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AND RECORDING WORLD

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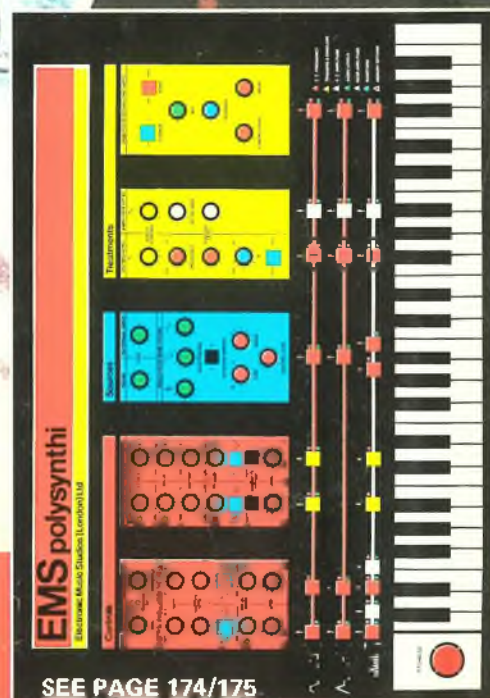
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Chris Spedding

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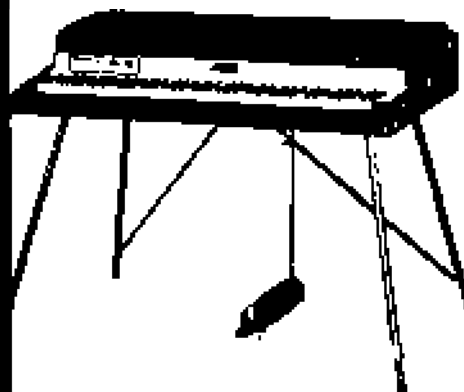
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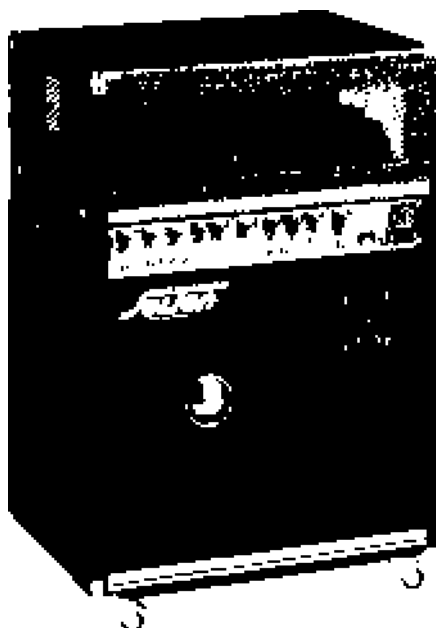
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EDITORIAL

You hold in your hand the biggest ever single issue of IM. All these fun-packed pages for a measly 50p! How do we do it? By sheer grit and dedication, that's how. We can't guarantee that all future issues will be quite as bulky as this one, but you'll never be able to accuse us of not giving value for money.

Special features to look for in this month's bumper fun book include an extensive preview of the March Musical Trade Fair in Frankfurt — all the new products from manufacturers around the world that will soon be finding their way into the shops.

There's another fascinating glimpse of the future in our Microprocessors feature. Tiny silicon chips bearing huge amounts of electronic information are about to revolutionise instruments and equipment. IM's experts discuss what chips with everything will mean to the musician.

Then there's an interview which reveals a side of Frank Zappa he doesn't often get the chance to talk about: his prodigious skill as a record producer. Then there's interviews with three guitarists, a keyboardist, a bassist and a drummer, all masters of their art. Then there's tips on buying a sax, the legal lowdown on record contracts, playing hints, a round-up of studio news... plus in-depth tests on more than a dozen different pieces of gear.

Astonishing, isn't it? It's no wonder we need all these pages. Any way you look at it, IM is the biggest — and the best.



VOL. 5 NO. 2

FEBRUARY 1979 (UK)

MARCH 1979 (USA)

Punks hit back...

Dear Sir: A certain Mr. G. Henley wrote to the *Letters* page of your January issue, slagging off punk music and musicians, which may I remind him gave the music industry a well deserved kick in the pants (keep music live etc). He said "I've seen literally scores of punk bands" and claims that they can't play. The man is surely deaf and dumb. I myself play in a so called punk band and I can play more than two chords, we write all of our own material, when playing live we make it *LIVE*. We had £10 between four of us on our last gig. I don't mind 'coz I am enjoying myself completely during the set. But Mr. Henley would I estimate be getting £15 to himself for one gig, playing "cover versions".

Well, Mr. Henley, I'm afraid I can see right through your type of rip off product, 'cos we are doing something you are not. Now Mr. Henley you can crawl back to your Les Paul Gold Top and your Music Man combo and strum along with the rest of the paranoids and parasites. Don't bother me, and I won't bother youooo. (Rock against Apathy).

*A Mental ErRor,
Paisley*

P.S. IM is smart.

...and back again

Dear Sir: I have just read the letter in your normally excellent magazine from "Country Cousin", about Jean Jacques Burnel, and so called punk rock generally. I must confess that my first reactions were of disbelief and anger. Upon reflection, however, it is one more of pity. The sheer arrogance, ignorance and bigotry of G. Henley is almost beyond belief, especially as he purports to be a musician himself.

Indeed, from the letter it seems that it is G. Henley Esq. who is full of self important whinings (his words). Of course, his argument does rest rather heavily on his definition of "can play". Has it ever occurred to him that thousands of people enjoy punk rock, new wave music, as demonstrated by the numerous record and live performance successes. Such groups have not only helped to re-establish live music, and entertain large sections of the community, they have brought back enthusiasm and energy to what many people believe was a boring, decaying, uninspiring and lifeless music industry.

I have seen many new wave bands, including the Stranglers, the Clash, and the Adverts, and I can assure G. Henley that they play more than two chords, and that they play "in tune". At the gigs I have been to, the audience have always enjoyed the entertainment, and people

We welcome your comments, criticisms and queries. Write to: Letters, International Musician, Grosvenor House, 141-143 Drury Lane, London WC2 5TE. If you have a question you'd like answered by one of our consultants, write to the same address but mark the envelope "Stephen Delft", "Mark Sawicki", etc.

have come to more harm, more consistently at our local "Roxy", which is supposed to be a "respectable" disco night scene.

Traditionally, each new generation with its new culture and hint of rebellion has been criticised, mocked and scorned in misplaced repression and fear. It has always been the way, and it probably always will be. Thus, ex hippies who begged to be allowed to be given the freedom to "do their own thing" have often openly become hypocritical in their criticisms. In the past, there were calls to ban rock and roll. The list is endless. Rather than the all too often bigoted criticisms, I feel that new wave bands should instead be receiving praise for their courage and determination.

It has shaken the music world out of its pathetic lethargy. It has encouraged plenty of kids to pick up instruments and learn to play. Despite G. Henley's comments, it has given enjoyment to many people. It has been a good thing if only in the sense that it provided controversy and discussion. At least it made an attempt at filling an all too obvious void. Finally, in conclusion, I would just like to say to G. Henley, that when it comes to criticism of people using only two chords, playing out of tune - and using banal lyrics and harmonies - he need look no further than to the country and western scene!

*R. Allen
Stafford*

...et encore

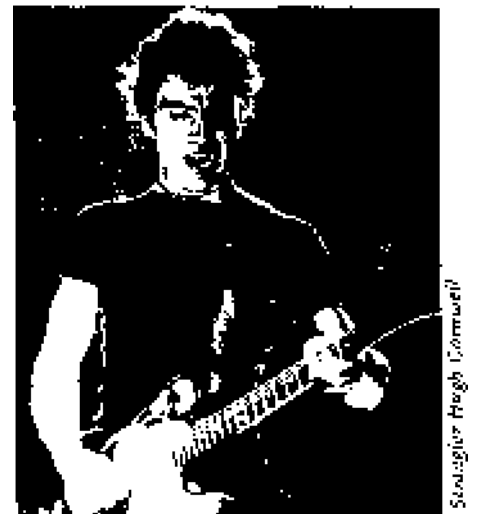
Dear Sir: I'm one of your regular French readers and would like to tell you that I like your magazine, especially the Soundchecks. Something had me really laughing the other day; that letter from the bloke who said that he had been sick after having read the Burnel interview. Well, I happen to like The Stranglers and they're not in the same bag as The Pistols and other Vibrators. This country cousin hasn't understood a thing. Listen to *London Lady*...

Here in the suburbs of Paris we need encouragement from bands like the Stranglers who started from nothing. Making money in this area is very difficult, there's nowhere to play apart from local youth clubs or garages. This discourages most musicians who put their

guitars in the cupboard and try to make money by some other means.

I've just witnessed the split of my third band. no gear, no bass player. Fed up, I'm thinking of learning bass myself, I normally just sing. I've got about 25 numbers going including some of my own. Most numbers are taken from Graham Parker and 999. I'll probably never make any money from all this but just love passing the time musically. Country cousin doesn't know what he is missing! Merci.

*Pierre Corre
Argenteuil
France*



Strangler Hugh Cornwell

Ken comments

Dear Sir: As a government officer I am restricted by certain rules and regulations as regards the manner in which I can answer letters from the public which appear in the Press and magazines.

To Mr Roussard (*Letters* page last month), officially all I can say is: If you have any queries regarding values or importation procedures, you can write to H.M. Customs & Excise, Valuation Branch, King's Beam House, Mark Lane, London EC3.

However, on a personal note, I would like to clarify a few points.

1. The original article, in November, was written for the benefit of musicians importing goods for their own use - i.e. *not* for commercial importations.

2. The cheapest model of Stratocaster leaves the factory in California at even more than your suggested import value of 200 dollars. (I feel that your final import value into the UK of £65 is rather optimistic.) The normal retail price in the USA is 525 dollars, although discounts are available in many USA music stores.

3. I doubt if CBS (UK), or the retail outlets they supply would agree your figure of 100% profit, especially on your discount price of £240.

*Ken Ross
H.M. Customs and Excise*

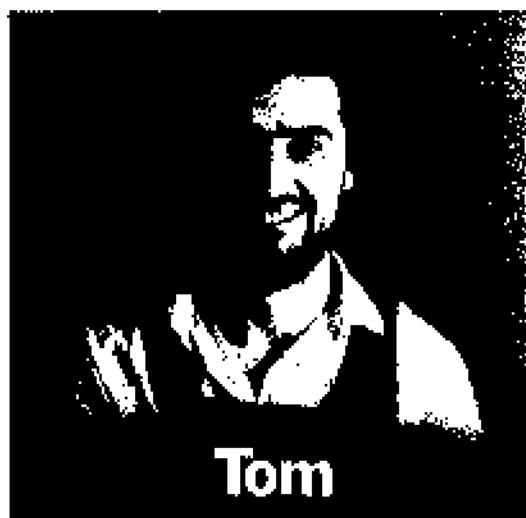
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Everybody wants a piece of Appice!

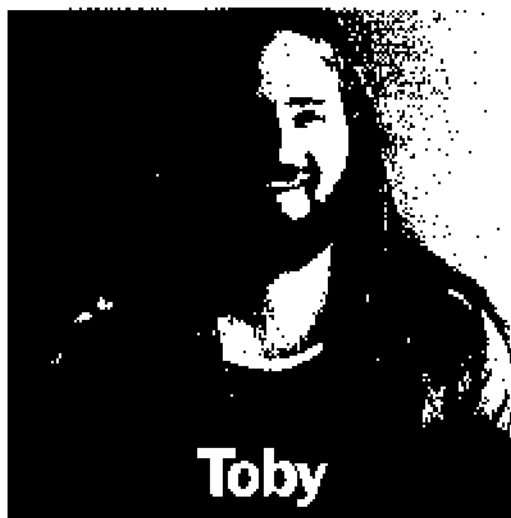
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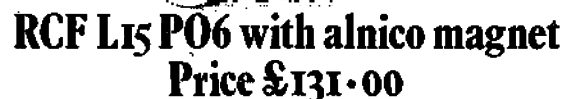
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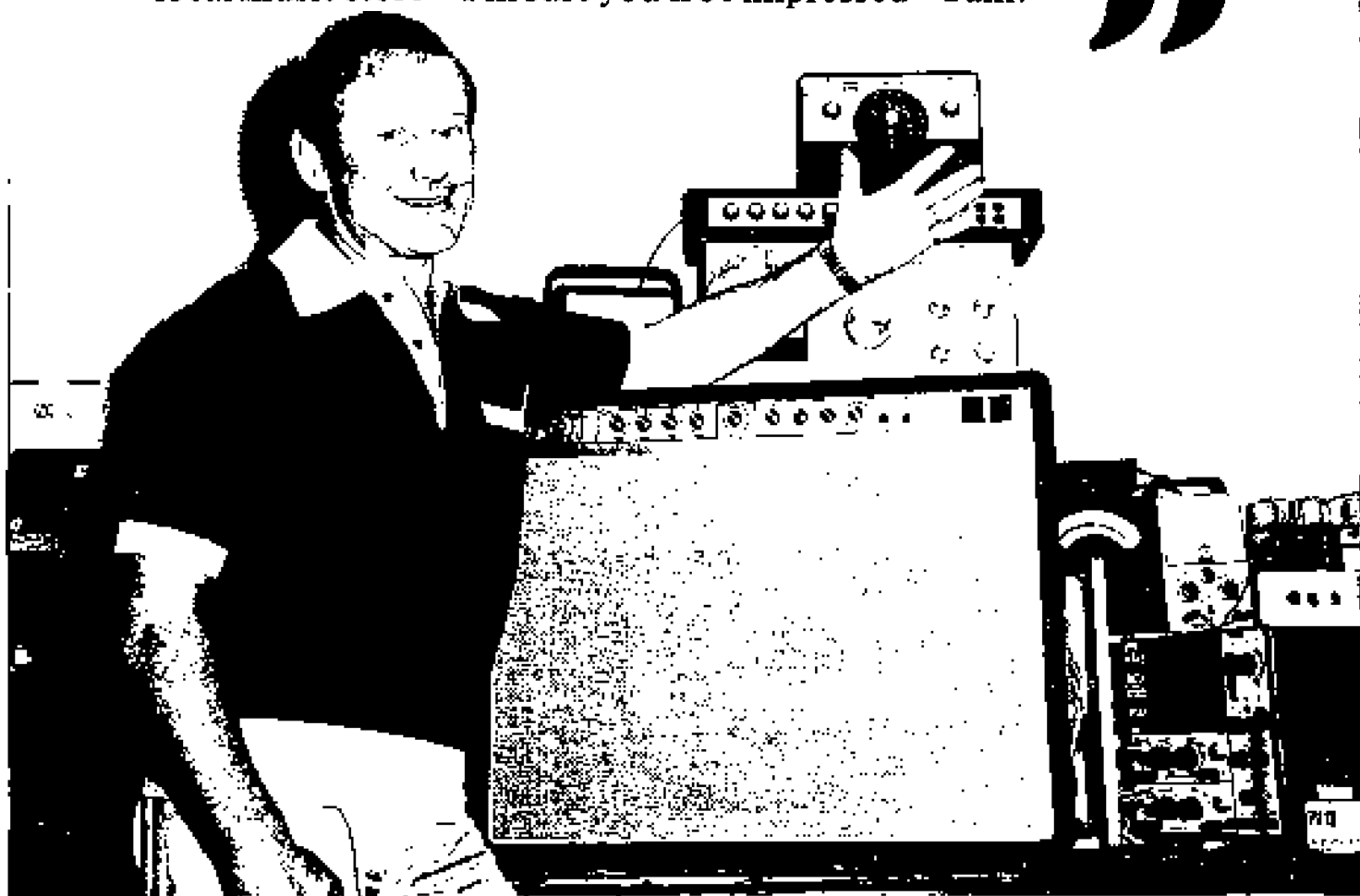
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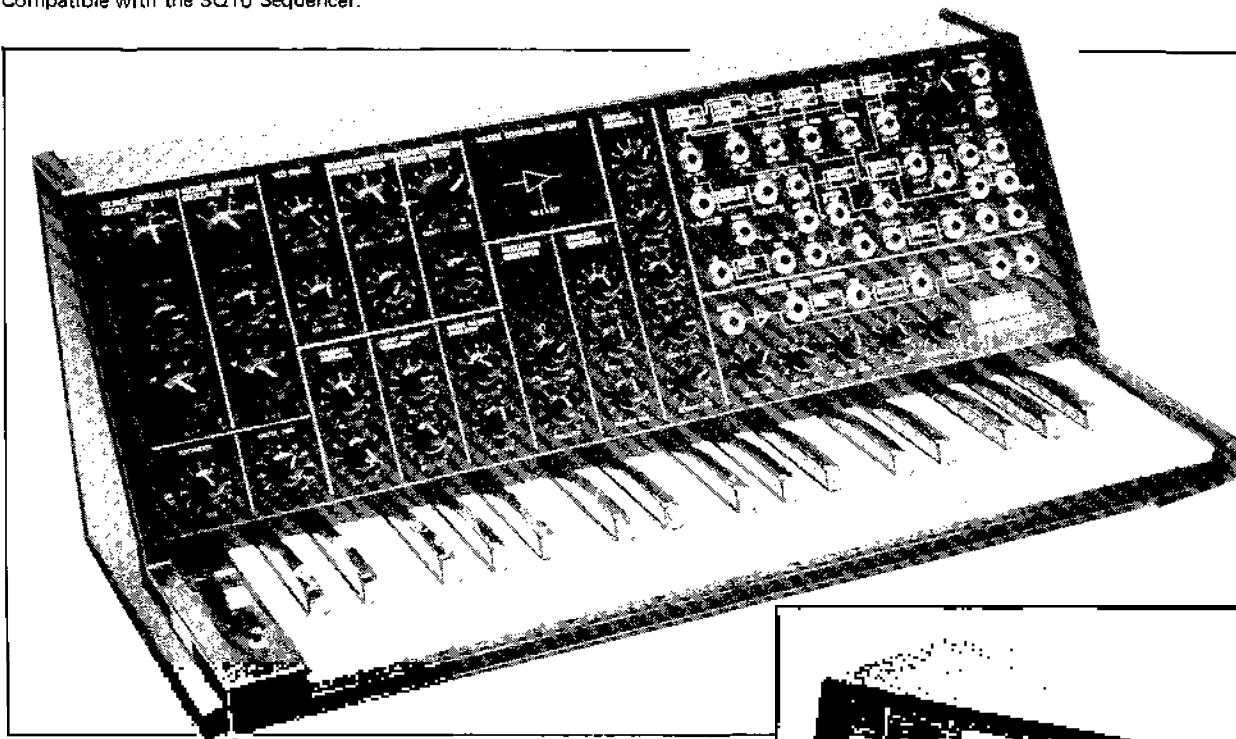
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MS-20 Monophonic Synthesizer

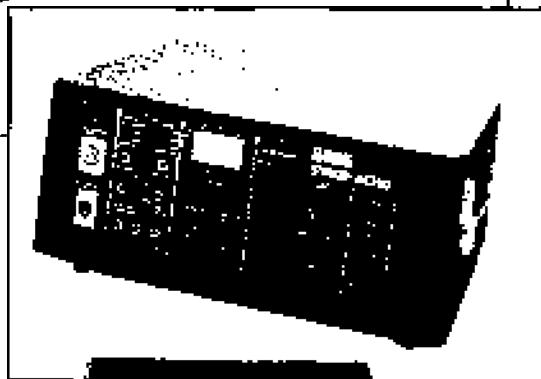
The MS-20 is a new addition to the Korg range. It has a host of features: a C-C 37-key keyboard, two VCFs, two VCOs and sweep filters. Two envelopes generators give independent hold, delay and attack times. The MS-20 has a patching panel with facilities that give envelope generator patching, and inputs for patching in an external signal. Compatible with the SQ10 Sequencer.

KORG



SE-500 Stage Echo

The SE-500 is an echo unit which obtains its effect through a tape loop. The unit has facilities to vary the rate and volume of the echo effect with extra feedback controls and LED level indicators together with extensive input and output routing and switching including balanced XLR in and outputs.



Korg is one of the fastest rising names in the synthesizer business, and over the past 12 months the company have really made their mark by launching products for musicians at all levels, from the pub band to the top professionals.

Korg's proud boast is that they have destroyed the "never in tune synthesizer" image, thanks to the circuitry which guarantees accurate tone pitch. Their constant innovations and new additions to the range keep pace with the most demanding requirements of today's musicians.

The prime example of Korg expertise and technical achievement can be seen in the PS3300 polyphonic synthesizer. This incredible instrument actually incorporates three polyphonic synthesizer systems plus signal mixers and battery of controls which can produce any sound imaginable, letting the musician really be creative.

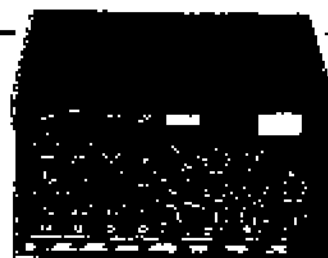
From the same keyboard you can play the three polyphonic systems independently by using the Keyboard Volume Balance controls. An X-Y

control stick is included among the manual controls on the PS3300 keyboard unit to give the maximum range of effects.

The PS3100, whilst retaining many of the new features of the PS3300, is not quite so sophisticated. It features specifically developed integrated circuitry for every note of the keyboard, and one of its most practical benefits when used live is the rapid access to a large number of pre-patched sounds.

Another aid for playing live is the synthesizer's flow chart system and rationally designed patching panel which makes setting up a specific patch simple. Thanks to the unique control panel layout and dependable circuitry the PS3100 allows for consistently reliable operation without sacrificing any creative freedom.

These two instruments serve to illustrate one of the best features of all the Korg keyboard products in that they have "hidden" powers. Their capabilities are infinitely more than their uncomplicated keyboard layout would suggest. This characteristic is true of all the famous Korg products and also of the new instruments which have been added to their already extensive range.



EM-570 Echo Mixer

The EM-570 is another addition to the Korg range and enables the user to link in echo with any other signal source such as from a microphone, guitar, or any other electric instrument as well as tape decks and record players. The echo controls give control over the rate of echo and repeat time. Rear panel inputs are: Phono, Aux 1-2 (for connection of tape decks) and outlets for speaker and external amplifiers. The EM-570 has four channels with independent tone and volume controls.

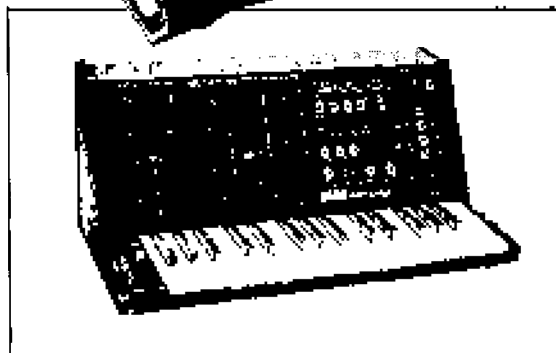
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A UNIVERSE OF SOUND



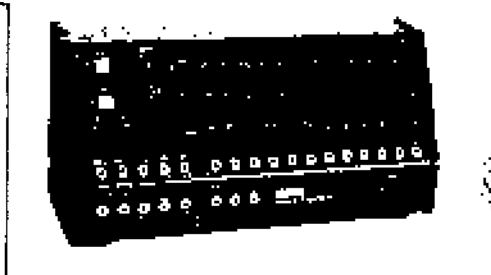
VC-10 Vocoder

The Korg Vocoder is one of the most original breakthroughs to emerge in the short history of synthesizers. The Vocoder is a synthesizer which enables the human voice to be a source into the synth and altered through the playing of the keyboard. You can speak and at the same time accompany yourself on the keyboard and the synth functions will synthesize the pitch of your voice according to the settings you choose, altering the pitch of your voice as if you were a choir singing. Some of the effects you can get include: vibrato, octave changes, chorus effects and a myriad of other sounds which will enable you to make your voice do incredible things.



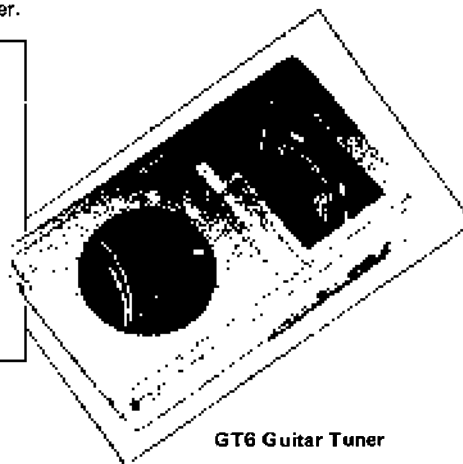
MS-10 Monophonic Synthesizer

The MS-10 is a 32-key synthesizer, equipped with envelope generator, VCO, and Low Pass Filter. A patching panel has a pink noise and white noise output. Portamento control and adjustment of external signal level are just two of the many features of the MS-10. The synthesizer also has a modulation generator controlling the wave form and frequency. Compatible with the SQ-10 Sequencer.



SQ-10 Analog Sequencer

Using the SQ-10 means you can vary the sound the synth makes according to prior selection of pitch, tone and colour. The SQ-10 is a 12-step, 3-channel, 6-mode sequencer. It enables you to select up to 24-steps and a built-in analog mixer lets you mix output voltages from each channel and connect more than one sequencer. Full facilities mean complete control over the mode of sequence, monitored by LEDs which give a visual indication of the channels and steps in a sequence.



GT-6 Guitar Tuner

One of the most frustrating and time consuming things for any guitarist is tuning his instrument. To eliminate this problem Korg have designed the GT-6 guitar tuner for instant, accurate tuning. Small enough to be used with either electric or acoustic guitars, it features both an input jack and built-in microphone. Other features of this remarkable accessory include a built-in meter light for use in dim lighting situations and an output socket which permits audible as well as visual tuning when connected to an amp.

Please send me more information about Korg synthesizers.

Name _____

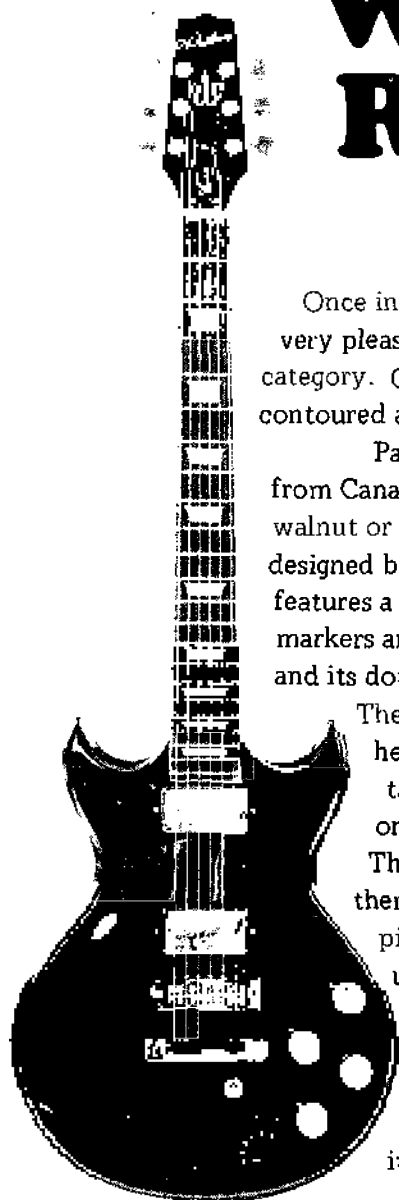
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ROSE MORRIS & CO., LTD. 32-34 Gordon House Road, London NW5 1NE Tel: 01-267 5151

IM 279K

Rose-Morris
KORG

Wild Westbury Range



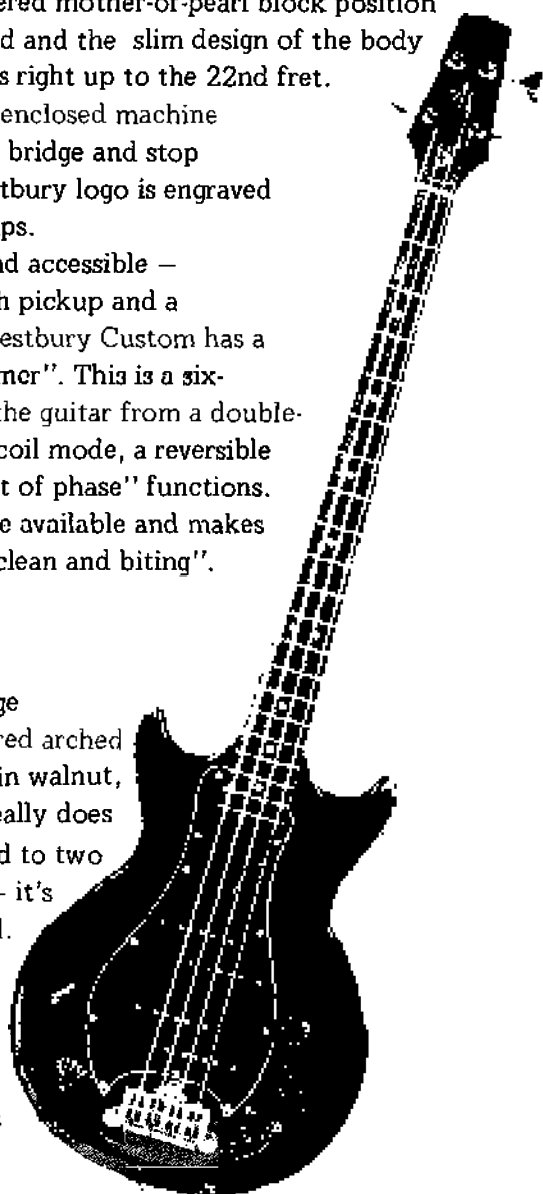
Once in a while, a class line of guitars appears on the UK market and it's very pleasing to see the new range of Westbury guitars which certainly fall into this category. Obviously designed for the professional market, the guitars are hand-crafted, contoured and sculptured and the overall appearance is very handsome indeed.

