through (non-distorted) condition.

Touch Wah TH-1

Operational Controls
Sens
Peak
Drive Switch: Down/Up

This pedal is probably the most interesting of all the small pedals. It is basically a wah-wah pedal which is operated automatically by the signal from the guitar. The wah effect can be adjusted in the intensity by the sens control and in level by the peak control. The direction of the wah effect can be set by the down/up switch. There were many, many effects possible with this pedal, some of the better ones with only a small amount of effect set-up. Both the increasing frequency wah and decreasing frequency wah sounded exciting on guitar especially when the strings were touched gently with a pick. (Sens control up high). Bass guitar was particularly suited for this pedal especially on the down wah where it was often quite difficult deciding what the effect produced was.

Overdrive OD-1

Operational Controls
Output Level
Overdrive

I wondered at first what the difference between this unit and the distortion pedal would be like, in fact it is quite dramatic. Although there is not much gain as in the distortion unit the overdrive sustain is very good. Boss seem to have succeeded in capturing the warm sound valve sustain. With several different types of guitar the sound was consistently good, and it was nice to be able to switch between normal and overdrive and yet adjust the relative balance between the two.

Graphic Equalizer GE-6

Operational Controls
Six sliders each offering Boost and Cut of 15dB at frequencies of 100, 200, 400, 800, 1.6K, 3.2K

There is not a lot that can really be said about this unit except that it is probably one of the most useful in being able to extend the range of control offered on many guitar amps. The frequencies chosen are particularly suitable for guitar where ultra high frequency response is not necessary. With all controls set to maximum the overall gain is 15dB. This means that with a very high output guitar it is possible to overdrive the unit. However, for most practical set-ups this is not a problem as normally that much gain is not required.

Compression Sustainer CS-1

Operational Controls
Output Level
Sustain
Mode Switch — a) Normal
b) Treble

Perhaps this is one of the more unusual of the effects pedals, this unit provides an almost constant output level for the wide range of input levels. The sustain control alters the amount of gain available (input sensitivity), therefore the amount of compression of the signal, while the output level enables balancing of the direct and compressed signals. The

mode switch provides bass cut in the treble position. The attack and decay times are very short and hitting the strings hard with a pick can produce obvious compression "pumping" effects. I found that the results were best when only a small amount of sustain was used as it was not obvious that the signal was being processed. Yet there was a marked increase in sustain over the basic sound. In particular the unit was very effective on bass especially for recording where smoothing out of volume levels may be required.

Noise Gate NF-1

Operational Controls

*Sens
Delay*

The idea behind a noise gate is to eliminate any background noise or hum present when the guitar instrument is not actually being played. If the distortion unit is being used at high sustain settings then inbetween guitar breaks a lot of noise and buzz can be eliminated by setting up the noise gate correctly. The sens control seemed to be quite well set up for a wide range of guitar input, which made it quick and easy to adjust for threshold level. The usual problem with this type of unit is the sudden cut off of signal when the threshold level is reached; however, by lengthening the decay time (decay control), this particular problem is solved (it allows slow decay of signal below threshold). One point — I would have expected both the sens and the decay controls to operate the other way round as both threshold level and decay time decrease in the clockwise direction.

Chorus Ensemble CE1

Operational Controls

*Input Sensitivity High/Low
Level Control
Chorus Intensity
Vibrato Depth
Vibrato Rate
Footswitch 1 Normal/Effect
Footswitch 2 Vibrato/Chorus*

This has got to be one of the best effects pedals tested so far. Providing you can translate the instructions accompanying this unit you will have no problems. In fact the unit is simple itself to use but it is worth taking some care over setting up in order to obtain the best signal-to-noise ratio. It is a matter of adjusting the level control and input sensitivity to the point where the LED peak indicator lamp is just flashing. Selection can be made between normal and effects by one switch while the second switches between vibrato and chorus effect. The effects are produced by adding a variable (automatic-adjustable in frequency) delay to a straight through

signal. It is possible to obtain effects ranging from phasing through ADT to real frequency vibrato. It is very difficult to describe fully the range of sounds produced. A very useful feature is the provision of two output jacks, one for direct and effect and one for effect only. Apart from producing good stereo effects it was nice on occasions to just have frequency vibrato only on the guitar.

Delay Machine DM-1

Operational Controls

*Input Level Switch 0dB, -15dB, -35dB
Delay Time
Intensity
Balance*

I was rather taken with this particular machine when I first tried it, in fact I think it would be difficult to make a choice if I had to between this and the Chorus Ensemble.

As on the Chorus Ensemble it is necessary to set up the unit carefully to obtain the best Signal/Noise ratio. I would have preferred, however, the input controls as on the CE-1 which are slightly less confusing. The input level switch has to be set to approximately the output level of the guitar — but it only alters the delayed signal sensitivity and output. Anyway for most guitars the -15dB setting would be fine (-35dB with a high output guitar can produce distortion on the delayed signal).

The main basic feature is the continuously variable delay from a very short (almost ADT) effect to a long, approximately half second delay. Because of the way the delay effect is produced the longer the delay setting the poorer the frequency response. From minimal delay to approximately half maximum delay the response is very good — however, longer delays are really only suitable for guitar special effects otherwise the lack of high frequency response is very noticeable.

The intensity control varies the amount of signal feedback to the input —

at its lowest setting providing a single echo, while at its highest setting regenerative echo. The balance control enables the ratio of direct to delayed signal to be varied.

Normal echo and simulated reverb (high intensity — more direct than delayed) were both produced easily and effectively. Some rather nice metallic effects were also produced with short delay and high intensity. In short the delay effects were good and easy to set up.

Graphic Equalizer GE-10

Operational Controls

*10-Way Graphic Sliders
1 — Gain Slider
EQ/Normal Switch*

This is the big brother of the small GE-6 and divides the frequency spectrum up into 10 octave bands. Each slider has a range of + - 12dB (including the gain slider).

This unit is probably more useful for PA and installations where precise control is required rather than guitar where the smaller GE-6 would be much more convenient. With a maximum output level of +15dB it can be used at normal line level for driving power amps without any problems.

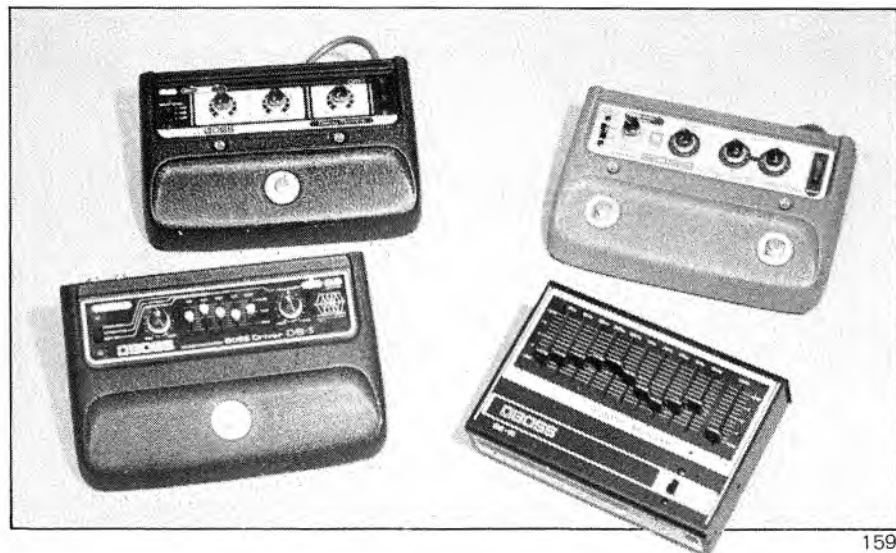
Boss Driver DB-5

Operational Controls

*Modeswitch — Equalizer only
Attack & EQ
Distortion & EQ
Attack/Distortion Control
5-Way Graphic Controls
Balance*

This particular pedal looked interesting but unfortunately appeared to have been damaged in shipping so it was not really possible to test the unit properly. Due to deadlines it was not possible to get a replacement, but we will be reviewing this unit in a forthcoming issue.

Dave Mann





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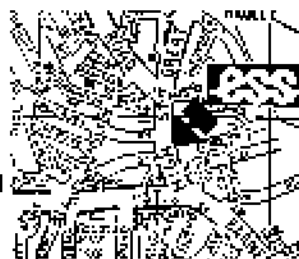
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Johnny Mars



1980 already seems to have been deemed the year of the revival. We've had the Mod revival, the Blue Beat upsurge and — if you haven't already heard — R&B is back again! Of course, there are always those who insist that it's never been away, but an excursion into some of the popular music clubs and pubs will reveal a definite trend.

Outfits like the Blues Band and Rocket '88 are once again digging out the 12 bars and playing no nonsense good time fun music. This R&B revival has also heralded an upsurge in that most humble of instruments, the harmonica.

R&B wouldn't be R&B without a wailing harmonica in there somewhere, and the current boom has its fair share of harp blowers. One you may come across on your search for the blues is Johnny Mars.

Johnny fronts his own band, Seventh Son, and hails from South Carolina, although he is now resident in Britain. He has been playing harmonica since the age of nine, travelling all over the States soaking up all kinds of influences ranging from Chuck Berry to Nat 'King' Cole. You can hear the results of these influences in Downtown London, wherever Johnny gets to play.

Little Walter was an early influence. "I wanted to learn everything he'd ever played. It became a real challenge to learn to play one of his instrumental solos!" Jimmy Reed, Junior Wells and Sonny Boy Williamson were also sources of inspiration for young Johnny.

After spells in various bands playing a number of instruments he eventually decided to concentrate on harmonica. Since coming to Britain he has done several tours including one with BB King and gained quite a reputation on the circuit.

He now plies his trade with some 25 harmonicas which are all Hohners, either Golden Melodies or Special Twenty Two Pro Harps. On stage Johnny basically uses about five or six, for all the different keys he plays in. Playing with a microphone is a basic technique for harp blowers, and this can be a problem in the beginning.

"The first time I played through a mike it was very hard," says Johnny. "I used to drop it a lot. But there is a certain technique, you have to create a pocket either with one or both hands. I play with one hand quite a bit, and you get

Harmonica King of the 12 bars

different sounds with two and one, and the way you hold your hands. You can play with the harmonica on top of the microphone, or put the harmonica on your finger and then put the finger on top of the mike.

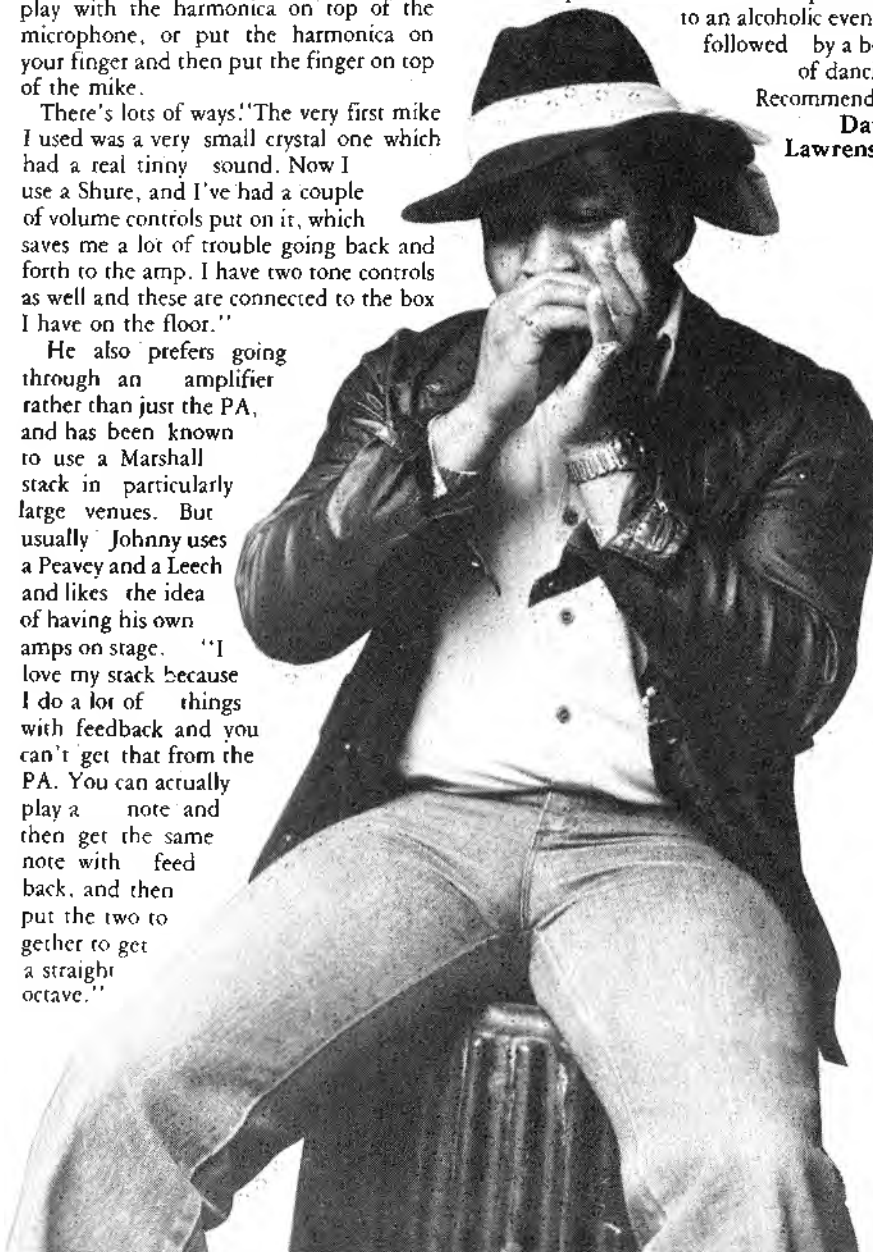
There's lots of ways. "The very first mike I used was a very small crystal one which had a real tinny sound. Now I use a Shure, and I've had a couple of volume controls put on it, which saves me a lot of trouble going back and forth to the amp. I have two tone controls as well and these are connected to the box I have on the floor."

He also prefers going through an amplifier rather than just the PA, and has been known to use a Marshall stack in particularly large venues. But usually Johnny uses a Peavey and a Leech and likes the idea of having his own amps on stage. "I love my stack because I do a lot of things with feedback and you can't get that from the PA. You can actually play a note and then get the same note with feedback, and then put the two together to get a straight octave."

Johnny is also into effects and is not adverse to using phasing and flanging to get different sounds. He is without doubt one of the more interesting harp players around, and with so few about these days (although the current R&B revival has doubled the species overnight) he is definitely worth catching.

The band comprises Brian Miles, guitar, John White, drums, Wayne Ellior, bass and Harry Packer on keyboards, and should provide the ideal accompaniment to an alcoholic evening followed by a bout of dancing.

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David Lawrenson



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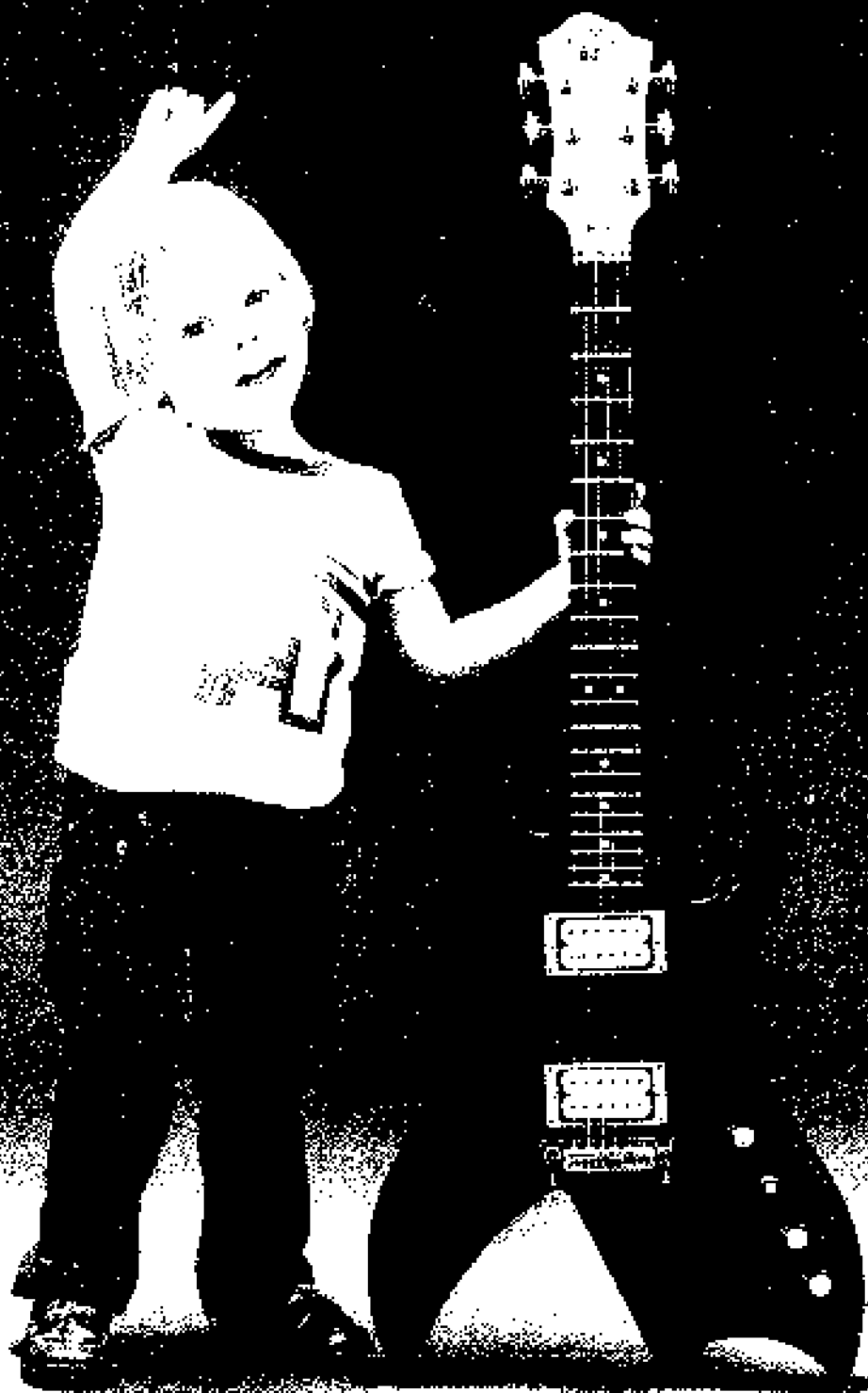
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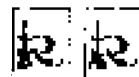
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Some bands are born rich and famous, some achieve richness and fame thrust upon them. Judas Priest fall into the second category, and they've been in the process of achieving these desirable attributes for the last seven years, so you could say that they're hard working lads who've paid perhaps more than their fair share of dues.

But they haven't been without their fair share of the accolades over the years either, and the rewards that come with these accolades. Last year the unlikely spectacle of Judas Priest on *Top Of The Pops* presented itself around autumn '79, when their single peaked out at number 16 in the charts.

"How that single took off I don't know," says Kenny Downing, guitarist and spokesman for the band. "We more or less put that track together in the studio, and it was the third single put out off that album."

Yes, things are coming together nicely for Judas Priest, which is very pleasing for Kenny Downing because he's a founder member of the band, and has nursed his project through the years of trial and tribulation. Now success has come in Japan and the USA, as well as the UK, which spells security for a group.

"You can have a top 10 single or album over here," explains the Judas Priest axe merchant, "and still be destitute six months later. But if you get good record sales and a following in the States, you're made. The following is solid over there. Once you've made fans, they stay fans."

You may or may not know of Judas Priest. They have a reputation for playing heavy rock music louder than the average, with chain-draped leather jackets, studded belts, wrist bands, unfashionable long hair (unfashionable to the New Wave, at least), and a penchant for riding Harley Davidson Sportsters onto the stage at the beginning of their act.

You'd be forgiven for thinking that Priest are contenders for the Heavy Metal Champion of the World title, hanging in there with the likes of Ted Nugent, Summy Hagar and Van Halen. But they're not, really. Their music is subtly different to the super-heavy brain-creaming rock put out by these types. It's more in the Deep Purple and Rainbow mould — hard rock as opposed to heavy rock, if you catch my drift. It's too easy to get snarled up in labels, and definitions of

Keeping The Faith

Priest's Kenny Downing
confesses all to Steve Brennan

loud rock bands become increasingly esoteric the more you delve into their world.

Downing allows all this complicated label tagging to wash right over him, not caring really what names are attached to Judas Priest: "We prefer to let the people get on with what they want to call us and just play rock music."

Playing rock music is KK Downing's forte. Since he was 17 years old he hasn't wanted to do anything else. It was then that he acquired his first guitar, and sat in a bedsit in the environs of Birmingham and taught himself how to play. Like most other guitarists, it took him two years just to learn how to bar a chord properly. Later he took guitar lessons, and for a brief time flirted with classical and flamenco styles before returning to his first love. But it wasn't just love that drove him into rock and roll, it was a desire to succeed in the genre, to become a working rock musician. But the impact of classical guitar is still there — KK still respects the acoustic box for its self-sufficiency, it's lack of reliance on electric gadgetry.

"I'd like to be able to go to a gig on a train with just a guitar and pull it out of the case, tune up and play," he admits.

But for KK it isn't like that. He's part of a band that can genuinely claim to be one of the loudest acts in Britain. Muscle Music have been known to supply 16 kilowatts of sound to Judas Priest, and KK's parameters for a gig are: "...at every sound check we get in about half of what we've got, and then if that's enough — we double it!"

"We're probably going to use a loud one on this upcoming British tour, not because we want it loud but because we want a good sound. You've got to have twice as much gear as you actually need. When you walk into a hall for a soundcheck you don't want to see guys replacing speakers and everything being held up. You need a lot of spare equipment on the road. Of course, you have to pay for it, even though it may be just left in the van. If our management recommends a certain PA system, then we know it's probably a cheap one. We like to pay for something a bit more expensive, because really you only get what you pay for."

Aside from his acoustic boxes, KK has three guitars — two Gibson Flying Vs of rare vintage, and a Fender Stratocaster. At present he's searching for another Strat, preferably a white one with a maple neck, and it has to be pre-CBS. (You can approach KK through this mag.)

"I'm happy with the sound from the Gibsons most," KK explains. "But I use the Fender for the tremolo arm. The units on the Flying Vs I had to take off because of their terrible design: they're a complete waste of time. You bend the tremolo arm down and you can't see anything but the bridge leaning forward. The Fender is probably a 300 per cent improvement, so when I need tremolo I pick up the Strat. But the Gibson sound is better, it's as thick as pea soup, and really raunchy. The Fender has a cleaner sound."

"Over the years with the pedals and the guitars and the amp you wind up with a sound that's acceptable to you. I use a custom made treble boost — I don't know who made it — a Schaller wah wah and volume control in one unit, a Cry Baby and a Nimitar phaser unit. In addition I use a six-band MXR equaliser. That's useful if I want to do some weird effect or other. Plus I use a Roland Space Echo. Even so I'm still experimenting like everybody does. I wouldn't mind getting hold of a guitar synth."

"I use Marshall amps — four 50 watt tops through four cabs, with a spare stack at the side. Lots of other people make amps as good as Marshall, but I've always used them, and I'm satisfied with the spares and repair service, and they do give a bit of a discount. And the stuff looks alright. I can never get a good sound just by plugging straight into the amp, it sounds horrible. I use regular tuning on the guitars all the time."

KK is critical of speakers. He maintains that if he took any manufacturer's speaker that's rated at 100 watts and played straight through it with 100 watts of Marshall amplifications, then it would be about two minutes before the cone became airborne. Rating PA systems by wattage is a fallacy, he maintains, because efficiency varies from amp to amp. A true rating would be by decibels measured in a controlled environment.

In the studio, Downing uses the same equipment as he does live. He feels happiest with the guitar he uses most which is the 1964 Flying V followed closely by the Strat for the tremolo arm: "for effects I normally just run straight through the pedalboard, and I very rarely use the phaser or the equaliser. I use the treble boost a lot, and occasionally one of the wah pedals. When I've done as much as I can with that combination then I'll start using other things."

All of Downing's guitars are strung with Rotosound product — largely because he's into a deal with them: "Strings can

become so expensive that if somebody offers you a deal you just take it. Some people find Rotosound strings a bit rough. They can wear your frets down. I have to use the really light ones because I haven't got very strong skin. I used to use Picato strings."

To write a song KK uses his music room situated upstairs at his home in Dudley. Inspiration never fails to raise its head when the amp goes on. KK feels that whatever riff he plays first is probably the best. He uses a tape machine to put down a phrase and builds from there: "everybody has got something that gives them their own style. Basically we use three chords — A, E, and D in various permutations. What counts is where you play them with various open strings on the guitar. Those chords are the ones that sound the heaviest and most aggressive. That's what I'm into, really, and I use the bottom E open quite a lot."

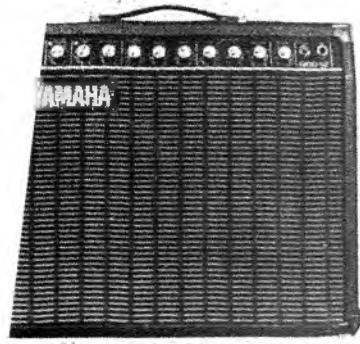
Like a lot of guitarists a big influence on KK's style and career has been Hendrix. KK saw him on *Top Of The Pops* and was sold. He considers that Hendrix and Cream were perhaps the root for all the heavy rock music that's come since those heady days of flower power. KK's own definition of the progression of rock music goes something like this — first up was Mayall and the blues, then Hendrix and Cream came along with progressive blues followed by the likes of Zeppelin with progressive rock. Then came straight ahead rock music followed by hard rock, heavy rock and ultimately heavy metal: "they're different branches of the same tree. I think even punk was a form of rock music."

The punk explosion left KK a "bit stunned": "I found that a lot of people were cashing in — such as record companies. But what's left now is the real talent. But even now you watch *TOTP* and you see a lot of failed rock and rollers, leaping about like 17-year-olds even though they're more like my age. The good players got through all that scene — the overnight players were rubbed out."

KK remembers the punk era as being a time of very slim pickings for a lot of heavy rock bands. A lot of Judas Priest's contemporaries gave up and nipped out of the country for the duration: "...for about six months solid we were the only rock band touring Britain. Most of the rock clubs seemed to be shutting down and the rockers I knew that didn't go to the States chucked it in and went back to working for a living. Since then we've been abroad a lot — but while we've been

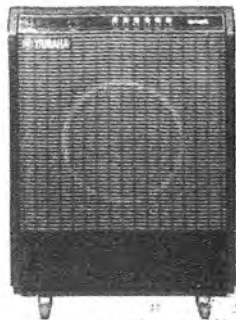


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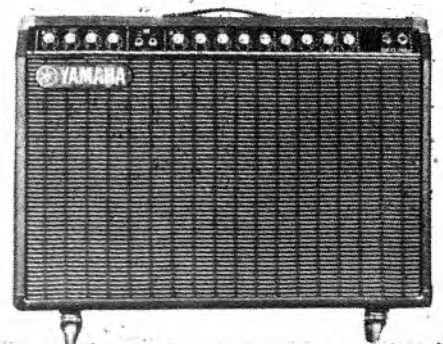
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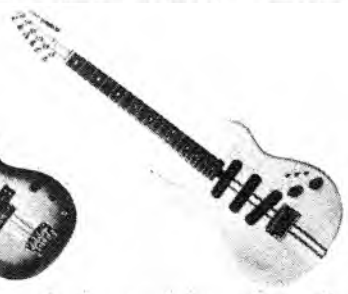
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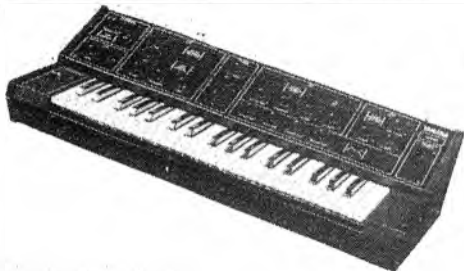
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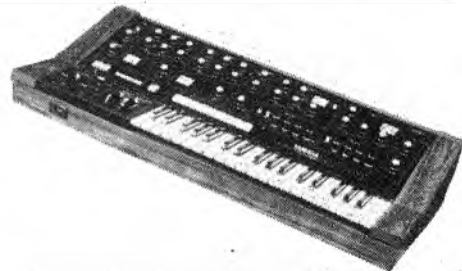
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away there've been a lot of bands coming up, such as Def Leppard, and Iron Maiden who's supporting us on our next British tour."

Last year's itinerary kicked off with a British tour, then it was off to Japan for Priest, followed closely by an extensive tour of the States. The continent followed that — Switzerland, Holland, Germany, France and Belgium. Over the Christmas period the band laid up and recovered their energies.

Of all the countries they've toured, KK Downing finds that possibly the largest slice of their revenue comes from Japan. A relative newcomer to the world of rock, the Japanese record market is now the second largest in the world after America. In Japan, Judas Priest were an automatic success. With an eager heavy rock fandom built up by Deep Purple, Judas Priest inevitably did well. As soon as the plane touched down with the band on board KK realised that they were big stars over there thanks to the four albums released prior to their visit. Fans crowded the airport and trailed the band's car. But essentially the audience is different.

In Britain, Priest fans tend towards being young and male. In Japan the audience is young, too, but are almost exclusively female, although KK admits that a lot of boys are picking up on the group now.

"I think that the girls created the initial interest," KK explains, "which leads to magazine articles and such, and that brings along the boys, too. The women in Japan are more westernised. They're into western-looking women, they read American mags with American models. They like American make-up and American clothes. The guys don't seem to bother, they go along with what their parents want — it seems to be the girls who go astray."

Judas Priest have discovered that three weeks in Tokyo can earn more money than 11 weeks in the USA. In the States vast distances have to be covered at considerable expense. In Japan, Priest do five or six gigs in Tokyo, drive to every one, pack in the crowd and deposit the differences.

KK Downing has come a long way from the early days gigging in the Midlands: "Our following has been built up through years and years of playing around. We've played just about everywhere. This next tour of Britain is going to be our sixth. But before we started organised tours we were constantly gigging, month after month. It's been really slow for us, but we've never given up. It's an uphill struggle like that, and you have to compete against the overnight successes all the time.

"Luckily in the old days there was always plenty of work. Just about every second pub had a band playing. We didn't make a lot of trips to the London area around this time, because our van wasn't up to it — we used to play in Coventry, Nottingham, Derby, all around the Birmingham area. Then we began to

branch out, we got a new van and we found we could travel farther and faster, and our agent would send us anywhere. Even before we put out our first album we'd played Norway, Denmark and Germany, not to mention Scotland.

"Our first record deal was with Gull, but the first album was a minor disaster. Eventually we left them and went to CBS, and we've been with them ever since."

Judas Priest are working on their next album even now, but KK reckons that recording won't get under way until after the next tour, even though they were scheduled to cut the album before it.

This year is going to be good for heavy metal and heavy rock generally, KK maintains. HM is moving from strength to strength, and the fans are gathering into a huge army. Soon, KK hopes, festivals will be back in vogue — three day events where the kids can get stoned and have a good time. His logic is that there are too many Hammersmith and Apollo type gigs

around, draining the kids of too much cash so they can't rush out and buy the record of the band. If a kid can see all his favourites in one go at a festival then he's going to have cash left over for records after paying for just one ticket.

"We've got to get the kids to buy more records," he maintains. "and you can't do that by charging them £4.50 to see a band every week. When you consider that they probably want to buy a poster and a tee-shirt on top, then it must be approaching a tenner for a night out. That's too much."

Now that the New Wave has died down, the heavy mob is moving into the breach with all that entails — guitar hero poses, much shaking of long hair, leather pants and V formations on stage. Judas Priest's avowed intention is to sound, look and be powerful, aggressive and macho. It's the jet fuel formula for the Eighties and KK Downing is one of the guys with the patents. ■

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New Products

3M Digital System

Visitors to stand 61 at the recent AES show were able to witness and hear for the first time a demonstration of the 3M 32-track digital mastering audio recorder and the 4-track digital audio recorder.

The 3M Digital Mastering System was developed by the 3M laboratories in St Paul, Minnesota from joint research by the BBC Research Department, Kingswood Warren, Surrey and 3M laboratories in Camarillo, California. In the US, the system has already been installed in the Los Angeles studios of Westlake Audio, the Record Plant, A & M and Warner Brothers and in the Sound 80 studios in Minneapolis and AV Rents in San Francisco, California. A number of discs has already been recorded using the new system, and it is expected that the first system will be installed in the UK shortly after the exhibition.



Hartley-Thompson combo

Musical Sounds of Sheffield have an interesting new addition to their range of equipment. Formerly importers and suppliers of Mesa Boogie amps Musical Sounds have a keen interest in anything that purports to be a 'class' performer in the amplification field, so the name of Hartley Thompson, manufacturer of their latest combo on offer, may raise a few eyebrows.

The manufacturers claim amazing tone and reverb as well as a great sound at top "cranked-up" volumes, even going so far as to mention this Hartley Thompson in the same breath as the famed Mesa Boogie.

Although we at *IMRW* haven't yet run a "Soundcheck" on this one yet it is already attracting some interested customers like Allan Holdsworth and Duncan Mackay of 10cc. So you may like to give it the "once over" — at Musical Sounds, 274 London Rd, Sheffield S2. Tel: (0742) 54381/550445.

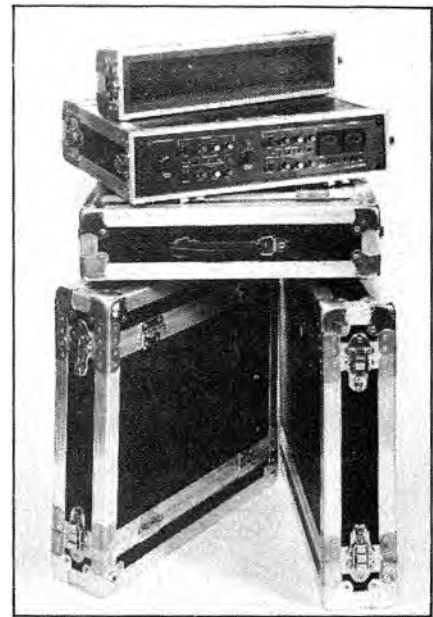


Audio and Design upgrade

Audio & Design have announced improvements in the Compex Limiter (F760X-RS) and the Vocal Stresser (F769X-R). On the construction side, changes include, more reliable switches and tougher front panels. In addition, the internal construction has been changed to eliminate most of the wiring harnesses and so improve reliability.

The Peak Limiter in/out switch has now an additional position which adds pre-emphasis in the 'side-chain'. The value of the pre-emphasis is factory set to 50µS or 75µS but Audio & Design say it is easy to produce a "custom" value should it be required by a client, e.g. for mastering where 100µS could be useful in sibilance control while the factory options of 50 and 75µS improve the suitability of the units for broadcasting use.

For more information telephone Dave McVittie on (0734) 53411.



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New Products

September Sound Harvest — Series 5

September Sound Equipment have been manufacturing custom-built mixing consoles in Yorkshire for seven years now. The new Series Five is their first range in a standardised format.

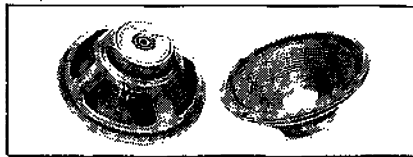
The retail price of the range (including VAT), is £272.55 for the 8 into 2-channel, £354.20 for the 12 into 2-channel and £408.25 for the 16 into 2-channel versions respectively with XLR and multicore connectors are available as options.

To reap the benefits of SSE's electronics experience in the console field give I. Wolsey a ring on (0606) 891033.

Sigma's new Turbo

SSE have introduced a new turbo range of PA systems. Designed for compactness and efficiency it has many new revolutionary features in its design which SSE claim, make it the most advanced PA available. The most notable features are the bass response and dynamic projection from turbo mid range, all from a comparatively small enclosure which, in turn, reduces transport costs. It is available at all good music shops around the country and also direct from SSE. Prices are extremely competitive with the 500

watt system at £851.50 inc. VAT. There is also a hi fi version in the pipeline. Anyone wishing to make further enquiries should telephone John Penn on (0602) 783306.



New McKenzie speakers

McKenzie Acoustics have announced a new pair of 50 watt units as an addition to their already comprehensive range of "Professional" series speakers. In brief, the new models are a 12 inch 50-watt twin cone for PA and other applications where response extended to around 14 kHz is needed. It is general-purpose type, designed for guitar and keyboard etc.

In common with all models in the Professional series, which have been widely accepted by leading equipment manufacturers, the design elements have been geared to producing high sensitivity and good transient response to provide the kind of "attack" and "presence" demanded by musicians. The new models are expected to retail at around £21.85 for the G.P. and £22.42 for the PA unit including VAT.

These new models will be available shortly from all good music and amplification retailers. In case of difficulty in obtaining information, all enquiries to: Glyn Baxter, McKenzie Acoustics Ltd, Rockley Avenue, Birdwell, Barnsley, S70 5QY. Telephone (0226) 43894.

Ampex have new ATR multi-track recorder

Highlight of Ampex's AES stand will be their new ATR-124 analogue multitrack recorder available in 24 and 16-track configurations. The ATR-124's features are exceptional headroom, extremely low distortion and unique transformerless inputs and outputs which combined produce the distinctive "ATR sound".