Particularly interesting in the Westbury range is the Custom. It is constructed from Canadian Hardrock Maple woods and comes in two finishes – a rich, antique walnut or a tobacco brown sunburst. Like all the best instruments, it's obviously designed by musicians for musicians. The three-piece bound hardrock maple neck features a fretboard of African ebony with tapered mother-of-pearl block position markers and side position dots. The top is arched and the slim design of the body and its double cutaways provides for easy access right up to the 22nd fret.

The hardware, which includes close ratio enclosed machine heads, a beautifully designed long-travel bridge and stop tailpiece, are all gold plate and the Westbury logo is engraved on the special design humbucking pickups.

The controls are both straightforward and accessible – there's a volume and tone control for each pickup and a pickup selector switch. However, the Westbury Custom has a unique feature in its "Pickup Programmer". This is a six-position rotary control which alters the guitar from a double-coil humbucking format to a single-coil mode, a reversible combination of both, or to two "out of phase" functions. This obviously extends the tonal range available and makes it possible to play "fat and dirty" or "clean and biting".

There is also a very interesting bass in the Westbury range called the Track IV bass. It features the same type of sculptured arched top, as in the rest of the range, and is rather beautifully finished in walnut, offset by a black scratchplate. The Westbury Track IV bass really does offer the bass player a lot in that the dual split-pickups are linked to two master tone controls. The range of tones available is enormous – it's possible to get a smooth, jazzy bass or a hard, toppy rock sound. The die-cast bridge/tailpiece unit is long travel and is both sturdy and accurate. It allows precision tuning and is simple to adjust for octave intonation. Minimal adjustment only is required to raise or lower the action to the player's own requirements. All these features plus the heavy-duty, precision machine heads make the Westbury Track IV bass well worth checking out.



Please send me more information about the Westbury Range

Name _____

Address _____

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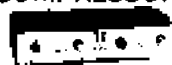
8 TRACK

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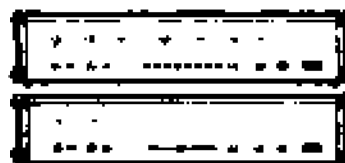


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8 TRACK



MODEL 5 8in-4out



MODEL 3 8in-4out



MODEL 2 6in-4out

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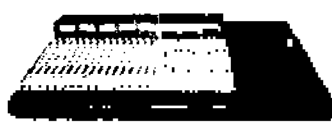
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Letters

Thanks Bill

Dear Sir: I have no profound offering for other IM readers, no query for you to help with, but may I take up a little space in your excellent publication to offer thanks to Bill White and his crew at Rock City, Newcastle, for their help during our recent changeover to a completely miked-up system.

During the last few months we have compared, tried and rejected various mixing decks, bins, echoes, direct-inject boxes etc.; we have haggled for discounts, held out for best terms, hinted for extras and then changed our minds!

We have spent hours detailing our problems, and during all this time we have received patient advice and a genuine interest that we should get the system that is right for us. Quite frankly, most shops would have been sick of the sight of us, but instead we were made to feel welcome.

So, quite simply, thanks.

*Bill Dunn, on behalf of
all the lads of Smylie
Cramlington
Northumberland*

Burns fan

Dear Sir: I thought that I would write, in the hope that together with all the Burns guitar fans who must have written in response to "Bring back the Bison", I can convince you to review these collector's guitars.

Strange it seems that some people never rated Burns guitars at all but look at who has played them: (We have to turn the clock back a bit here!) The Shadows, The Searchers, The Tremeloes, etc, etc... and just about any young guitarist of the Sixties must have bashed a good tune out of one.

I have a "Marvin" which I spent 11 years looking for, and the matching "Shadows-Bass" which used to belong to the Enid: I went all the way down to Cambridge for the bass and up to Leeds for the "Marvin" to steal it off an old school mate of Hank's, for £100 and I wouldn't part with it for £1,000.

I consider that the pair must be a useful hedge against inflation, and more to the point they are *good guitars*. The Marvin stays in tune and sounds really sweet, unlike the Strat which it is apparently a copy of. CBS could take a leaf from Jimmy Burns' book!

The Enid bassist had committed sacrilege, by performing a fret-ectomy on the fingerboard, an operation which I have painlessly reversed.

I have put phase switches on both guitars just because it's easier than jamming the switch, but otherwise both are in their original paint, albeit slightly less

than showroom and complete, even down to the truss rod key!

The burning question of the year appears to be: How much is a "Marvin" worth (or a Bison for that matter). In *Exchange and Mart*, almost next to each other I saw one white Marvin offered for £285 and one of undisclosed livery for £65. I rang after both, and both had gone.

Another item which has vastly differing price tags pinned on it is the old "Double-Six" 12-string.

I saw one in a Birmingham Guitar Shop for £75 and another, in better nick in a nearby junk (secondhand) emporium offered at £25. More recently there was one described as "mint" in Melody Maker for £200.

Not on any of the above occasions did I have the necessary funds so I am still after one, and my quest for a Bison continues...

Printing this will probably assist in putting up the price of my eventual purchase, but its all roundabouts and swings, innit?

*Doug Brock
Sutton Coldfield
West Midlands*

P.S. Anybody got any Burns spares?

Oops

Dear Sir: In an album review in the January issue of IM, Jeff Pike asks "Can Ray Charles really be 56?" The answer is, no, he can't— not if he was born on 23rd September 1932, as my reference books tell me. I agree with Jeff Pike that Ray has more life and energy than most disco



Ray Charles (46)

singers, but I don't think he would enjoy having 10 years added on to his age.

*W. McLeod
Leyton
London*

It just goes to show that even editors are human. Jeff Pike apologises unreservedly for his mathematical incompetence to Ray Charles and all his fans.

What is soft?

Dear Sir: With reference to Mr. Hennigan's letter concerning the use of the term "software" in the January '79 issue. May I bring him to re-read his paragraph which I quote, "In computing terms, the software is operating systems, compilers, assemblers and possibly user programmes, not the type on which they are stored or the paper on which they may be printed."

This is true, but note that operating systems are tangible and exist, software cannot, therefore, be an "intangible thing" and would therefore not be the music, etc. This would be the same as saying that the electrical pulses are the software.

In fact software are any components which affect directly the electrical signals. A compiler would be a group of components which all directly affect the signals. Thus it would be correct to presume tapes to be software as the tapes convert the signals for storage purposes.

NB: in referring back to the quoted paragraph, a user programme can often be a tape loop or cartridge and user programmes are indeed software in computing terms.

*R.C. Stanbrook
St. Albans
Herts.*

Wealthy West Coast

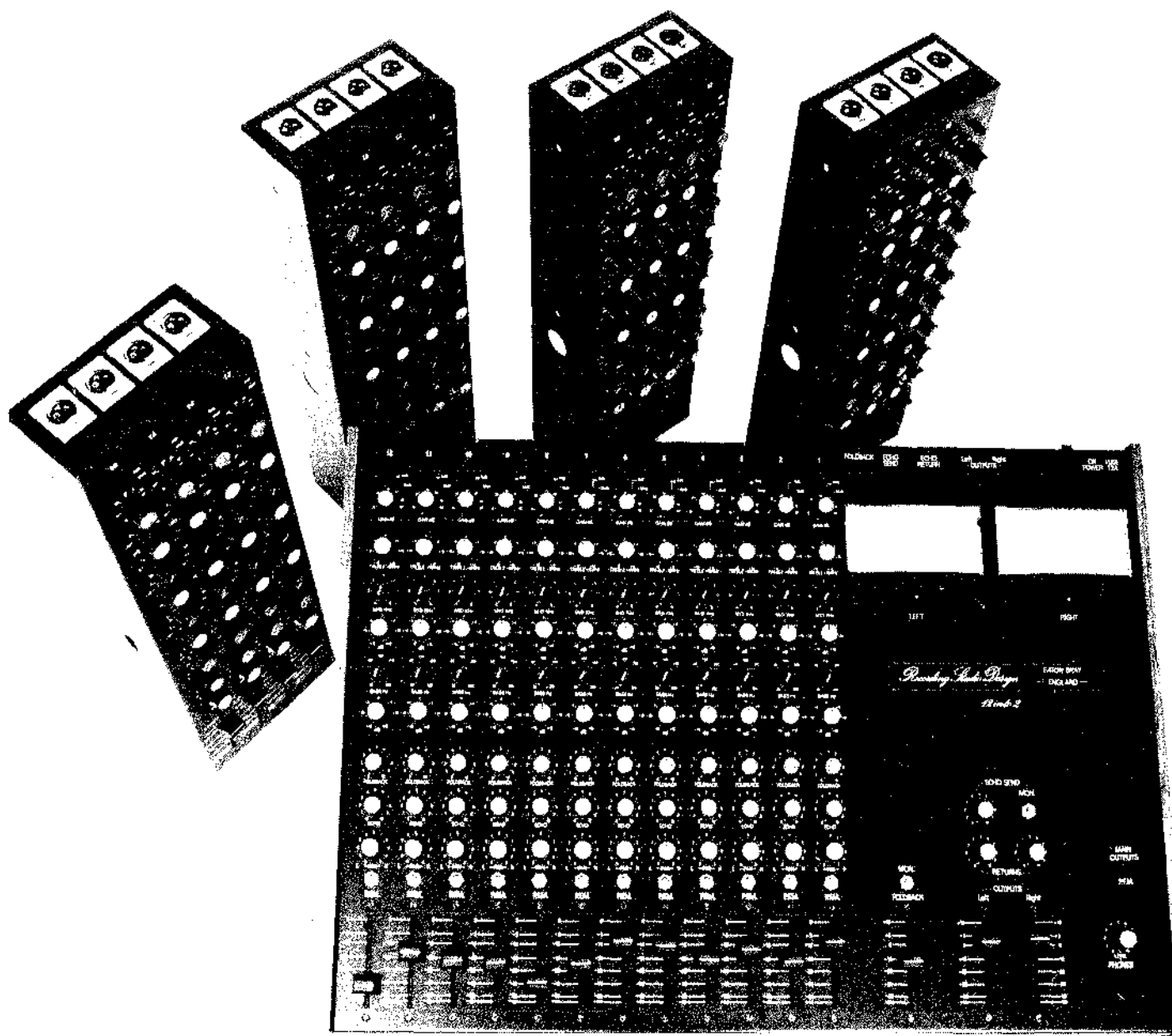
Dear IM: Just a short note to say how much I enjoy your magazine. The English point of view is most refreshing as opposed to the American. In the US, it is assumed that all musicians have scads of money to toss away on this and that or have rich daddies to satisfy their every whim. Of course the exact opposite is true in most cases and the poor musician is always scraping up a few bucks for picks and tubes (valves) and strings, etc. ad nauseum even here in fabulous, wealthy, California. It gives me encouragement to realize that others suffer similar burdens and problems but do so with a sense of humour and love what they are doing in spite of it all.

Keep up the good work!

*Raymond R. Hemming
San Francisco, Ca.*

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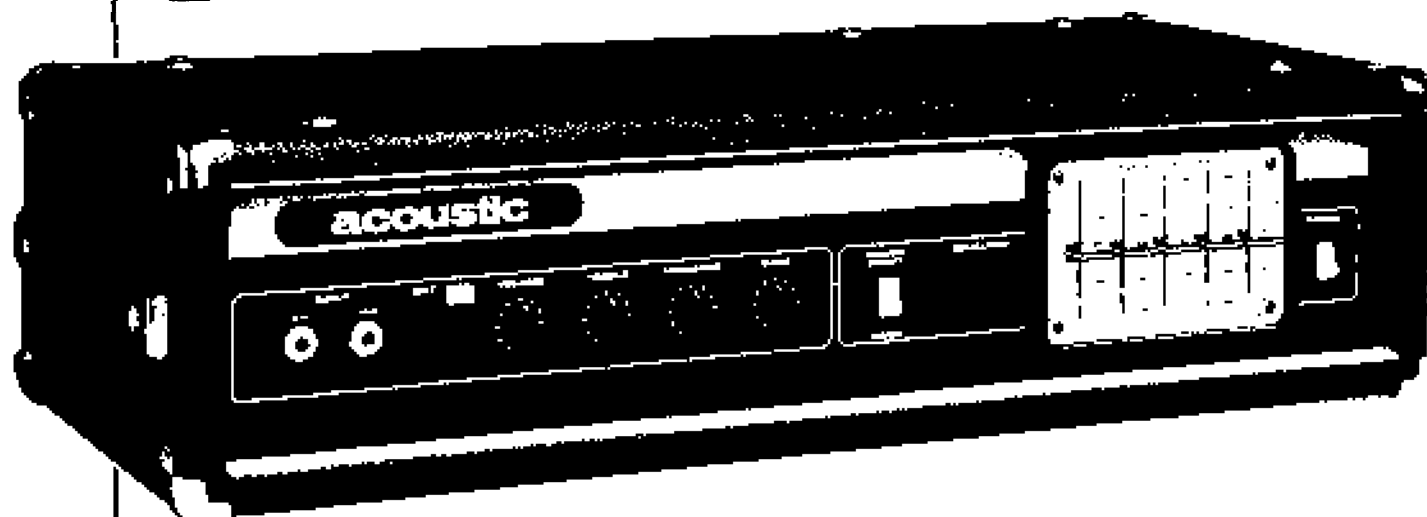
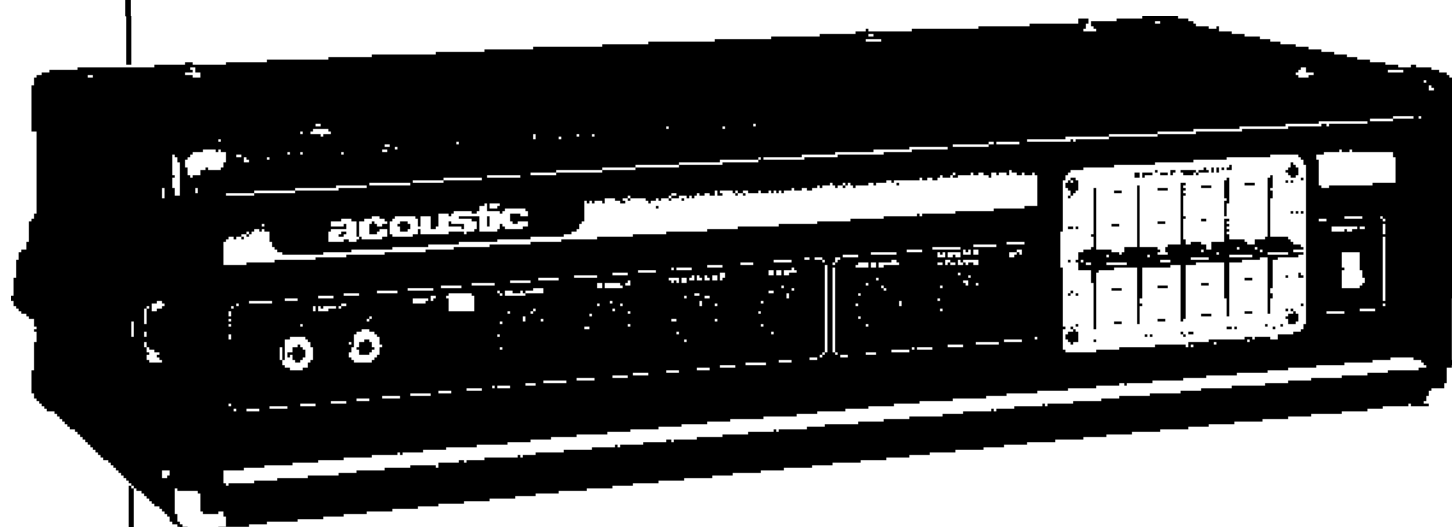
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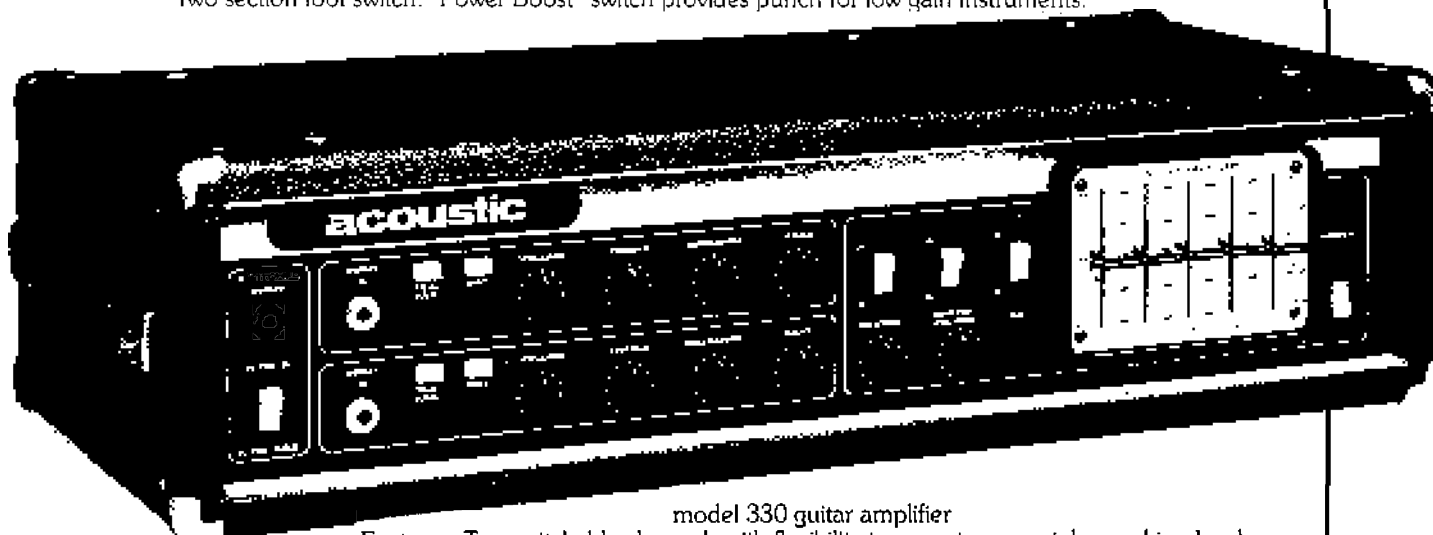
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model 330 guitar amplifier

Features: Two switchable channels with flexibility to operate separately, combined or be switched between the two. Footswitchable 5 band graphic equalizer. Six in/out preamp jacks allow patching of effects between preamp and power amplifier for optimum performance and give access to Channel A, Channel B or both combined. Treble, midrange, and bass controls. Input pad and bright switch on each channel. LED indicators note power, reverb, EQ, channel selection and master volume status. Four section foot switch. A deep reverb and exclusive "Gain Compensated" master volume may be assigned to either channel and switched by foot.

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Loughborough: Loughborough Music Centre, 18 The Rushes.—0509 30398 or 218020.
W. Midlands: Modern Music, 30 Castle Hill, Dudley.—0384 55293.
Newcastle Upon Tyne: Kitchens of Newcastle, Higham House, New Bridge Street.—0632 22965.
Newport: Sound Centre, 107 Commercial Street.—0633 66814.
Southport: Rushworths Music House, 42 Eastbank.—0704 40383.
Tredgar: Sound Centre, 91 Queen Street.—049-525 2203.



Buzz

What's happening in the music biz

Cobham clinic

Superstar drummer Billy Cobham is holding his first ever British drum clinic at the Young Vic theatre in London on March 2nd. The clinic is being organised by Summerfields of Gateshead, who distribute Tama drums, in conjunction with the Jazz Centre Society.

The two-and-a-half-hour clinic should prove ideal, being a modern theatre seating 450 people in a circle around a central stage. Billy will be demonstrating many of the latest drum innovations including Octobans, gong synthesizer, new DS200 Tama drum synthesizer. Tickets are available at £1 each from the Jazz Centre Society, 35 Great Russell Street, London WC1. (Enclose a SAE)



Music Men presented

IM's Music Man competition proved one of the most popular we have run, with hundreds of entries for the £1500-worth of equipment. The prizewinners were invited to IM's Drury Lane offices to be presented with well-earned rewards.

Winner of the first prize, a superb Music Man Sabre guitar, was Valentino Licinio from Bridgwater in Somerset. Valentino has been playing guitar for about 12 years and plays in a band called King Harry. They have their own studio set-up in the West Country and have just produced their first album.

The competition was the first that Valentino had entered, and he did so purely because of the quality of Music Man equip-

ment which was offered. He was very impressed with the Sabre, which has a one-piece rock maple neck, special Schaller designed machine heads and two double-coil humbuckers. Valentino will be using the guitar for his recording work immediately.

Our second prizewinner, Leo Lewis from Bournemouth, was unfortunately struck down by the 'flu but he sent a worthy stand-in along to collect his prize in Peter Brown. Peter also hails from Bournemouth and plays in a local outfit called Atlantic.

Leo's prize was a Music Man 65 watt combo, the 112RD-65, (as glowingly reviewed by Dr. Mark Sawicki in *IM* last month). Peter explained that this competition was the first his friend had entered -

with his prize which would suit the wide variety of gigs he usually has.

On hand to present the prizes were Rod Bradley, director of Strings and Things, distributors of Music Man in the UK, Ray Todd, Strings and Things sales office manager, and IM's Promotion Director, Malcolm Green.

Reno rock the Midlands

Reno are a five-piece band who have been gaining a considerable reputation throughout the Midlands with an excellent brand of country rock. Formed just two years ago the band comprise Paul Price (pedal steel, electric guitar, fiddle, banjo, mandolin and vocals), Peter Brazil (guitar, accordion and vocals), Mick Broadhurst (bass and vocals), Offie Oliver (guitar) and Dave Simpson (drums, harmonica and vocals).

They have already been featured on Birmingham's two local radio stations, as well as Radio One sessions. Live gigs invariably attract audiences from far and wide, and hopes are high for a recording deal in the near future. The group can be contacted on 0535-606352.

Survivor special

Another band from Crossroads country, Survivor hail from the West Midlands and came together six months ago from the fragments of already established local bands.

The line-up is Anthony Taft (flute), Mark Whitehouse (keyboards), Andy Badman (guitar), Paul Fox (drums and percussion) and John Goodwin (bass). They play all original material. Anyone interested in booking the band can ring Andy at Lye (038 482) 3500.

Clarinet competition call

The first ever National Clarinet Competition for young people is to be held this Spring at the Ashington Festival in Northumberland. Aimed at musicians



Left to right: Rod Bradley, Valentino Licinio, Ray Todd, Peter Brown, Malcolm Green

and he had not told anyone about it until he had won. Leo is also a guitarist who gigs locally and was said to be highly delighted

between the ages of 17 and 23, the competition is offering prize money of £300 plus the chance of engagements with the Northern Sinfonia.

The competition will be held in two parts: the preliminary stage April 16th, 17th and 18th at the Sinfonia in Newcastle upon Tyne; and the final on May 16th during the Ashington Festival. Applications for entry and full details can be obtained from the Leisure and Publicity Department, Wansbeck District Council, Wansbeck Square, Ashington, Northumberland. Closing date for applications is March 1st.

Champion

"I wonder what ever happend to . . ." is the phrase which has provoked more discussion, argument and controversy among rock fanatics than anything else. For anyone who was wondering what happend to ex-Colosseum and ex-Humble Pie guitarist Clem Clempson, we can put your mind at rest.

Clem has gathered together a collection of well-known names and faces including Canadian Garry Bell on lead vocals and occasional rhythm guitar, Damon Butcher on keyboards, Willy Bath on bass and Jeff Rich on drums to form a band called Champion. They have their debut album out on Epic records, called simply *Champion*, and will be doing a whole string of gigs up and down the country



Champion

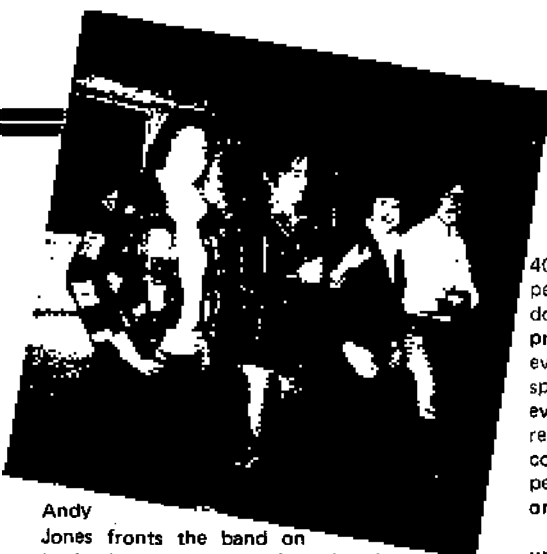
Piano poet's recital

For all those who thought that a piano was merely an instrument for making music, Bruce Adkins will make you think again. For Mr. Adkins has done for the piano what Wordsworth did for a host of golden daffodils. He wrote a poem about it.

He called it "Love Affair" and it won first prize in *The Times* piano poetry competition and netted Mr. Adkins, who lives in Paris, a cheque for £50. Stand by for Odes to the Organ!

Biscuit Band to break?

Tunbridge Wells is an unlikely spawning ground for a rock band, but a local outfit called the Biscuit Band could well shatter that soporific image. Their approach owes much to the musicianship of the early Seventies — without, they claim, its self indulgence and nebulous ideas.



Andy

Jones fronts the band on lead guitar and vocals, John (Boy) Walton and Steve Wright play drums and bass respectively, while Andy Neat, their latest Biscuit, takes second lead and will shortly be working keyboards into the set.

The band have a series of South Coast gigs lined up for the early part of this year and intend doing London dates as soon as possible. For bookings contact Steve on Tunbridge Wells (0892) 40420.

Daring in Dortmund

Everyone agreed it was a brave thing to do. For five days the German music industry allowed the public complete access to the most expensive musical equipment available. Schoolchildren could select a double-neck Gibson and wander into a sound room, plug into a Fender Twin Reverb and let fly. It was an amazing sight and it says a lot about the industry.

The "Sound and Musik" Festival at the Westfalenhalle, Dortmund, was an experiment. A dozen musical instrument makers and their distributors steeled themselves and offered samples of their most precious goods for display and trial. The festival was the realisation of a dream for Thomas Paiste (of Paiste cymbals) and it was the culmination of much effort over the last three years.

"I've always believed it is possible for competing firms to join together to promote the whole idea of music to youth," he said. "We want to show young people how much fun they can have with music and we're really in competition with things like motorcycles and cameras. This exhibition has proved it's possible. All the exhibitors here have offered their products for use with others and have even loaned their demonstrators to rival companies."

The Festival was, however, much more than just an exhibition and demo. Whilst the goods were displayed and tried on one level,

The main display area at the Westfalenhalle



40 amateur groups from all over Germany performed in quite a large hall one level down. These groups had submitted tapes for pre-judging and the finalists slogged it out every day for the honour of appearing on a special album made during the course of the event. One of the additional perks of reaching the finals was that each musician could select any item of his choice to perform with. The array of equipment used on that stage was incredible!

Each evening an even larger concert hall upstairs was the venue for some of the biggest names on the international rock circuit, Muddy Waters, Soft Machine, Wayne County, SSB, Nina Hagen, Jan Akkerman's Solution and many more played for large audiences admitted at subsidised rates. German TV covered the concerts each night and the organisation was remarkably impressive.

Jazz is harmony

The Jazz Centre Society have announced a series of courses for this year as part of their expanded programme of jazz education. The ball starts rolling with a six-week Jazz Harmony lecture series beginning on February 6th. This is followed by an intensive four-day Easter Instrumental Clinic from April 17th-20th, and during the summer a more comprehensive curriculum will be offered during the annual two-week jazz course.

Musicians may attend any or all of these courses, details of which can be obtained from Barbara Ind, Jazz Centre Society, 35 Great Russell Street, London WC1; tel: 01-580 8532.

Stolen Instruments File

A young Brazilian musician will have plenty to remember his visit to Britain by, because while staying in London he had his brand new Polymoog stolen. The synth was taken from a brown Citroen parked just off the New King's Road, SW6, in the early hours of Tuesday, January 16.

The serial number of the instrument is 3501 and neither the mains cable nor the logs were taken. It was not insured and the unfortunate musician has had to postpone his return to Brazil because of the theft.

Anyone with information should contact either Fulham police or Barbara de Castro on 01-878 1665.

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Both shows begin at 7.30pm in the Ullswater Suite, Portland
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Bring your friends for an evening's great entertainment!