The operator facilities on the ATR-124 include programmable monitoring, and four assignable operation parameters — permitting four equalisations, four levels and four bias settings. Reliability and maintenance are built-in. An input/output bus allows independent evaluation of any channel without going through the console. Immediate record diagnostics act through the VU's to show malfunctions. Access is simple and quick.

For more information on the ATR-124 contact Philip Vaughan on (0734) 864121.

THE

HARTLEY-THOMPSON

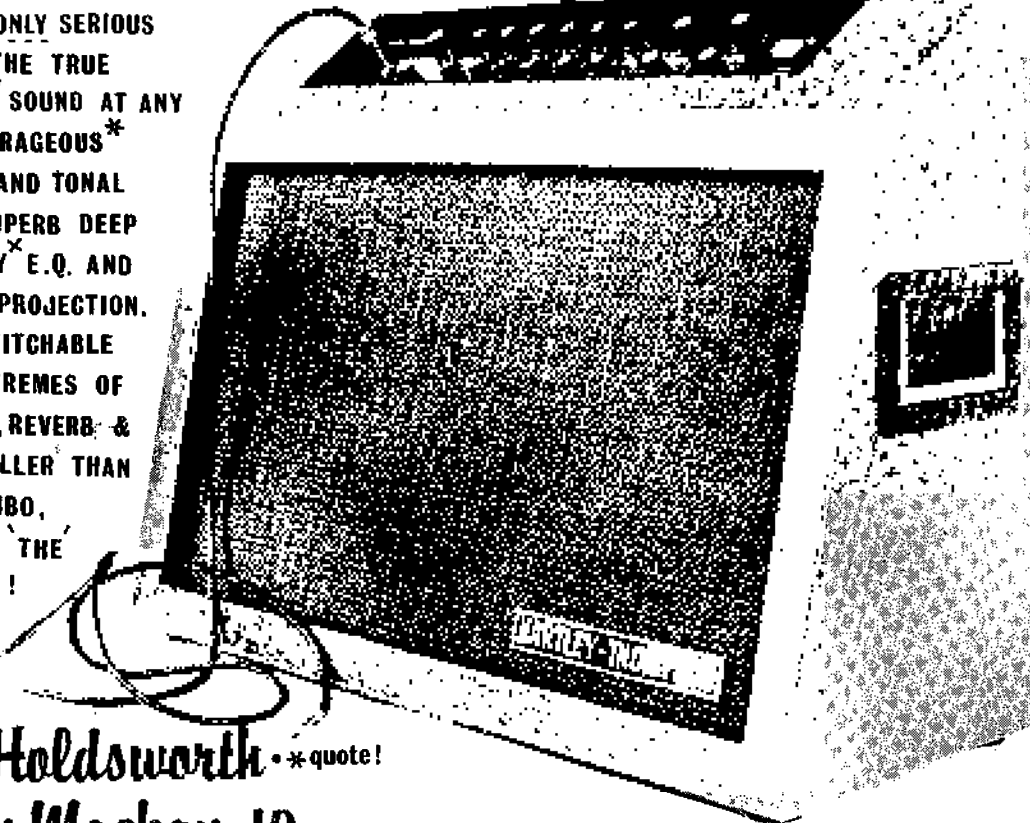
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DIBBLE'S PA COLUMN

BUZZCOCKS
Venue: London
Rainbow Theatre
Hire Company:
Buzzcocks Colac

There was something austere about this particular gig. Maybe it was the large, black draped stage with its sparse complement of gear and relatively simple lighting. Maybe it was the music itself. Perhaps it was the harsh, stark sound quality — or more likely, a combination of all these factors, but whatever the reason, I personally could not get into the music at all. All the numbers seemed to be the same and the act seemed to start off cold and never really warmed despite the noise and shouting of what was obviously a band of devoted followers who occupied the stalls only of the Rainbow — the circle area having been closed off due to the concert having been undersold.

Unusually these days, the Buzzcocks were using their own 7Kw PA, but due to the size of the Rainbow, they had hired another 4Kw from Colac to fly overhead in order to provide coverage of the circle seating — which in the event, of course, turned out to be unnecessary anyway. The sound was loud enough with peak levels of between 106 and 110dB(A) depending upon where you sat, but was harsh and uncomfortable to listen to and the vocals were virtually indistinguishable from the overall sound. The surprising thing is that the main PA loudspeaker system was Martin, driven by top quality power amplifiers, a good quality desk and studio quality auxiliary equipment, yet there was just no guts — or "balls" as we say — to the sound quality. Maybe it was intentionally set up to sound like that.

The two main PA stacks each consisted

of seven Martin Audio 2x15 bins fitted with Gauss 5831 drivers, four Martin Audio 2x12 midrange horns — known as "Philishave Mids" in the trade, four JBL 2355 radial horns, (some fitted with JBL 2482 compression drive units and some with Gauss HF400 drivers) handled the upper mids and four Martin Audio HF2M high frequency horns fitted with JBL 2440 drivers handled the highs.

Crossover was four-way active using a Midas crossover unit and the power amplifiers were the Midas 1Kw 'Blocks'. These contain four separate 250 watt modules fed from a common power supply and housed in a large, very heavy, black steel housing and are particularly robust and reliable. The main desk was a fairly small Amek 16 into 4 into 2 with its auxiliaries connected to a Roland 201 Space Echo and an Eventide H9/10 Harmonizer. Klark Technik DN27 graphics were used for room equalisation.

The additional 4Kw of amplification flown overhead consisted of four Martin Audio 2x15 bins, two "Phillishave" mids, two JBL radials and two Martin Audio HF horns each side fed from RSD 800B and Turner B502 power amplifiers. The stage monitoring, or foldback system, consisted of an Amek 16 into 6 monitor desk feeding four Pro-Audio 27 band graphics, which in turn fed four Turner B502 power amps feeding four Martin Audio 2x12 plus horn and four 1x15 plus horn monitor cabinets.

The miking was also fairly conventional using top quality microphones with each mike being used for its correct application. Bass drum and bass stack were miked using AKG D12's, the rest of the drum kit was miked with Shure SM57's, except that a Beyer N201 was used on the cymbals. Shure SM58's were used for vocals and to mike up the two guitar amplifiers. All three stacks were direct injected as well as being separately miked and this duplication on the stacks would seem to be a growing practice these days.

The bass stack comprised four Marshall 4x12's fed from a Fender Bassman 135 and a Fender Bassman 100 with their inputs linked across — through which, Paddy Gorbey played a 1962 Fender Precision via an Electro-Harmonix Polyphase unit. The other two stacks each comprised a single Marshall 4x12 with a Marshall 50MV amplifier.

The Buzzcocks really seem to be into guitars and Pete Shelley spent most of the gig playing a Gordon Smith handbuilt Gypsy II Custom six string while Steve Diggle alternated between two vintage Gibsons — a 1956 Les Paul TB and a 1953 Les Paul gold top. Drummer John Maher played a Premier Resonator kit with Paiste cymbals.

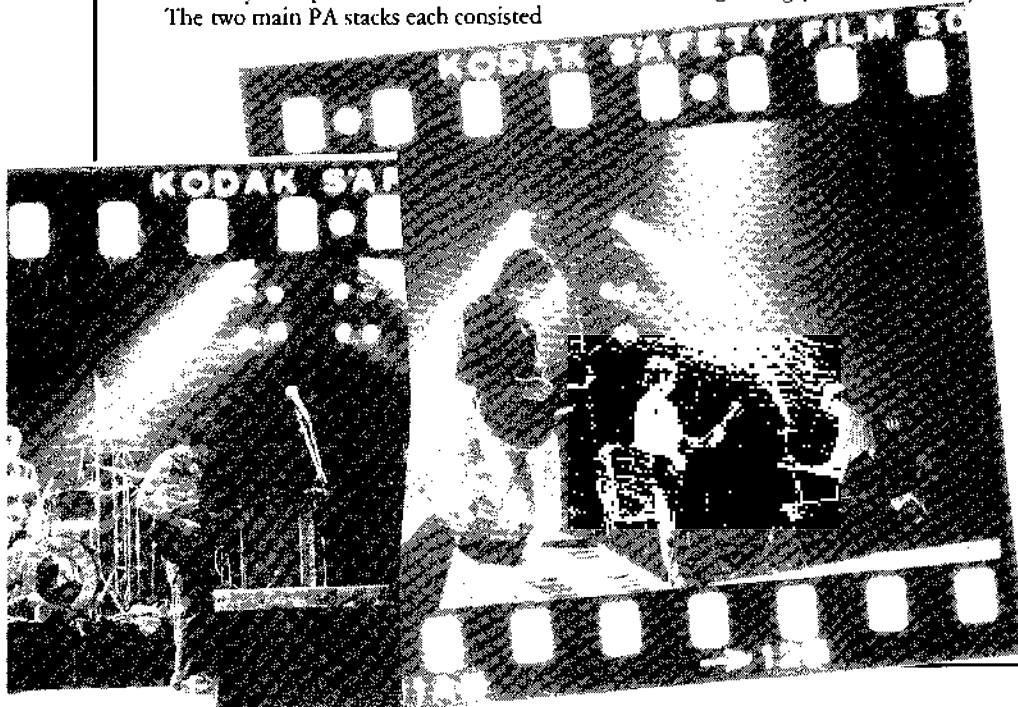
The gig opened with a sound pressure level in the order of 100dB(A) measured at the back of the stalls at the mixing desk position and seemed to stay at that mean level for most of the concert, although for some numbers — "You Say You Don't Love Me" for example, the mean went up to 104 and the peak to 110dB(A).

At the first cross-aisle the mean level was about 106dB(A) and right at the front, about one metre from the bass bins, it was 110dB(A). The distribution of sound across the width of the auditorium was fairly uniform allowing for the fact that the mix was in stereo and at times there was evidence of over-enthusiastic use of the "pan" controls. However, the vocals were almost impossible to hear unless you were a Buzzcocks devotee and knew the numbers sufficiently well to follow — which was certainly not the case as far as I was concerned.

At peak levels of 110dB(A) the system was audibly under stress and seemed to have complete run out of headroom, and even at 100dB(A), the sound was not clear. I can't quite put my finger on exactly what was wrong, but I would have expected better sound from 11Kw of Martin Audio loudspeaker stacks and the associated system.

AC/DC
Venue: Birmingham
Odeon
Hire Company:
Malcolm Hill
Associates

This particular report came about as a direct result of a comment I made in our very first "PA Column" which appeared in the December 1979 issue when Righire were using a Malcolm Hill PA for the Sky tour. In complimenting the quality of the sound as far as Sky were concerned, I expressed doubts as to the ability of the same system to cope with a really loud, raucous band or to adequately project the mids and highs in a larger auditorium.



Well, here we are with a basically similar system being provided for what are reputed to be among the loudest bands on the current scene. I say *basically* similar because the five inch cone mid-range drivers and the odd JBL "bullet" high frequency unit as used on the Sky system has here been replaced with horns and as my comments were directed primarily at the mid and high frequency sections of the system, we are not now talking of the same system at all in the context of my remarks.

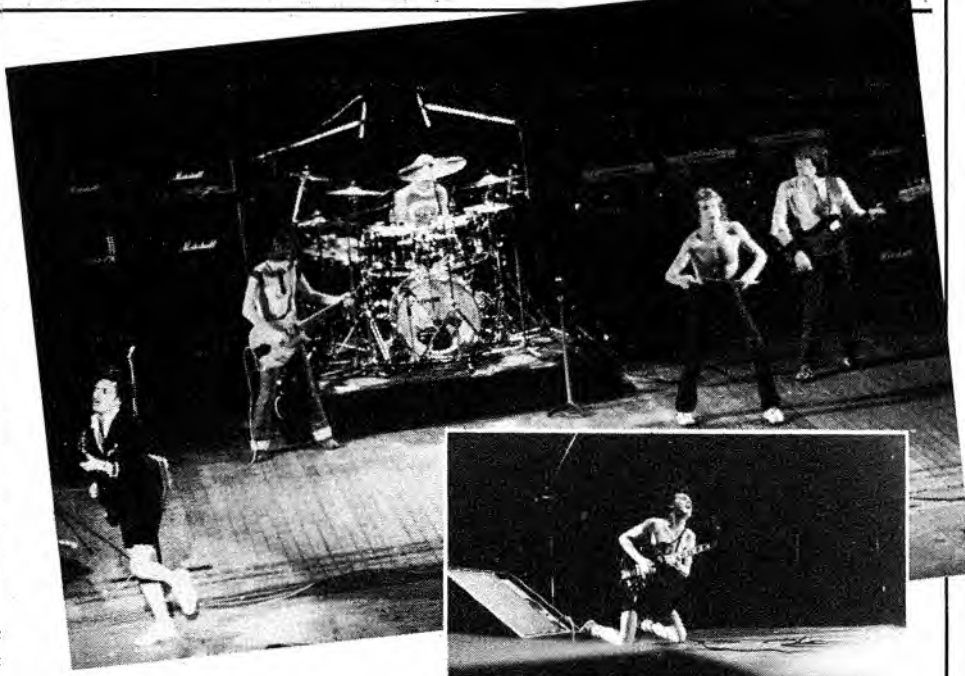
As it turned out I am extremely glad that I did make that observation, for had I not, then I would not have been invited to review the AC/DC gig and would have missed out on an incredible band that I confess had hitherto passed me by and left me cold judging from their single releases only. I don't think I have ever witnessed such a bizarre and frenzied performance of rock music anywhere.

Each side of the stage there were nine Hill B212 bass bins, 12 Hill mid range horns and nine Hill high frequency horns. The B212 bin is an unusual 2x12 system employing two ATC PA75 long coil bass drivers in a direct radiating vertical array with a large folded horn reflexing arrangement. The Hill mid-range horn is a specially designed Fibreglass horn fitted with an ATC nine inch cone drive unit. The high frequency horn is also of Fibreglass but with a specially hard surface treatment to disperse the higher frequencies — driven by a JBL 2440 (for upper mids) or a JBL 2420 for the high frequencies.

The whole system stacks very neatly even though the two stacks occupied more than half the available stage width at Birmingham Odeon. The system was powered by a total of 20 Hill DX700 power amplifiers, each capable of over 800 watts output, giving a system total power input of over 16Kw into the auditorium alone. The main mixing console was a Malcolm Hill 24 into 4 'D Series' desk and on the specific instructions of the band, no effects or auxiliary equipment such as compressors, flangers or DDL's were used at all.

The band apparently insist that the sound system is straight with no gimmicks — although I did notice a Roland Space Echo hidden under the desk and Malcolm admitted that they were adding a small amount of "Life" to the sound in this acoustically dead auditorium with the Roland. I would have thought that the addition of an Audio & Design Vocal Stresser (see Boomtown Rats Gig Review, December 1979 issue) would have worked wonders for AC/DC but Malcolm had already suggested this and been turned down by the band. Even graphic equalisers are not permitted! Crossover was three way active using a Hill 3XM/VF with passive filters between the 2440 driven HF horns and those driven by 2420's.

The monitoring system consisted of a Hill 20 into 8 monitor desk feeding side fill systems based on the same bins and



horns as the main PA loudspeaker system but stacked four bins, four mid flares and four HF flares each side; and various floor monitor cabs fitted with JBL K140 drive units and CTS five inch cone Mid/HF units. Additionally, there was a separate monitor mix for the drummer and this comprised another Hill desk, this time a 16 into 6 feeding four more of the B212 bins, four mid flares and four HF flares all grouped around the drum kit and within about one metre of Phil Rudd's ears! Another 9Kw of amplifier power — again provided by Hill DX700's, was used to feed the monitors, although this time, they were using White 31 band graphics.

The high stage sound pressure levels were further contributed to by the three guitar amplifier systems. Angus Young had six Marshall 4x12 cabinets powered by three Marshall 200 watt amp heads for lead while his brother Malcolm used a similar system for second guitar. Cliff Williams used for Ampeg VCS/10 8x10 cabinets powered by four Ampeg 400 watt bass heads for bass guitar and as with the PA, there were no effects pedals whatsoever — every amp was being used straight.

None of this equipment was visible on stage, as all the Marshall and Ampeg cabinets and amplifiers were inside a scaffolding framework about two meters high with a walkway across the top and covered with black drapes. All you could see on stage was this black draped wall behind the band, a drum kit, one or two floor monitors and the musicians themselves.

As regards the gig itself, it was electric from the word go. After the first number, Angus had stripped off his brightly coloured silk shirt and trousers and was wearing nothing but a pair of tight black knee-length breeches as he rushed headlong up, down and across the stage and over the walkway over the amps for the rest of the performance, with his head vigorously bobbing up and down tossing

his mop of black curly hair about in all directions as if every musical expression made on the guitar had to be reciprocated by an accompanying head gesture.

The guy was fantastic, and during one number, the vocalist, Bon Scott, carried Angus on his shoulders through the hysterical audience to the back of the stalls, up the stairs to the circle, did a tour of the circle seats, back down the other staircase, back through the stalls by the opposite gangway and so back to the stage, playing as they went, the pair of them literally dripping with perspiration all the way. The Shafer radio transmitter held on superbly during this 'tour' and not once did the signal deteriorate.

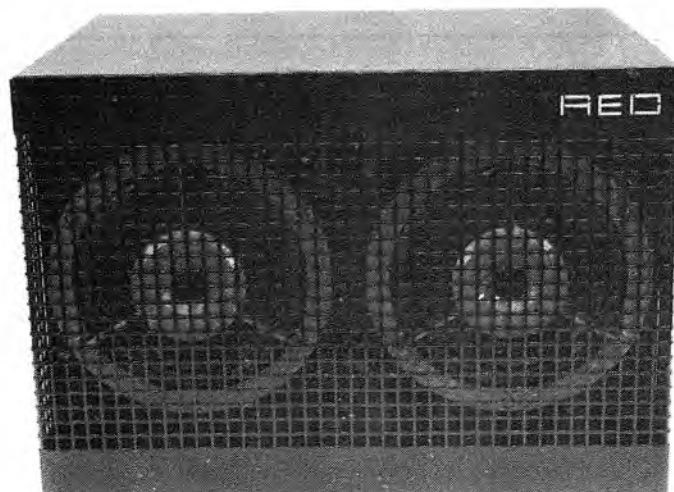
Another high to the entertainment was during "Got The Jack" when, unknown to the band, a pair of strippers climbed onto the walkway behind the band and proceeded to dance and ply their trade to the undisguised delight of the audience! It was some minutes before the band cottoned on and realised what was happening and it would seem that this was a special treat arranged for the band by their management in celebration of Bon Scott's birthday.

Now where was I? Oh yes — as I have said, the sound system coped very well indeed at sound pressure levels which did not fall below 108dB(A) and peaked at 112dB(A). That is loud, and with the quality and clarity of the bass section, it sounded really full and gutsy, but at the same time, was not at all uncomfortable to listen to (as was Queen for example when SPL reached an uncomfortable 118dB(A) at Bristol Hippodrome — see February issue). It's a pity that there was not enough left to get the vocals over — or am I being a bit old fashioned in expecting to be able to hear the vocals these days? That is my only adverse comment. Otherwise, full marks to Malcolm Hill and his sound engineer, Michael Scarf. **Ken Dibble**

Since this review was written we learned of the death of AC/DC's vocalist Bon Scott.