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Enclosed is £1 for a T-shirt/
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T-shirt/sweat shirt

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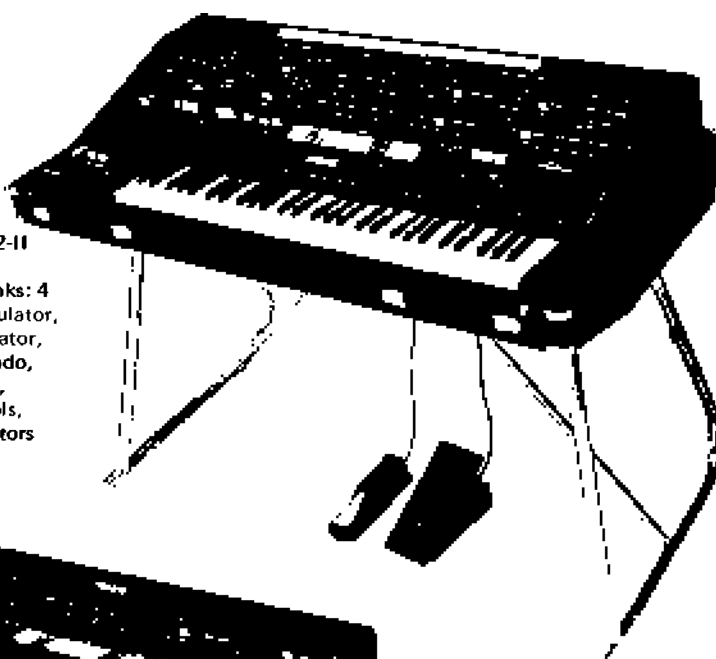


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YAMAHA

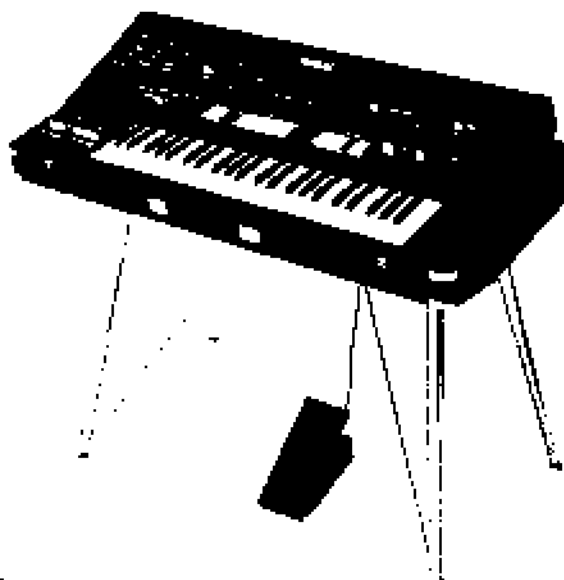
CS-80 Synthesiser

Polyphonic (8 notes x 2 ch)
Keys 61 (C-c4)
Tone Selectors: ch. I-II, ch 2-II
Programmable Section
Levers: 24 x 2, Memory Banks: 4
Effects Controls: Ring Modulator,
Touch Response, Sub Oscillator,
Sustain, Portamento/Glissando,
Slide Controller, Resonance,
Brilliance, Keyboard Controls,
Tremelo/Chorus, Feet Selectors



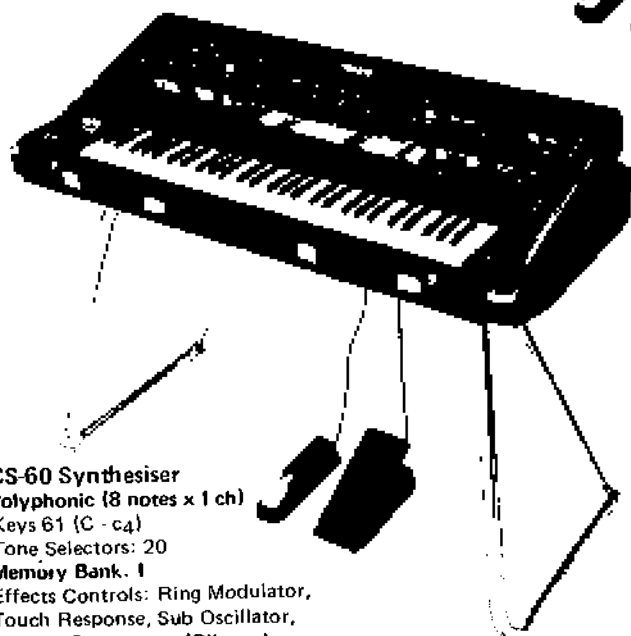
CS 50 Synthesiser

Polyphonic (4 notes x 1 ch)
Keys 49 (c - c4)
Tone Selectors: 13
Programmable Section Levers: 20
Effects Controls: Ring Modulator,
Touch Response, Sub Oscillator,
Sustain, Portamento/Glissando,
Resonance, Brilliance,
Transposition Selectors



CS-60 Synthesiser

Polyphonic (8 notes x 1 ch)
Keys 61 (C - c4)
Tone Selectors: 20
Memory Bank: 1
Effects Controls: Ring Modulator,
Touch Response, Sub Oscillator,
Sustain, Portamento/Glissando,
Slide Controller, Resonance,
Brilliance, Keyboard Controls,
Transposition Selectors



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CS-30 Synthesiser

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VCO-1, VCO-2, VCF-1, VCF-2,
VCA-1, VCA-2
Ring Modulator,
Sequencer,
Envelope Generators,
EG-1, EG-2, EG-3
LFO



CS-10 Synthesiser

Monophonic
Keys 37 (c-c3)
VCO, VCF, VCA,
Trigger Selector (external/single/multi)
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A breakthrough for British musicians

The London Synthesiser Centre in Manchester

Big news for British musicians! The London Synthesiser Centre will soon open its new store in Manchester. At last musicians won't have to trudge down to Euston if they live above Birmingham. Now they'll only have to find their way to Manchester for the best deal available. The London Synthesiser Centre was Britain's first shop specialising in nothing but synths.

Opened in 1977, the Centre rapidly became a meeting point for professional and semi-professional musicians and as well as enjoying a relaxed atmosphere musicians realised that they could try out almost any synthesiser on the British market. No where else was that possible.

The musicians had been neglected for years. Other music stores never really understood synthesisers and they didn't want to go to the bother of trying to explain instruments they didn't know much about to musicians they felt didn't want to know.

The London Synthesiser Centre has proved the opposite to be true!

In the last two years British bands have caught on to the synthesiser. The manufacturers have at last produced good monophonic, duaphonic and polyphonic synths and with the bulk buying power and "BUY DIRECT" policy of the LSC they are available at low cost.

Pammi Singh-Luther is the man who realised that contemporary musicians need the synthesiser. Pammi has been a musician for eight years and he has long been an expert on Indian tabla drums, but has a lot of fun surrounded by the world's best synthesisers. Pammi has been working towards a particular goal for the last six months. His personal ambition is to build the best service centre for synths in Britain. Pammi is helped at the LSC by Steve Paine and Ian Blake, both keyboard experts.



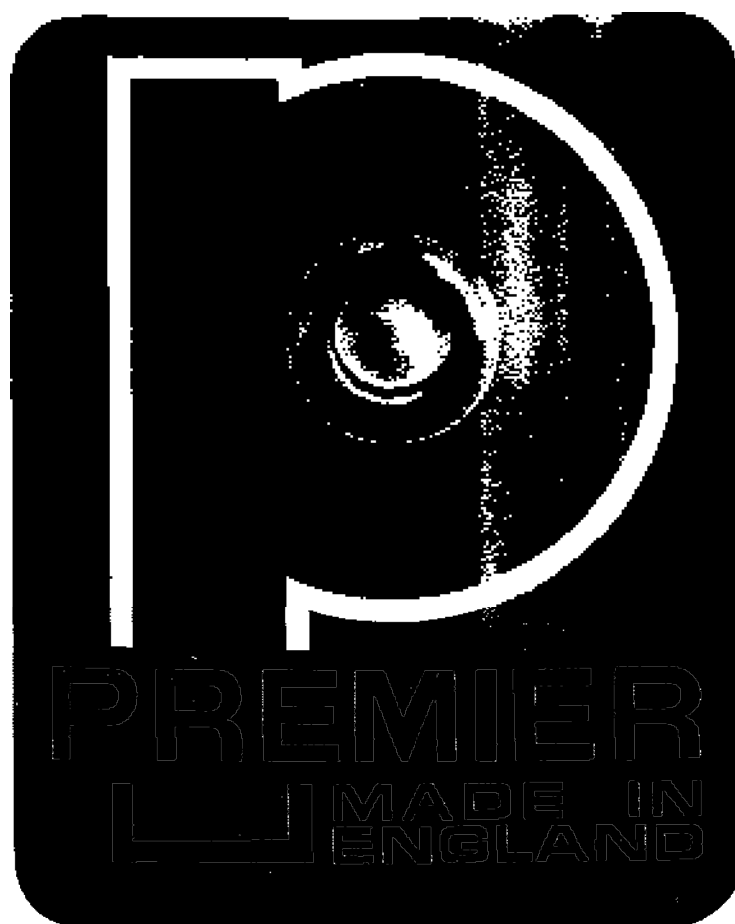
Pammi Singh-Luther

Today he spends all his time running the London Synthesiser Centre and the sister store the LONDON AMPLIFICATION CENTRE. Like the LSC the Amp Centre concentrates on offering the widest range available. Once again the accent is on buying direct and musicians are rapidly coming to regard the LAC as the place for amps of all descriptions.

Service has been a by-word at both the LSC and the LAC since they opened. Customers are helped to relax in the knowledge that if any problems occur, the stores will sort them out promptly and efficiently. But Pammi has been working to offer even more. Eventually he hopes to be offering special modification to certain models of synths and "souping" up performances by "tuning" electronics. His knowledge of electronics is good but the service department is run by fully qualified and skilled engineers who can work minor miracles with seemingly impossible faults.

The London Synthesiser Centre, and the Amp Centre can be summed up very easily: SPECIALIST SHOPS OFFERING FIRST CLASS SERVICE COUPLED WITH THE LOWEST PRICES. If it sounds too good to be true, pay us a visit and see for yourself.





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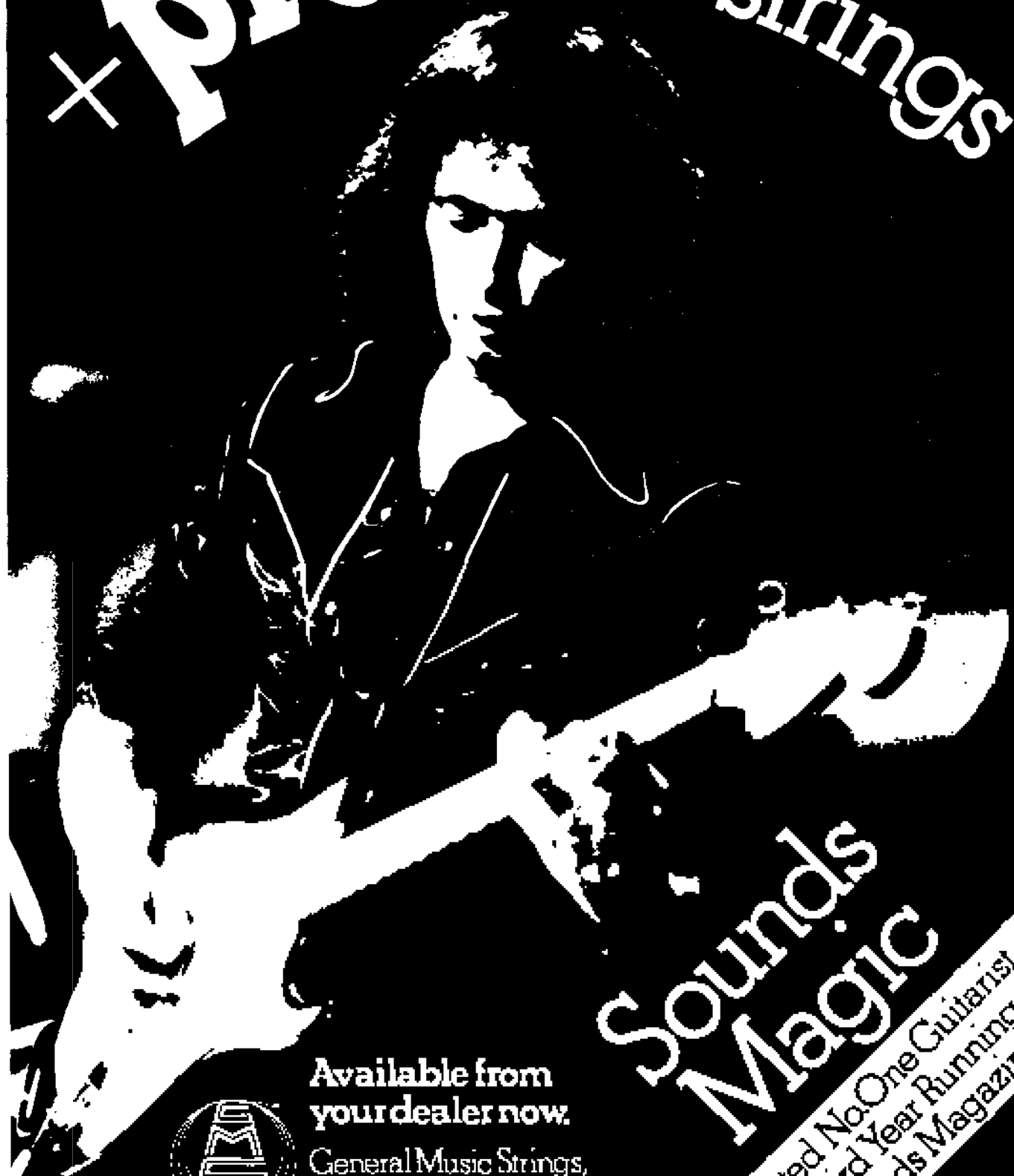
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Gerry Cott

Adam Sweeting meets a Boomtown Rat...

If you didn't wear an anchor in your ear and call yourself Johnny Vomit and the Pukes, you were a dodo band," said guitarist Gerry Cott, recalling the time when the Boomtown Rats first arrived in England off the Irish mailboat. The NME said the Rats had a "pop sensibility", a double-edged comment at a time when pop groups were definitely last year's model. But in the year and a half that the Rats have been releasing records, they've notched up an astonishing string of successes, culminating in *Rat Trap* reaching the top of the singles charts.

Throwing street credibility to the wind, the Rats have made no bones about wanting success. Frontman Bob Geldof told the music press that they'd like to be bigger than the Stones. Gerry Cott won't disagree.

"We write and record songs that, essentially, people like. We owe certain influences to the Beatles and Stones and people like that, and we're aware of melody and what makes a good single. A record must be vibrant and exciting and fulfil all it's supposed to do if it's going to be exciting for us to play."

Pop sensibility?

"I dunno specifically what the NME meant by that, but to me we were less elitist and we were doing what we wanted to do and everything had to be fast. We went our own way and people liked what we did. When we did the first album and we started playing in England there were very strict ground rules as to what you could and couldn't do. But over the last year I think a lot of the bands have decided to go their own way and be judged on going their own way."

The Boomtown Rats were born out of an inert Dublin music scene. Drummer Simon Crowe and the other guitarist Garry Roberts were the only two members who had played in any sort of band before —

a surprising fact in the light of the strength the band achieved on their record debut. Simon and Garry played in the same school band, while Gerry Cott and candy-striped keyboardman Johnnie Fingers had known each other for years but had not played together. Gerry described the musical wasteland of Dublin.

"Dublin, when it's inactive, is totally dead for rock 'n' roll. Totally dormant — nothing happens. There were bands around, but it was all country rock and jazz rock. There was no rock 'n' roll band like we thought there should be, so we started out to enjoy ourselves on a Saturday night. It was either that or go and see a country rock band or listen to muzak in a pub."

The Rats put in a lot of hours playing in Ireland before coming to England. According to Gerry, they played everywhere they could, in technical schools, colleges and all sorts of places where it hadn't occurred to other bands to play. He attributes the tightness of the first album to this thorough groundwork. The band's live experience transferred strongly to disc.

"Up to now we've always recorded with the band as a whole, all in the same room," he revealed. "Sometimes that creates problems with overspill, but there's no substitute for seeing the drummer and there's no substitute for seeing the singer when we go through a track. The vocals will be put on again later but you use a ghost vocal for the guide. We set up in the studio pretty much like we set up on stage, the same sort of orientation. I think for us that's the way to record."

Gerry Cott isn't the only Irishman I've met who can tell stories till the cows come home, but he's one of the best. At this point he recounted one of the Rats' early experiences in a recording

studio with an unnamed producer.

"This producer was well into the shape of what he was doing but he didn't really know what he was doing. He came in and told the recording engineer — who really knew what he was about — to set the tone controls and so on. Then he said, 'OK lads, sit back. EQ the Dolbies and DI the congas.' Direct Inject the congas!"

The point of this tale is that Gerry and his co-rodents have little time for studio technobaffle. Like most of the newer bands, they go for a live, exciting sound. That's why they've used Robert John Lange as producer on both their albums to date. Lange, well known for his work with Graham Parker, wins high praise from Gerry.

"Mutt -- that's his nickname — is very much a 'feel' man. In order for it to sound good it's got to feel good. He gave us a great groundwork in the use of a studio and how a studio can help. He showed us how you can make a studio perform and how to get the best out of the songs and arrangements. He was able to combine a father-figure type thing in the studio, because he's done it all before and knows what he's doing, with an ability to stand back when the band wanted to express themselves. If the band had a particular idea it was placed above all other considerations.

"I certainly enjoyed doing the two albums with him, and we've no reason to complain. Christ, we had a first hit album, we had a second hit album and five hit singles. What else do you look for in a producer? Though maybe as time goes on you look for more than just one producer, because they are an influence. They can be a good or a bad influence, and in Mutt's case it was certainly good."

When I spoke to Gerry Cott, there were no plans either to use Lange again or to replace him with somebody else. For their third album, the Rats will get together and see how they feel before nominating a producer.

"All the time, I listen to records for the sounds that are on them. I don't mean gimmicks, but just how the whole thing comes across as a sound — what makes a good production good or a bad one bad. From my own point of view at the moment, there's nobody else I have in mind as our producer. Maybe some of the other guys will have strong ideas about it."

Obviously the band's record company, Ensign, have no reason to moan about the booming

Boomtown track record. As a result, the band have a lot of freedom.

"We have full control over our producer, and we have full control over our whole recording set-up, like where we want to go to record. It's not a unique situation by any means, but several bands are restrained in those areas by the record companies."

Despite the Rats' bumptious image and enviable reputation for superligging, Gerry has a no-bullshit attitude towards music, both his own and music in general. The band's first album, released in the midst of a spate of fast and frenzied punk records, heretically found room for a slow number like *I Can Make It If You Can*.

"Each song is judged on its own merits," Gerry maintains. "We don't play songs that are trendy or supposedly trendy. If anything's a good rock 'n' roll song, it'll be a good rock 'n' roll song now or 10 years ago or 10 years hence.

"In some of the places we played in Ireland, it's like three songs and then your next dance please. We decided that if the fellas and chicks wanted to get off with each other we'd have to play something they could get off to, y'see? *I Can Make It If You Can* was the slow song we used to play."

Talking of Ireland, what, I asked, was the connection between the Boomtown Rats and Thin Lizzy? Students of sleeve-credits will have spotted the nod to the Lizzies on the Rats' first album. Gerry is amused.

"People constantly ask us that. The connection essentially is that Brian Downey, Lizzy's drummer, and Phil Lynott are two Paddies, right? So we're Paddies, and we make no apologies for the fact that we're Paddies."

Not that there's much you can do about it . . .

"Right. Phil and Brian gave us advice, 'cos they've had a hell of a lot of experience with recording ►►





Gerry says 'In my opinion the Aria PE1000 is the best guitar on the market — bar none. Latest album "A TONIC FOR THE TROOPS", Ensign Records.

ANDY SUMMERS — 'THE POLICE'



Andy uses the Aria PE1000 and PE650. Latest album "OUTLANDOS D'AMOUR", A&M Records.



Paul uses Aria PE 800 & 9434-12 string. Latest album, 'INTERFERENCE', R.C.A. Records.



Alan uses Aria PB500, PB550 and the new SB1000. Alan says, "Aria quality is excellent."

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companies and records and the whole business end of the thing. They showed us, our own manager, how to approach it. They gave us a lot of valuable advice and time, and their good wishes and moral support. Plus the fact that we're mates. I think on their *Live and Dangerous* album they make a mention of us. It's sort of a 'How are you doing, lads? when you bring out your new album.'

When it comes to equipment, Gerry's attitude is clear-cut. He doesn't like a minefield of foot-switches on stage, or collect guitars like some people collect stamps.

"Let me say from the outset that I'm not one of these guys who has a NASA control and guitar showroom on stage. I use two guitars for gigs. In fact, I use one, I don't change guitars throughout the set. I think I've broken a string once in the last year, and I'm lucky enough to stay in tune, so all that being equal I never have to change guitars. But I have two anyway. I use an Aria 1000 and an Aria 800. The 800 is a more vibrant guitar, it's a little more toppy. I use that sometimes if I think the place we're playing in requires more top, though normally I use the 1000. I had a Telecaster but I sold it, and I have a 1960 Strat, which is a lovely guitar. I'm very pleased to have it. I think there's only two of them in England with its particular colour, I think Martin Belmont of the Rumour has one too. It's the original ice-blue colour, it hasn't been sprayed or anything since it was made.

"The Strat has a different neck and a different way of playing from the Aria, so I like to use it for certain songs in the studio for which it can be very suitable. If I haven't played it for a long time it can be very hard to use. I'm one of those guitar players who has to know a particular guitar to really get the best out of it — or what I feel is the best out of it."

Ampwise, Gerry uses a pair of solid-state Custom Sound combos for all live and recorded work. He doesn't believe in "valves versus transistors" arguments. Anyway, he gets a good meaty tone, and his playing combines a tough rhythm feel with some sharp soloing. At the end of *Rat Trap*, for example, you can hear him tearing out Keef-like

chords. "We felt the ride-out should rock along," he says, and it's especially impressive in live performance. As for soloing, he tries to make the solo fit the song.

"I like doing solos, especially the type of solo when you actually have to sit back and think about it. Like in *Me And Howard Hughes* or *I Can Make It If You Can*, where it can't be just an off-the-wall thing. Within that time limit of four bars or whatever, I like to try and do a reasonably good solo that will lift the song."

Gerry has been concentrating on his rhythm work in the last year, too. He listens to reggae guitar players to see how they use rhythm guitar, and also practises rhythm chops with drummer Simon Crowe. For example, he'll see if he can perhaps reinforce a cymbal crash on guitar.

He praises Keith Richard for his "definitive rock 'n' roll rhythm guitar", and Clapton's recent work for his ability to be melodic within a break. The old blues players, too, were a formative influence.

"Before I started playing electric guitar I played acoustic guitar. I used to listen a lot to the blues players, like Buddy Guy and B.B. King. You could almost recreate their sound in your bedroom. You know, you didn't have to have a Marshall stack and a rhythm machine to recreate what you heard. I thought it was a big deal if I could get my playing to sound like somebody else on a record."

Gerry singles out Roger McGuinn of the Byrds, in particular, for his innovative twelve-string playing. Remember *Eight Miles High*? "I really like Roger McGuinn's very open way of playing. The open chords, the very jangly sound — the way he phrases some of his chords is almost like a chorus of guitars."

Little Feat's leader likewise gets the Cott seal of approval: "Lowell George can play a guitar. I listen to him to hear how he does things and what sort of sounds he gets from his guitar. He's not a guitar hero as such, he's just so good at what he does. He approaches guitar as very much an integral part of the band, not for the super-slick licks and the vast solos."

It goes without saying that it's all systems go for the Boomtown

Rats right now. They've stitched up the UK, and it won't surprise analysts of *Top of the Pops* to find that Gerry Cott was very pleased indeed that *Rat Trap* ousted *John and Livvy* from the national Number One slot, where the dancing duo had apparently been nailed.

As for the rest of Europe, the Rats have made successful sojourns over Scandinavia, Holland, France, Belgium and Germany. "And," adds Gerry, "we did one gig in Zurich — the East Grinstead of rock 'n' roll." So far the States have shown a mild interest in the Dubliners' vinyl adventures, and the forthcoming tour of the Americas should get the ball rolling.

So the Rats can't grumble. Their infectious amphetamine pop has plundered a wide cross-section of the UK market, and now their fans are plastered over teen magazines, fanzines and T-shirts everywhere. They're probably the closest anyone's come to recapturing the good-time feel of the Faces when Rod went soft in the head and thick in the wallet, and they've added to that a sharp instinct for what the market wants. Megastardom can only be an ocean away.



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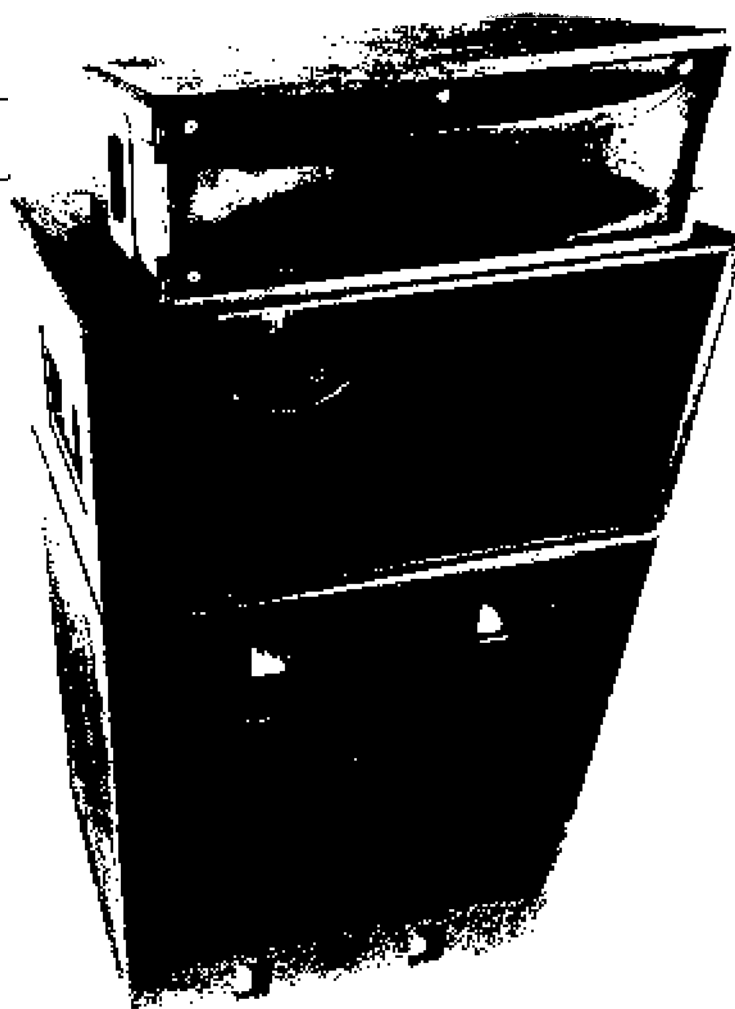
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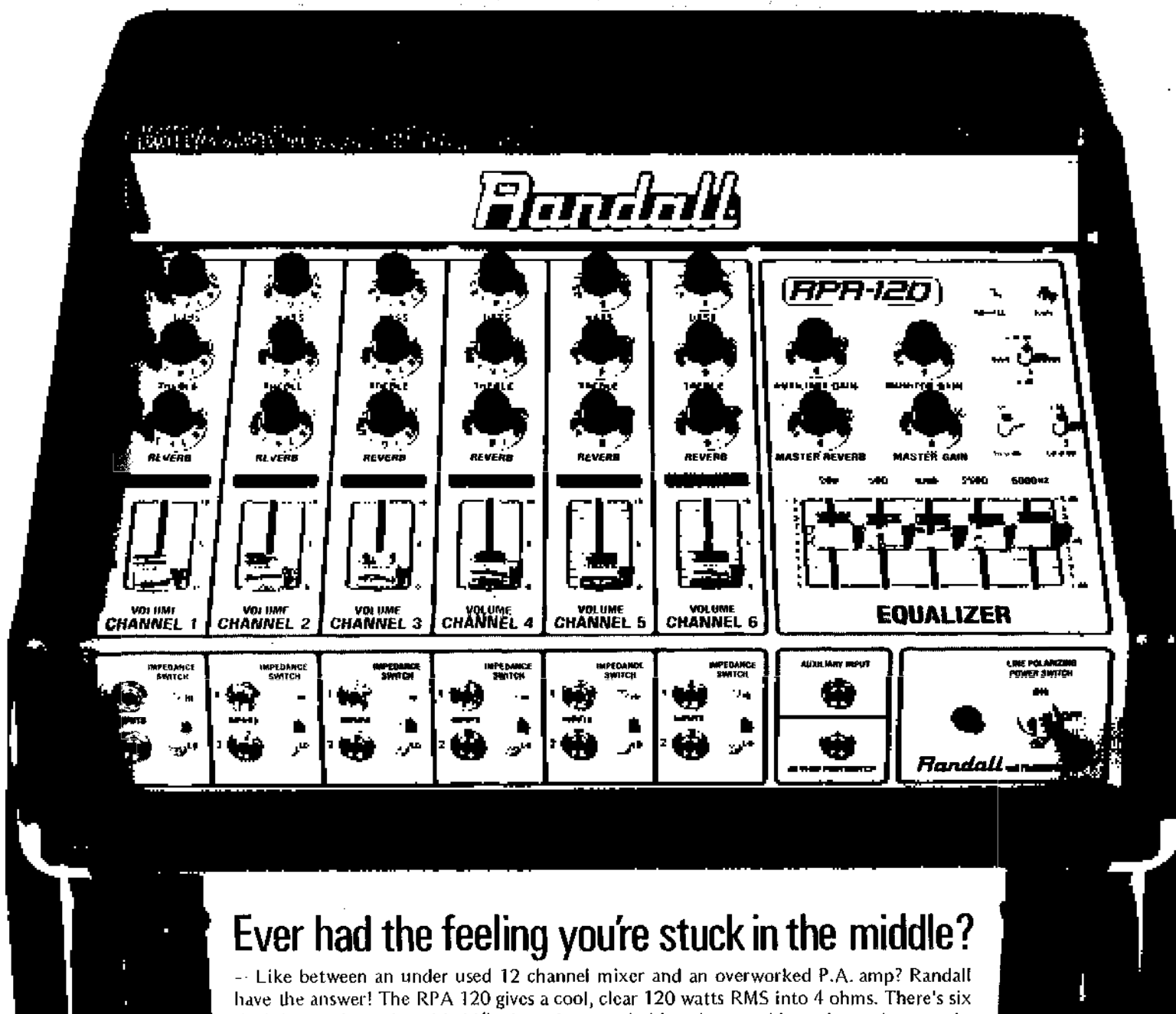
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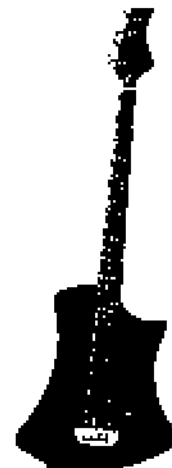
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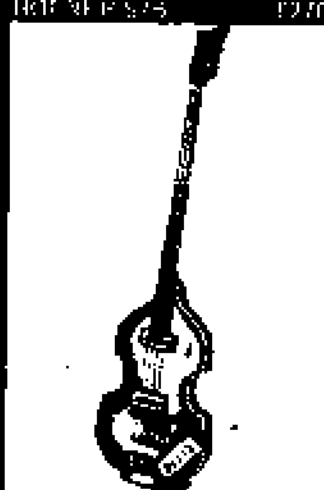
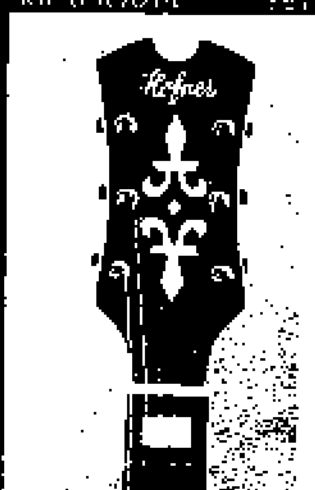
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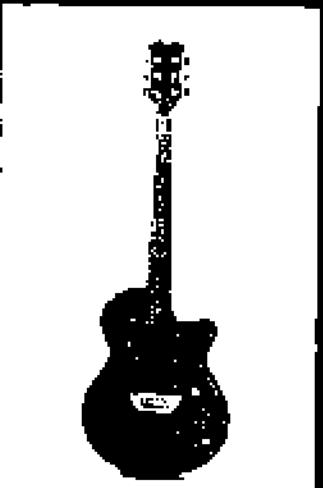
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CHRIS SPEDDING

Reluctant Guitar Hero



Stepping into Chris Spedding's living room, you immediately know you're in a musician's habitat. A semi-acoustic Gretsch lies propped against the sofa, a Flying V is jammed between a flight case and the stereo unit, a Pignose practice amp lies on its side under the coffee table and a beautiful vintage jukebox stands majestically in the corner.