RED

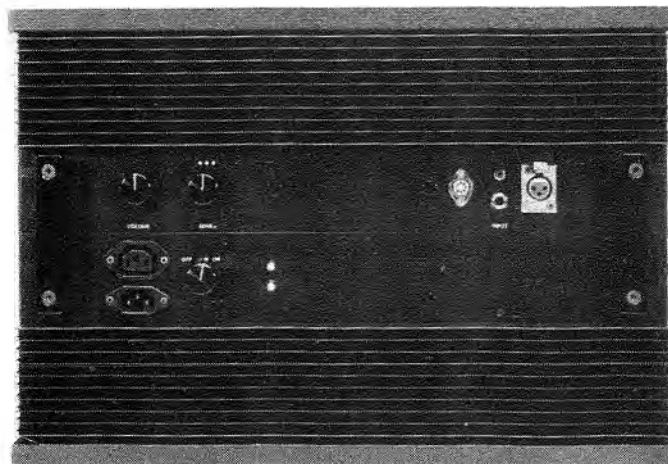
PROFESSIONAL



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RED PROFESSIONAL is a 2-way selfpowered loudspeaker system incorporating four drive units and a modular electronic assembly, housed in a 19in cabinet. The unit is mains powered with active electronic overload-proof input signal processing and filtering circuits, two independent 150W power supplies, and separate output amplifiers (two 100W for lf units and one 50W for the hf units) directly driving two independently baffled 8in lf drivers and two specially positioned 1in hf radiators. Typical frequency response is 40-18,000Hz +3dB (in-situ 1/3 pink noise front sound-pulse measured) and the maximum undistorted peak programme level is 120dB SPL/1m (in-situ measured). Input facilities include sockets for all internationally used audio plugs and adjustable sensitivity for input signal range 300mV-30V from balanced or unbalanced sources.

Size of unit is 345x480x335mm (hwd). Overall volume 32ltr. Weight 32kg.



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Catching up on cabs

Thank you for your excellent magazine and in particular I have enjoyed the series, "Dibbles Speakercheck".

I am wondering if Ken is going to be covering speaker cabinets, I do hope so. However, to my main point for writing. Can you please let me have the titles and authors of any authoritative works on speaker cabinet designs with particular attention to bass reflex and horn loading.

Guy Marsh,
West Midlands.

Thank for your comments on our 'Speakercheck' series. As you will no doubt by now have noticed, we already had a series of cabinet reviews in the pipeline at the time you wrote, which included products from Bose, Shure, JBL, Vitavox and Electro-Voice. We are currently 'revisiting' the cone loudspeaker scene, we shall probably also intersperse a few more cabinet reviews from time to time.

As regards your specific enquiry, there are not many books at all on this aspect of loudspeaker building. However, the following are all very informative, although they mainly deal with cabinets for Hi Fi purposes. All except the Briggs book are of American origin, and your best source of supply is probably Foyles of London in the Charing Cross Road.

1. *How to Build Speaker Enclosures*, by Badmaieff & Davis.
2. *How to Design, Build and Test Complete Speaker Systems*, by David Weems.
3. *Hi Fi Loudspeakers and Enclosures*, by Abraham Cohen.
4. *Cabinet Handbook*, by Gilbert Briggs.

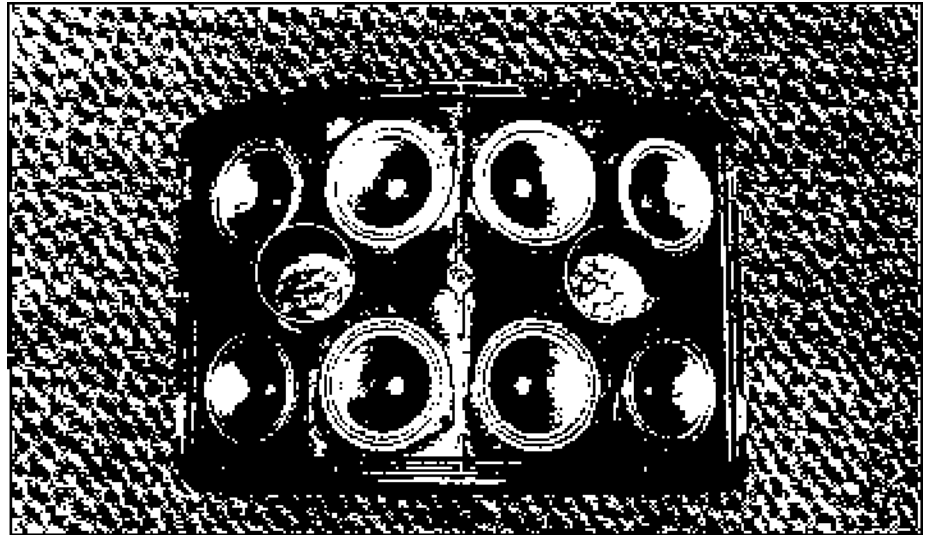
The first two are published in the UK by Foulsham's, the third by Newnes, and the last by Rank-Wharfedale. Also, I understand that HH are planning to release a cabinet construction manual in respect of their range of drive units in the not too distant future and that this is likely to include a design for a new horn loaded bass bin. However, this is unlikely to be available until early 1980.

Buying Bose?

It is my intention to buy four Bose 802 speakers and an equaliser for my PA system. The only snag is that the amplifier recommended to drive the speakers, the Bose 1800, is a ridiculous £780 + VAT, a lot of money in my eyes for the goods.

I was wondering if the Malcolm Hill DX700, reviewed by you in the June issue of *IM*, would be as good as the Bose 1800, as your results were very good, and the price of the DX700 is more in my range.

I have heard Bose 802 speakers driven by HH 5500D slaves, and for what they are, sounded good. Going on what I heard, and on your test results of the Malcolm Hill amp, I would expect the



Bose 802

DX700 to be far better than the 5500D, could you advise me if I would be making the right choice by purchasing the Malcolm Hill DX700, or would I be better off laying out the extra £400 for the Bose 1800?

I don't really mind laying out the extra money if it is really important, but I would hate to pay for a fancy box with LEDs and a load of import duty.

Hoping that you can advise me as the dealers are no help at all.

Dave Robinson,
Sheffield, Yorks.

P.S. The dealers seem to push the Bose because they can't get hold of the Malcolm Hill gear, this is why I need your opinion as I assume you have probably heard the Bose as well.

Mark Sawicki replies: Well to start with, I hate to do commercial comparisons between firm X and firm Y producing similar products. In your situation, if you don't want to spend money on something which is in your opinion too expensive, logically you should try something similar or equivalent performance wise and save your dough. Bose 802 speakers are certainly high performance speakers, intended for practically most applications from PA to musical instrument amplification, from stage monitoring to conventional theatre and cinema systems.

As far as the Hill DX 700 amp is concerned — this is a first class amp — study its performance in the June *Soundcheck*. Re Bose 802 system the manufacturer's rates are as follows:

Rated Input Power: 160 watts continuous
Impedance: 8 Ohms

Dimensions: 520mm x 340mm x 330mm
Weight: 16 kilo (approx 36lb.)

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Finally I would totally agree that higher prices for fancy boxes with LEDs is

nonsense as power output and sound quality count in the end. Hope you find this reply useful.

Student power

I want to form a band with fellow students but the cost of amps/PA is a major obstacle.

What is the least instrument-amp wattage usable in small venues?

Could you use the inputs of PA mixer/amps to amplify bass guitar etc? Could the output of an instrument amp be put through PA speakers?

Tim Stebbing,
Scarborough,
N. Yorkshire.

Mark Sawicki replies: Thanks for your letter referring to your amplification problem. Unfortunately I would not recommend using one mixer/amp to amplify all instruments i.e. guitar, bass guitar, vocals, etc. Well, I will agree that the cost of separate amps/PA is a major obstacle in the formation of student bands.

However, you may optimise the cost/performance ratio by using an inexpensive combination amplifier to start with, say, two instrument inputs on each amplifier. In fact most combos are equipped with more than one input and there are not supposed to be any problems in getting hold of these. An economical type in your situation is the so-called mixer amplifiers which combine both power slave and mixer functions in one box. Certainly, if you are looking for a decent sound try this type of set-up, however, even this mini-system will cost quite a few bucks these days.

The only alternative is to buy secondhand gear, but in this case you should always have someone who could help you select potentially useable equipment from rubbish.

I hope these remarks prove of some use to you.

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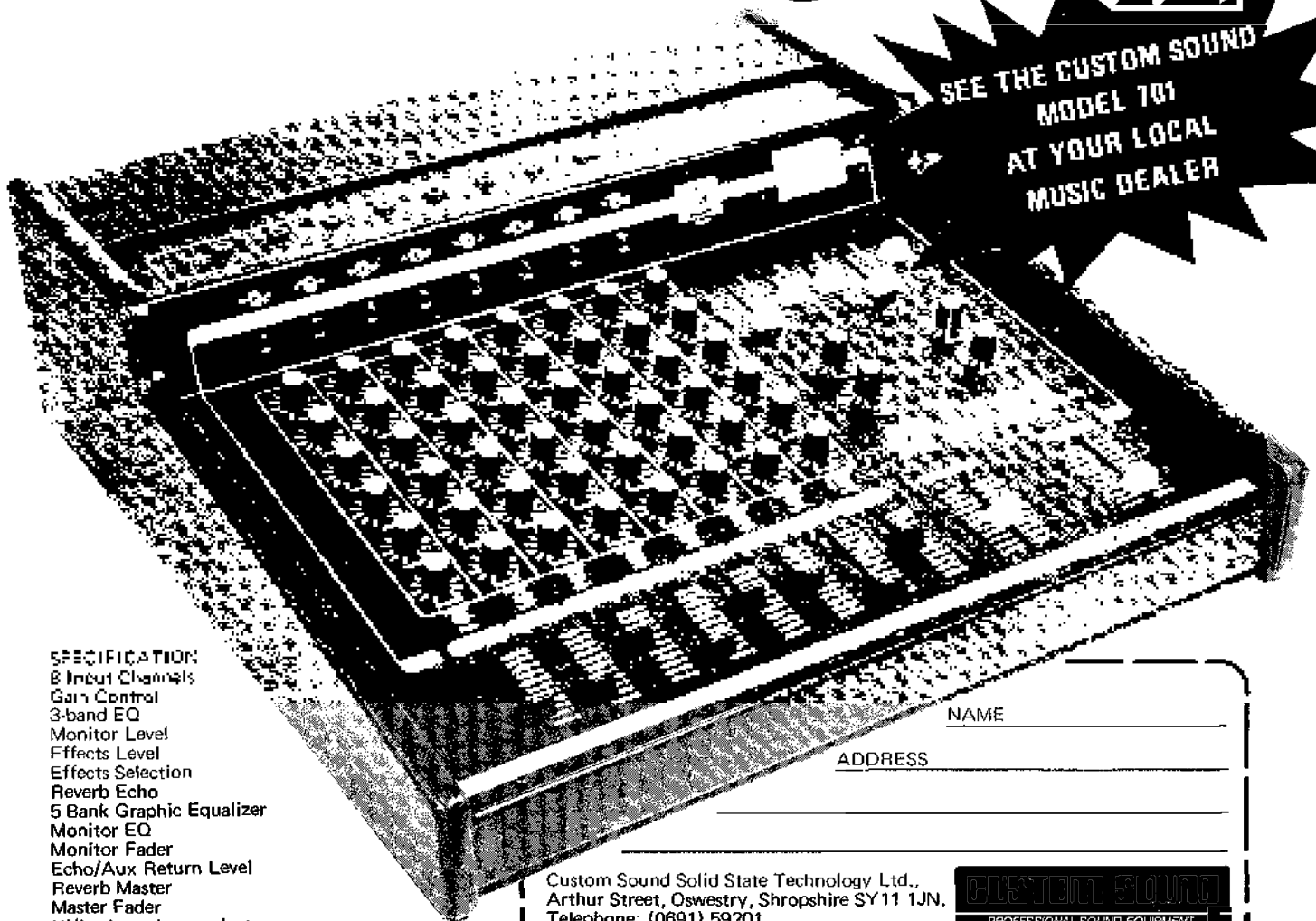
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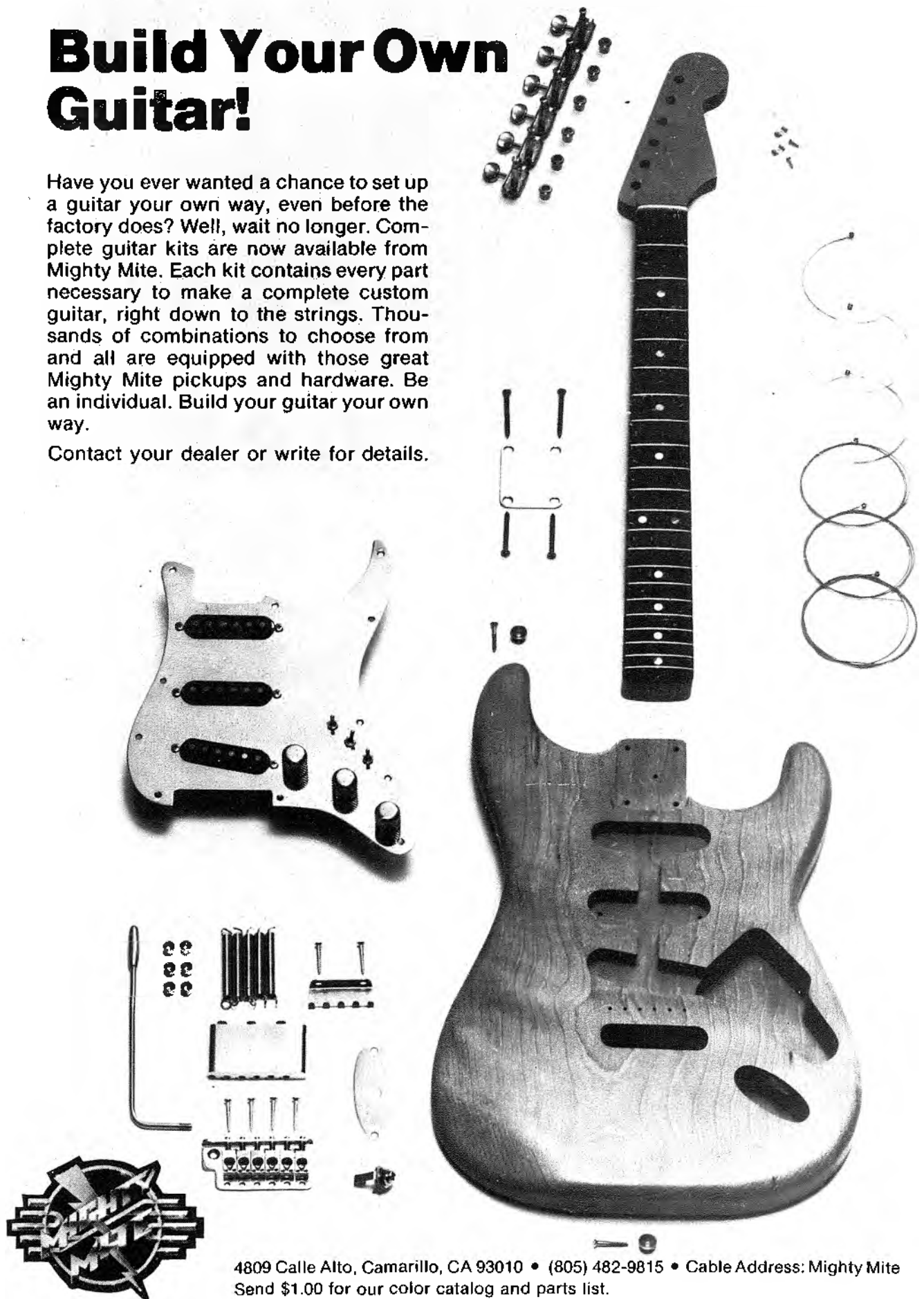
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HI FI FOR MUSOS

Loudspeaker Systems— Part One

With just three pages in which to preach the familiar to the unconverted, a form of shorthand rules the day. In a modern musician's chain of processing, "distortions" and other incidental peculiarities are often the very stuff of the sound's intrinsic "uniqueness" — which ultimately become as integral a part of the original creation as the musical instrument itself.

Once the music has been laid down and recorded, further major alterations in the process of mere playback are simply pollutions of an original — whatever this might have been. Thus, at least, runs one argument for a high fidelity reproducing chain opposed to the reactive interfaces. The task of a hi fi speaker, in theory at least, must be to relate its output, after some fashion, with the input signal. Any changes in the musical balance, runs the argument, ought to be applied at the pre-amp control stages as opposed to having these plumbed in, as it were.

A speaker designer juggles the forces of mechanical, electrical, subjective perception and commercial factors to arrive at the end result. Performance will also depend on a speaker's correct interfacing electrically with its amplifier and subjectively with the pickup cartridge. Finally, the speaker has to interface acoustically with its room environment. A lot of variable factors have therefore been introduced to the equation.

Under this month's topic there is a more or less whimsical selection of speaker examples out of 10 to 15 models in each of four price bands. Their selection is based on a set of criteria which could be important to a musician in his hi fi or non hi fi listening.

As most of us are concerned more with effects than causes, as far as the subject of hi fi goes at least, only the very minimum of quantitative evaluation has been applied in these reviews. For the most part the review consisted of quite lengthy listening sessions to a selection on disc of 20 specialist recordings, 10 poorer items more generally available, live FM and an experimental master tape taking different programming techniques to one particular sequence of music and sounds. All due care was taken over conditions in the listening room; a domestic lounge some 1700 cu. ft. (157.9 cu. metres) with two alcoves either side of a chimney breast,

suspended timber floor and ceiling, a fully curtained window wall, fitted carpeting and a five-place upholstered seating. For the lengthier listening sessions only one pair of speakers at a time were positioned where they were expected to give of their best.

To give the speakers a chance of giving of their best the following chain of high quality components were employed: Dynavector Karat Ruby, Mission 773 and Audio Technica AT24 pickup cartridges with an SME 3009 Series 3 arm, Signet TKX5. The players comprised a modified Thorens TD125 Mk2 and a Dunlop Systemdek. The chain of amplification used a Trio KA801 DC integrated amplifier, a Quad 44 preamp, and Marantz 2650 with a Marantz 300DC power amplifier and Lecson AP3 Mk2. (May I take this opportunity to offer a sincere thank you to the supplier of the above equipment).

Playing Rock

Our emphasis, rightly or wrongly, is on the sort of listening tastes predominantly within the electric contemporary tradition. It takes someone much outside the idiom to suggest that the prime hi fi aims of balance and definition are less important to serious rock than they are to classical and symphonic reproduction. A reduction of colourations in the midband is, of course, crucial to all hi fi listening though less so, possibly, in the rock context than for straight symphonic music and other musical idioms which strive to preserve the natural harmonic balance of basically acoustic instruments.

In the replay of rock music the ability of a speaker to respond to sharp musical transients is important by the very nature of the form. The evenness of bass reproduction and the ability to handle considerable energy at the bass end is also important as it is here that a lot of the excitement in contemporary music is conveyed. The midrange should convey intelligibility, the upper mid add presence and projection; a fullness is given in the lower mid while the treble completes the necessary harmonic labelling.

The unbalancing effect of midrange pre-emphasis applied to many discs destined to break via airplay, does put a lot of pressure on midband performance as far as energy levels go. When you take the enormous mid energy occurring in, say, a lot of American West Coast music or adding the use of wideband synths in music (here unaccustomed high frequency energy also comes to play) good power handling generally becomes the second parameter. The low dynamic range of much rock music keeps the mean energy levels fed into a speaker fairly high.

The heating effect of a low average-to-peak power ratio is a real danger at high levels of drive in the absence of good power handling. The next important consideration, in a practical sense, is voltage sensitivity — the acoustic power delivered for so much amplifier input. What a high sensitivity means is that each watt of amplifier power works that much harder. The rider here is that high sensitivity can-

not conveniently be purchased at the expense of an easy amplifier loading or of definition and extension in the bass region.

A high maximum loudness capability is central to the playback of rock. The tie-in with sensitivity and power handling is that a low loudness capability is still a major limitation even after the first two parameters have been met. A sad fact appears to hold, that few speakers of any refinement and availability for a reasonably low cost will produce very high levels of sound.

Many users with a taste for music at healthy levels end up compensating for this lack by scrounging a monstrously ersatz low end out of nowhere; deliberately introducing gross non-linearities by driving amplifier and/or speakers over the top. By loudness it probably takes someone within our particular idiom to fully appreciate the fact that the room environment in most homes — besides people, that is — sets an upper limit on loudness long before any harmful effects can occur if the listener is also sensitive to distortion. Loudness, in the absence of programme clipping, simply means the point at which the room begins to "come back" on itself as a result of structural and/or acoustic feedback or out of control room reflections.

A relatively easy amplifier load takes its place among our parameters and should, in its proper sequence, follow on the need for sensitivity. A speaker with low impedance, points at frequencies where a lot of musical energy concentrates will draw a larger amount of current, generally speaking, from the amplifier. Quite apart from any stresses this might put on the amplifier this additional current is dissipated as heat in the speaker voice coil and crossover network. The review of the AR90 takes up this particular thread.

Good axial and off-axial response integration, finally, should help preserve listening results over a wide seating area for listening. This takes into account the shape of the speaker cabinet, the displacement of drivers on the front baffle and the smoothness with which the crossover network works within the frequency and dispersion characteristics determined for the drivers. In the present context we are, of course, still more concerned with results than with how they have been achieved.

KEF Celeste III

Filling out the bottom of a range from these respected and active British manufacturers, the KEF Celeste III is a slim enclosure only some 20 inches high and wrapped around with a black stretch fabric. KEF have developed for the Celeste III a lighter and more efficient bass/mid unit using treated paper in place of the Bextrene materials they have been noted for.

At its price sound colourations in the Celeste III are generally low. Definition, extension and power handling in the bass region is really very commendable. The speaker will also go quite loud though it still needs a fair amount of power to do this — up to 150 watts and more. Unless the speaker is driven fairly hard it does

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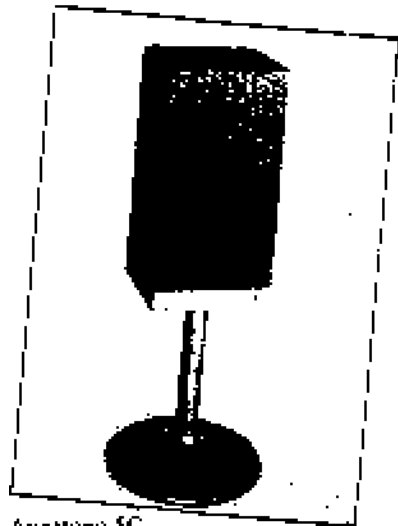
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tend to lack "presence" — a dulling of programme transients. Its interaction with the midband-boost, favoured in many rock recordings, could produce a rather hard sound if care is not taken in the choice of other links in the system chain — the pickup cartridge in particular. As far as stereo performance goes, the narrow profile of the cabinet and a generally well integrated crossover between units helps produce stable results over a wide listening area with a commendable "depth of field".

Among speaker systems around £100 and below the KEF Celeste III is certainly a front-runner. This recommendation extends to the much larger Concorde and to the Corelli which, at less than £40 above the cost of the Celeste III, is probably as high as many users will aspire to — £98-£105. KEF Electronics Ltd are situated at Tovil, Maidstone ME15 6QP, Kent.



Auratone 5C

Few musicians who have done the round of recording studios will not have come across the 5C, where this attractively finished six inch cube often performs as a mix-down monitor. The single full range four inch (101mm) treated paper cone does not appear to be the same unit as Auratone have used in their models of a few years back and if my memory serves rightly, performance overall does not seem as good. The 5C does not qualify for the tag of high fidelity as its necessarily restricted frequency balance and sound colourations are not of the requisite order.

The midband is rather thick and prominent while the bass lacks that inner definition which should distinguish average from good. That said it only remains to suggest that the 5C will outperform most speakers available for under £60 and is certainly better than the sort of speakers delivered with compacts or music centres below £350 or so.

The Auratone 5C scores in its good transient response, high sensitivity and a fair power handling (up to 50w of unclipped programme). Wedged among closely

packed books on a wide shelf the literate muso without particularly ambitious hi fi aims, should find its balance of virtues very easy to live with: A further benefit is that many contemporary works on disc will have been equalised to exactly this sort of system. £38 plus VAT and plus £2 p&p from ITA at 1-7 Harewood Avenue, Marylebone Road, London NW1.

Sansui ES209

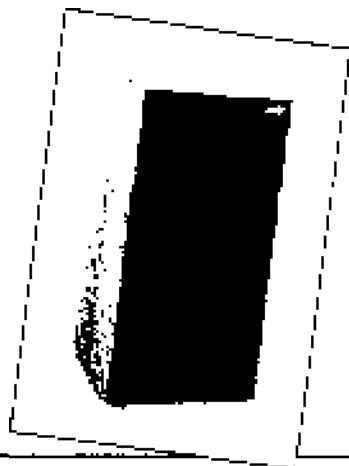
Assembled in Belgium from Japanese components, this medium large system (26 inches high) uses a 200mm Matri-plastics long-throw bass/mid unit from 2,500Hz down, and above which a 25mm dome tweeter takes over. A passive 200mm radiator augments a bass output which is even and really quite distinguished down to a useful 40Hz or so under optimum conditions.

Virtually all our major parameters — from colouration, definition and power handling to imaging and transient attack — were in each case passed with a commendable panache. At the lowest octaves, control over the bass is not as secure as could have been wished. Considering the amount of diaphragm excursion the ABR reflexing permits, it is probably safest to slice out via the amplifier's subsonic filter all that low end mush which contributes little to audible performance. The bass cut-off point of most listening rooms within the 1,500-2,000 cu. ft. median range will in any case set a limit on bass propagation well above 40Hz.

The ES209 has a high loudness capability. This fact alone underlines the prudence of deliberately curtailing system response below 20Hz or in most practical applications well above the lowest octave. An indifferent turntable suspension will give little protection against structural and airborne feedback. Few rock recordings have a lot of information below 70Hz-50Hz.

During listening tests the sound balance appeared to improve when the treble was backed off a little, though this will not hold true for all listening environments.

One of the few Japanese speaker systems which might seem to appeal to the European ear the ES209 represents solid value. Some £20 cheaper at around £150 the ES207 is very close to the 209 in the balance of its virtues. Sansui UK Ltd are based at Unit 10A, Lyon Indus. Estate, Rockware Ave., Greenford, Middx., UB6 0AA.



Harbeth HL1 Mk2

The impact on speaker design generally arising out of the BBC researches which resulted in their LS3/5A and LS5 variants must, one way and another, be quite profound. Some of these design philosophies are much in evidence with the HL1 whose designer, Dudley Harwood, was at the centre of the BBC's earlier work. The thin-walled enclosures of the speakers are meant to allow the critically-damped panels to conduct rather than store vibrational excitation; an exercise which also serves to move cabinet colourations of the wanted sound out of the critical midband and down into the bass where they are expected to do less harm.

The HL 1 Mk2 employs a long-throw 200mm bass/midrange unit using a polypropylene diaphragm material, developed for its inherent low colouration as much as its superb lightness-to-rigidity ratio. This unit is reflexed out of a tuned port to improve low-end efficiency. A 25mm soft dome tweeter takes over at 2,000Hz.

Despite some lack of fullness in the bass output the HL 1 Mk2 has neither a problem of low frequency extension nor of definition. The 200mm unit is called upon to handle a fairly wide span of frequencies and the system response is accordingly balanced to account for this fact. It was very easy to separate instruments with fundamentals and/or harmonics at bass frequencies despite the fact that the balance gives a little too much lower mid attack.

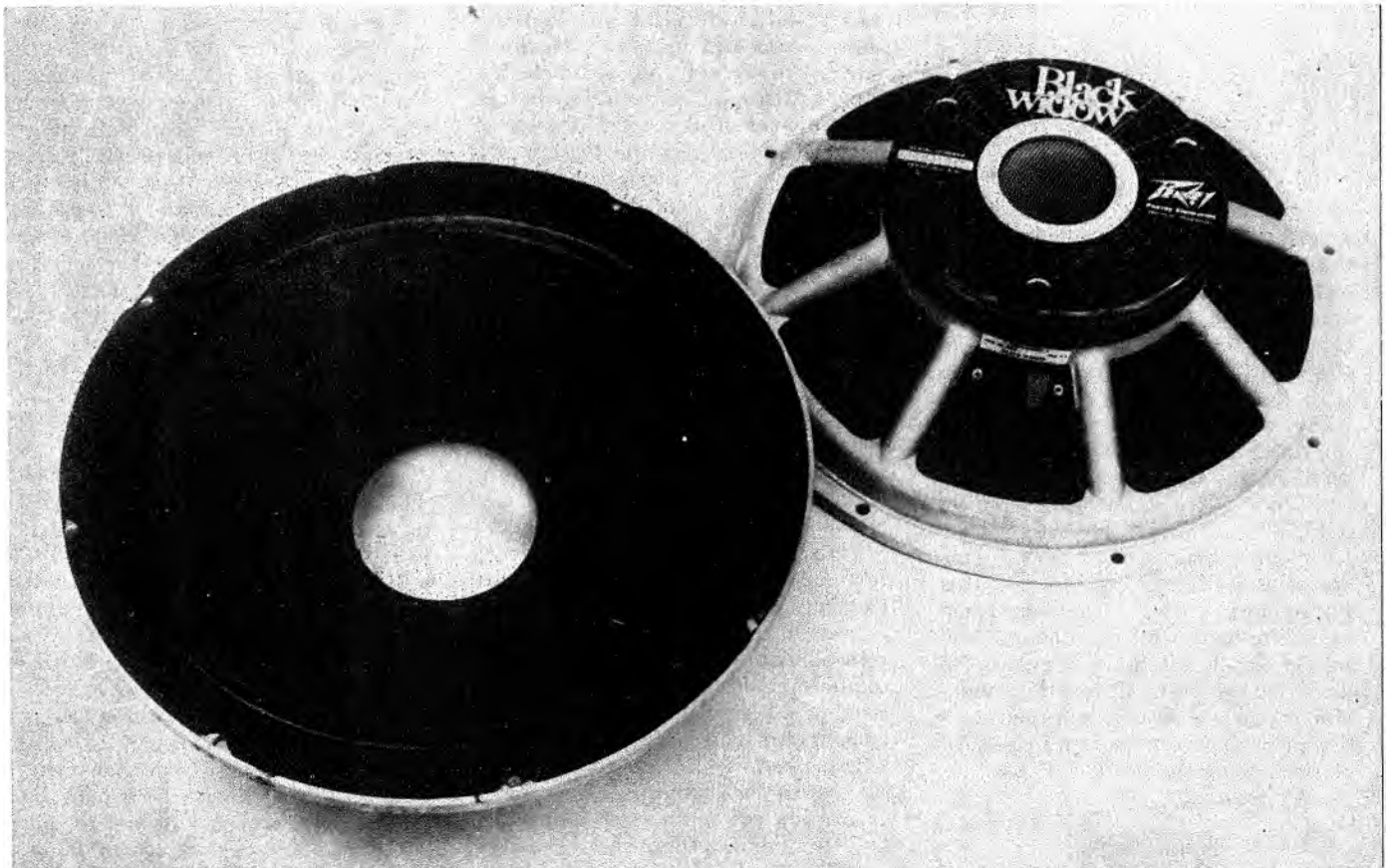
The breathless ease with which these speakers coped with most types of input and its maintenance of a quite implicit transient attack, established this model in the scope of the review as a point of reference.

Tonal neutrality over most of the very important midband was equal to the best; here, counting the Lentek S4 and Yamaha NS1000 also at the top. At high levels of drive you might find the upper midrange tends to obscure the presentation of other detail in adjacent regions. Stereo imaging was of a reasonably high order while the off-axial response was well maintained over a fairly wide listening area.

The Harbeth HL1 Mk2 is quite sensitive, and the system does not present a troublesome amplifier load. The reflex loading of the bass/mid driver and the way it behaves mechanically to subsonic mush suggests a speaker which will not accept a great deal of bass boost. The speaker will also not go very loud. A user accepting these limitations will find the tonal accuracy, precision and sheer engineering of the HL 1 Mk2 certainly produce a component to swear by. Harbeth Acoustics, 2 Nova Road, Croydon, Surrey CRO 2TL.

JBL L40

The desires of some people to take their professional monitors home with them have produced some headaches for JBL. In the studio and control room the traditional JBL systems have been designed to perform as magnifying lenses under which a programme in the making may be scrutinised. Producing more linear devices



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for hi fi playback under less controlled domestic conditions has shifted their base somewhat; JBL's older familiars suggesting the newer and flatter response systems "just do not sound the same".

The L40 is a compact port-reflexed two-driver enclosure exhibiting a few familiar JBL hallmarks in a high conversion efficiency with a "bally" frontal attack. While relatively uncoloured as far as the established JBL designs go some deliberate attempt appears to have been made to keep some of their essential ingredients. The L40 did not fare well in straight comparison with other items in this survey — the whole axis of the recorded balance in a musical programme seemed to have been altered to fit "someone's" particular ideas on how it really ought to sound.

A 'middy' quality characterises the bass and on programmes with good depth of ambience the speaker alters the front-to-back stereo perspective by swinging the early transient labelling a little too far forward. As the basic design brief includes high volume listening, one way of attempting a balance was to tack down the treble energy to meet a rather depressed upper-mid contour where room reinforcement successfully does the rest. One curious effect is that the speakers at high levels suddenly appear to "correct" themselves; becoming better balanced subjectively across the band. Solidity of the bass, incidentally, seems to improve with a deep shelf mounting.

On stereo imaging the perspective was very spacious though delicate solo instruments — from the smaller wind instruments to triangle — similarly fattened up. The speakers seemed to work best with the seated listener closer to them than is usual thus subtending a narrower angle than the 60 degree norm.

Despite its various oddities the L40 is a very exciting speaker for rock material and should suit someone who invariably plays it loud. The L40 is priced at around £295. Harman UK Ltd., St. Johns Road, Tylers Green, High Wycombe, Bucks HP10 8HR.

Acoustic Research AR90

At over three and a half feet high the AR90 is tall, though the enclosure is only 12 inches wide. Below a vertical in-line array for mid, upper mid and lower mid two 250mm (10 inches) bass units face out of each of the sides near to floor level. At the cab rear a trio of three position switches select minus 3dB or -6dB of attenuation in the mid, upper mid and at lower mid, upper mid and high range; each providing a gentle contour over approximately three and a half octaves. The idea is to offer a flexible acoustic compensation for the more common problems of loudspeaker performance in the domestic environment. The speakers should be positioned according for their optimum

performance: less than two to three feet away from the side wall and the bass may suffer; an ear level below mid-axis between mid and treble units and the speaker presence seems to dim considerably. The recommended position is a few inches away from a back wall and three feet away from the nearest side wall.

With the various positional conditions met, the AR90 is quite remarkable. The base of the cabinet couples physically with the floor and though the bottom end is not as detailed as the best in this survey the impression conveyed on the right sort of material is one of great visceral power — the sort of structural bass your body picks up at a live gig and which does convey a lot of the excitement in music.

The fact that you are able to pick this up somehow pre-empts that instinct to compensate for this component of the real live situation by turning the wick up. In terms of colouration the AR90 is not objectionable, while excellent imaging (due in part to the narrow cabinet), reasonable handling of high frequency transients and an even axial distribution in the lateral plane at least — add up to a system which takes well to the contemporary musical art.

The speaker's apparent high sensitivity is, in part, make up of a very low impedance — a transistor amplifier will normally supply more current into a low speaker load. Where the demands made on the amplifier output outstrip its supply capability, its protection circuits will begin to limit the current drawn. Under such conditions it can produce a gritty "coarse" effect up to the point the amplifier shuts down. The AR90 needs an amplifier cap-

able of delivering cleanly into four ohms and less.

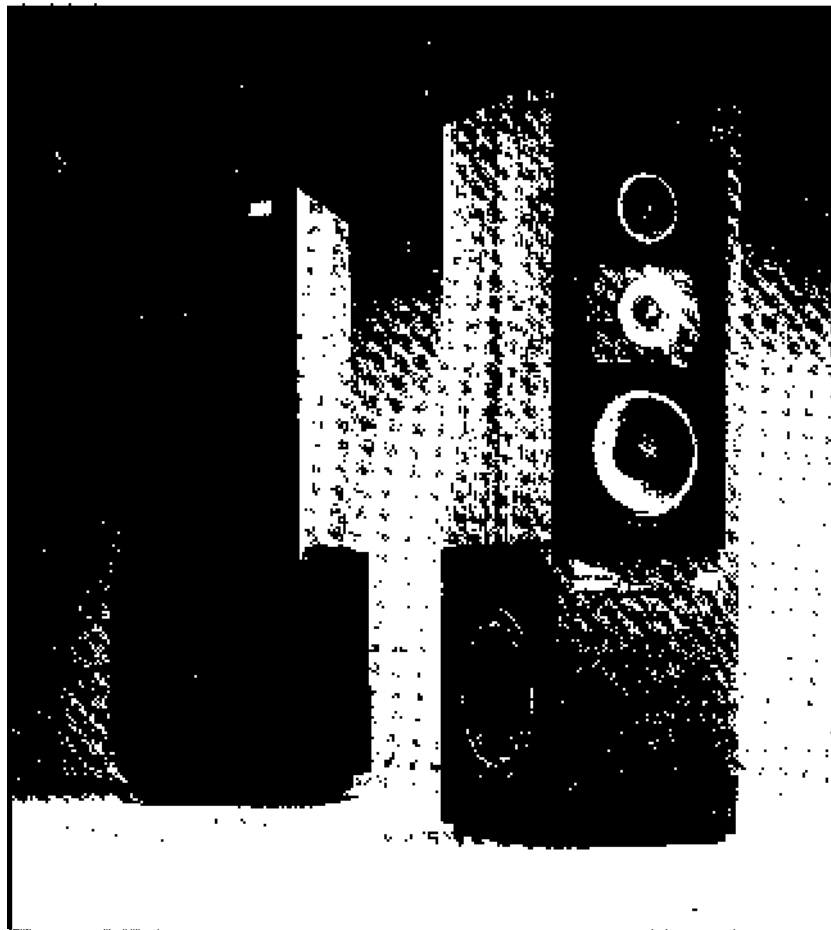
This was one of the few items we were actually forced to measure, when we found the impedance does drop quite dramatically at a couple of points around the midband and also in the bass region. It takes a superior grade of amplifier to cope with such a speaker though its price of around £650 will normally take care of this problem as far as the sort of components the AR90 is likely to be linked with.