Chris' record collection says a lot about him. On the jukebox, the Stones share equal space with the Damned, the Sex Pistols and Duane Eddy, Chuck Berry and Dave Edmunds. His album collection is neatly divided and labelled "US Rock", "UK Rock" and "With Me On". Naturally, the latter category is quite extensive. Chris' name has appeared on many albums and singles including work by Dusty Springfield, Elton John, Roy Harper, John Cale, Nucleus and Jack Bruce. He quit being a backing musician when he formed the Sharks with ex-Free member Andy Fraser but the band only lasted long enough to release two albums. He later fronted his own band and has released two solo albums, "Chris Spedding" and "Hurt". He has recently completed his third, tentatively titled "Guitar Grafitti", and is planning to move New York City to team up with Robert Gordon for a while. ►►

By Eamonn Percival

CHRIS SPEDDING



Chris' first moves in music began at the age of nine when he started to learn violin at school. By the time he was 13, he had refused to play the violin and went on to guitar.

"I started playing violin out of ignorance really, because my parents used to listen to a lot of classical music and there wasn't much pop music on the radio. As soon as I started hearing Elvis, Duane Eddy, the Shadows and people like that, I got into the guitar."

Spedding's name first became known from the countless sessions he has been involved in. He answers the much-asked question of how he began session work very simply: "The phone just starts ringing. The first session of note that I did was Jack Bruce's 'Songs For A Tailor' in 1969 and that put my name about a bit but that's basically it. The phone just starts ringing."

"I never thought that I had the right attitude to be a session player. I thought that you had to sight read and everything but it's not like that. I think I must have had certain aptitudes and skills that people wanted. Things like being able to interpret what people are telling you as opposed to reading it brilliantly the first time you see it. I couldn't read very well when I first started. I gradually acquired that skill during a couple of years of faking it and not getting caught out. You can fake it fairly easily if you have an intro or a basic riff worked out, say four bars, and you just have to make chord changes, all you have to do is read four bars and that's not difficult. The rest of the band will be playing along so if you miss the first four bars you can always pick it up on the fifth and pretend you can read. After a few months, even an idiot will gradually start to associate what he's playing with what's written down in front of him. It's pretty difficult to actually blow it. If you slot yourself in there and don't make any waves, you'll gradually pick it up. The thing is, if your name is known among musicians, you don't have to work your way up from busking to reading because they want you for your playing and your style."

Chris doesn't do many sessions nowadays. If he does, it's either for friends or "out of boredom". "I've been recording with Robert Gordon but that's more of a project than a session. I keep myself pretty scarce now so I'm basically not doing sessions. Not many people have my number — even the Union doesn't have it."

At one time, Chris Spedding actually gave up playing guitar and moved onto bass. This was at a time when he thought guitar music in general wasn't going the way he would like to see it.

"I was going through a sort of esoteric jazz phase," he recalls, "and I thought the guitar sound was all scratchy and

horrible. Jazz stopped happening in the early Sixties, it wasn't a challenging form any more. It's totally disintegrating now although lots of people would tell you different. I think they're all taking it from rock now and superimposing stuff on top. I'm trying to think of jazz artists today that I think of as contemporary and there aren't any, which is why I moved away from jazz. It all stopped when Coltrane died. Even Miles Davis is doing rock now — he was the last guy forging ahead and doing something new and he's just fizzled out now. The jazz-rock label is a bit of a misnomer — it's really rock with a few Count Basie riffs."

Chris has a new album due out any day and it's interesting to note that, while the first side and the first track on the second side are studio cuts, the rest of side two is live material. This material appears to be live instrumentals but is in fact a line of guitar solos that have been edited from live gigs and interspersed with audience cheers. Chris explains why: "I have always thought that you can't really get the same sound in the studio as a live gig and I don't like live albums where you just do all your previous studio stuff again only live and probably badly. So I thought the most exciting parts of the live set are the solos. There's no point in re-recording the songs that everybody's got anyway. I don't do long solos in the studio because they sound boring and I can't really bring myself to do it because it's a different medium in the studio for me. The art of the concise three-minute pop single is what I like and to do the 10-minute version is, for me, a bit self-indulgent. Live gigs bring out better improvisation anyway. I improvise in the studio inasmuch as my solos are usually first takes but I like to keep them short."

"With this album, I felt the need to do the guitar hero bit because I got the distinct impression that was what people expected from me. This is the nearest I've done to it — taking a set and cutting the solos out, then stringing them all together, fading in the audience. I think it's better than taking all of it and sticking it all on."

Chris won't be around to promote his album this time, however. He will be busy with Robert Gordon — and his last tour cost him a lot of money.

"I can't really afford to tour. The last one lost money and I don't believe in building up debts. We got a certain amount of music out of the last tour — but at a certain price. It was very expensive, but we did get half an album from it. If the new album does reasonably well, it'll pay for the last tour. If it sells as well as the last album, I might be back at square one again and that would mean I might be able to tour with the album after it."

He uses a Gibson Flying V and the Gretsch for certain things, though he claims it isn't as ballsy as the Gibson. Looking at the Flying V, two things are immediately apparent — a high action and the absence of a tone control.

"I use a fairly high action because it stops you running away with yourself and playing super fast all the time, it's also easier to bend the strings if the action is higher. You can get your fingers under the string and I use a lot of down strokes with my right hand and that makes a difference. I do a lot of things where I need a hard attack and if the action's too close, it rattles too much."

"I don't like to mess around with lots of controls and things — it's not necessary. My Flying V has just one pickup and a volume control and that's all I need. Your tone comes from where your picking hand is. If you pick close to the bridge, you get a very hard, brittle sound, move it a half-inch away and it's completely different. There's a whole world of different tones in about two inches of space around the back pickup. Add to that your attack and other variables and you've got a lot there. Why these guys spend a fortune on pedals, messing about, I don't know. I never use them. Oh, I did buy a Cry Baby wah-wah in 1969 but I threw that away when 'Shaft' came out."

While Chris was demonstrating his picking technique on the Gretsch, I noticed when he played a full chord, he would miss out the third either by "doubling up" notes or by damping the string where the third would occur. Apparently, he never plays a third in a major chord if he can help it.

"The thing is, if you play a third and you're playing at distortion level, the speaker immediately starts to fart. I've got a whole catalogue of chords with no thirds. It just sounds a lot more powerful and cleaner. There's probably a simple Pythagorean philosophy behind it. Assuming your fourths and fifths are perfectly in tune, the chord won't ring or vibrate horribly because there's no third."

Chris has been involved in many different types of music and with many different artists but he claims he only ever plays one style throughout – the Chris Spedding Style.

"People would say that with Elvin Jones, I would be playing jazz whereas with Ringo, I'd be playing pop but the actual style I'm playing is exactly the same. It just sounds different because of the other elements that go to make up the music. So, when people ask me how I play so many different styles, I never know what to say. I actually don't play differently, I play exactly the same. I can even play

the guitar. A solo is playing all the licks that you've already worked out. Searching for something in front of an audience and suddenly finding it together is very satisfying. You arrive at this new piece of music all of a sudden. Instant composing, as it were. I suppose it's more of a jazz thing in a way."

Zappa once said that improvising a melody is something not many rock guitarists can do well. Bearing in mind Chris' ability for "linear playing", plus the fact that a fair amount of improvising takes place at live gigs, does Chris feel he is a consistent player?

"Yeah," he replied without hesitation, "I tend to have a standard that I don't fall below. That doesn't mean I can't be bad – I *can* be bad if the band's wrong or if we haven't rehearsed enough or whatever. I usually find it gets better as a tour progresses. You always maintain a certain level. You might dip under it a bit but usually it gets better and better. I don't think I do brilliant nights and then duff nights immediately afterwards."

On practice, Chris has very strong views. Quite simply, he never practises: "If you practise, the only thing you get good at is practising. I only keep guitars at home for songwriting. I never sit down and practise scales or anything. I have lots of notebooks with lyrical or melodic ideas

'If you practise, the only thing you get good at is practising'

the same licks with different people and not get called repetitive because they all sound different. People are very impressed when you play all these so-called different styles when in actual fact, you might even be playing the same licks. People say, 'You played with Shirley Bassey in the morning, Roy Harper in the afternoon and John Cale in the evening, how can you do it?' and I've probably been playing the same fuckin' riff all day. What difference does it make? It's just music.

"I consciously try and hone it all down to one recognisable style – being concise and economical. I like to point the music in a certain direction. That's what I like about the guitar in pop music – Beatles stuff was what I call pointed. You'd often hear Harrison putting in a lick that was almost part of the song. Without it, it wouldn't sound right. It's not just doodling away – there might be no lead guitar at all in part of the song and then, suddenly, when you want the song to go somewhere, the lead guitar comes in and points it in that direction. That's what I like and that's what I always try to do. I got into playing the guitar by listening to early pop stuff like the Beatles and, quite often on a session, I'll try to think what *they* would have done. I always approach it that way, especially on solos. I don't want to sit there and doodle around a chord – I want to do something that's as good as another verse or chorus, if not better."

Chris is, in his own words, a "linear player". He doesn't take the easy way out on solos by just picturing the shape of the chord and then working around that scale.

"I never work from chords that way. I often work it so that it might get back to that when the only thing that works is a Chuck Berry type of lick. I like to think melodically rather than mechanically. When you put your hand on the neck around a chord shape and you know what's there and what notes you are going to pick out, that's thinking mechanically. The notes just fall under your fingers and it's very difficult to play a wrong note. I think linearly. I'm more inclined to go "up" the guitar rather than across. I suppose I must have got that melodic approach from jazz – playing a tune rather than a solo on

written down and I refer to them from time to time.

When I feel like working, I get them out and sift through them to see if anything sparks off an idea. The next stage is pure hard work, taking them through endless drafts until I finish up with something I like."

When he has found something he's pleased with, only then does he tape the arrangement on a Revox. He formerly used a small cassette machine but recently bought a Revox to tape finished arrangements.

"I've found my ability to actually notate music has an inbuilt advantage. If I get an idea and tape it and then bring it out in a year's time, it'll sound so duff that I probably wouldn't take it any further. But when you write an idea down, it doesn't exist aurally – only in your subconscious. So what happens is that when you play it from notation after a year or whatever, you're triggering off a memory that has been developing subconsciously and you find it's totally changed and matured in your mind. But I do tape the completed arrangement for a number."

At this point, Chris played me one of his home "demos" to illustrate the point. A remarkably full sound came blasting out of the speakers as Chris explained a really economical system he had worked out for multitracking on the Revox.

"It's very simple but it's very effective. I've got a Roland rhythm box so I use a split lead to feed in the rhythm box and a bass. That means I've got the rhythm section down on one track. Then I 'bounce' it and put on a guitar so I have three instruments down and I've only overdubbed once. When I put on any vocals, I use a very cheap mike and sing through a Pignose amp so that gives me an automatically compressed vocal. A good mike is a waste of time for demos like that anyway."

Chris' future would seem to be in the US since he's touring with Robert Gordon and aims to base himself in New York. "I basically want to establish myself in New York. Why? Because I'm fed up with being in England. The very fact that I'm going to the US has raised my interest rating. Everybody gets very impressed with an English musician in New York – it's the grass is greener vibe."



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Nazman Zal

by Eamonn Percival

A couple of years ago, the Sensational Alex Harvey Band were one of the most popular bands on the road. They combined the guts and power of hard rock with the best visual presentation of modern theatre. Zal Cleminson was the guitarist with SAHB and, wearing absurd clown's makeup and costume, would regularly stun audiences into submission with a powerful yet clean guitar style.

Alas, Alex Harvey decided to retire and left the band without a frontman. They split up and Zal soon joined forces with Billy Rankin (guitar), LeRoy Jones (vocals), plus SAHB's rhythm section of Chris Glen (bass) and Ted McKenna (drums) to form Zal. But this band didn't last too long, and Zal decided to call it a day, assuming the role of London mini-cab driver for six months.

Recently, the music weeklies all carried the news that Zal was back. And indeed he was — but with Nazareth?! It transpired that Zal was an old friend of Naz and, quite out of the blue, they'd upped and asked him to join the band. The link between the two was also strengthened by the fact that both the SAHB and Nazareth were both signed to Mountain Records and were both Scottish. Nationalism apart, it would appear incongruous for Zal, a guitarist known for his adventurous style, to join forces with a straight-ahead rock band like Naz. But he is more than happy with the situation.

"It's really working well," he enthuses. "There's lots of scope now within the band. What happened was that Manny [Charlton, guitarist] called me out of the blue and asked me what I was doing. I went over to the Isle of Man and rehearsed some songs for the album, and I joined there and then."

Since their inception, Nazareth have had the same line-up of Dan McCafferty, Manny Charlton, Pete Agnew and Darryl Sweet — the classic vocals/guitar/bass/drums format. Was it difficult for Zal to slot himself into the traditional four-piece?

"This is the thing about me joining the band, it's different styles. I didn't want to walk in and try and force myself upon them. I've obviously had to lay back a bit because they have their own style that they've developed over the years. The last thing you want is two guitarists drowning each other out and cluttering the sound up. We swap parts around. Songs that Manny wrote, he obviously has an idea of what the guitar part should be doing, and vice versa with what I've written. In the past they've always had layers of guitar parts on record — lots of overdubs. That's OK

for recording but onstage you really need two guitars.

"It's different from the Alex Harvey Band in lots of ways. I mean, Nazareth are a rock band, heavy if you like, but now we're getting back into playing songs as opposed to concentrating on heavy riffs. The rock things we do are not that different from Alex. The thing was, with the Alex Harvey Band, we did a lot of strange things built around the stage act. It was almost like a cabaret band but, with Nazareth, it's much more straightforward."

Most people associate Zal with his Gibson SG Special from Alex Harvey days and though he still intends using it, it's badly in need of a service. So Zal has been trying out many different guitars from Manny Charlton's collection.

"He's got thousands of guitars so when I went over there with them, I picked up a Strat here and a Les Paul there to see what suited me. I already have the SG, a Firebird and a custom-built Explorer so I really haven't made up my mind what I'll be using. I quite fancy using a Strat in some ways

because on a couple of things we did, it sounded good, there was a nice blend between Manny's Les Paul and the Strat I was playing.

"I've also been using a Boogie 60 watt head through a straightforward 4 x 12" cabinet and it sounds really loud when you wind it up. Nazareth are a very loud band anyway but we want to cut down the amount of gear we're using. Getting that sound with stacks of Marshall is a very old-fashioned way of doing it, I think. All you need is a decent-sized PA. Even using an AC30 or something is OK as long as you get the right tone. Even with Alex, we played at quite reasonable levels and people often said it was too loud. A lot of players need to feel that power behind them to play well, though. I'm gradually getting away from that. I like a fairly clean sound. When I play chords I always play full chords and let them ring out but it still has to be clean. I hate a distorted sound on chords."

Zal maintains that most of the work he recorded with the SAHB was almost-live takes. While much of Nazareth's work may sound like it was



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"It's just good to be playing again"

recorded the same way, a lot of experimentation takes place in the studio.

"With Alex, I mainly used a Marshall 100 watt and we recorded pretty close to live. We'd set the gear up just like on stage and throw away the headsets. But now, it's down to just a small Boogie amp and I don't play at that loud a level. The thing is that the louder you play when you record, the smaller it sounds on record. We tried lots of different ways of recording with Naz — like having the drums up in the bedroom and the guitar in another room. The thing is that I like to record the guitar in a room and then work on a balance between the ambient sound of the room mixed with the guitar sound and that seems to work quite well.

"Another thing that can take a long time to work out but is, in fact, very rewarding in lots of ways if you can get it, is a good balance in the cans. Darryl has an incredible level in his cans — it's so loud, it sometimes overflows into the drum mikes! I like to work on a good balance in the cans so every instrument is already balanced well and it's like listening to a good stereo. The only difference is that sometimes, I push the cans back over my head a bit. Like vocalists usually have one can off and one on, it all depends on the can balance and how comfortable you feel with it."

Like many other guitarists today, Zal feels that the standard and consistency of guitar strings are not what they used to be — or indeed what they should be.

"I used Ernie Ball strings for a long time but I eventually felt they were starting to deteriorate and starting to lose their ring a lot quicker. That always seems to happen — a new company will bring out a great new string and it's a good line for about a year and then they generally start to lose their tone. I've been using Fender strings recently and they seem to be OK. I tried those Nashville Straights at one time and they were really nice and bright but . . . you know, with strings nowadays, you have to change them nearly every other day.

"I used to use a set with an .008 on top but, over the past year, I've been using a .009 on top and going a bit heavier towards the bottom with a .042 or around that kind of gauge. Any thinner and they sound a bit mushy and buzzy for chords. Light strings are obviously easier to bend but if you use too light a gauge, they just

slip out of tune and the chords don't ring at all.

"The thing is, with me having such a long break from playing, I'm still experimenting with guitars, strings, amps and everything. I've lost touch with the 'picture' of sound onstage. With Alex, I had a setting I nearly always used but now I'm getting more into getting separate sounds and tones for each song."

Zal's own songs are usually written on acoustic guitar and he's recently acquired a Teac 3340 for his own home demos, a step he feels necessary for getting his ideas across to other musicians.

"I had a lot of trouble in the past with my last band in conveying to them what I wanted in the songs. In a way, I can see myself being one of those guys who come up with a finished song on a demo tape for the rest of the band. I also write lyrics — sometimes I get the lyrics and try to set them to music and sometimes I'll get a tune first. I don't know which is easier. I have tons of stuff on tape and in my head — just little odd ideas and things that I'll eventually use. I like to work it all out beforehand. In the end, with Alex, he'd have a lyric and the first one to come up with a riff or anything, that's what the song would eventually be. If anyone came up with a riff, Alex would say 'keep that' and that was how lots of the songs came about. We recorded lots of stuff almost

ad lib — a lot of the time it was great. I mean, it's good if it works, but . . .

"I've always been a bit slow at working things out and that band was spontaneous so it made me a bit lazy, in a way. But with Nazareth, Manny will sit down and work at getting the right sound and he'll go through it and do it until it's right. I'll need to get back to working things out properly. I mean, I really like jazz rock and fusion music like Weather Report, but when you're playing in a rock band, you have to have certain things set out to a certain degree. I suppose it's really down to a balance of the two."

When Zal's own band split, he quit music because he became dissatisfied with the business. Now he's back with a heavy rock band, is he happy in terms of musical satisfaction?

"Yeah. I mean, I've got loads of little ideas for other things in my head and on cassettes. Maybe they'll see the light of day in a solo project or something but it's just good to be playing again. I quit because the business side of music was getting on top of the actual music. I started playing guitar to be a musician not an accountant. When I drove the minicab, I wanted to jack it all in, but I think music was still in the back of my mind. It's something that's in the blood. Nazareth are a band I can play with and they're a good rock band. I'm gonna go out and enjoy it".



Nazareth with new boy Zal (second from left)

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From Switzerland to Brazil:

MOODY PATRICK MORAZ

by Adam Sweeting



Probably best known in this country for his stint with Yes, Patrick Moraz is a musician who doesn't like to be pigeon-holed. It's a mistake to file Moraz under "Yes/Genesis/ELP etc." because he is a man genuinely interested in a wide cross-section of music, who turned down a lucrative opportunity to tour with Stanley Clarke to pursue his own researches in Brazil. This last venture has resulted in his third solo album, an ambitious project which sets out to explore a not-so-hypothetical meeting of primitive culture with, for want of a

better word, "civilisation".

Patrick Moraz came to London recently to talk about his new album, and also to catch Yes in concert. He's just completed a European tour with the re-formed Moody Blues, with whom he's going on to tour the USA. He has no regrets about his departure from Yes, and in fact said he prefers playing with the Moody Blues: "I never had such a laugh with a rock 'n' roll band before. It's fantastic to see a band like this, reborn after a five-year layoff. I think they're stronger than ever."

Patrick Moraz once worked as a cook in Bournemouth, and clearly remembers hearing the Moody Blues. Times have certainly changed. "I used to play 'Go Now' in a pub. In Switzerland in 1968, I was very aware of the Moodies' 'Days of Future Passed' album; I had a band called Main Horse and in the early days we used to play 'Nights in White Satin'."

Patrick's involvement in the Moody Blues is such that he intends to accept their offer to record with them on their next album. It seems likely that his



Djalma Correia

prodigious capacity for writing will be put to good use with the Moodies, since he's had a number of fruitful jam sessions with them, and indeed has already recorded some demo tapes with Justin Hayward. Patrick sees his work within a band context as an entirely separate matter from his solo projects.

"I know that my role with these bands, whether it's the Moodies or Yes, will always be to play the orchestral parts and to add colours. The solos are always reserved for the lead guitarist, and that's cool, because there wouldn't be any rock

'n' roll without the electric guitar. So, I keep all the lead work and solos for my own albums, and I do all the overdubs and bass parts myself. This latest album in particular is really a solo effort, apart from the percussion; the compositions, the arrangements, the production, it's all my work, though I have had some engineering help. The guitar-like part at the end of 'Jungles of the World' for example, was done on a Minimoog."

Patrick's new album, simply called "Patrick Moraz", apart from featuring himself on a myriad of keyboards, also

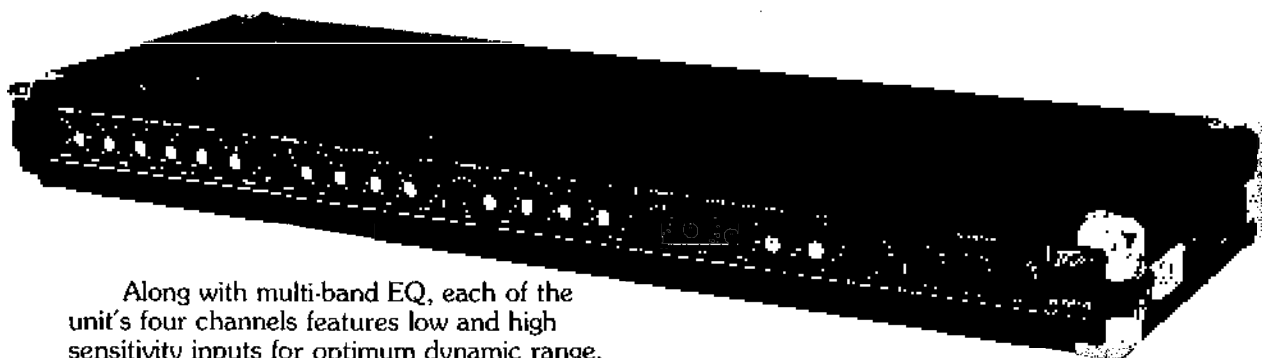
stars Djalma Correia, who plays numerous ethnic South American wind and percussion instruments. In addition, there are 16 percussionists from Rio de Janeiro. Not what you might expect from a musician who's been so closely associated with British techno-rock bands.

"I'm sorry about the language here, but you can call this album a trans-cultural experiment in music. I'm Swiss, I've been playing with English musicians, I've played in America a lot, I've been to Japan; now I've done this record with Brazilian musicians, which is right out of ►►

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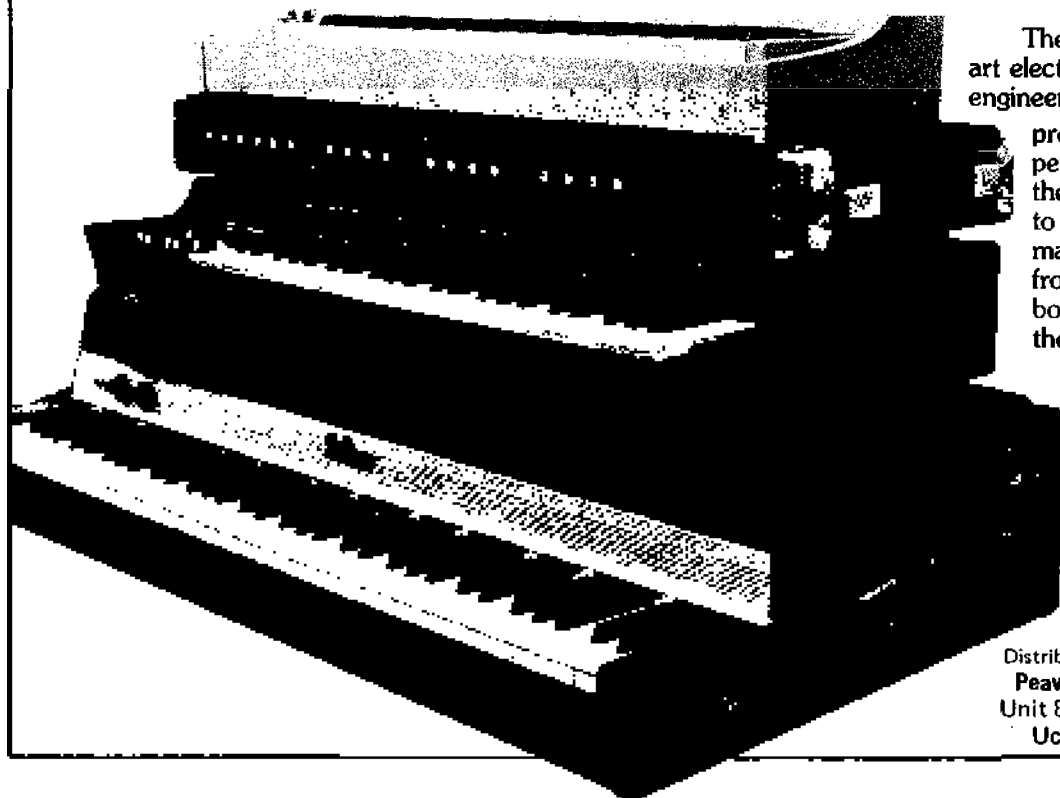
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the way of the normal circuit. It was an attempt to get out of the conventional rock line-up, and out of the conventional symphony orchestra approach too. It's all been done before, and I wanted something refreshing and new. I just regarded it as an experiment, to see if it would work. As far as I'm concerned, it does."

After spending a long period in Brazil, an experience which has obviously provided much of the inspiration for the album, Patrick was eager to expand upon the concept behind it.

"What I was attempting to express in the album's music was the struggle between the primitives and the civilised. The primitives are symbolised by the acoustic percussion instruments, and the civilised by the melodic instruments and synthesizers. The link between them is the one instrument which can do everything, and that's the piano. The piano can be a symphony orchestra in itself, it can be a percussive instrument, and of course it is melodic and harmonic. As far as I'm concerned, too, it's the instrument where I've got probably the clearest identity as a composer. It's the basis of everything."

"I had all the musical themes worked out before I went into the studio, but it was only when I started recording that all the details fell into place. In the past, I never really felt that I'd finished my records properly. Even the 'I' album didn't finish like I wanted it to, because the instrument didn't allow me to do it. This time I said 'OK, this one I'll finish. I'll put a point at the end of the line.' I'm very happy with it."

Obviously much planning went into Patrick's new album. Each percussion instrument is given its own motif, while the music draws on various sources. Side one's "The Conflict", for instance, uses a traditional Celtic theme, while "Intentions", a solo piano piece, has hints of Bartok. "Intentions" is a complex, introspective piece but was totally improvised.

"It's a spontaneous piano improvisation," Patrick said, "it's not written. I was just trying to do some variations of some of the themes on the album, especially 'Keep the Children Alive', though there's a bit of 'Jungles of the World' as well. If 'Intentions' had been written on paper, I wouldn't have been able to play it. I'm not a good reader, and despite the fact that I've written about thirty musical scores, I'm also a very slow writer. I've developed a liking for electronic instruments because they offer so many more possibilities for writing in the studio."

I'd love to be able to write like John Williams, who wrote the scores for "Star Wars" and "Close Encounters", or like Penderecki. Maybe one day I'll take a year off from the circuit and really concentrate on learning how to write and arrange quickly. It would be very rewarding for me to have my music written down so other people could play it, possibly with a symphony orchestra. I'm always being asked by schools, particularly

in Switzerland, if they can have some of the music I've written to study. I'd like to do it, but it takes time, though in fact I'm planning to produce a booklet for this new album with all the arrangements written out."

Apart from writing and recording the new album and working with the Moody Blues, Patrick has recently performed at both the Sao Paulo and Montreux Jazz Festivals as a solo artist. John McLaughlin and Chick Corea were other artists on the bill at the two festivals, and Patrick intends to spend some time working with Chick Corea now that the Moody Blues have finished their tour of the USA. The two musicians have already exchanged ideas about music in general.

"Chick helped me a lot indirectly with the latest album. When I played at Sao Paulo I hadn't done any of the overdubs, and I was telling Chick about my problems in making decisions, as the composer and musician responsible for the work. He said, 'Patrick, creativity is infinite. You play something and you can always change it a thousand times, but the original idea is invariably the best one.' Chick is a very fast writer; I used to be very slow at making musical decisions, but I decided with this album I'd do it fast. What Chick had said helped me a lot."