The premise behind the AR "vertical" range in which the 90 appears, accepts the listening room as an active interface as opposed to working at preventing the room interacting with the speaker too much. With the 90 this idea seems well optimised. Taking its locational sensitivity and its tricky load problem we are left with a most excellent performer which does make its demands on an amplifier. If your price band stretches to this sort of cost, the AR90 is certainly not one to miss if also you find you have a plain wall — as opposed to a narrow alcove wall — against which to mount them. Teledyne Acoustic Research, High Street, Houghton Regis, Beds. LU5 5QJ.

To be continued

We were unable to cover all the products we would have liked this month, so next month the concluding half of our speaker topic looks at a second batch of six loudspeakers out of four price bands between £40 and £1,000. A shortlist of some 50 models with especial relevance under the parameters described earlier is also included.

James McGill



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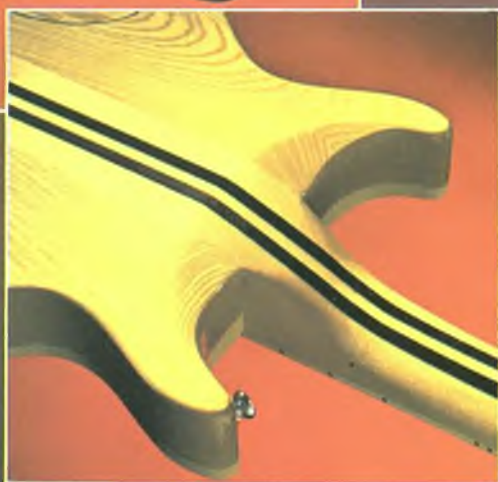
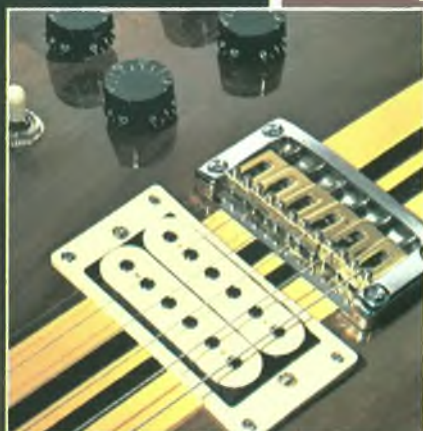
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- Strings anchored from back of body
- Available in natural and antique sunburst finishes

Brodr Jorgensen (UK) Ltd., Great West Trading Estate, 983 Great West Road, Brentford, Middx. TW8 9DN Tel: 01-568 4578
Please send me details of the Kramer guitars.

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When you need a clean delay of up to 330 ms. the DOD 680 Analog Delay is for you. No tapes or mechanical problems, ever! Only 100% solid state reliability, utilizing CCD technology. The DOD 680 is ideal for instrument, mono PA or stereo PA by using the dual mix controls and output jacks. And more good news, the DOD 680 Analog Delay is only \$189.95 list!

Manufactured by DOD Electronics, 2895 S.W. Temple, Salt Lake City, UT 84115, U.S.A. Telephone:- 801 485 8534.

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Telephone:- Brighton (STD 0273) 412554, 410823, 418591.

Distributed Internationally by E and E Instruments International Inc., 23011 Moulton Parkway, Building F7, Laguna Hills, CA 92653, U.S.A. Telephone:- (714) 951 3247, Telex:- 182291.

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This unique, hand-crafted B.C. Rich Mockingbird Bass (sugg. retail \$1399 w/case) uses a unique pickup, DiMarzio Model P1M Bass.

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**Dual Sound™
Humbucker**



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No matter what type of music you're going to make, you need power. Without it, you may not be able to reach your audience when you have to. These pickups will give you the power to get through to them, and our new 4-conductor wiring will expand your sound with more tone options than ever before.

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Super II™

D'Angelico's

"GREATEST HITS"



For top-of-the-chart Performance, electric bass players rely on D'Angelico **SMOOTHROUND BASS HITS**.

Because they're made exactly like our Smoothround guitar strings—with windings ground and polished to a satin-smooth finish—**BASS HITS** are fluid-fingering and gentle on frets. And their *super magnetic* properties assure a **BIG, FAT** sound from your bass.

BASS HITS come in two playing textures: S-50's for ultrasmoothness and S-25's for more brightness. That's something few others offer.

Try a set and discover why the pros score with **BASS HITS**.

Ask your music dealer for any string in D'Angelico's full line.

Sho-Bud

PEDAL STEEL GUITARS

Lloyd Green, one of the bright stars of the Nashville recording world, insists on playing only the Sho-Bud Pedal Steel Guitar. His LDG Model 6150 is unique in every way... a showpiece that has become the standard for professional musicians everywhere.

Other Sho-Bud models include the new Super Pro, the Pro I, II, and III, and the Maverick.



Distributed by



PROBABLY THE FIRST NEW RANGE OF AMPS FOR TEN YEARS!



Carlsbro have applied computer technology to develop the first significantly new range of back line amplifiers in ten years. Features such as digital channel switching and parametric equalisation offer players studio type facilities previously unavailable in primary amplification.

Really great sounds compliment the advanced features. Ask the professionals who use them: like Scott

Gorham of Thin Lizzy, Rory Gallagher, Brian Robertson of Wild Horses and Andy Gill of the Gang of Four.

Parametric EQ offers a stunning 20dB cut or boost at the frequencies you select. Other features such as improved reverb and built-in delay line for chorus and ADT effects and two sustain systems make these 150 Watt amps the ultimate in back line.

Carlsbro Sales Ltd., Lowmoor Road Industrial Estate,
Kirkby-in-Ashfield, Notts., U.K. Tel: 0623-753902. Telex: 377472.

CARLSBRO

Circle 702 on Reader Service Card

THE MARK III SERIES

Finally...
Amps as contemporary as your music!

The Peavey Mark III Series is, without question, the most advanced and most versatile line of instrument amplification systems on today's market. Until you've experienced playing through a system with the performance and flexibility of these new amplifiers, you can't appreciate all the possibilities of playing an electric instrument.

THE MUSICIAN

- 200 Watts RMS @ 1% THD, 4 Ohms
- Two channels with pre and post on each
- Individual channel equalization
- Six-band graphic equalizer with in/out switches on each channel
- AUTOMIX function selects either or both channels with remote footswitch
- Channel LED indicators
- Phase with color and rate controls
- Master reverb
- Input preamp, send and return
- Preamp and line outputs
- Power amp input

THE BASS

- 200 Watts RMS @ 1% THD, 4 Ohms
- Two channels with pre and post gain on each channel
- Individual channel equalization
- Six-band graphic equalizer with in/out switches on each channel
- AUTOMIX function selects either or both channels with remote footswitch
- Bi-amping capability with variable crossover points
- "DDT" compression circuit with LED indicator and in/out switch
- PARAMID and mid shift equalization
- Channel LED indicators
- Preamp and line outputs
- Power amp input



THE STANDARD

- 130 Watts RMS @ 1% THD, 4 Ohms
- Two channels with pre and post gain on each channel
- Low, mid and high equalization
- PARAMID and mid shift controls
- AUTOMIX function selects either or both channels with remote footswitch
- LED channel indicators
- Master reverb
- Preamp and line outputs
- Power amp input

THE CENTURION

- 130 Watts RMS @ 1% THD, 4 Ohms
- Two channels with pre and post gain on each channel
- Individual channel equalization
- Parametric equalization
- AUTOMIX function selects either or both channels with remote footswitch
- LED channel indicators
- "DDT" compression circuit with LED indicator and in/out switch
- Preamp and line outputs
- Power amp input

These features give you an indication of the Mark III Series' versatility and performance, but specs and features mean little unless you can plug-in and experience for yourself. See your Peavey dealer for a demonstration, he'll show you why unbelievable values are still a reality with Peavey.



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Meridian, MS 39301

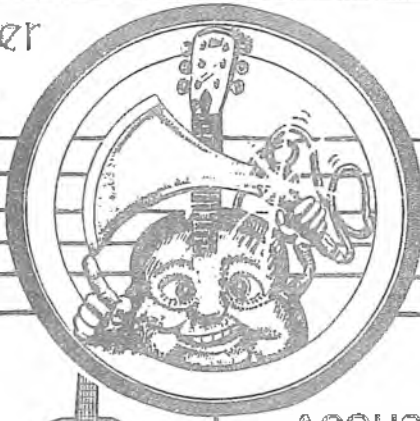
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That's Doing It."*

Colchester
16 Mersea Road...

tel: (0206) 65652



AXE



MUSIC

**MARTIN ACOUSTIC GUITARS
INCL. CASES**

	List Price	Axe Price
MARTIN D18	£539	£369
MARTIN D19	£569	£389
MARTIN D28	£629	£429
MARTIN D35	£659	£455
MARTIN D41	£960	£657
MARTIN D18-12	£569	£389



**GIBSON ELECTRIC GUITARS
INCL. CASES**

	List Price	Axe Price
GIBSON Les Paul Custom	£596	£449
GIBSON Les Paul Standard	£530	£395
GIBSON Les Paul Deluxe	£500	£379
GIBSON Flying 'V'		£455
GIBSON The Paul	£355	£275
GIBSON Les Paul 25/50 Annlv.	£813	£569
GIBSON S.G. Standard	£458	£379



FENDER GUITARS

	Axe Price
FENDER Strat, rosewood neck	£239
FENDER Strat, maple neck	£269
FENDER Strat, rosewood and trem	£265
FENDER Strat, maple neck & trem	£295
FENDER Telecaster, rosewood neck	£225
FENDER Telecaster, maple neck	£235
FENDER Telecaster, deluxe	£239
FENDER Precision, bass, fretless	£235
FENDER Precision, bass, rosewood	£237
FENDER Precision, bass, maple neck	£249
FENDER Jazz Bass, R/N	£269
FENDER Jazz Bass, M/N	£290
FENDER Mustang Bass	£172
FENDER Anniversary Strat	£379



YAMAHA GUITARS

YAMAHA SG 700	£299
YAMAHA SF 1000	£279
YAMAHA SA 1000	£395
YAMAHA SF 500	£195
YAMAHA BB 1200, Bass	£299



IBANEZ GUITARS

IBANEZ Roadster 900B Bass	£189
IBANEZ ST400	£199
IBANEZ AR100	£189
IBANEZ ST55	£165
IBANEZ ST924	£225



VANTAGE GUITARS

VANTAGE Spirit	£129
VANTAGE Witch	£129
VANTAGE Mystic	£199
VANTAGE Phantom	£249



ODYSSEY GUITARS

ODYSSEY G200	£385
ODYSSEY B200	£385
ODYSSEY G300	£347
ODYSSEY B300	£347
ODYSSEY G400 (Hawk)	£229
ODYSSEY B400 (Hawk)	£229



ACOUSTIC AMPLIFICATION

ACOUSTIC 220 Bass Amp	£299
ACOUSTIC 126 Bass Combo	£453
ACOUSTIC 406 Bass Bin	£356
ACOUSTIC 230 Guitar Amp	£345
ACOUSTIC 802 PA Cabs (each)	£199
ACOUSTIC 803 PA Cabs (each)	£148
ACOUSTIC 806 PA Cabs (each)	£210
ACOUSTIC 125 Guitar Combo	£473
ACOUSTIC 117 Guitar Combo	£265
ACOUSTIC 403 4x12" Cab	£292

TRAYNOR AMPLIFICATION

TRAYNOR 120watt Combo and Reverb	£276
TRAYNOR 200watt Guitar Amp	£180
TRAYNOR 50watt Bass Amp	£120
TRAYNOR 6-Channel PA Mixer/Amp	£237
TRAYNOR 4-Channel PA Mixer/Amp	£165
TRAYNOR 9x8 Guitar Cabinet	£138
TRAYNOR 100watt PA Bin	£162
TRAYNOR 200watt PA Bin	£201
TRAYNOR 100watt Slave	£96
TRAYNOR 300watt Slave	£174
TRAYNOR TS50 Bass Stack	£258
TRAYNOR TS25 Combo	£138
TRAYNOR TS25B Bass Combo	£145
TRAYNOR Guitar Mate	£126
TRAYNOR 1x15 Cab	£108
TRAYNOR 2x15 Cab	£132
TRAYNOR 2x12 Cab	£120

**CUSTOM SOUND
AMPLIFICATION**

CUSTOM Trucker (45watt Combo)	£105
CUSTOM Trucker Bass (45watt Combo)	£125
CUSTOM Trucker PA (100watts)	£135
CUSTOM Trucker PA and Reverb (100watts)	£149
CUSTOM Trucker PA Cabs	£79
CUSTOM Trucker Reverb Combo (45watt)	£159
CUSTOM 150watt Combo and Reverb	£199
CUSTOM 150watt Graphic Bass Amp Top	£165

MAINE AMPLIFICATION

MAINE PA Amp (200watt)	£265
MAINE Stage Combo (80 watt)	£267
MAINE Musician Combo (120watt)	£300
MAINE Bass Combo	£279

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AXE MUSIC

16 Mersea Road, Colchester, Essex
Tel: Colchester (0206) 65652

Dealer of the Month

Axe Music in Colchester opened three and a half years ago and despite fearsome competition has not only expanded its business but is planning to open another shop in neighboring Ipswich. Alan Grey, the proprietor, is a seasoned guitarist, and has been playing guitar professionally and semi-professionally for about 15 years. Consequently, it comes as no surprise to find that Axe Music specialises in guitars, as the name of the shop suggests. He opened the shop with very little capital, and very little stock. He used to take his personal gear along in the mornings to make the place look more full.

But Alan stuck it out, and now has a flourishing, well-respected business, frequented by players in the area who appreciate his down-to-earth, helpful attitude. But it's not just Alan's friendly approach that wins clientele — a 15 to 20 per cent discount on his goods is very attractive.

The shop, appropriately enough, is a corner affair, big enough inside to accommodate stock, but small enough to give an impression of homeliness. Guitars and combos line the walls, cabinets hold boxes full of effects pedals, and Alan and his assistant Dave Harwood know where everything is. Lines handled are Polysound (a US amp brand as used by George Benson) Acoustic, Traynor, Ampeg, Custom Sound, Maine, Carlsbro and Roland amplification; Yamaha, Fender, Gibson, Ibanez, Martin, Vantage and Odyssey guitars; effects are Electro-Harmonix, Colorsound, Boss and Axe's own brand. Axe Music is the area's sole holder of Dean Markley strings.

There are between 150 and 200 new and secondhand guitars in stock, not to mention a good few kilowatts of tops and combos and cabs. To protect all this stock Alan has had fitted an alarm which runs straight to the police station.

Because of the substantial discounts Alan can offer he deals with customers from all over the country — recently clients have come from Swansea and Scotland to buy his goods. A lot of his clientele are cabaret artists and rock bands, though the pub scene for rock music is a bit thin around Colchester. Where amplification is concerned Axe supplies a lot of low power PA systems and combos.

In addition to retailing gear, Axe Music runs a repair service. Alan himself deals with rewiring, re-fretting and general setting up, while for finishing guitars he sends out to a person who once worked for

AXE MUSIC COLCHESTER



Gibson as a finisher. Dave Hunter is the resident electrical engineer who repairs amps and doctors effects pedals. Axe also take in stereo systems for repair, though they do draw the line at TV sets.

The new Axe shop in Ipswich is going to be modelled on the Colchester establishment. The music scene in Ipswich is very healthy, with a lot more pub rock bands operating. Small, cosy and friendly are the watchwords for Alan Grey. He claims that nobody has ever complained to him about equipment he's supplied, so he's going to

provide the same service in the new emporium.

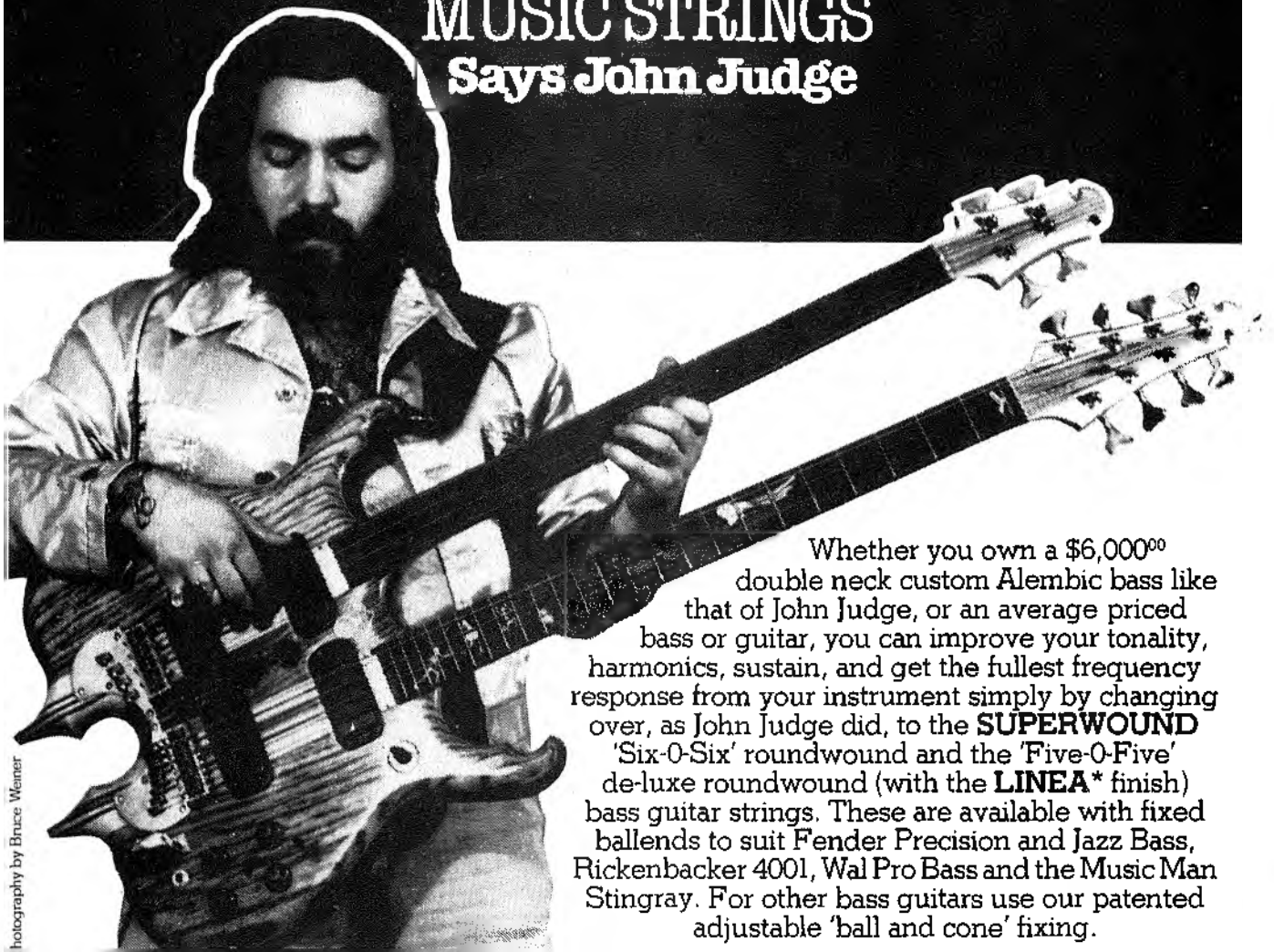
Axe Music doesn't supply drums or percussion — with Bri's Drum Pad 20 yards up the street it isn't necessary. Both Axe and Bri's work on a mutual backscratching basis, with each recommending the other's business.