Recording the new album took only about five weeks altogether, in locations as diverse as Rio de Janeiro, London and Geneva. In part, the speed with which the record was made is due to the fact that Patrick now has a range of instruments that he feels really allow him to realise his musical ideas. In particular, he has a two-manual Oberheim synthesizer, which was custom built for him by Tom Oberheim.

"The Oberheim is an incredible machine. I asked Tom Oberheim to build me one in 1975, a four and eight-voice model, and it's the only one like it in the world. I think I really did justice to Tom Oberheim on the new record, I think he'll be happy to hear his machine sounding like this. I'm sure I've innovated with it, because I played with the actual programmers rather than the with keys themselves. As far as I know, nobody else has done it."

Patrick, who confesses to spending unimaginable sums of money on new equipment, intends to get a Sennheiser Vocoder, which he used on the new album, as well as a Prophet synthesizer. I asked him if he felt that the rapid advances in instrument technology, particularly the Vocoder which makes even the human voice sound like an electronic instrument, were leading to a point where musicians would become almost redundant? The short answer was no.

"Do you know how a Vocoder works? You don't sing into it, you speak to it. You make the sound and modulate it by actually playing and phrasing with the instrument. It's more difficult to use a Vocoder properly than simply to sing, because you need a perfect link between your consciousness, your hands and your

lips. Vocoder needs to be learned just as much as a synthesizer does."

Patrick gives credit to Yes's Jon Anderson for helping him to achieve the sounds he wants, though during his time with Yes he was never entirely satisfied with his equipment. It's the Moody Blues' good fortune to have enlisted Patrick Moraz at a time when he really feels on top of his music. Lately, Patrick has been using a big Amcron foldback system on stage, and he favours either Gauss or JBL loudspeakers for live work.

"I don't use the smaller amplifiers like Fender or Marshall at all, unless maybe in the studio I want to record a Minimoog solo or something specific like that. I go for the big foldback systems which give the right sound and do justice to the instruments. I think it's more important to have a very good sound system than to have an expensive instrument; it's no good having something like an Oberheim and then putting it through a cheap sound system."

Patrick Moraz, ever on the move, already has plans for his next project, which again centres upon his interest in Brazil. This time, he will be concerning himself with "Macumba", a native Brazilian code of belief with which he has become involved, and for which he has been asked to write some music.

"Macumba is to Brazil what Voodoo is to Haiti. There's three branches of Macumba, two of white magic and one of black. I've been initiated into one of the white branches, and I've attended a few



ceremonies. Macumba is very powerful in Brazil, about 30,000,000 people are affiliated with it. It's to do with belief in a deific mythology, and it has roots in Africa."

Nobody could accuse Patrick Moraz of narrow-mindedness. Apart from his work in Brazil, his tastes range from European classical music to Weather Report and Joni Mitchell. At the root of his approach to music is a profound belief in the importance of simplicity: "The more simple the idea, the better it is going to work on a popular basis. Listen to Beethoven's music — the themes are so simple. I like the Moody Blues for that reason. A lot of people talk about the genius of simplicity; I think there might be a bit of that in the Moody Blues."

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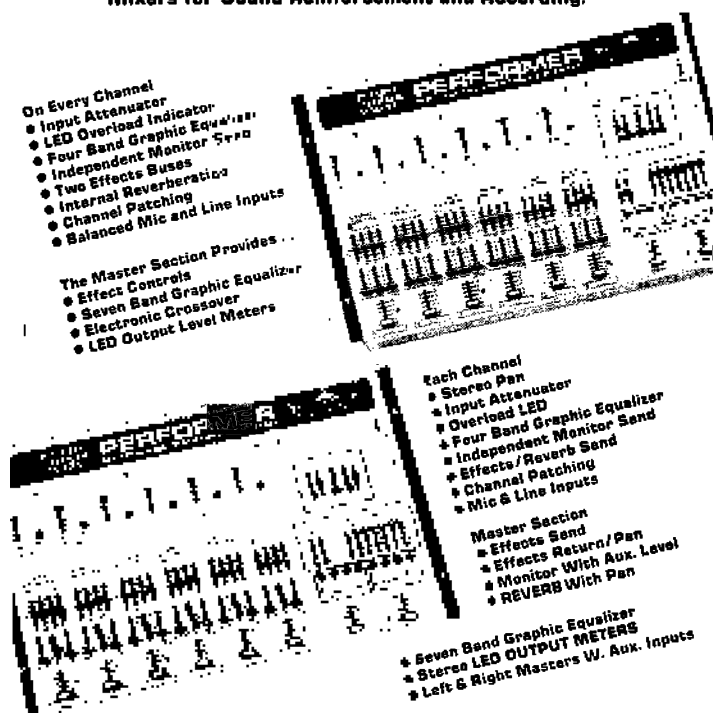
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It's not often that drummers become TV personalities, but Ed Shaughnessy can claim to be just that. From his drum chair in Doc Severinsen's big band, who provide the music for one of America's most popular programmes — Johnny Carson's "Tonight" show — he is seen and heard by millions.

Every weeknight Shaughnessy climbs behind his kit above the main stage and provides the rhythmic energy for one of the hottest bands around, proving with stunning inventiveness that excitement and enthusiasm are not things restricted to rock music.

Equally at home backing the stimulating jazz music of Dizzy Gillespie or laying down a moody line for the crooning vocals of Steve Lawrence, Shaughnessy brings to big band drumming a depth of experience and style and a freshness of technique that keeps him one of the foremost drummers in the world.

To many, considering today's music, the big band sound may seem rather staid and uninventive; canned music only fit for the Muzak machines that feed supermarkets. But Ed, along with a few other modern musicians, has blown the lid off an outdated myth. When not providing the impetus for the Severinsen band, or doing his much loved clinic work, Ed works with his own band, "Energy Force" — a 17-piece ensemble with a dynamic approach that puts that big band sound beyond the conventional.

The "Tonight" show may have made Ed a TV personality but his reputation was solidly built on his drumming expertise and his skill with other percussion instruments. Adept on the tabla, vibraphone and timpani, Ed displays a percussive style that has grown out of a varied career.

Shaughnessy started out like many young musicians: he didn't begin on the instrument that he eventually decided to stick with. "I started out drumming when I was 14," he said. "For about three years before I started drums, I played the piano."

After his father brought home a rather beat up two-piece kit in lieu of a debt, Ed quickly found that he was "really hooked."

"Once the drums came into the house I seemed to want to do that more than I wanted to play piano, so I switched over."

But the formality of learning piano contributed greatly in the shaping of his drum career. It taught him how to read music, and in the world of session musicians "knowing how to read is the name of the game." There was one other very important advantage Ed got from his piano training.

"One of the problems that younger

drummers have if they have never played another instrument is the sense of a long sound," he said. "Drums seem to have a rather short sound. Yet to play all the figures and use the drums to support the music and to play all the figures and phrases properly you have to be aware of what long and legato is. I think playing the piano and pedalling — learning how to hold on to the note with the pedal — gave me a little bit of an advantage. Certainly mechanically it didn't, but musically it did."

Being able to adjust to the myriad styles that are so necessary in the type of work Ed now does most certainly came from his early influences and work. Growing up in Jersey City, New Jersey, he was only a subway ride away from the great musicians of his time. And it was quite an era.

"For 10 cents I could get on the subway, get off in the middle of New York and haunt some of the jazz clubs and listen to some of the great players. I learned to sneak in and make a Coke last maybe four hours. I think that the greater part of my learning didn't come out of books but from listening to a lot of the great drummers."

"At that particular time, the Forties, bebop was really the prime thing and like any young drummer I was influenced by Max Roach, Art Blakey and Kenny Clarke, the three major bebop drummers. But Sid Cattlett, I think, was my biggest influence. He had this unique flexibility which allowed him to play with Dizzy Gillespie and Charlie Parker for part of the night and then go across the street and sit in with Eddie Condon's Dixieland band and he sounded equally at home in either context."

"He made more of an impression on me than anything. I thought, 'This is a guy who can speak a couple of different languages fluently.' Cattlett played like the sticks were a surgeon's scalpel. He had a flowing, velvet touch that was the envy of everybody that heard him. I used to try to emulate that smoothness of his and I hope that some of it stuck."

Shaughnessy was also impressed by Buddy Rich among others but primarily his musical style and approach grew out of his practical experience. After playing with small bands doing the usual High School dances, at 17 he went on the road with one of the many big

timpani and xylophone and I couldn't do that on the road."

Ed was confronted with a big decision. Wanting to make a stand in the Big Apple meant that he would have to leave the Tommy Dorsey band. "Dorsey had offered me a three year contract and told me he would build me up the same he had Buddy (Rich). But I turned it down and started to get my toe in the door in New York. It didn't happen overnight but I started taking a lot of lessons at Julliard and began studying the rest of the percussion family."

At the time it became quite apparent to Ed that just being a good drummer wouldn't equip him for all levels of session work. Drummers then were expected to be percussionists, meaning they would expect you to get up and play a little timpani or some vibes. And so Ed began to develop various skills which would help him be a more complete session musician. One of these was becoming a good "doubler". As a doubler, he would work in an orchestral setting playing basics while a specialized percussionist would be doing the rounds of the instruments playing the more difficult things.

Ed kept up his session work, which by this time was becoming fairly extensive, but he didn't lose touch with what was happening on the local jazz scene. "I went into the freelance thing but I also kept up a very active jazz career by playing at night in the clubs. We used to say that you make the rent money during the day and played the music you liked at night. But you can't put a price tag on music. If you want to play what you like to play you can't expect that you're going to get a whole lot of bread for it. Sometimes that happens to people, but most of the time it doesn't."

Since session work is the bread and butter music of many professional musicians there are certain requirements which, if filled, make some more successful than others. Obviously, you have to be diverse in both style and technique but to Ed there is one main basic to being a successful session player: reading.

"I emphasise in my teaching that, yes, there may be some guys out there that are earning a big living who don't read. But there are a lot more who are earning a good living who do. It's like flipping a coin that that other thing will ►►



By Bill Stephen

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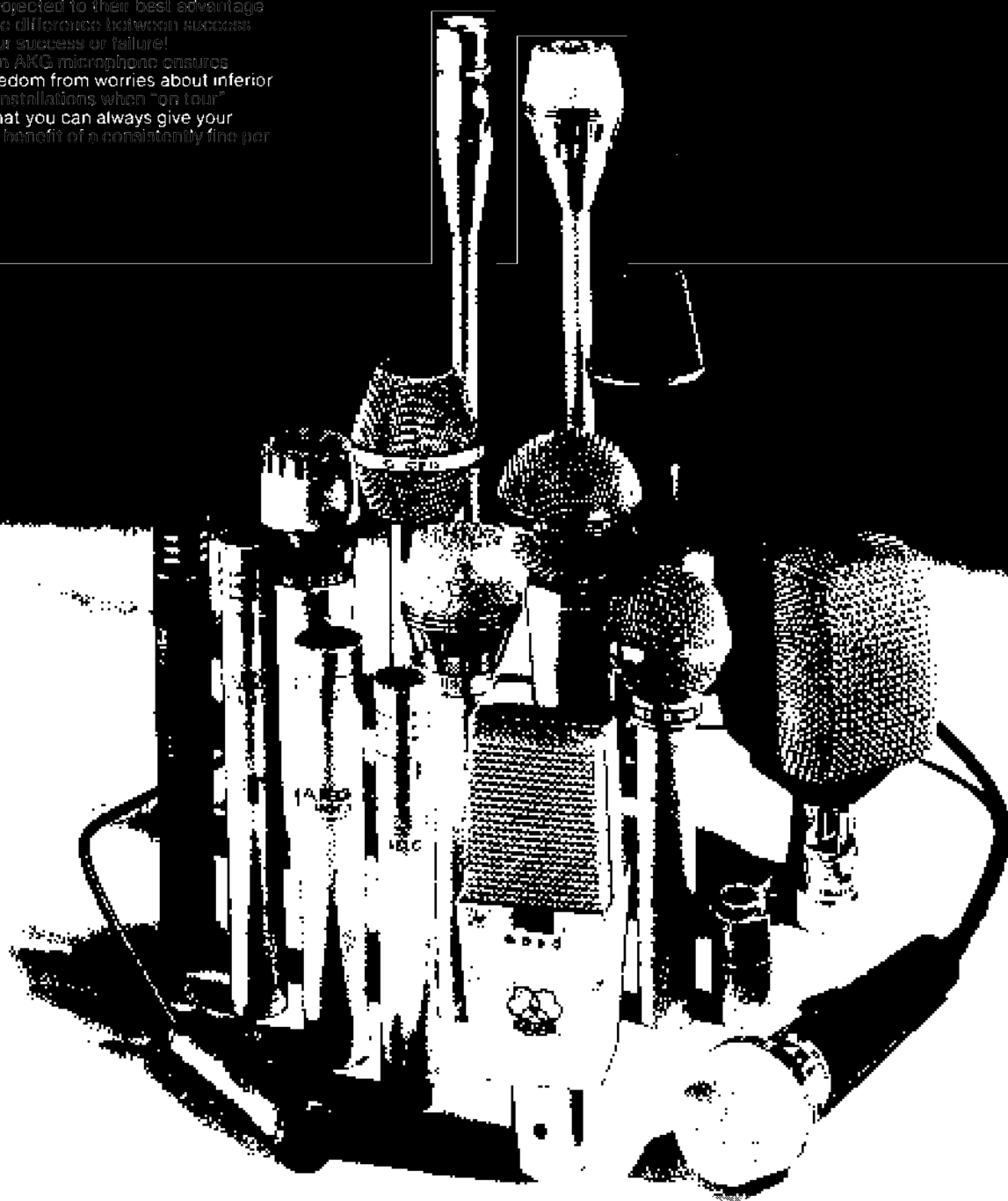
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happen to you. I found out at a young age that unless you could read well the amount of jobs you could get was very limited.

"I know we all hear the stories of the musicians who can get it together and have it happen more or less in their heads, and this is true, it can happen at times this way. These guys are very skilled at sitting down and making things up, but there's a lot of session work away from that end of the business."

One of the key factors in most session work is the time element. Musicians have to be able to step in and play the music after just one or two runthroughs. This is where sight reading is a necessity for all those session people who aren't in any kind of self-contained band where they have months to learn their parts.

"I would say that for the young student who is interested in studio work, recording or television work — that is, you show up and it's new music — sight reading would be one of the prime requisites. That and flexibility because you also have to be able to play a lot of styles."

Despite the over-riding influence that reading can have on shaping a career in music, Ed points out that there is nothing wrong with having a good ear. "We all have to do it at times and it's great that you can do it. I came up as a jazz player and that was pretty much my strong point."

Having a good ear can also help you develop that all-important sense of time. "When it comes down to it," said Ed, "I know we were talking about reading and everything as being such a big thing, but it doesn't take precedence over a good sense of time. If you could read but didn't have a good sense of time no-one would want to play with you. The time is really the first and foremost thing and it can really be developed a lot by playing with good records and tapes. I found that a good sense of time almost becomes a habit."

Playing jazz helped Ed tremendously toward developing a particular sense of time that allows him to keep fresh and intense throughout his daily television work. "I think the jazz influence helped me because if you're playing a rather straight live commercial show, making all the different rhythms feel good and having a good rhythmic sense when you're playing these different styles is important, and it makes the music come alive a little bit more. The drummer with the jazz background tries very much to make it swing all the time and give it a sense of life."

"I try to keep the time alive all the time. Now that doesn't mean that you want to keep on top of the beat so that it sounds nervous or that you're pushing too much. You try to play with a sense of aliveness in the way you play the rhythm. It's like creating a rhythmic feel as opposed to just riding along with it."

Rhythmically, Ed also has the advantage of being a devoted follower of an Indian rhythm system known as Boles. The term applies to the different phonetic symbols used in the system that apply to particular sounds on the tabla. It is a complex but learnable system which Ed feels has contributed greatly to the expansion of melodic concepts.



"I always wanted to learn to play the tabla," he said, "and it was a real privilege for me to be able to study with Allarakha, Ravi Shankar's virtuoso tabla player. What I didn't realize at first was that some of the things he was teaching me were equally applicable to western drums. You could sit down at your kit and play some of the stuff. It has helped me a great deal because it's like putting one rhythm against the other and Indians are masters at that."

Playing in a big band these days can prove as challenging, and possibly more demanding, than many other forms of modern music. Ed finds that the most important things about playing in a big band, as opposed to a quartet or the like, is that "you've got to edit your playing a little bit more. There's a lot more polyphonic things going on, so as a result the drummer should play a little more spare and save his fill-ins and his creative things for obvious open spots and places where he ties things together. But by and large I think the biggest secret is to edit yourself."

"A drummer with a small band can keep playing a little more free things. But if he came in and played that way with a big band it wouldn't sound good. It would sound like too many people talking at the same time. You have to be aware of what is going on in the band and stay out of the way while supporting the rhythmic wave."

Over the years Ed has used a variety of drum kits. From the early two-piece kit his father brought home, he worked as a paper boy saving up his money to put a kit together piece by piece. "I remember it was a big day when I bought my first Zildjian cymbal. It was like a guy going out and buying himself a Cadillac."

He kept his allegiance to Zildjian cymbals but began using a Slingerland kit in the early days of his career. He went through a variety of drum sets and now has settled on a Ludwig kit which he really likes.

"I have a couple of Ludwig kits and they're making me a couple more," he explained. "They're really marvellous drums because they've got a new thing where they're building a new six-ply shell drum. It's thicker than the average wooden drum and as a result it gets a fuller sound. I like it because it's got a very warm sound and I've been very happy with it."

Ed has used Fibreglass kits in the past preferring the crispness of sound, but points out that each kit has its special qualities and that he could never say that one is better than the other.

"I do lean toward these particular drums [Ludwig] because I think they're different sounding. Before, I think, I was mainly using the Fibreglass kits because they sounded better than many of the wooden drums that I had a chance to try."

Ed's Ludwig drum set is called the Ed Shaughnessy kit because it is something he was instrumental in designing. It has eight tom-toms ranging in size from a little six-inch all the way up to an 18-inch floor tom, creating a circle of tom-toms. Ed tunes them in sequential minor thirds. It is a two bass drum set up with a slightly larger one on the right. It is something that Ed innovated because he likes to get two different sounds from the feet. All of the hardware is Ludwig and he uses the Black Beauty snare drum, five-inch, that has an all-brass, seamless shell which Ed says provides a marvellous sound with a crispness that really cuts through.

As a drummer who is called upon to play in a variety of situations, Ed has developed ways of muffling or tuning his kits to turn them to a particular purpose. He alters his drums in various ways, primarily using the same basic set-up in each kit, to provide a specific sound.

"For stage work it's not so much that I use a different kit but it's how I muffle and tune it. Like my recording sets are much more muffled up than my 'Tonight' show kit. And the ones I use for live performances are even more open than my 'Tonight' show ones. So there's like three levels of tuning."

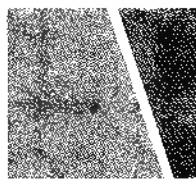
"The recording set, where the mikes are all up your nose and there's like 10 mikes on the drum set, requires less ring and a flatter sound. So the tuning and taping up — I tape squares on the drums — takes a lot of the overtones out and just leaves the fundamental tones. On the 'Tonight' show kit I don't tape as much, just a little bit to take the real excess ring out. Then when I play live gigs I play them wide open except for the bass drums which I muffle with strips of felt."

Drumming can be gruelling and physically taxing and that's why Ed strongly believes in keeping fit. He jogs three miles a day, five days a week, and does some exercises at home. "Since I've been running," he explained, "I feel like I play a lot better. My wind and endurance have improved."

"I also practice drumming about two hours a day. I do about an hour at home and I put some rubber pads on the drums on the television stage and practice for another hour. I feel that it's necessary for me, I could come to work and do my job without practicing, but I wouldn't do it as well."

A major love in the life of Ed Shaughnessy is his teaching and clinic work. Much of his time is spent touring the country, sitting down with young drummers and teaching them what only he can. He derives great satisfaction from it and with the development of three day seminars by the Ludwig company, Ed will be able to spend a good deal of time with students.

He has also turned his hand to writing, producing *New Time Signatures in Jazz Drumming* and *Big Band Drummer's Reading Guide*, both of which pass on the experience of America's most masterful drummer.



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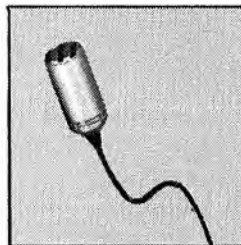
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Synthecheck

**Korg VC 10
Vocoder
£785 inc. VAT**

Those of you who are into synthesizers will no doubt at least have already heard of, if not heard, Vocoder. For example, check out the recent Herbie Hancock album, which contains Vcoded vocals. Now, Vcoders as a family have been around in various stages of development and sophistication for some years, but have until recently been restricted to studio-type applications, because of their prohibitively high costs and complexity of operation. In contrast, this new unit from Korg, the VC10, is the first and only self-contained unit with a built-in polyphonic keyboard sound source, and isn't too pricey.

In case you don't know, a Vocoder is a sort of voice synthesizer, in that it receives your spoken or sung words and adds, through standard synth components and processes, the same sorts of sound parameters, including pitch, as a normal synthesizer — in effect, a kind of super Sparky's Magic Piano. The input of this original vox humana information is via a microphone, plugged directly into the machine, and on speaking or playing, the desired tonality of the word is obtained by playing the keyboard; either as a single note, or as a chord. I can make this clearer by describing the Vocoder as I review it, and by the end, you'll either know about Vcoders, or will have torn these pages out for an airgun target.

Robin Lumley is a record producer and keyboard player who has won international recognition through his work with David Bowie's Spiders From Mars, Brand X and wide variety of production credits. He now divides his time between freelance producing and session playing both in Britain and the US.

This Korg version comes with a 32-note keyboard, with a pitchbend wheel sited to the left. On the panel above are lots of knobs and sockets which make the whole unit look familiarly like a synthesizer anyway, including, at top left, a tuning knob. Underneath the tuner is an octave control selector, which can move the range of the instrument up or down one full octave. To operate the machine, the microphone supplied is plugged into a socket on the top and brought around in front of your gob to a comfortable position, thanks to the goose-neck on which it is mounted. As the unit is to be fed through the usual amplifier/PA system, it is liable to feedback effects if you sit too much in front of, or near, the speakers you are using. The manufacturers also stress careful separation from other sound sources in a band or group, so that only the desired vocal information goes down the mike-line, and not any extraneous programme as well. Common sense, really. Anyway, with the mike plugged in, the instrument has next to be "set up". There's a VU meter mounted on the panel, and this reads out according to a select switch. Turn this to the right (MIC) and sing or talk into the microphone, adjusting the mike level knob so that the meter peaks at around zero — none of this smashing over to plus 5 and bending the needle, because the unit doesn't like it. As you're doing this, turn the final volume knob up until your voice becomes audible through the amp. What you've done so far is simply adjust levels so that you can comfortably trigger this box of tricks.

Now, in order to monitor what goes on in future, re-select the VU meter switch to the left





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Synthcheck

and turn the input signal balance control to the Keyboard position. This now means that as you speak or sing, any keys you depress while voicing will cause the Vocoder to get it together and do something nice. Because if you now sing or talk into the machine while playing the keyboard, you'll get a sound that has the same sort of tones and characteristics as your voice, but not the same pitch. The pitch always depends on the notes that you play, but the sound quality is always determined by the characteristics of your voice. Even if you speak, rather than sing, the sound produced will make your voice seem as if you were singing. There's a bit of a technique involved in getting this to work with good clarity. You must play a split second before you speak or sing. This needs practice as in effect, you have to play out of time: fractionally ahead. This is because the human voice displays its most prominent characteristics at the beginning of each word, so you have to have the electronics together a wee moment ahead to ensure that the Vocoder processes the whole word or syllable.

So this is the primary effect and use of a Vocoder, and this Korg version does it very well indeed. But there are further knobs and games to play on the front panel. Try the Vibrato for a start: a really nice chorusy sound happens when you play and sing a chord with some vibrato added. There's a speed and depth control so you can vary to suit your own natural vocal vibrato if you choose. Meanwhile, turning on the Ensemble switch produces an even more chorusy effect, while playing more keys gives the effect of adding more voices.

The Accent Bend can add a slight waver to the pitch, progressively more noticeable as you wind the knob clockwise. It's hard to explain what this gives you — you'll have to try it to hear — but I suppose a small amount added gives a more "human" sound. The pitch bend has the same function as a normal synth pitch-bend wheel: you can bend yourself up and down a fifth. Worked by a practised Minimoog Jan Hammer enthusiast, you can sound like the background music in an Indian restaurant.

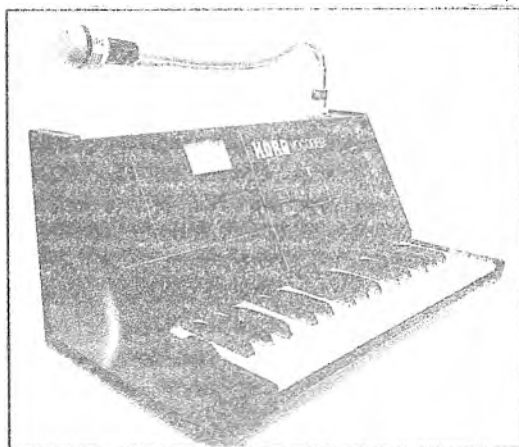
The input signal level we have left, so far, turned fully to the keyboard position, but if this is turned further round towards the Noise position, you'll bring in the Vocoder's own sound source; a noise generator. By making sibilant sounds yourself, and mixing in the

noise generator, you'll find a whole family of strange, eerie sounds, which are all controllable by your mouth as you proceed. Bob Styles, being a railway fan, has been using this idea to sound like King's Cross Station in steam days.

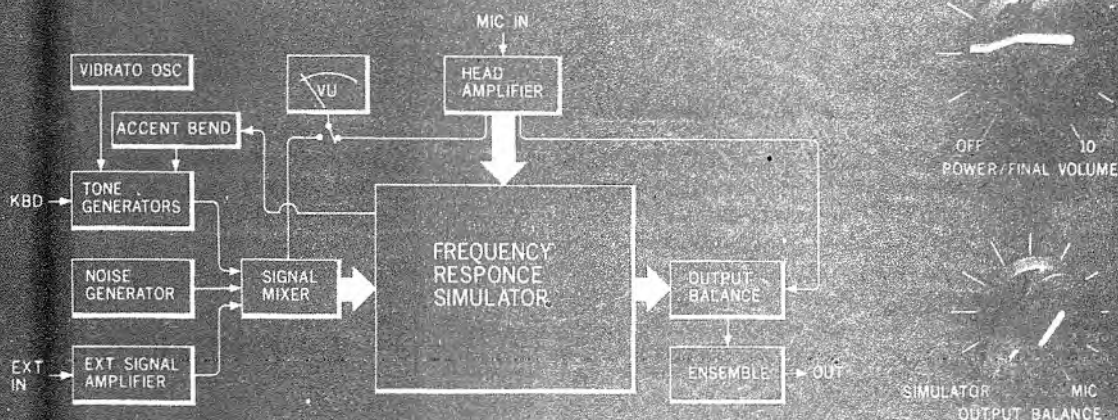
There's one more source of effects that the Vocoder can use, and that's external instruments. Sockets are provided for you to process guitars, keyboards or even pre-recorded tape sounds into the instrument. So you can see, you could have a lot of fun with one of these.

Perhaps you could fairly say that the Vocoder is a bit of a luxury instrument right now to most players, and perhaps most keyboardists would sooner spend their money getting the next love of their keyboard life, like a polyphonic, or a Stylophone, but the Vocoder is not for keyboardists alone. Any musician could get off on owning one, and as yet, the field is wide open for their creative use, both live and on record. As yet they're an untried factor — no one knows whether they'll turn out to have limited application or a whole future as an innovative instrument family. So if you buy one, you'll be out on your own, with really no-one to copy or to influence you in your usage. Which is quite exciting if you're the kind of musician who is into any kind of exploratory or experimental things. The Korg VC10 is a good one to start out with, as it works, with a bit of practice, really well indeed. And I can't give you a list of known chaps who have one as yet, except that I heard that Bart "Traf" Tragen got hold of one just recently, and seems impressed so far. (It fell on him.)