Alan also runs a hire service for instruments and amplification. In addition, a mail order service accounts for a small portion of turnover.

The special thing about Axe Music is that it's run by a musician for musicians, so the customer has someone on hand who knows the problems facing a guitarist and can offer good advice and counsel. Alan knows this sounds corny, but it's true. The shop is small enough to be personal, big enough to do those considerable discounts.

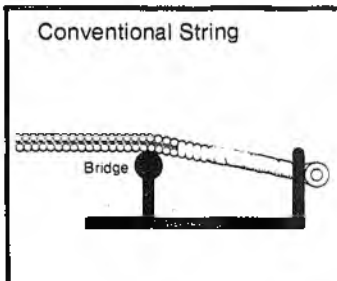
For the Big Guitar Sound Change over to Superwound

MUSIC STRINGS
Says John Judge



Photography by Bruce Werner

Whether you own a \$6,000⁰⁰ double neck custom Alembic bass like that of John Judge, or an average priced bass or guitar, you can improve your tonality, harmonics, sustain, and get the fullest frequency response from your instrument simply by changing over, as John Judge did, to the **SUPERWOUND** 'Six-O-Six' roundwound and the 'Five-O-Five' de-luxe roundwound (with the **LINEA*** finish) bass guitar strings. These are available with fixed ballends to suit Fender Precision and Jazz Bass, Rickenbacker 4001, Wal Pro Bass and the Music Man Stingray. For other bass guitars use our patented adjustable 'ball and cone' fixing.



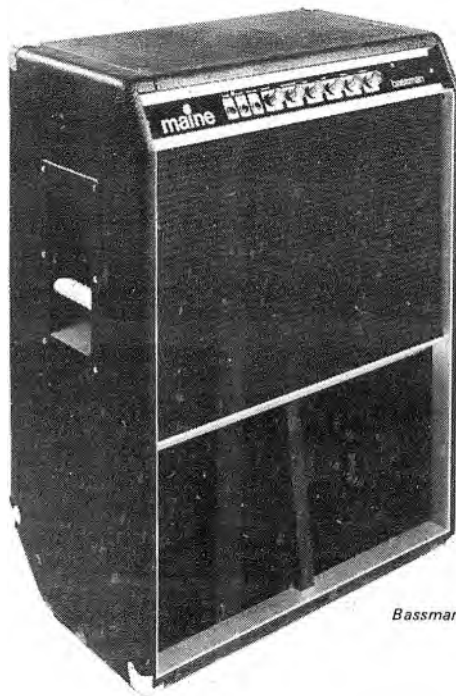
The difference between **SUPERWOUND** and a conventional string is shown in these diagrams, thus giving you the above qualities. ***LINEA**. This special finish makes a roundwound string feel smoother. It is not 'ground'. Therefore keeps its original sound.



Sole Manufacturers: SUPERWOUND LTD., Morewood Close, London Road, Sevenoakes, Kent, England.

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maine electronics



Bassman Combo

Crank it up without problems!

No, we're not talking about your car. Not when the Maine Bassman just has to be the best value for money. For the bass player who must have an easily transportable amp. For under £300.

A solid foundation, of 100 Watts RMS power, drives the heavy-duty 15" speaker. Maine's new folded-horn design delivers

the richest sound around, with full bass response and no break-up.

You get unlimited overdrive from cascaded inputs coupled with Master Volume. And a super-wide range of tone swings from 3-way equalisation. Besides all of which, as we said at the start, with Maine's superior technology you really can crank it up without problems. Try it soon.

STOCKISTS INCLUDE AXE MUSIC OF COLCHESTER

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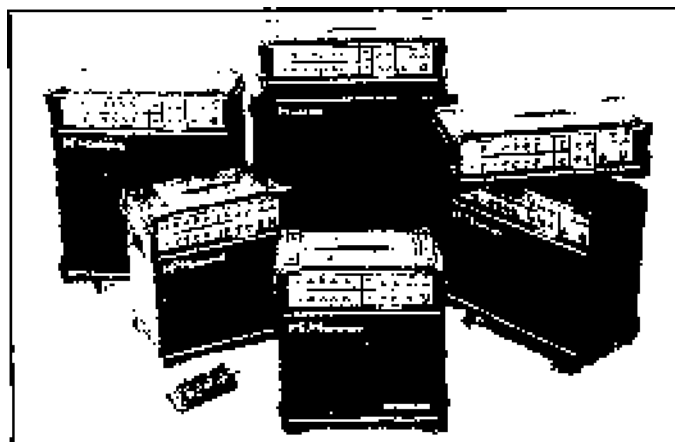
maine
group
Maine Electronics Limited
Watford 45388

Trade News

The HH Project

Under total secrecy, the trade press and HH franchised dealers were invited to Cambridge recently. We were expecting a new product, and there can be no doubt that what we saw was worth the trip and justified the cloak and dagger secrecy and song and dance presentation — a completely new product range based on MOS-FET technology and specially designed HH Acoustics loudspeaker systems.

The keyword to the new Performer range is versatility. Every amp has a two-channel front end or pre-amp section, a "clean sound" channel and a "dirty sound" channel with a footswitch to route the instrument to either channel as required during playing. The



"clean" channel has volume, bass, mid and treble controls and is also fitted with a variable compressor, while the "dirty" channel has the compressor facility replaced with a sustain control. All the lead instrument amps have a built-in reverb unit — also controlled from the footswitch, and provision for the installation of a plug-in optional effects module which HH have named the "21st Century Module".

The amplifiers are available with 60, 150 and 250 watt power stages, but not all front end pre-amp sections are available with all power amp ratings, and the 250 watt version has been reserved for the "Bass Machine" amplifier head.

The other amplifiers in the range include the 150 watt "Performer" lead amplifier head, the "Bass Baby" — a 150 watt, 1 x 12 bass combo: the "Power Baby" — a 150 watt 1 x 12 lead combo and the "Super 60" — which is a derated version of the "Power

Baby" combo.

There are also three larger combo's in the range using the "Bass Machine" and "Performer" amplifiers. These are the "Bass Machine 115" — a 1 x 15 ported cabinet bass combo and the "Performer 212" and "Performer 410" lead instrument combos fitted with 2 x 12 and 4 x 10 speakers respectively.

The "Power Baby", which is to be a limited edition item, is the only amplifier in the range that comes with the "21st Century" effects module fitted as standard. For any of the "performer" variations, or the "Super 60", this comes as an optional extra at an additional £98.32.

The "Performer" amplifier head will be in the shops at £276.29, and the "Bass Machine" head at £298.14. The various combos start at £298.42 for the "Super 60" and go up to £467.02 for the "Bass Machine 115".

As Clive Bradbury, HH's marketing director put it "... We are doing a Ford — not a British Leyland!"

Pete's Gig Shop

In just six months Pete's Gig Shop in Uxbridge has remained miniscule. The shop makes up for size though, with the selection of stock and the service that they offer. Pete Turner explains "We don't sell anything we don't believe in or know about"! Based at Uxbridge in Middlesex this particular musical hole-in-the-wall crams in six staff, two full time and four specialists including Richard Bartram, custom guitar builder and repairer.

Hillside Studios



Here's a smart looking studio just opened up by those estimable people who own Gooseberry, and it is full of the latest equipment. Their claims are many — including the fact that they are the first studio in the country to use the new Otari MTR 90 24-track machine. They are also the first with Tannoy's new Super Red Monitors (which are now also fitted in the Gooseberry 16-track studio).

They have the latest Soundcraft 3B desk which is ready for automation (they are taking their time while they consider the various automation systems available).

Following the ideas of their best reggae engineers, the desk has now been modified with an extensive programmable muting system which "makes dubs literally 32 times as easy and

more effective". In fact it seems that Soundcraft are now fitting their new desks with this modification as standard. Another claim to fame is that they are the only studio under £40 an hour to use the new Lexicon digital reverb which has proved to be a tremendous success. They are also the proud owners of the new Eventide 949 Harmoniser.

The foldback is another interesting feature. It is a five-channel personal foldback mix system (custom built), so problems usually encountered in a studio where everyone shates the same foldback mix are non-existent.

This new studio is situated at 2 Hillside Road, SW2, and for interested enquirers, their telephone number is (01) 674 0548.

AMII AGM

At this year's Association of Musical Instrument Industries AGM, President Michael Doughty recalled the qualities of Fafisa Boss Dickie Wren and CBS Arbitr Executive Les Miller who died in January.

During the meeting the main committee of the Association was re-elected *en bloc*. Dickie Wren's death left several vital committee seats unfilled and Jack Robertson was voted to joint Bill Greenhill and Denzil Jacobs on the main steering committee.

One of the most emotional subjects broached at the AGM was the general committee's decision to scrap the traditional formal dinner held at the Hilton in London during the Summer Trade Show. Many members, including Gerald de la Porter of Premier felt that something of the identity of AMII would be lost if a function of this type was not held but many members

also felt that the function had grown too large and that it didn't offer them value for money in a commercial sense.

James Coppock, for the exhibition committee, explained the plans for the Live Music Show due to be held this year from August 18th to 22nd. Once again, Olympia was picked as the site and the public will be allowed into the exhibition for a day and a half.

A considerable amount of discussion about the need for statistics within the musical instrument industry ensued and most members agreed that general statistics offer a useful guideline as to growth of the industry. An accounts report from Treasurer Neil Sharp indicated that the association had increased its surplus during 1979 over the previous year and members accepted the report with enthusiasm.

Soho Soundhouse

Aficionados of Fender product will, of course, be familiar with the Fender Soundhouse, which is adjacent to the CBS headquarters in Soho Square, London. All things must pass, however, and so it is with the Fender Soundhouse — it's now been renamed the Soho Soundhouse, and no longer deals exclusively with Fender wares, although after 18 years of association with the name, Andrew Wallace, the new proprietor, will naturally emphasise the name.

Andrew Wallace is ex-Sales Director for CBS/Arbiter, and took over the Soundhouse at the beginning of the year. He renamed the shop largely because he wants to establish a geographical identity for it, as well as to indicate that its range of product has expanded.

Helping Andrew build up the business is Malcolm Dennis, who's been at the Soundhouse since last July. Last, but not least, the remaining member of staff is Arthur Somerset, a well-spoken chap guaranteed to satisfy. All in all, the Soundhouse is well worth a visit.

Burman and Cover Publications

Burman Amplification on Newcastle-on-Tyne agreed to settle a high court case with Cover Publications last month on the day that judgement was expected. The total costs to Mr. Burman for this 2-day trial were in the region of £10,000 plus.

Discussing the settlement Cover Publications' Managing Director, Richard Desmond, said, "We have reached a satisfactory settlement and we feel that the debt has been discharged in full."



Mr. Richard Desmond

Now...enhance your live sound with live lighting from Meteor!



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Ident for live sound work, the Meteor SoundLine 3000 combines five separate effect sections with three channel sound-to-light translation. Two light levels, manual individual channel override, enabling lights to be "played," plus chase functions add up to a powerful lighting package.

Easily transported, ready for instant use and ruggedly reliable, the Meteor SoundLine 3000 is the ideal mobile lighting choice. See one at your Meteor dealer or complete coupon for further details on the SoundLine 3000 and other Meteor lighting systems and effects.

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Fresher GUITARS

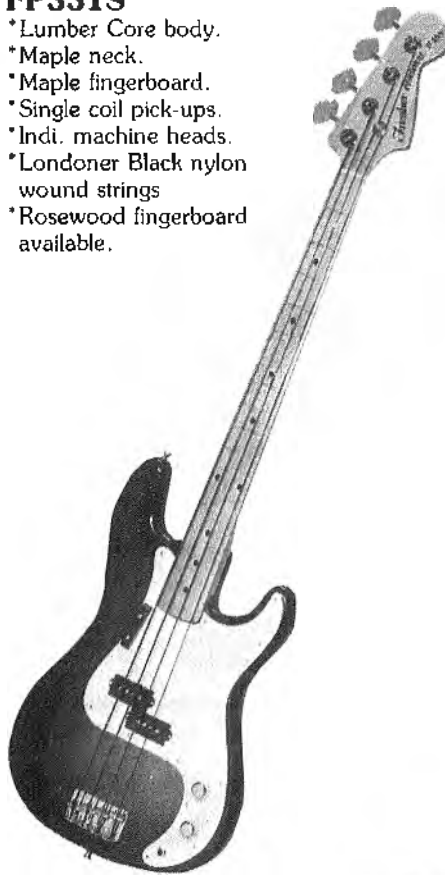
FJ331B

- *Lumber Core body.
- *Maple neck.
- *Maple fingerboard.
- *Single coil pick-ups.
- *Indi. machine heads.
- *Londoner Black nylon wound strings.
- *Rosewood fingerboard available.



FP331S

- *Lumber Core body.
- *Maple neck.
- *Maple fingerboard.
- *Single coil pick-ups.
- *Indi. machine heads.
- *Londoner Black nylon wound strings.
- *Rosewood fingerboard available.



FT301OW

- *Lumber Core body.
- *Maple neck.
- *Maple fingerboard.
- *Single coil pick-up.
- *Indi. machine heads w/ cover.
- *Rosewood fingerboard available.
- *Mahogany colour available.



FG301WN

- *Lumber Core body.
 - *Nato detachable neck.
 - *Single coil pick-ups.
 - *Indi. machine heads w/ cover.
 - *Wine Red colour available.
- FG301DT: same as above except Diecast tailpiece w/ Tremolo. (SG-62DT).



FS331S

- *Lumber Core body.
- *Maple neck.
- *Maple fingerboard.
- *Single coil pick-ups.
- *Indi. machine heads w/ cover.
- *Rosewood fingerboard available.



MODEL

FJ 331B	£115.07
FP 331S	£115.07
FT 301W	£105.03
FG 301WN	£99.09
FS 331S	£116.45

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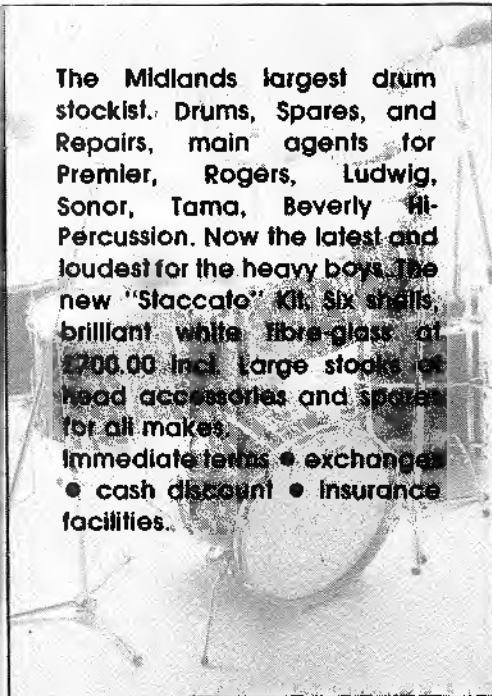
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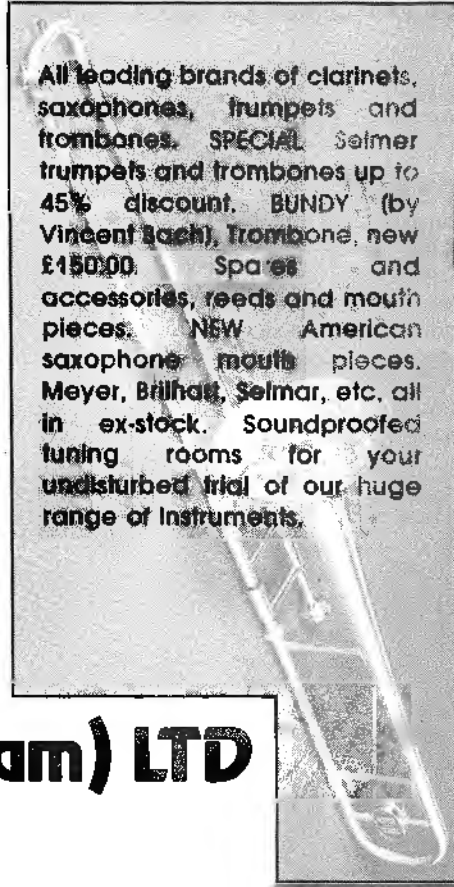
FRETTS
89 Old Snow Hill

Guitars by Aria, our speciality. Good stocks of Amplification and Guitars for brand names, spares and accessories. Watch local press for our early March stock-taking sale. Stockist of Peavey, Aria, Guitars, HH, Marshall, etc. etc. For a special quotation phone Rod on (021) 236 7441.



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Spotlight On Birmingham

The city centre of Birmingham is dominated by the Bull Ring, a vast concrete edifice bordered by a railway station, a dual cartageway and another vast concrete edifice masquerading as a shopping centre. Not a very good introduction to the UK's second city. Happily, this dire urban scene is not representative of the rest of the city, neither is it representative of the music scene there.

A short walk from the Bull Ring leads to Colmore Row, home of Yardleys music stores (1). There are three stores in the Yardleys chain, the main one being on Colmore Row and the others a short walk away on Snow Hill. Each of the stores stocks a different type of equipment, Percussion and Woodwind, Marching Band Equipment, and group gear respectively. They have a huge range of all types of percussion in stock, with over 60 kits on display. The group gear department stocks a very wide selection of guitars and amplifiers with hire-purchase, insurance and hire services available on the premises. A recent customer was Roy Wood who came in to buy a 'Cello!

Further across the city is Woodroffes (2). One of the largest stores in the country, they separate the departments with soundproof doors, making it a very quiet atmosphere in which to test equipment. The central department deals with guitars, amplifiers and accessories. They have a very large selection of Gibson guitars on display, and have a 'special offer' guitar almost every month. All the instruments on show are new since the second hand gear is dealt with by another shop.

Downstairs in the basement is the real heart of the shop, containing the repair department, manufacturing centre and the soundproof room where equipment can be tested at high volumes without disturbance.

Whereas Woodroffes is one of the largest department stores in the U.K., Michael Peck must have the smallest! (3)

There are only two tiny rooms in the shop, the first dealing with sheet music, records and magazines. (Including *IMRW*) The back room is dominated by Michaels display of Keyboards and amplifiers which are all repaired and set-up personally.

Michael is a working musician who keeps the shop mainly as a sideline to his band Funktion. Unfortunately, as he explained, most of the bands gigs have to be set-up by themselves due to the lack of venues in the city.

This lack of venues was also criticised by another member of the Brum musical fraternity, Oscar of the band "Sussed". He was down at Zella Studios (4) mixing the bands first single. With only one or two venues in the city who will consider an unknown band they have been forced to



take the step of recording a single first.

Zella studios are built into a large comfortable building called Walker Hall. Although the control room is small, the studio itself is huge, covering over 800 feet of floorspace and being 15 feet high. They have a large selection of instruments available to studio customers including a Bechstein grand and a complete Ludwig Kit. Designed as a medium-price 16-track studio it is comfortable and intimate enough for a solo performer as well as being large enough to accommodate the largest band. The man to contact at Zella is Johnny Haynes.

It's usually quite a shock when your per-

guitar suddenly breaks its strap and cascades to the floor, usually with expensive consequences. But a company in Birmingham are confident that they can solve all that with their range of heavy leather straps. The 'Second City Leather Company' (5) based at 102 Bristol Rd, Sellyoak, began by manufacturing the usual leather items, belts, handbags etc., but switched their main production to high quality leather straps after Robert Bruce, the co-manager of the company, tried to find a strap for his guitar. There were plenty available, but none that he thought looked right or felt safe enough for his Gibson gold top. Production began almost immediately on a range of 'one-layer' straps. They were greeted with massive local success and the range expanded from there.

Available from the shop or from selected music stores they range in price from around £3 to £14. All the straps are handmade and can be customised in *any way* for the customers requirements, including hand painted designs.

One of the largest studios in the Midlands is the Grosvenor complex in Handsworth Wood (6). The complex includes two studios, a 24T and a 16T, a cutting room, a mixing room and a goldfish pond! Their market is mainly in the radio fields, but they have had several famous customers including members of ELO, Jasper Carrott, Cliff Richards band and the Brighouse and Rastrick Brass Band. Both the studios are air-conditioned and have a selection of lighting available — to suit customers moods! The 24T has a drum booth and a sound proof room off the main studio for loud solo work. Their range of equipment is extensive with Griffin monitoring systems and Klark-Teknik graphic equalization. All in all, a very comfortable working studio with facilities that can cater for *any* requirements.

Further out from the city in Sutton Coldfield is Suttons Music on Birmingham Rd. They have been resident here for over 2 years after having taken it over as an Organ centre. This has gradually changed to a more general stock approach by the manager Dan Darc. (!) Their stock is aimed at both the professional player and the very beginner, with both the famous name guitars and also those in the lower price ranges.

Musically, Birmingham is a city to be reckoned with. There are plenty of facilities for all types of musicians in the area provided by both the shops in the area and also the studios. Sadly, this is not reflected in the live scene. Too few venues who will only book the better known artists soon disillusion up and coming bands. Hopefully this will get better as time goes on. Until then, *keep playing!*

Tim Oakes

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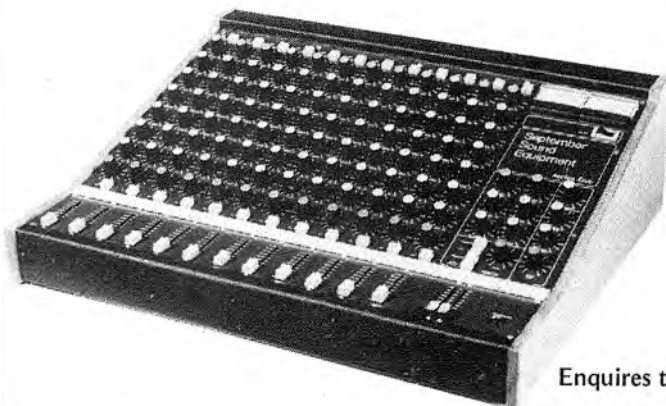
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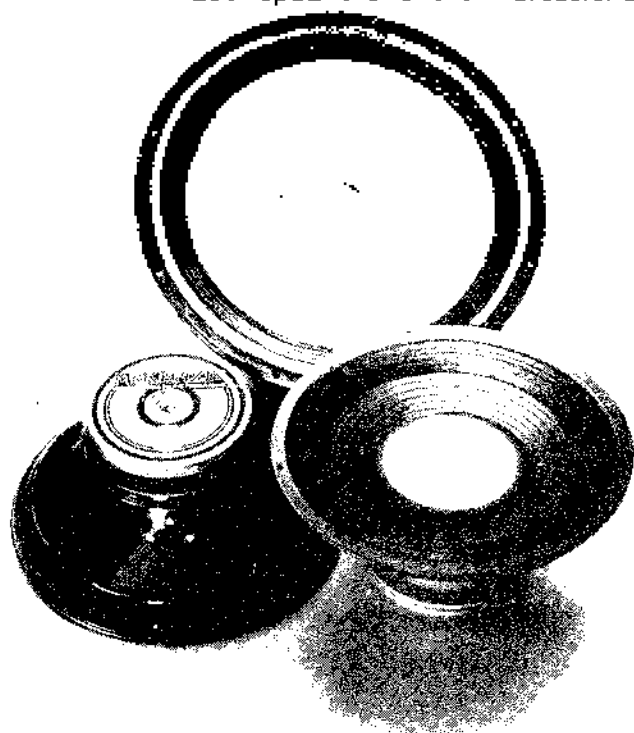


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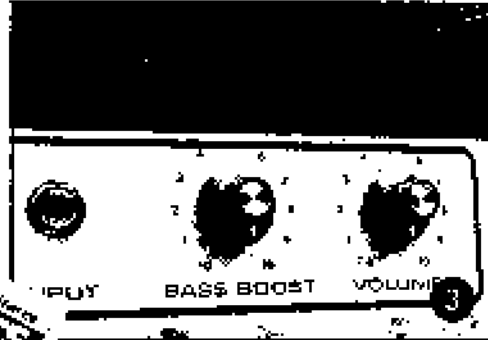
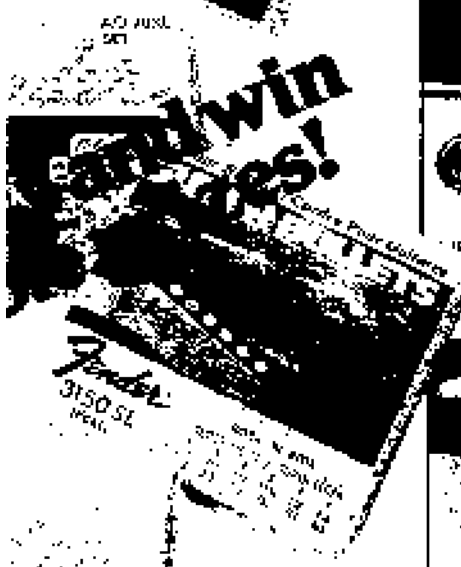
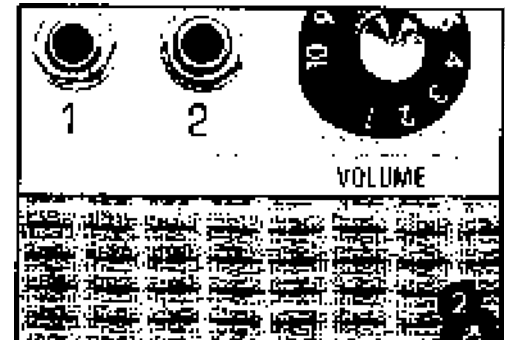
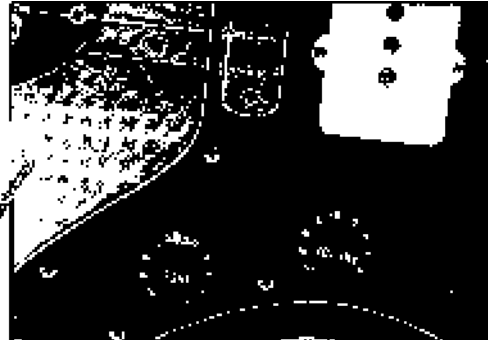
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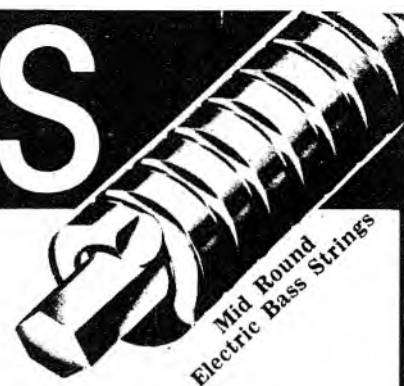
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p/h	per hour
p/d	per day
D	Dolby
ff	Transfer facilities
R-R	Reel to Reel
St	Number of Studios
CP	Copying
ba	to be advised
Ka	Keyboards available
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Mix	Mixing Facilities
R-Cr	Reel to Cartridge
Dc	Disc Cutting
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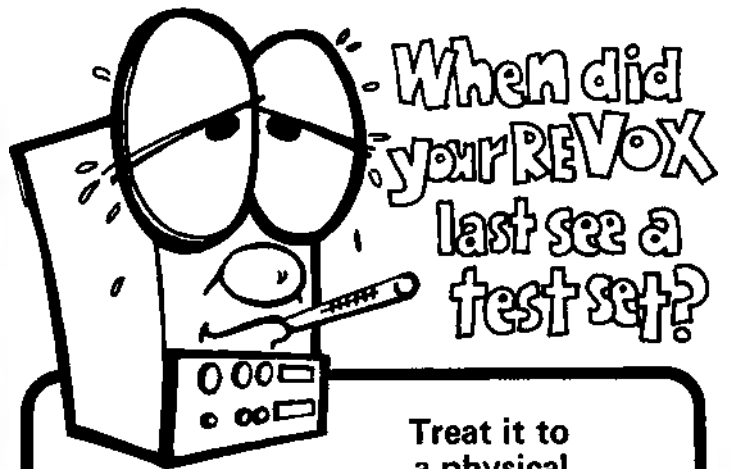
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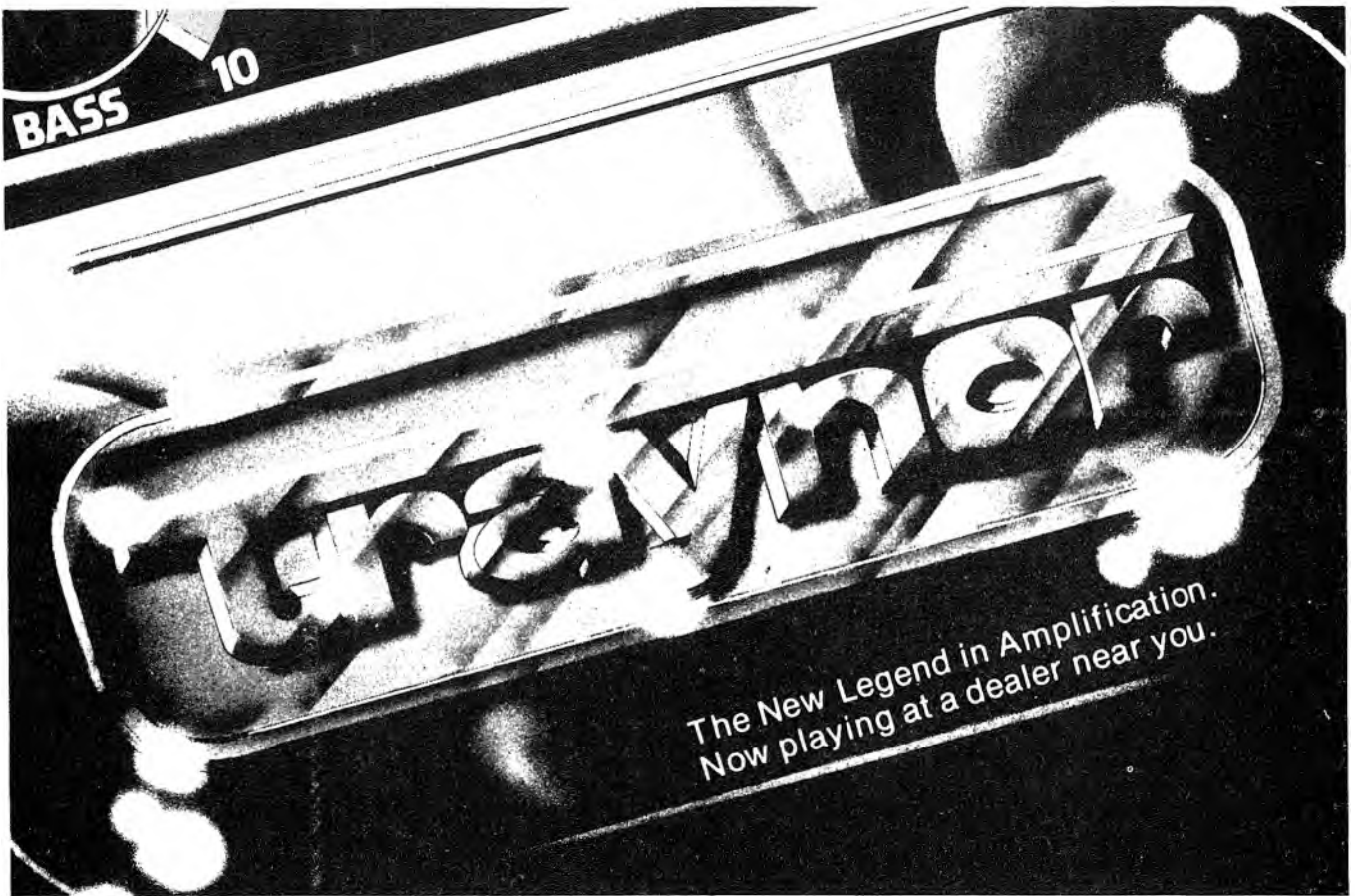
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Index

Acoustic Sound Systems.....	80	Fylde.....	215	Peavey Electronics.....	197
AI.....	226	Galli Corde Musicalli.....	215	Mike Peck.....	208
Allen & Heath.....	114	GEC.....	214	Pete's Gig Shop.....	34
Andertons.....	171	Gigsville.....	48	Pignose.....	81
Arai & Co.....	151	Gretsch.....	195	Pollard International.....	23
Rod Argents.....	54	Groops.....	125	Power Pots.....	101
Axe Music.....	198	Guild.....	31	Protex.....	214
Mike Baker.....	50	Guitar Workshop.....	146	Pulsar.....	29
Barrats of Manchester.10, 66		Adam Hall.....	26	Randall.....	178
Bell.....	226	Hammond Industries.....	203	Red Acoustic.....	176
Blackwing.....	134	Harman (UK) Ltd.....	69	REW.....	124
Brodr Jorgensen..... JFC, 76, 154, 190		Henrit.....	57	Rhythm House.....	94
Caltec.....	141	HH Electronic.....	37, 38, 39	B.C. Rich.....	163
Cargo.....	116	Hill.....	77	Rock City.....	86
Carlsbro Sales Equipment.....	196	Honky tonk.....	63	Rook.....	170
Carlsbro Sound Centres.....	24	James How Rotosound.....	84	Roost.....	210
Celestion International 21, 182		James how Superwound.....	200	Rose-Morris..... 13-16, 62, 141, 147, 153	
Central Music.....	48	Humbucker Music.....	69	Roxa.....	209
Cerebrum.....	94	Henrit.....	57	RSD.....	136, 137
Ceter.....	152	ITA.....	17	Schaller.....	101
Chappell.....	6, 7	JPS Associates.....	130	Sebecter.....	3
Chase Musicians..... Loose Insert		Keio Electronics.....	19, 51	Second City.....	75
Chilton Magnetic Tapes.....	128	Kemble.....	87, 168	September Sound.....	209
Cleartone.....	BC	RS Kitchens.....	95, 148, 149	Shure.....	8
Clef.....	209	Lake Audio.....	206	Sigma/Turbosound.....	25
Court Acoustics.....	68	Leech Musical Services.....	208	Sescom.....	221
Coverlain.....	67	Loudwater.....	186	Sisme.....	55
CP Cases.....	150	Maine Electronics.....	201	Smile.....	186
CP Tapes.....	173	Dean Markley.....	145	Soho Soundhouse.....	72
SD Curlee.....	173	C.F. Martin.....	187	Soundpad Music Centre.....	164, 165
Custom Sound.....	179	McKenzie.....	210	Soundwave.....	20, 27
Dead Good.....	134	Midland Loudspeakers.....	46	Staccato.....	56
DeArmond.....	169	Mighty Mite.....	180	Stack Music.....	188, 189
DiMarzio.....	192, 193	Mind Pick.....	50	Stage One.....	130
D'Merle.....	194	Minns.....	43	Summerfield.....	36, 42, 155
DOD.....	191	More Music.....	100, 104, 112, 113, 118, 119	Suttons.....	206
Dynacord.....	28	Morley.....	9	The Facility.....	130
Eddie King.....	140	Music Ground.....	89	Transylvania Power.....	131
Electro-Harmonix.....	88	Music Man.....	1 BC	Traynor Yorkville.....	226
Electronic Sound Systems.....	160	Music Sales.....	101	Wave.....	30
Electro-Voice.....	131	Musical Sounds.....	172	WEM.....	131
Elephant.....	134	Norlin.....	11	White Sound Equipment.....	214
Europrize.....	47	Octopus.....	134	Wing.....	12
The Facility.....	130	Peavey.....	106, 184	Woodroffe.....	205
Fane Acoustics.....	162	Pearl.....	78, 79	Yardleys.....	206
Farralane.....	186			Zella.....	206
FBT.....	214			Zildjian Export.....	26
Chas. E. Foote.....	186			Zildjian Bazaar.....	204
Freedmans.....	103				
Future Film.....	141				



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