Robin Lumley



KORG VOCODER





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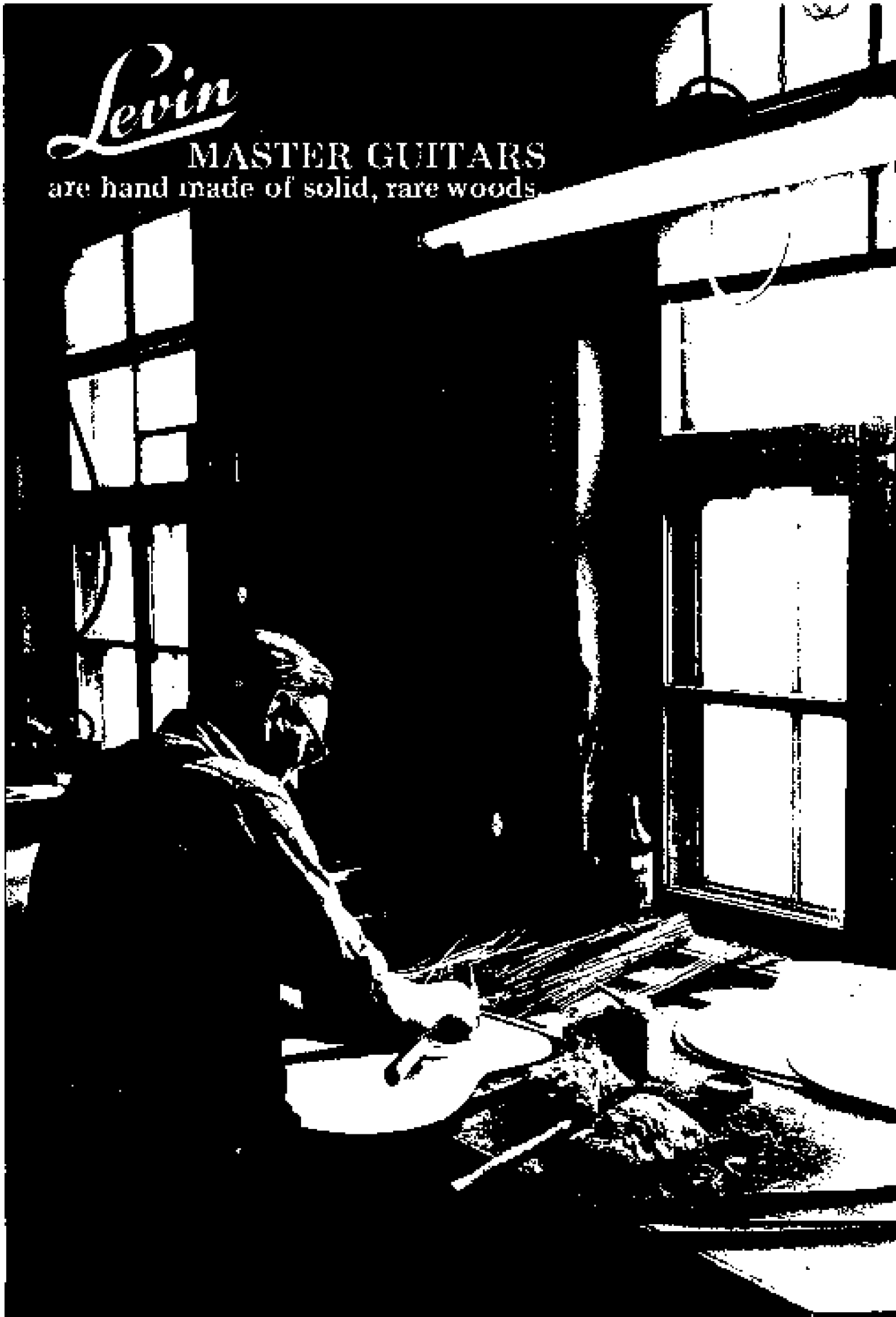
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The Washburn name should be well known to collectors of old guitars. It would appear that the original company ceased production some years ago, although many good instruments are still in existence.

However, there is now a new range of guitars, mandolins and basses produced under the Washburn name. The instrument chosen for review this month is one of the lower-priced acoustic guitars from this new range.

Although the Washburn company was originally American, this review guitar appears to have been made either in Japan or in Korea. (Our sample was not labelled with its country of manufacture).

Basically, it is a nice guitar and gives a creditable performance within its price range. I trust that the wording of the brochure will be amended. There is an unfortunate lack of such qualifications as 'laminated' (select spruce top) and 'imitation' (tortoise shell pickguard), and for that matter 'laminated' (rosewood sides and back). I shall not even consider the possible reaction of the Society of Marquetarians to the description 'Abalone-Type Marquetry around top and soundhole'. It is not marquetry. If we call plastic inlay 'marquetry', we debase the meaning and precision of meaning of the word, and we have then no word to describe the real thing. None of this is a criticism of the guitar, however, but of the literature used to promote it.

I try to avoid direct comparisons between similar and competing instruments, but if you consider the features offered by this instrument and its price, your comparisons would be limited to a fairly small number of instruments. Although the top is laminated, it has a better

treble tone than many laminated-top steel-string 'jumbos', and the quality of tone seems to be fairly constant from one end of the fingerboard to the other. If there is a weak point, it is on the third string around the middle of the fingerboard. It is not much of a weakness, and you will be very lucky if you find *any* guitar which has a completely level response.

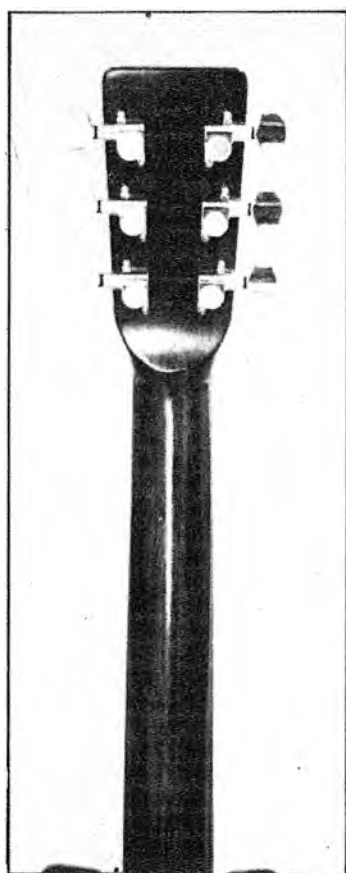
I have mentioned before that guitars seem to divide themselves into 'public' and 'private' guitars. I think this is a private guitar. Its tone seems to be best from the position of the player's own ears, and less good when heard directly in front, or at a moderate distance. Also it does not appear to have the exaggerated 'presence' and mid-range emphasis which is often built into guitars designed to reach to the back of a large audience. This also is no criticism of the guitar.

If you want to play a guitar at home for your own pleasure, you probably want a guitar which will sound good to *you* while you are playing it. Part of the discipline of being a professional involves accepting a sound which is uninspiring to the performer so that it may sound beautiful to the audience. If you don't want to be a professional, you don't have to go through all that, and you can afford the considerable luxury of an instrument which sounds just right to your own ears. Within the lower price range, this Washburn is one of those guitars: it sounds best to the person who is playing it. Rich professionals can afford two guitars, or a fancy custom-made job which sounds good to everyone. Really rich professionals can afford a fancy foldback system so they can hear almost as well as the audience, but who's rich these days?

Guitar-making is not yet as predictable an art as violin-making, and even violins can show considerable variation between samples of the same model. It is certainly possible that, if you search around, you may find an example of this Washburn model which sounds at its best when miked for recording, or when heard from the middle of a large folk-club audience, but I don't think this is very likely. For this sort of application, perhaps you should look at the D.30 S or the D.50 S from the same company. (If you want to record a D.25 like this one, put one mike in front at about 1 meter and one over your shoulder pointing down in front of your right ear. It looks ridiculous, but it works.)

The neck on my sample is fairly deep, but nicely shaped and it feels in some ways similar to the sort of Martin neck with a distinct ridge down the center. It feels a bit bulky behind the nut and the third fret. This is probably specific to this one sample, but if you are trying one of these guitars it may be worthwhile to check the feel of the neck right along its length. Actually, it is usually a good idea to check this on any guitar you intend to buy. The neck appears to be made of nato wood; it is nicely finished, and straight. It is also fairly rigid, which means that although there is a truss-rod adjustment inside the body, you are not likely to need it very much.

The head is very similar to the traditional Martin head in outline. It is faced with rosewood veneer, with a gold and black 'Washburn'



emblem, and like the back of the neck, the head is finished with a semi-gloss lacquer.

The nut appears to be moulded plastic. It is fitted to the guitar quite neatly, but there is a tendency for strings to creak in their slots as they are tuned. Some of the string slots could benefit from being cut a little lower, and they would all benefit from a trace of graphite as a lubricant. Any tuning uncertainty on this sample comes from strings sticking in the nut; all six machine heads work particularly well on my sample. They look very like Schaller units, but I have a suspicion that they may be Japanese. If they are copies, I really do not know how the company concerned can continue to produce such apparently exact replicas without inviting trouble. Nevertheless, they are very good machine heads, if you like them plain and efficient.

The fingerboard is neatly made from plain, but good quality, rosewood with large pearl dots in the front and small white plastic dots in the edge. The frets are of medium height and width, and smoothly finished at the ends. There are no obvious sharp fret ends along the edges of the fingerboard. The tops of the frets are smoothly rounded. In fact they are so smooth that I suspect there has been no attempt to level them after fitting into the fingerboard. To have smooth rounded frets, one generally has to do a great deal of work on them or very little work. Anything in between tends to leave at least some of the frets with flattened tops. With the action on this review instrument as supplied there are no buzzing or unclear notes. If one wished to lower the action, adjustment to the bridge and nut would be relatively simple, but it is possible that additional work might be needed to dress the tops of the frets level. It is generally not a good idea to buy a guitar with a high or medium action on the assumption that it will work well after the action is lowered. Nevertheless, many people continue to do just this, and some of them are disappointed with the end result. If you want a very low action, either find a guitar which is right for you as it stands, or have the guitar adjusted to suit you *before* purchase. You are unlikely to receive this sort of service from shops which advertise the lowest possible prices. I would not personally wish to take the action on this sample any lower; I find it easily playable as it stands.

The back and sides of this D.25 are finished on inner and outer surfaces with accurately-matched rosewood veneers. Without sawing the guitar in half, I cannot say whether any other woods are used between the layers of rosewood, but as the instrument is inexpensive, sounds reasonable and appears to be fairly sturdy, I don't think it is really important to know what is under the surface.

The internal construction is fairly conventional for a large Martin-type guitar, although some of the timbers employed are not those usually found inside European or American guitars. The soundboard is of laminated construction and although I cannot be certain, all three layers appear to be some sort of spruce. (Some of the cheaper guitars employ thin spruce outer veneers and any convenient timber in the middle. This might possibly have

some acoustic advantage if done very cleverly, but usually it is done for cheapness and often produces a harsh or unbalanced instrument.)

Whether by accident or by design, this instrument has an unusual sound radiation pattern. The most obvious high frequency lobes are not pointing forward from the front of the instrument, but sideways, at a small angle to the longitudinal axis of the bridge, (i.e. pointing toward the player's head). Irregular radiation patterns are common on large guitars, but in this case the effect is particularly noticeable.

The bridge is made from rosewood, in a conventional pattern and has the usual arrangement of bridge pins and a one-piece inserted saddle. Allowing for slightly worn strings, the intonation on this sample is as near perfect as practicable with a straight one-piece saddle. There are certain limitations with this kind of saddle, but the same limitations exist on guitars costing many times the price of this D.25 and most people seem to be able to live with them. The saddle is beginning to lean forward on my sample, partly because it is not a perfect fit in its slot, and partly because the plastic material used for the saddle is beginning to bend under the pressure of the strings. I think this could be improved.

As mentioned in the brochure, the edges of the front and the soundhole are bound and decorated with plastic inlay, including strips of multicolored plastic 'abalone'. This is available on several Japanese guitars, and it looks quite convincing from a reasonable distance. On this sample, the imitation abalone and all the other black and white bindings are fitted very neatly. Also their widths are chosen to give a balanced appearance to the guitar as a whole. Although the brochure tries to describe this plastic inlay as marquetry, it fails to mention that the back joint, and bottom end joint by the strap button, are decorated with attractive inlay strips of *genuine* wood mosaic inlay. The rosewood on this sample is fairly plain, and these colored inlay strips provide a nice contrast.

Conclusion

An interesting guitar, probably made in Japan, but carrying an old-established American name. This sample was easily playable as supplied and apparently designed to sound particularly good to the player. Probably not so good for public performance work. Well finished with no buzzes and no sharp fret ends. Its limitations are significant but they are appropriate and entirely reasonable for its price range. It is well worth considering for anyone who wishes to play at home, for his/her own pleasure. Under these conditions it can give much pleasure for quite a modest price.

Stephen Delft

Measurements on Washburn D.25

Ser. No. 80720

Scale length 651mm

String spacing at bridge 55mm

String spacing at nut 35mm

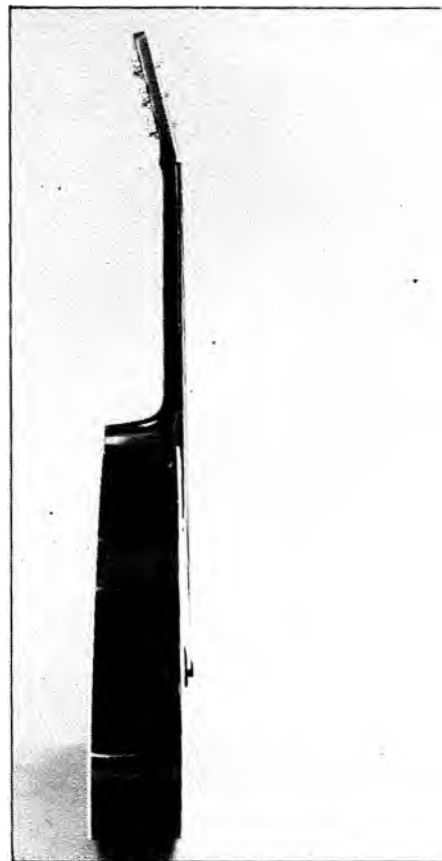
Fingerboard width at nut 43.5mm

Depth of neck at first fret 22mm

Depth of neck at 10th fret 26mm

Action as supplied 2mm treble/2.9mm bass

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





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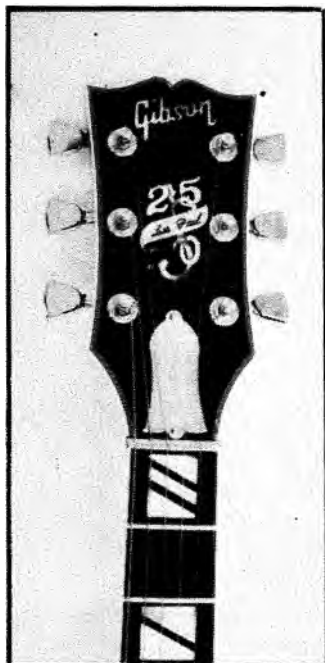
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Guitarcheck: 2

Gibson Les Paul 'Silver Anniversary' Around £1,300 (limited edition)



It is not very often that anyone has the opportunity to celebrate the 25th anniversary of an electric guitar: rarer still to celebrate a guitar design which started 25 years ago, and is still today a standard of reference in the music business. To celebrate the 25th anniversary of the introduction of the Les Paul guitar, and also coincidentally Les Paul's 50 years in the music business, Gibson have produced a special limited edition of Les Paul models, with deluxe features and fittings, and a few refinements not found on the standard issue models. (I am advised that numbers really are very limited. Anyone interested should make their enquiries as soon as possible.)

This is a very fancy guitar but it is also a delight to play. The neck is nicely shaped and is made from three layers of flamed maple with two dark wood stripes between them. Many Les Paul models have mahogany necks in one or more pieces and the older models generally have necks which are quite bulky by modern standards. This neck still seems to have the characteristic feel of the older necks, but it appears to be rather less deep from front to back. Possibly the greater strength of hard maple allowed a little more to be shaved off the back without causing any weakness or loss of rigidity. I can't imagine anyone throwing this sort of guitar about the stage. It is likely to be handled carefully, but just in case anything nasty should happen to it in transit, it may be of interest that a well-made maple neck is also less likely to break at the head — or anywhere else, for that matter.

The head and neck have attractive and well fitted inlays in real pearl. The "25/50" inlay in

the head is not only distinctive, but also graceful and pleasing in appearance. It is easy to produce a distinctive logo, but those which are distinctive, intelligible and in good taste are rare. I suppose that sums up the whole guitar really. It is a bit flashy, but it is flashy in very good taste.

The machine heads appear to be Schaller units with the Gibson name on the back. Possibly to indicate the combined gold and silver anniversaries, the machines have gold bodies with nickel buttons, giving a gold and silver appearance. In fact this is a very sensible idea, as the gold plating would eventually wear off the buttons in patches. The "silver" finish will survive much more use before it starts to look worn.

The truss rod cover and the nut are made of polished brass, and match the gold plating on the other fittings very well. Some people say that brass nuts give a better sustain. I am not sure how this could have a significant effect on anything except the open strings, but it looks nice and it makes life a little easier for the elephants. The brass nut is nicely shaped and fitted to the neck, with no sharp edges. The string slots are set a bit high above the frets to my taste. I think one can reasonably assume that this sort of guitar is going to be adjusted to suit the person who buys it, and under these circumstances it is better that the strings are too high at the nut than too low. They can always be adjusted lower, if needed.

The fingerboard is ebony, of reasonable quality, but not what I would have chosen for a guitar of this quality. The grain markings indicate several changes of grain direction



within the length of the fingerboard. The fretting is also of reasonable quality, but not as good as on some other expensive Gibsons I have seen. The frets are rather more square than I would like, and tend towards sharp corners in places under the first string and towards the treble edge of the fingerboard. The inlaid markers at the first and fifth positions are not placed centrally between the frets on each side. Also the bindings on the edges of the fingerboard and head have some blemishes consistent with a slightly hurried scraping job. This is also apparent at the end of the body edge binding where the neck joins the cutaway. The binding in general seems to be this guitar's least desirable feature. There are other jointing and fitting blemishes in the binding behind the neck joint.

Cleaning up binding is neither easy nor pleasant, and it tends to wear the skin off the sides of one's fingers. No-one should have to do that job for more than one or two hours per day, and I have the impression that this cleaning up job was done under some sort of pressure. I have seen one other Silver Anniversary model which had, if I remember correctly, very neat and clean edge bindings. I hardly think that my sample can be typical in this respect. I must publicly acknowledge the scrupulous honesty of Norlins in sending me what is obviously not a carefully pre-selected sample. I would not wish it any other way (and incidentally, I wouldn't accept it any other way, either).

The body is made in the traditional Les Paul manner, from mahogany, with a curved maple front. In common with some of the very old Les Pauls for which people will pay astonishing prices, this instrument has the front made from "book-matched" flamed maple, with a rich and subtle sunburst finish. The edges of the body, and the back of the neck are carefully tinted to match the edge of the sunburst on the front, but the back, for some reason, is finished in a light mahogany colour. This doesn't match anything else on the guitar and I think it looks a bit odd.

The bridge is a conventional "Tunamatic" of the more recent type. It fits neatly on its solid support pillars, and all its adjustable string saddles appear to be quite free of rattles. (This later model Gibson Tunamatic bridge and the Yamaha bridge in a similar style seem to be about the best of their kind for consistent freedom from rattles.) The tailpiece is unusual in that it is fitted with fine tuning adjusters for each string. Regrettably the second string adjuster on my sample is rather stiff, but in principle, I find these adjusters a great convenience. A friend tells me that some American players have bought these adjusting tailpieces and fitted them to their own Gibson guitars. Apparently they work well and also look appropriate on the Gibson Artisan.

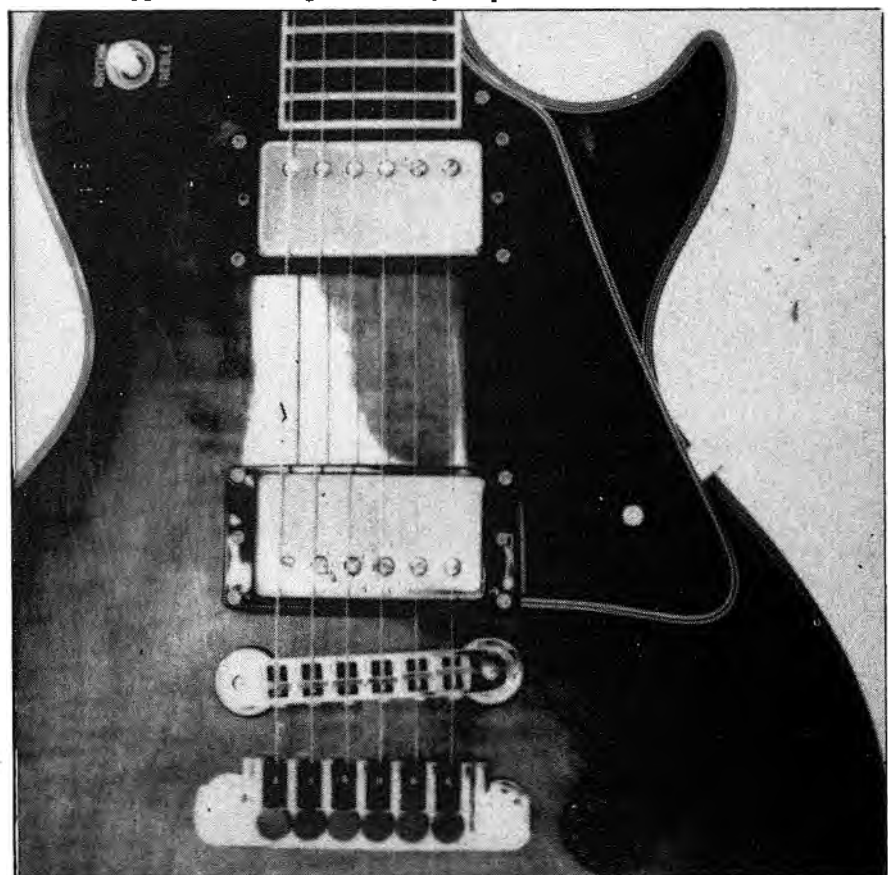
An old friend and customer who does a lot of fancy studio work suggested that the screws should be moved to the rear edge of the tailpiece bar. He found it difficult to use his normal palm damping technique, because the screw heads prevented him from resting the heel of his hand on the tailpiece. As most of my time in studios seems to involve obscure instruments which no-one else will play (at least not at two in the morning) I will respect his opinion and

suggest that while I am happy with the design of the tailpiece as it stands, perhaps Gibson might reconsider the position of the screws. This tailpiece is a real improvement in tuning ease and efficiency: a similar mechanism is used on instruments of the violin family, but I have not seen it before on a guitar.

This Silver Anniversary model has the standard "selector switch, two tones and two volumes" for the two pickups, and in addition one other switch, which appears to operate a coil tap on both pickups. The pickups are encapsulated in black epoxy, which should stop all but the most determined from removing the gold plated lds. They appear to be a slight variation between one or two of the more recent Gibson humbuckers. They have a full bass and a clear, smooth treble and I like the overall sound. They are described as the new Series VII pickups and I can't tell you much about their internal construction because they are full of black epoxy, and too recent to be on any of my lists.

The wiring inside the body is entirely screened, either inside co-axial cables or by metal shells screwed over the control areas, but with one exception. The coil-tap switch does not fit within the larger metal screening shell, and so it is mounted outside, unscreened, with a hole cut in the side of the shell for wiring access. This is inconsistent. Either a guitar is completely screened at considerable trouble and expense, or it is not completely screened. This instrument has had the trouble and expense, and is not completely screened. Might I suggest a small tinplate hood, soldered to the hole in the side of the main screening shell, so that it encloses the switch and its immediate wiring when the shell is screwed into place.

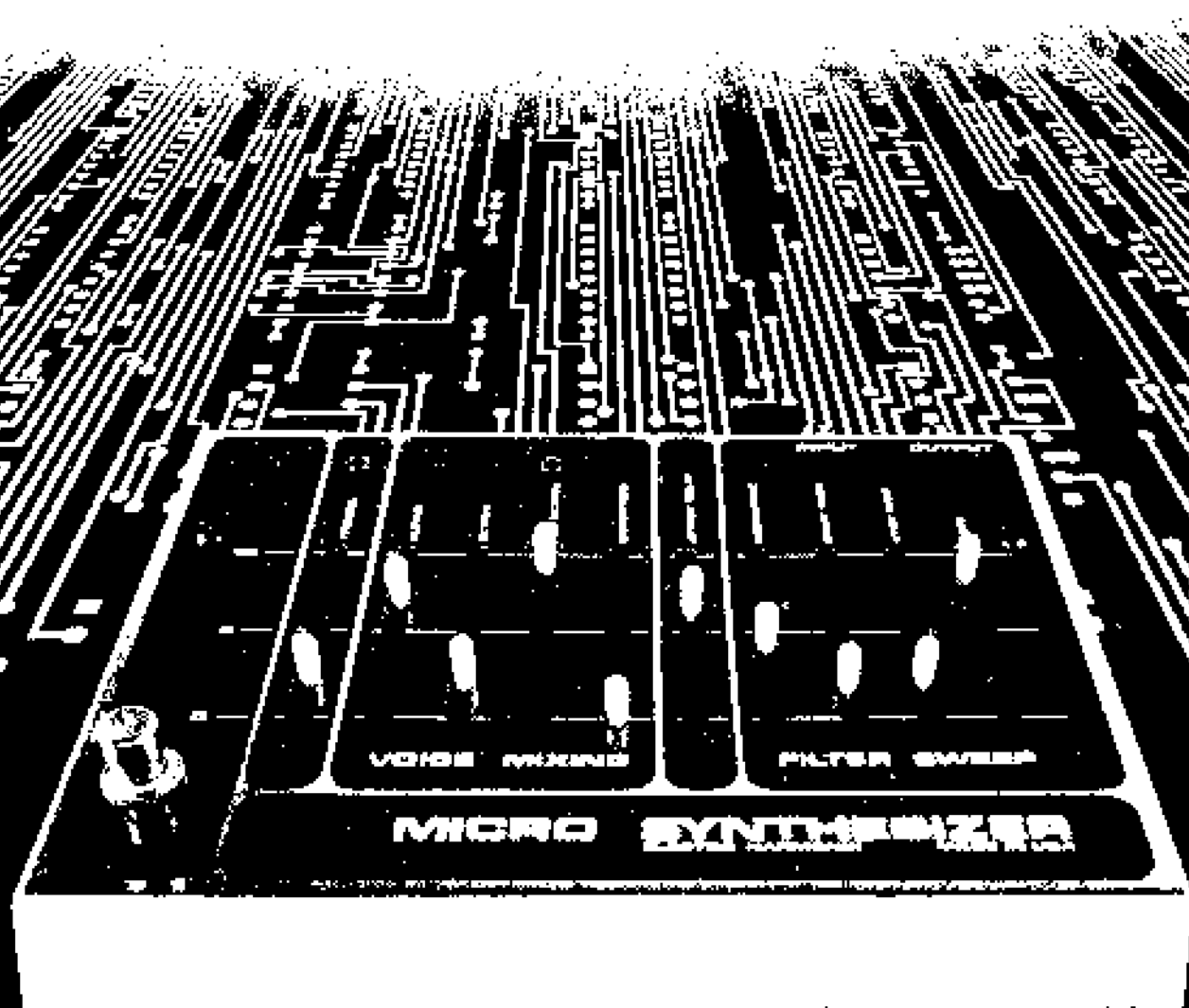
While I am on the subject of wiring, there is a free lead supplied with this guitar. If my sample ►



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Guitarcheck: 2

is anything to go by, I can't recommend them for reliability. The plugs and the cable are of good quality, but the solder joints are poor and likely to give trouble. Either re-solder both ends decently or throw the cable away. Gibson don't make the cable, and it is nice of them to include a free one — but *somebody* made it, and it is nothing to be proud of.

Conclusion

My review sample is a beautiful guitar to play, and sounds about as good as my own standard of reference for this sort of guitar: an early Les Paul with a particularly good sound.

Very few guitars of any age or make can compare favourably with this standard. The Les Paul "Silver Anniversary" sent for review does produce a comparable performance, it has the best Les Paul-type sustain I have heard from a new guitar in years and all its tones are different and useful. At least to my standards it must be said to work very well indeed. You may find that a little bass cut on the amp is a useful starting point. Of course it doesn't sound exactly the same as the old guitar. It doesn't have to. It doesn't look like a re-issue of the old model and there is no reason why it should sound identical. The point is that I consider its performance to be in the same class as the best of the old Les Pauls.

I am not quite so happy about the *appearance* of the sample sent for review. I appreciate that really careful and sensitive finishing can absorb a disproportionate amount of time in the construction of a fine musical instrument. However I would have thought that this particular limited edition was an appropriate occasion to *spend* a disproportionate amount of time on finishing each instrument to something near perfection. There is also the question of wood selection. The front of my review sample is moderately flamed but it does not look as attractive as the instrument shown in the advertisement photograph which appeared in the UK. If I had placed an advance order based on this picture, I would have been less than delighted with the appearance of the guitar when it arrived. (This applies only to the cosmetic appearance; my sample *plays* beautifully.) I also appreciate that wood is intrinsically a variable material, but specialist wood suppliers are quite adept at grading flamed violin and viola backs, so I don't see why the maple fronts of top quality electric guitars in a very limited edition should not be reasonably consistent.

If you consider this guitar as a fine musician's instrument, which I believe it is, all this about flames and finishing is unimportant. You have a well-made, reliable, great-sounding guitar. It is expensive, but no more so than a good "one-off" from an individual maker. If however, you consider it as a collector's item — and it is advertised as a collector's item — then I feel that some collectors might criticise some of the finer points of detail and workmanship. Of course there *are* collectors who will buy anything on which they can make a profit in a few years' time. I believe some of them would buy a stuffed pig, if they knew it was a limited edition. There are others for whom at least part of the pleasure of collecting fine instruments comes from owning, and possibly also playing, representative examples of historic instruments, and representatives samples of the

best of modern craftsmanship. While the Silver Anniversary guitar is certainly a historic instrument, and is very likely to appreciate in value, I do not feel that my sample represents the peak of guitar making craftsmanship in the late 1970s. It is very good, but it is not quite perfect, and for such a prestigious celebration, perhaps they should all have been perfect.

Stephen Delft

Measurements on Gibson Silver

Anniversary guitar

Ser. No. 725 78041

Scale length 625mm

String spacing at bridge 52mm

String spacing at nut 36mm

Fingerboard width at nut 43mm

Action as supplied 1.4mm treble/2.2mm bass

Lowest "standard conditions" action 1.3mm treble/2.4mm bass

Depth of neck at first fret 20.5mm

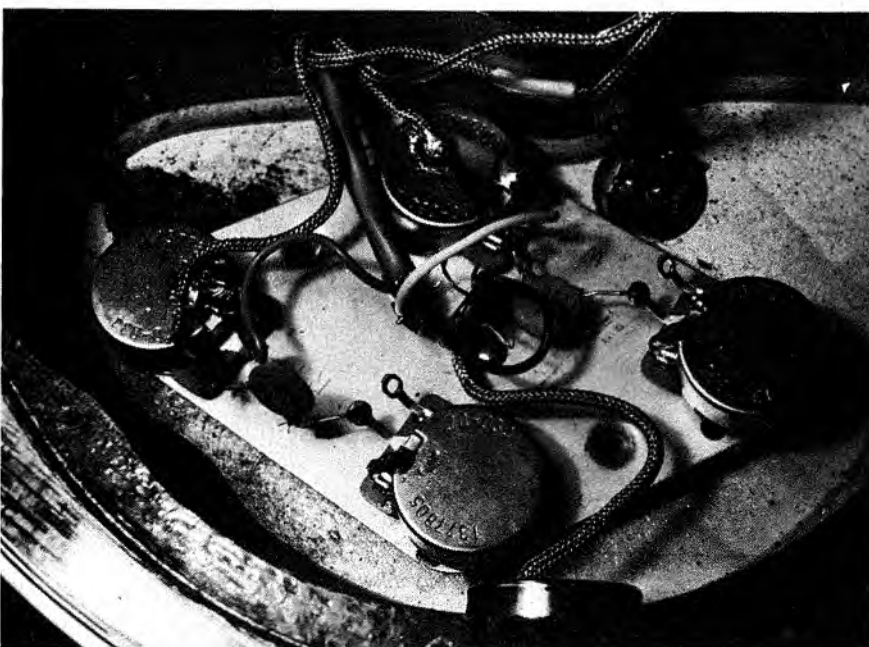
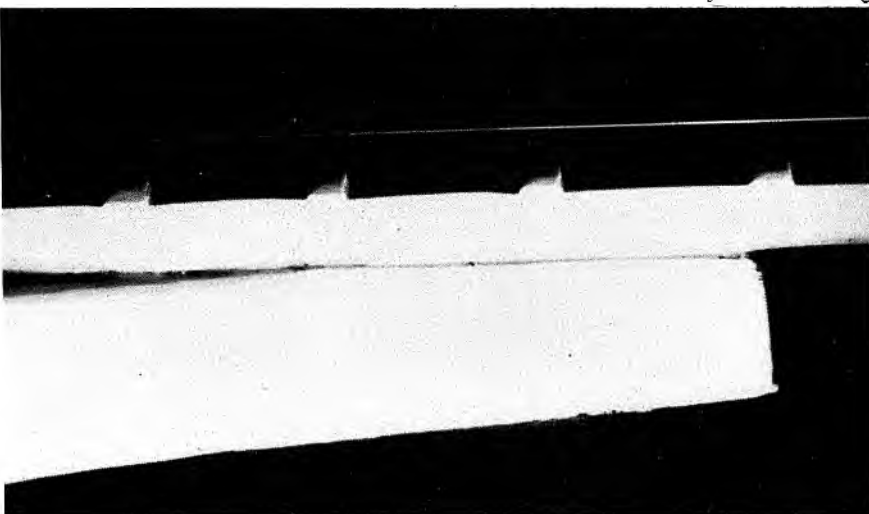
Depth of neck at 12th fret 25mm

Depth of neck at 15th fret n/a (heel begins at 13/14)

Frets on fingerboard 22

Body joins at 16th fret

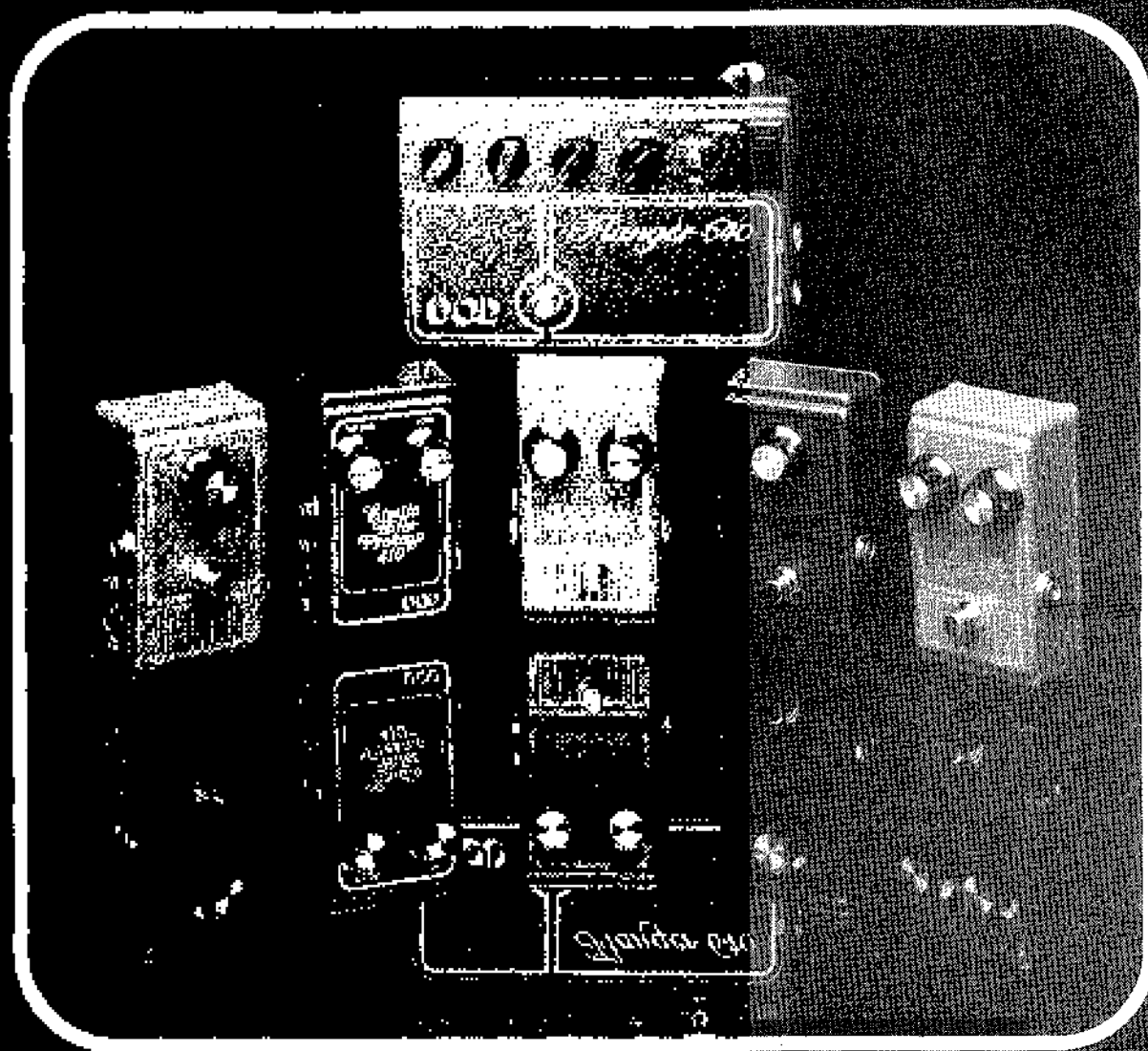
Poorly cleaned binding



Internal wiring

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Guitarcheck:3

This is one of the new Kawai electric guitars recently introduced in the UK by Rosetti. The Kawai guitars are made in Korea, but they are all fitted with Mighty Mite American pickups and all the guitars have American Badass bridges as standard. Most of the range have the distinctive Kawai slotted head, with the machine heads mounted on the sides, and the buttons facing backwards. My impression is that this makes string changing a little more difficult and tuning adjustments a little easier.

My catalogue describes this model as having a three-piece mahogany neck, but the sample sent for review has a nicely made one-piece mahogany neck (unless you count the usual little pieces stuck on the sides of the head). The guitar has an optional hard case, which looks attractive, is reasonably strong and seems quite good value at £39.95 (inc. VAT).

There are now several guitars of Korean manufacture available in the UK fitted with various American accessories and/or pickups. This is one of the more attractive examples, although the price is also rather higher than some of its less well-finished competitors. In particular, the frets are noticeably better finished than one would expect on a guitar made in fairly large quantities. They are all smooth, there are no sharp ends or edges, and there are no rubbing or scratching sounds when one bends strings. In fact, of course, someone has stoned and polished the frets after it arrived in the UK. My compliments to Rosetti's repairman.

There is nothing suspicious about this review guitar having stoned and polished frets. To the best of my knowledge, every single Kawai is checked and adjusted by the importers, and all the frets are finished to this standard. If you had this sort of job done privately, after you bought the guitar, it would cost you at least £20 and possibly twice that amount. You should bear this in mind when considering the instrument's price tag.

Unfortunately, the neck on this sample is not as straight as it might be, and in spite of the excellent fret job, it is not really suitable for very low action settings. I have looked at several other Kawai guitars at the last Music Trade Show, and although there was some variation in neck straightness, most of the other samples were significantly better than this one. It is not a bad neck, and there are plenty of bad necks on sale attached to guitars in various price ranges.

The body of this 12 XL model is in solid mahogany, with a nice decorative binding around the front edge, and a good natural colour lacquer finish. The neck appears to be highly polished, and the body is slightly less glossy.

The electrical system consists of two Mighty Mite "vintage" pickups, with volume and tone controls for each pickup, a standard three-way selector switch, a phase switch and a coil tap switch operating on both pickups. This gives a useful range of tones, and by operating the tap and phase switches, one has two single-coil pickups, connected so as to be hum-cancelling. If you have to play in an electrically noisy environment, you may find it useful to remember that there are *three* possible pickup selections which are "humbucking".

The bridge system used is the original Leo Quan Badass guitar bridge, including tail-piece and bridge in one unit, supported on two pillars. It has all the usual adjustments and no obvious problems on this sample. You may need to check that there is enough clearance between the bridge frame and the adjacent pickup to allow the string ball-ends to pass between them. On my sample, I had to adjust the whole bridge further back on its screws, and then bring the string saddles forward to their original distance from the 12th fret.

Conclusion

This is a nice tidy guitar, with a useful collection of features. Unfortunately, this neck is not a particularly good example, although it is greatly improved by the importers' own adjustment work. The machine heads on this sample are a bit loose, and I think that should have been noticed before delivery. Also I should like to see some screening on the inside of the back cover plate. This is not a cheap guitar, and a bit of foil doesn't cost much. Although the various pickups and switches allow a wide variety of sounds, my overall impression is that the sound is similar to one of the older flat-fronted Les Paul Juniors. In general it has a bright and punchy sustain "envelope shape", rather than a long, smooth one.

This is a relatively expensive guitar, when compared to the prices of other Korean instruments, but it is well finished (which some of the others are not) and it comes ready to play, with no need to "wear in" the frets.

Stephen Delft

Kawai KS12XL
£315 inc. VAT

Measurements on Kawai KS 12 XL

Ser. No. 71312

Scale length 630mm

String spacing at bridge 49mm

String spacing at nut 37mm

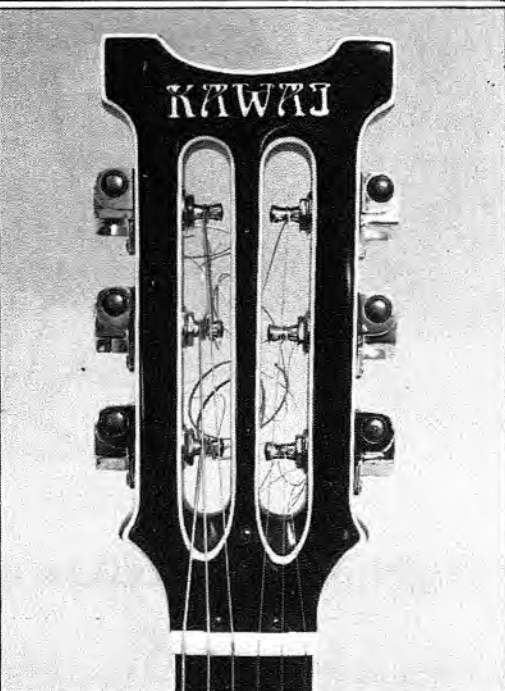
Fingerboard width at nut 44mm

Lowest "standard conditions" action 1.8mm
treble/2.0mm bass

Depth of neck at first fret 22mm,
at 12th fret 25mm, at 15th fret 32mm

Frets on fingerboard 22

Body joins at 17/18th fret



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Drumcheck

Synare 3 Syndrum SDS III

With the popularity of the electric guitar not exactly waning, and the ever-progressing synthesizer being taken up by keyboard players everywhere, it was only a matter of time before drummers and percussionists got themselves plugged in. Even brass and reed players have a fairly comprehensive selection of "bugs" to choose from to amplify/electrify their instruments. Until recently, "treating" the drums probably meant either contact mikes into thousands of pounds' worth of ARP (such as Billy Cobham) or the old standby, a wah-wah pedal between the snare mike and its output stage. With the former prohibitively expensive and the latter just plain boring, it's been a pleasure to see the emergence of the drum synth over the last two years or so, bringing electric drums within most drummers' reach.

At this stage, I would like to offer some answers to some of the more common criticisms I've heard levelled against drum synths. First, in reply to the reactionaries who disapprove because they think they can make you play faster or whatever: I hope you get better soon. Secondly, it is true that "the noise" that synth drums are well known for is virtually being done to death, but like any aural gimmick (wah-wah guitar, phasing, etc.) punters and musicians alike will eventually get fed up and it will subsequently be used less, with more imagination and, most important, with a little more taste. A parallel can almost be drawn between the synth drum and a "Chinese" cymbal. Struck once or twice at just the right point during a number, it can bring a different "colour" to a passage or tune. Played incessantly (or worse, played incorrectly) it is just tedious. I'm not saying drummers who play time on them are wrong (Mel Lewis is a good example of how to play one properly), just that it's an easy sound to abuse.

Thirdly, I've read about and met people who say they would rather spend the money on a small synth such as the Minimoog. In some respects the value-for-money quotient would be higher and of course there's not too much that synth drums can do that an instrument such as the Minimoog can't. The main points against such a choice are: (1) the synth you choose would have to be four-voice or four-channel as

both the SDS III and the Syndrum "brain" are basically four-channel polyphonic; and (2) hitting a keyboard with a drumstick is just a mite impractical (assuming you wish to incorporate the synth with your kit as opposed to overdubbing in the studio, thereby ruling out "live" work), so an external triggering device is essential. With such a device, you've obviously increased the cost and also moved back and closer to the principle employed by Syndrums and SDS III.

Finally, the price. This is up to you. A pair of the Synare 3s are reasonably priced and from then on it gets expensive. The decision is "am I going to explore the possibilities of the device and still be using it in a couple of years?" as much as it is "can I afford it?" If all you want one for is to make fashionable sneezing cat noises (like Rose Royce) you're better off hanging onto your money. Obviously the instrument has its limitations; it's not going to take a lifetime's search to suss it, but if you're intrigued by the idea of a different type of addition to your drum set, then save up and get one!

You've probably gathered by now how I feel about synth drums, but I must admit I wasn't keen initially. The possibilities gradually became apparent and I regarded their purchase as important as — or more important than — a special drum or cymbal. I reiterate that, like anything else in the wrong hands, it's just an unpleasant noise, but thoughtful use can obviously change that.

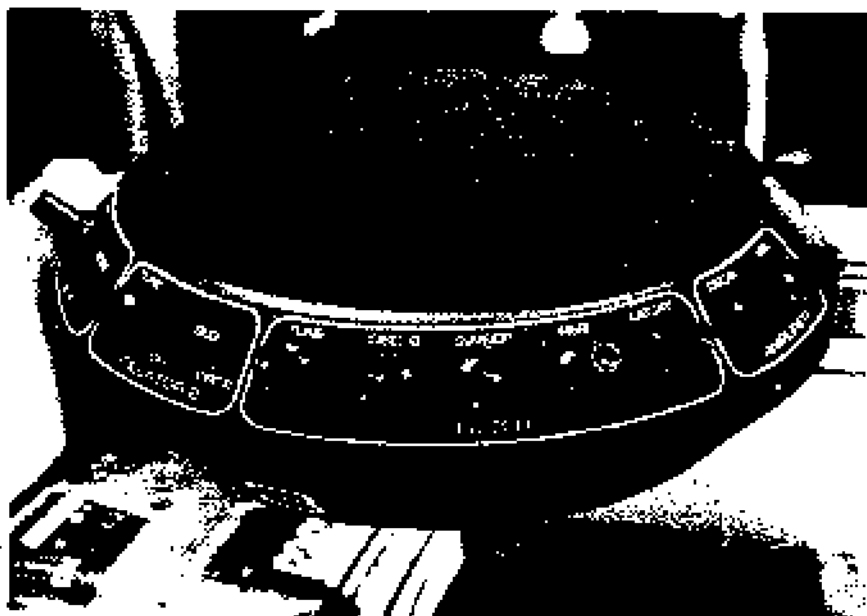
Although there are more than three drum synths on the market, I've chosen these three as they're the most commonly available and the most widely used. I'm sure it won't be long before others start appearing on the market — I'll be interested to see what the Japanese come up with, for example — but until that time it's pretty much down to these three models.

The Synare 3

Star Instruments of Connecticut, USA, have been building percussion synths for some years. Synares 1 and 2 are more complex than their latest model and look like small synths, only with series of pads where the keyboards would be. The success of the Synare 3 is undoubtedly due to the combination of compact size and ease of use. The unit looks UFO-ish — like two plates face to face — and the controls protrude from the side. On the top side of the two metal "plates" is a piece of thin sponge-like rubber that feels a little like playing a practice pad in terms of its response. Two holes are drilled in the underside to accept a Ludwig eye-ring/wing nut type bracket, but any similar style bracket can be fitted. This makes mounting on a concert tom stand a simple operation. The metal casing houses two small 9v batteries, and the unit has a rather special advantage of only being "on" when it is struck not (as is more common with battery-operated devices) when the jack is plugged into the socket. Unlike the Syndrum and the SDS III the Synare is self-contained — there is no other unit to connect — and it connects to the amplifier or mixer desk by a standard guitar lead from the jack socket mounted next to the controls.

The controls are divided into four different sections which partially affect each other. I say

Synare 3



"partially" because certain sounds are only operable when employing and "mixing in" other sections. At first, I found this facet off-putting - I was turning controls and nothing was happening. What is necessary to do and what I foolishly attempted to omit was reading the manual. Although I've had more time to spend with the Syndrum and the SDS III, I did find their controls better ergonomically; common sense brought results quicker than with the Synare. The four sections are divided thus: two oscillators, a filter section and an overall sustain and output volume section.

The oscillators are almost identical, each having a tune pot and a three-position switch - left, centre, right; left is off and right is on. This is the basis of the synth drum sound. The oscillators create what you and I would call a note. In the middle position, Oscillator One produces white noise. (A television switched on with no programme being broadcast produces a similar noise.) This basic noise can be modified and a sound vaguely akin to a snare drum can be obtained. (In my opinion, both the Syndrum and the SDS III produce a more realistic snare sound when the corresponding controls are employed.) With the switch in the middle position on Oscillator Two, it becomes a Low Frequency Oscillator. This acts as a kind of vibrato upon the other sources of sound, i.e. Oscillator One or the Filter section when used as a source. The tune pots of both oscillators are pitch controllers and when Oscillator Two's three-position switch is in the middle (LFO) position, the tune pot controls the speed of the vibrato.

The third section - Filter - either acts upon the sound produced by the Oscillators, or can become a sound source itself. It has five pots: Tune, Oscillator Two, Sweep, Resonance and Decay. The Tune pot sets the pitch of the filter and the Oscillator Two pot determines how much of the Oscillator Two section you bring in, whether it is used as an oscillator or an LFO. The pot marked "Sweep" affects the pitch fall - this is the control that gives you *that* sound! The more you turn the control, the greater the amount of pitch fall - the further the note falls from the setting. Also, as the Synare is touch-sensitive (like the SDS III and the Syndrum), hitting the pad harder produces a higher note and hitting it less hard produces a lower note. Incidentally, the Sweep control only works one way; you can't bend the note upwards. The Resonance Control affects either or both of the oscillators and when it is turned fully clockwise, the Filter section becomes a sound source. (It is in this setting, for example, that you could employ the LFO switch on Oscillator Two and add a vibrato to whatever sound you had set up on the Filter section.) The final pot, Decay, determines how long the pitch fall will take when the Sweep control is used. Anti-clockwise, the fall is fast and turning it clockwise, the fall time is lengthened.

The fourth section, Amplifier, has a Decay control which affects the overall sustain - long or short - of the final sound, and a Volume control which varies the output to whatever you have it plugged into (control desk, amplifier, etc.).

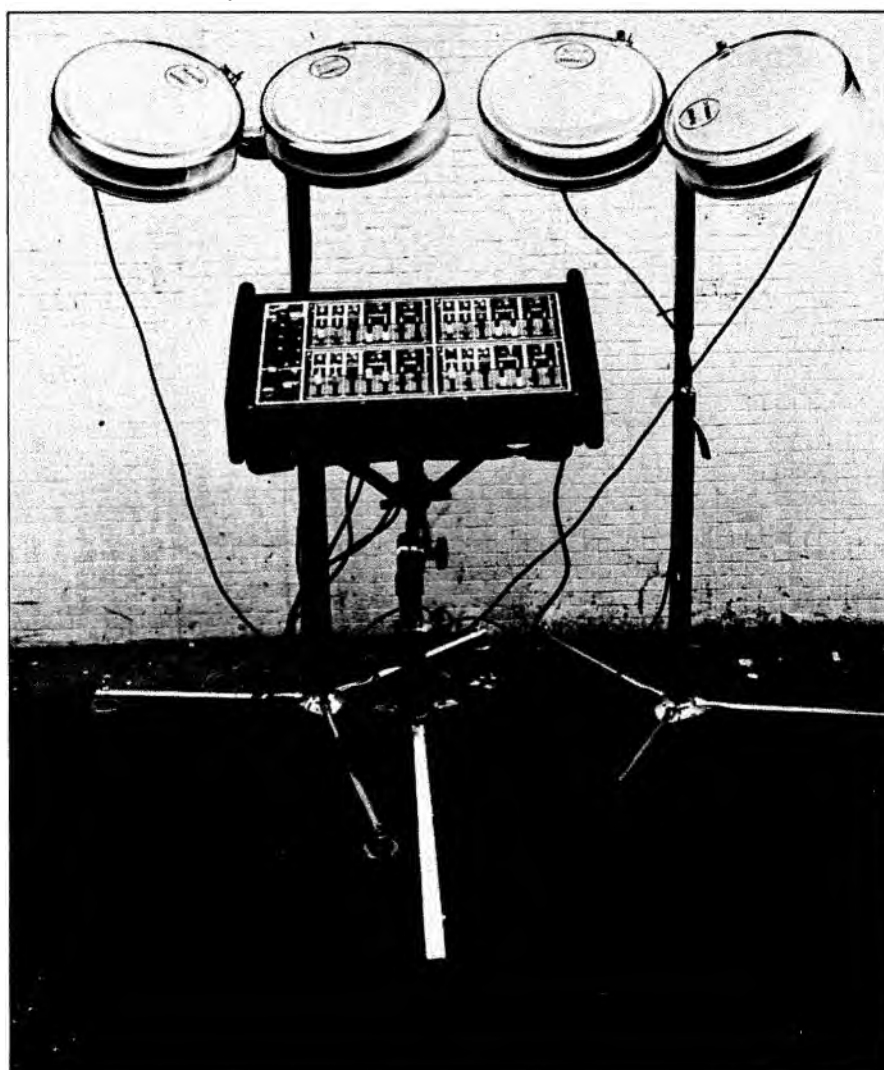
As I mentioned, although the Synare 3 is far from complex, the logistics of the controls

do take time to get to grips with, especially if - like me - you don't really understand synthesizers! With a recommended retail price of £170.00 plus VAT (shop around!), it's without doubt the most competitively priced of the three synths. It is also the least versatile. However, by itself it is a worthwhile buy. If you think that drum synths have a limited application to your work, but are nevertheless interested in them, one (or two) could be just the job. What I wouldn't recommend is getting four of them, because at that sort of money you're getting close to the price of the other two synths available without all the advantages that they have. As a straightforward drum synth, it is a worthwhile purchase. (Thanks to Mac at Rose-Morris for his help and to Henrit's for their definitely non-dusty Synare 3!)

The Syndrum

Although Star Instruments have been manufacturing the Synare longer, there's not much doubt in my mind that Pollard Industries' Syndrum is the model which has popularised the idea of synthesizer drums. Jeff Porcaro on Carly Simon's *Nobody Does It Better* was the first thing I heard them used on last year some time, and I eventually managed to find out what produced that noise. Since then, it seems every record made in America has got Syndrums on it and if that isn't the case, I'm sure it's only because Joe Pollard can't make them fast enough. From what I can make out from a bewildering array of rumours and

Syndrums



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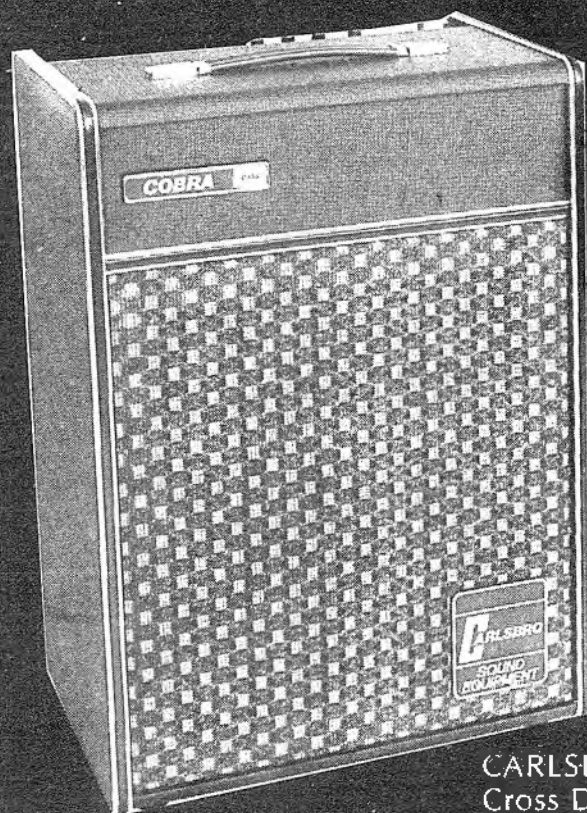
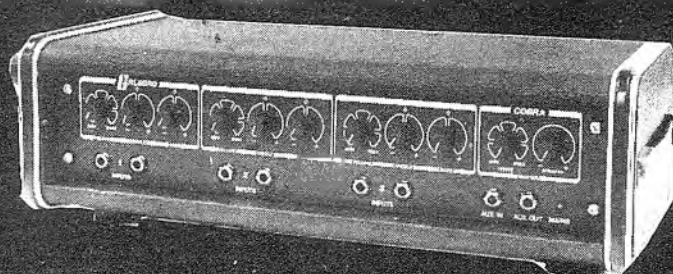
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Drumcheck

stories, Pollard Industries have temporarily ceased manufacturing while they are in the process of updating the current model. When the new model will go into final production I'm not sure.

There are a few Syndrums available in Britain, but of the ones I've seen advertised, not many go for under £1,000. (The majority of drummer-owners I know in this country either got them in or had them brought over from America.) Consequently, not only is the most coveted drum synth rather alarmingly expensive, it's also virtually unavailable at present. Before you move onto the next section, and in case you decide to celebrate your sudden football pools win with a trip to California, here's what you'd get.

The Syndrum consists of four "drums", a synth "brain" which they connect to and a two-function foot pedal. Under the head – and the small piece of foam underneath that – inside each drum is a small loudspeaker wired in reverse phase so it acts like a microphone. When the head is struck, it triggers a signal which is modified by however the synth "brain" is set up. It's important to note that the synth doesn't *synthesize* the sound of the drum being struck (you can't unplug the drum and plug in a mike on a cymbal and expect to get a falling pitch cymbal sound, for example), but that striking the drum *triggers* the synth. (A similar principle is employed on the Synare 3 except that the "drum" and "brain" are housed together.)

Each of the four drums is made from moulded Polycarbonate plastic. The 8" drum head can be tensioned (and removed/replaced) because of the jar-lid tensioning principle employed in the design. At the back of the moulding is a vertical protrusion. This has a hole through it and inside the protrusion is an eye-ring/wing nut type bolt. A 3/8" diameter rod (such as found on a floor tom stand) fits inside and the wing nut locks the drum into place. The dimensions of the synth itself are small enough to fit on any snare drum stand. Unfortunately, neither drum nor synth stands come with the Syndrums, so that's another few pounds to account for.

The small pedal board that comes with the system provides two functions. The main pedal, which looks similar to a volume pedal on an organ, acts as a pitch control, bends notes either way and has a range of one octave. The smaller pedal set to the right is a sustain cut switch enabling long notes to be "killed" on cue.

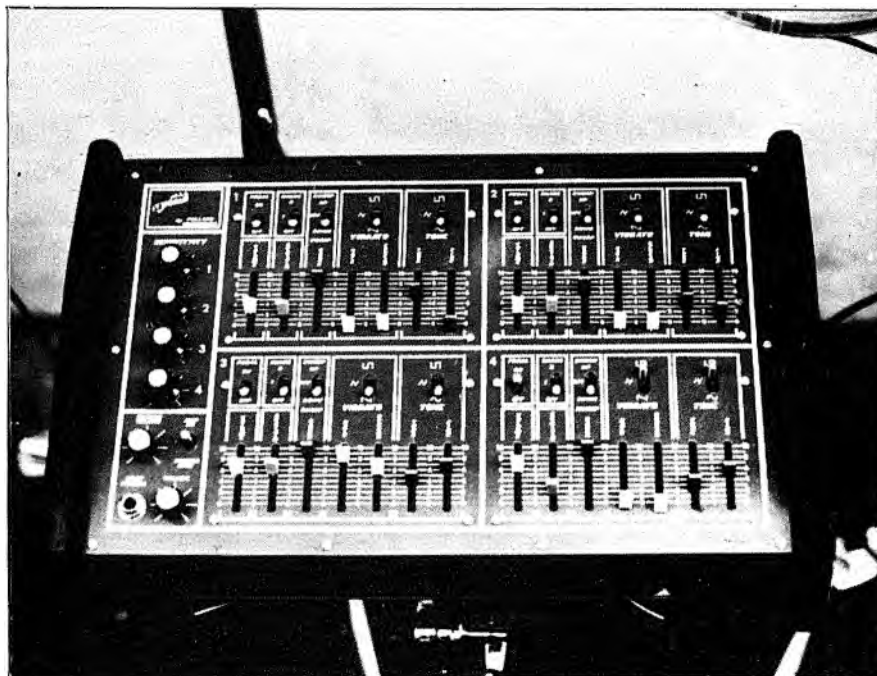
The pedal connects to the synth via a stereo phone jack and the four drums/pads connect via a six-pin screw-locking connector which branches out from a kind of multi-core cable to four separate, numbered jacks. These locate into the corresponding sockets underneath each pad. As well as the pedal socket and connector for the pads, the back panel also houses the mains power input (in the States a separate AC power supply module is supplied, but as this only accepts 110v, it has to be converted for use here) and a comprehensive selection of outputs. These are broken down as follows. There are two mixed outputs (the four separate channels mixed to one mono signal); an XLR balanced live connector for low level low impedance mike or live inputs and a

standard unbalanced jack socket. This is for most guitar/bass amplifiers and mixing consoles. (I would have liked to have seen an unbalanced XLR socket fitted as well as the jack socket as this would have been useful when overdubbing the Syndrums in the studio control room.) Also each drum/channel has two output jacks – one high level, one low level. This means that if there are sufficient tracks available on the multi-track tape machine (one drum/synth channel per track) the Syndrums can be "panned" to give a stereo picture.

The face of the synth itself is divided into six sections. One is for headphones and overall volume, one for input sensitivity and the remaining four (all identical) control each drum/channel. The headphone socket accepts any high or low impedance set of 'phones, and there is a volume control for them alongside. An on/off switch enables all the outputs except the one to the headphones to be silenced and this, for example, enables the synth to be set up between numbers when playing "live". As well as a master volume control for setting the overall output (independent from the headphone volume control), there are also four sensitivity controls, one for each channel/drum, for acquiring the optimum "feel" of the drums to suit the player. Set low (anti-clockwise) the drum has to be struck very hard to trigger a signal; set high (turned clockwise) a player with a lighter touch will achieve the same results.

The rest of the synth is taken up with the controls for each drum/pad. The controls are straightforward and as each of the four sections is identical, it's obviously only necessary to understand one. Each section has seven slide faders and five switches. The first fader sets the volume of that channel in relation to the other three and above it is an on/off pedal switch. (An example: three of the drums could be tuned to a simple triad and with the switch on for just two of the three, the pedal could be used to "bend" two notes inside the chord.) The next fader is the sustain control, which determines how long a tone lasts. Above this is a three-position snare, or "white noise", switch. Off is no effect and the other two positions ▶

Syndrum "brain"



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System Plus

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give either a tight or loose snare sound. Both settings are acceptable — an interesting sound is obtained when this is added/overdubbed onto a conventional deep snare drum — but I've been led to believe that one of the modifications being undertaken at Pollard's is the replacement of this switch with a fader, thereby giving all the variations possible between the "tight" and "loose" sounds. Alongside that control is the Sweep fader and a three-position switch. The fader sets how much pitch fall occurs (how long it takes to fall is set by the sustain slider) and the three-position switch controls the direction — up, down or off.

The next section is the Vibrato control. There are two slides, one for speed and the other for intensity (much as on a guitar amp, although the range on the Syndrum is far greater) and above those is another switch. This gives three options to the waveform type or shape of the vibrato required — sawtooth, triangle or square wave. (The triangle setting, for instance, is the most common setting for bell-like sounds, tubular bells, vibraphone, etc.). The final two sliders and switch are for the tone or pitch. One is for the overall adjustment and has a large range, and the other is for fine tuning which makes things easier when precise tuning is required. The switch selects which sort of basic sound or tone is used; sine wave (pure tone, with almost no harmonics, is commonly used for tom-tom sounds); triangle wave (with more harmonics); or square wave (the harmonic content is equal to the note itself).

I find it rather difficult to decide whether the Syndrum represents good value for money. It certainly doesn't look like over a thousand pounds' worth of synthesizer. In certain situations, this phrase seems a little out of place (is a bottle of Scotch or an expensive car good value for money?), but I believe that in the next 12 months — presumably when the competition will increase — the value of the Syndrum will be put into sharper perspective.

Although there doesn't seem to be an official British importer at present, there are a few sets around — check the London drum shops — and in the meantime you can write for information to Pollard Industries, Inc., 9014 Lindblade Street, Culver City, California 90230.

SDS III

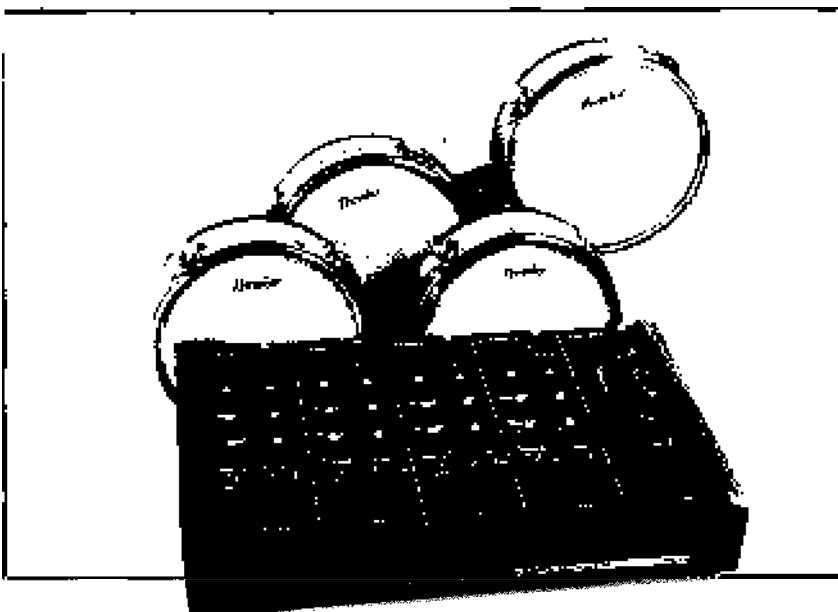
Dave Simmons has been working on his own drum synth for a few years and has finally produced the SDS III. There are similarities with the Syndrum; the basic principle employed is the same — four drums/pads which trigger signals into a four-channel polyphonic synth — but there are several features on this synth which differentiate it from its American counterpart. Although the SDS III would undoubtedly benefit from incorporating some of Syndrum's facilities (from different vibrato settings per channel and individual pad sensitivity controls to small things such as a headphone socket), even as it stands, I think it's the best drum synth on the market and I'm rather disappointed it hasn't received its share of publicity — hence its inclusion here.

The four pads (made for the SDS III by Premier) are divided into two pairs and look a little like tunable practice pads. A circular frame sits on a wooden disc and a small loud-speaker with a piece of foam on top sits inside.

An 8" drum head fits over the frame and a conventional triple flange counter hoop brings the head to the desired tension by tightening the tension rods which locate into bass drum-like threaded claws gripping the underneath of the flat disc. A hole is drilled in the middle of each of the wooden slats between the two pads, and this fits over the top of any cymbal stand. No stands are supplied with the SDS III, but a couple of cymbal stands (and a snare stand for the synth) should work out a bit cheaper than the stands necessary for the Syndrums. I found only one small drawback regarding the pairing of the pads. If you tension the heads too tight, the vibrations are more likely to travel to the accompanying pad and set off its channel as well as the one you've struck. A medium or looser tension is preferable and doesn't effectively decrease the response or sensitivity. A stereo jack-to-jack lead joins the two pairs and one of the pairs also has a five-pin DIN socket set in its base which is used to connect the pads to the synth.

The synth is divided vertically into five separate sections: four identical (one channel per drum) and a fifth "special effects" channel. First, the regular channels. At the top is a sensitivity control and an on/off switch. This pertains to one of the special features of the SDS III — it can be externally triggered. A microphone can be plugged directly into the back of the synth and any sharp sound, such as a stick hitting a table, will trigger the synth. Two examples of the practical application of this feature are: (1) conventional toms individually miked can be fed into appropriately set up channels (tom tom sounds) — either recording or "live" — and when a particular tom is struck, the microphone on it will trigger the related channel and the result will be simultaneous regular and synthesized tom sounds; (2) you've already recorded a complex snare drum part and require a triangle-type of sound played exactly in unison — a feed can be taken directly from the track that has the snare drum on it and fed straight to the synth channel set up with that sound. The sensitivity control can be adjusted so that surrounding sounds, such as another drum on a kit, won't leak into and activate the wrong channel. (I've heard that the Syndrum is capable of being externally triggered, ▶▶

SDS III



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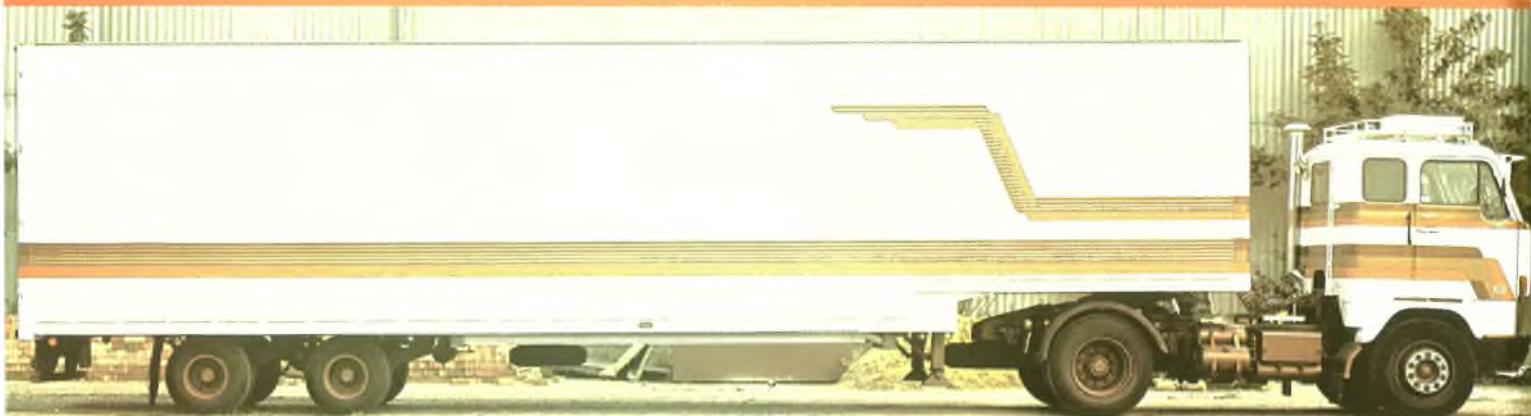
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Drumcheck

but I haven't seen it done yet and it doesn't have the necessary inputs on the back panel to make it an easy job.)

The Pitch control raises or lowers the note the channel produces — anti-clockwise lowers and clockwise raises. Underneath is the Noise/Tone pot. Turning fully to the left produces white noise and fully to the right, a pure tone. Between the extreme left and approximately 10 o'clock, some interesting variations of snare sounds emerge (combined with many of the other controls, of course), but I've yet to find a use for the area between 10 o'clock and the far right. Alongside the Pitch control is a pot marked Impact Click. This adds just that to whatever sound is selected. Anti-clockwise is off, and as the control is rotated clockwise, the amount of "click" increases. If the surrounding sounds are relatively dense, subtle use of this control puts definition on the front of the sound. Used too much, we're in Rose Royce Land. (One complaint countless studio engineers made was the predominance of an annoying initial impact click on many of the Syn drums. Several owners I know have had them "doctored", but it's certainly not a problem to contemplate on the SDS III.)

Underneath the impact control is the decay length and the up/down switch. Fully anti-clockwise and the effect is off. The amount of pitch fall — the control has a very large range — is increased as the pot is turned clockwise, and the two-position switch selects either the sound bent up or down. At the bottom of this selection of controls is a fader and this simply controls the volume of the channel in relation to the other three.

There are three other controls on each channel: an effects range control pot, an LFO on/off switch and a "Run" on/off switch. But these relate to the fifth special effects channel so I'll start by describing the functions available there. At the top right is a LFO speed control, like a vibrato speed control, and underneath it are three switches. One is a master on/off switch and this relates to the individual channel on/off switch. In other words, however the LFO is set, it can be switched to just one channel — or more if desired — by using the separate on/off switch. The second switch is a slow/fast control. This operates in conjunction with the speed control and in all, gives a large range of between .02Hz and 1KHz. The third switch selects either sine wave, which gives a vibrato ("wobble") or a square wave, where two alternating tones are heard. On each separate channel, the pitch control sets the lower note in the vibrato and the effect range control (in this context it has a similar role to a vibrato intensity control) increases the interval to the upper note. This section gives the unit the gongs and bell-like sounds.

The other exclusive feature on the SDS III is on the special effects channel and is the Run Generator. This gives a series of descending tones each time the pad is struck. Like the LFO facility, there is a master on/off switch and individual channel on/off switches. The run time control sets the time taken for the run — the descending tones — to get from the top to the bottom. The effect range control, as well as setting the intensity of the LFO, also doubles in controlling the difference between the top and the bottom of the run. For example, with the effect

range control (the spread of the run) set about 12 o'clock and the run time control (how long the run will take) set in a similar position, with a suitable tom sound set up on the pertinent channel, a complete tom-tom "fill" can be played on just the one pad. This leaves the other three pads free to be set up for other sounds.

The remaining facility available on the special effects channel is a slider which affects the overall pitch setting. Although a pitch pedal isn't supplied with the synth, there is a socket located at the back that accepts any guitar or organ volume pedal (which will do the same job as the slider). Either slider or pedal — or both — affect overall pitch, although the slider has the greater range.

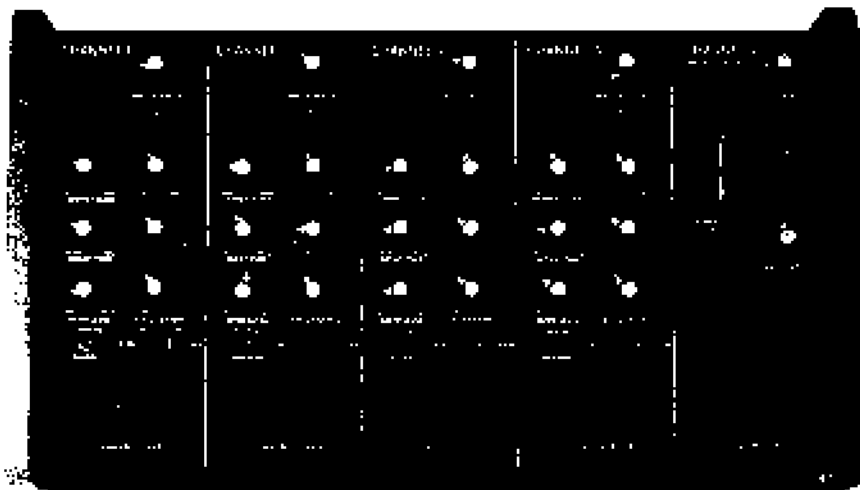
Apart from a mono four-to-one mix jack output at the back of the synth, each channel, as well as its own output socket, has drum mike/external trigger inputs and outputs. (The outputs make it unnecessary to have one microphone to amplify/record a drum and another to trigger the synth.) As I said at the beginning, despite some reservations, some of the exclusive features (mainly the run generator and the external triggering facility) make this the most attractive of the drum synths in my opinion. The one other special advantage is if you do want those little extras — headphone sockets, etc. — you don't have to check with the States. The SDS III is manufactured by Musicaid, 176 Hatfield Road, St. Albans, Herts AL1 4JG.

Summary

Although this may seem a little confusing if you're contemplating a drum synth purchase, I do honestly think that all three have something to offer, depending on what you're after. Like buying a drum or a cymbal, you just have to check it out and try before you buy. To some degree, the market is a little new, so sitting on the fence might not be a bad idea for a while — that depends on your patience and curiosity. I hope this has been of some use and if nothing else, some of you are now a little more in the know regarding how and what, if not why and what for!

Dave Mattacks

SDS III synth



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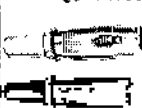
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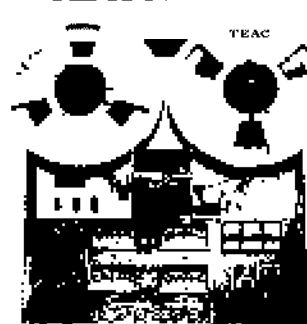
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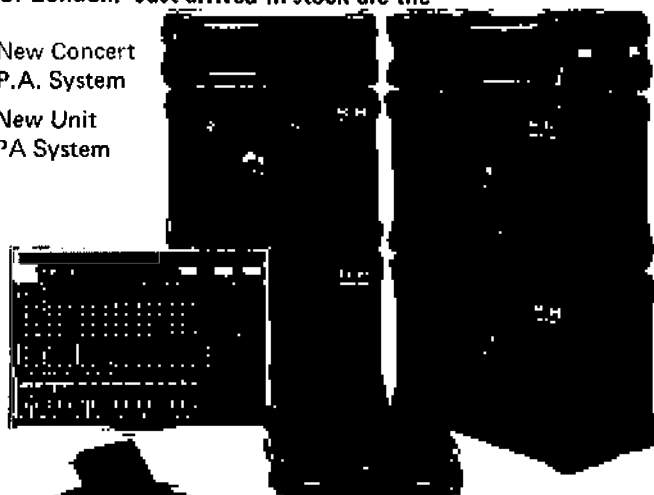
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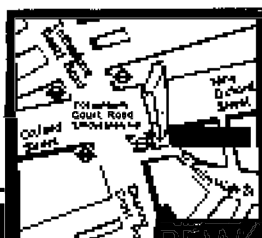
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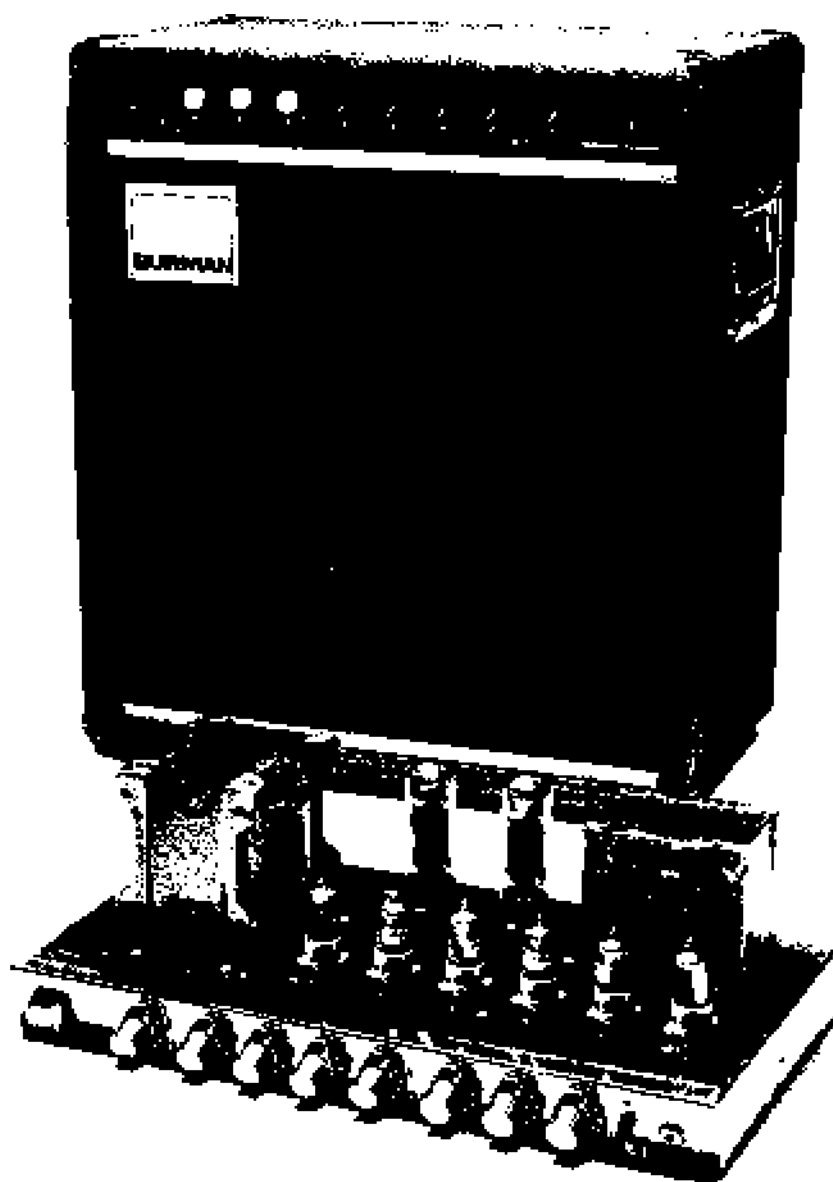
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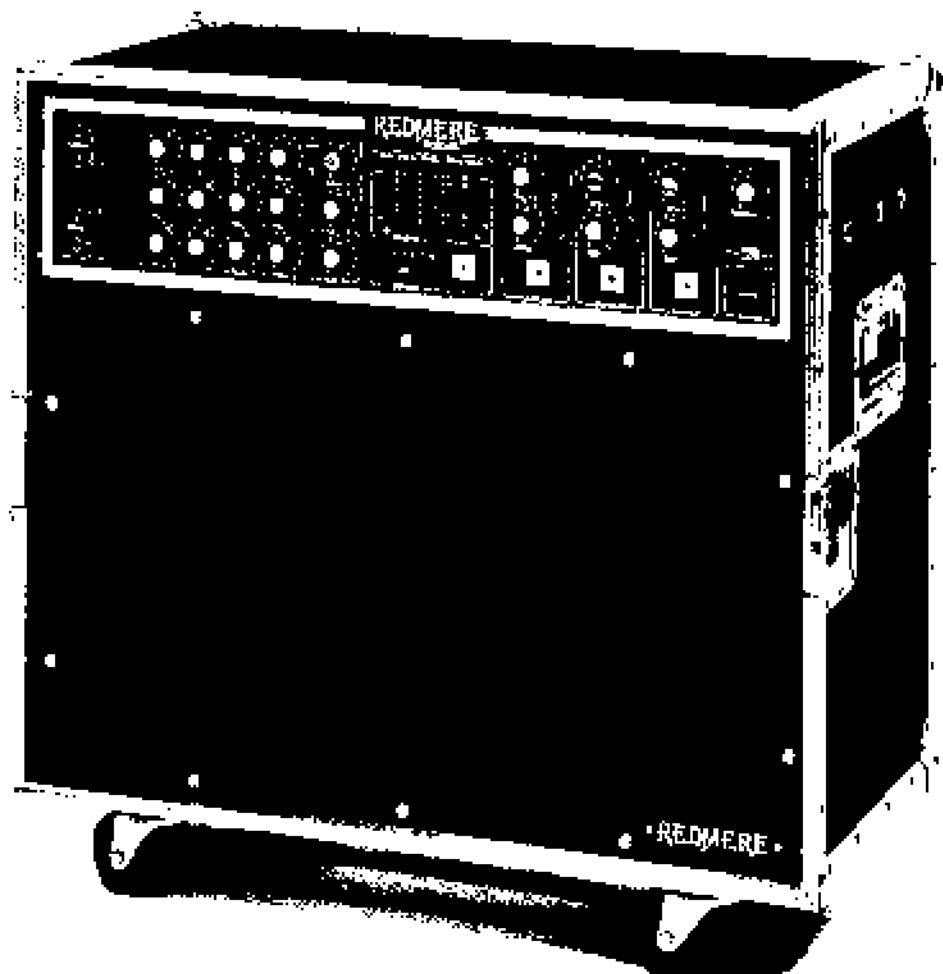


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Construction

The amplifier has a slim-line appearance and is very compact for a 120 watt design incorporating a six-band graphic equaliser. The cabinet is sturdily made from both plywood and chipboard and is well finished in the traditional way with black PVC and chromed metal corner caps. The manufacturer has also gone to the trouble of fitting four heavy-duty rubber feet on the bottom of the cabinet as well as four chromed studs at one end. This is a good feature: because a carrying handle is fitted to one end of the cabinet, one tends to stand the amplifier on the other end. The overall dimensions of the cabinet are 20" long by 11" wide by 6" deep — quite a convenient size for humping about. The amplifier is well-built, but it can still be carried without a great deal of effort.

The power stage of the E120 is another strong design feature and is in fact common to the other amplifiers in the 120 series — the P120, G120 and S120. This consists of a power supply, a driver stage PCB and a pair of RCA 2N6254 power transistors mounted on a heavy 19" diecast aluminium heatsink, which screws into the cabinet unit to form both the rear panel and the rear chassis section of the amplifier. This section has been treated with Teflon which gives the chassis a smart black finish and is also efficient in dissipating heat energy from the power transistors. The whole section screws into the back of the amp cabinet and is connected internally to the tone circuitry by a 10-pin nylon socket. This is a good design feature which will certainly appeal to amplifier service engineers. This panel section also houses the twin output $\frac{1}{4}$ " jacks, a 5A fuse and a three-pin Euroconnector mains socket.

The amplifier front panel design is almost impossible to fault. It is well designed graphically and has controls set out for easy operation. One can see everything at a glance and I could not imagine any musician finding it a problem to operate the controls.

Looking at the front panel square on, there are two $\frac{1}{4}$ " jack sockets for Normal or Bright inputs, each with its own volume control. To the right of these are four knobs marked Bass, Treble, Sustain and Distortion. Below them there is an LED indicator lamp marked "Clip Level" and to the right of this is a miniature toggle switch, marked "In" and "Out", for the Sustain and Distortion effects. The main panel feature to the right of the rotary controls is the six-band graphic equaliser with six faders coded with centre frequencies at 125Hz, 250Hz, 500Hz, 1KHz, 2KHz and 4KHz. The manufacturer claims ± 12 dB per band, but in fact we measured a lot better than this (see spec. table). To the right hand side of the graphic faders

are two $\frac{1}{4}$ " jack sockets, one for direct injection and the other for the effects footswitch. These are marked accordingly. Finally at the end of the panel there is a medium-sized VU meter calibrated (-20, 0, +3) VU and a red neon illuminated mains rocker switch.

The front panel control knobs are all black and grey and contrast smartly against the black front panel with the white screened lettering. The front panel can also be removed as a complete section by unscrewing four posidrive screws which then enables you to gain access to the long PCB housing the input stage and tone circuitry. This PCB is connected internally to the power stage section by the 10-pin nylon socket as I mentioned before when describing the power stage section.

The quality of PCBs and components used throughout this amplifier are of a high standard and the wiring and cable forming has been done neatly and to a good professional standard.

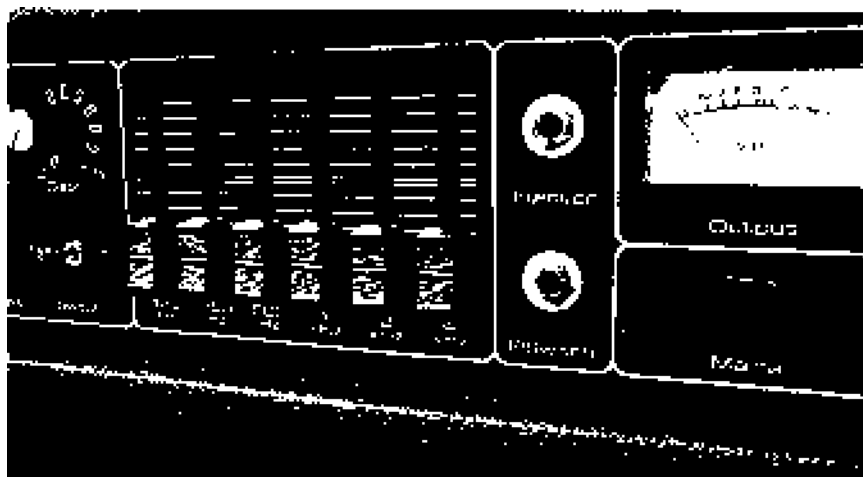
Now to the real test which is, of course, the sound. I found the graphic equaliser section very effective indeed — by careful selection and setting of the six faders, a staggering range of different tones and sounds are possible. The bass end, in particular, is very strong and I found I had to just feed in a little bass to get all I required. The same applies to the bass and treble rotary controls. Leech have obviously got their electronics together as the balance between these two controls is just right — neither "overrides" the other. A lot of criticism has been levelled against many transistor amps' distortion facility but not so with this one. While it still isn't quite a "valve sound", it's a pleasing distortion — smooth without being tinny or breaking up notes.

Conclusion

This compact amplifier with its clean distortion and power performance can be considered seriously by keyboard player and guitarist alike. The amp is quite compact

**Leech E120
Graphic Amp
£132+VAT**

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



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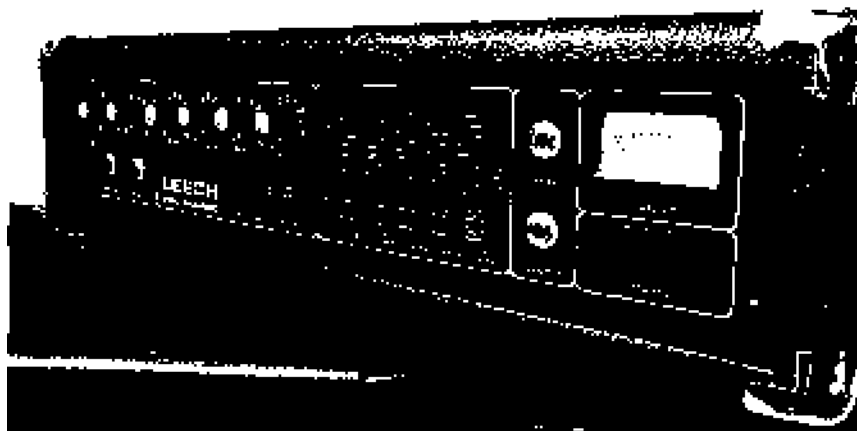
Soundcheck

enough to stand above the upper manual of a portable organ or larger synth or even a string machine, and the player would be able to operate all the controls on the amp without any difficulty.

The total concept of the E120 seems to be one of compactness. When you consider the power capability of the amplifier and its range of tone facilities I can't help concluding that Leech have produced a first class design. Considering the overall finish of the amp and its performance, I would say that it is one of the best amplifiers on the market for its price; bass players should also take a good look at it.

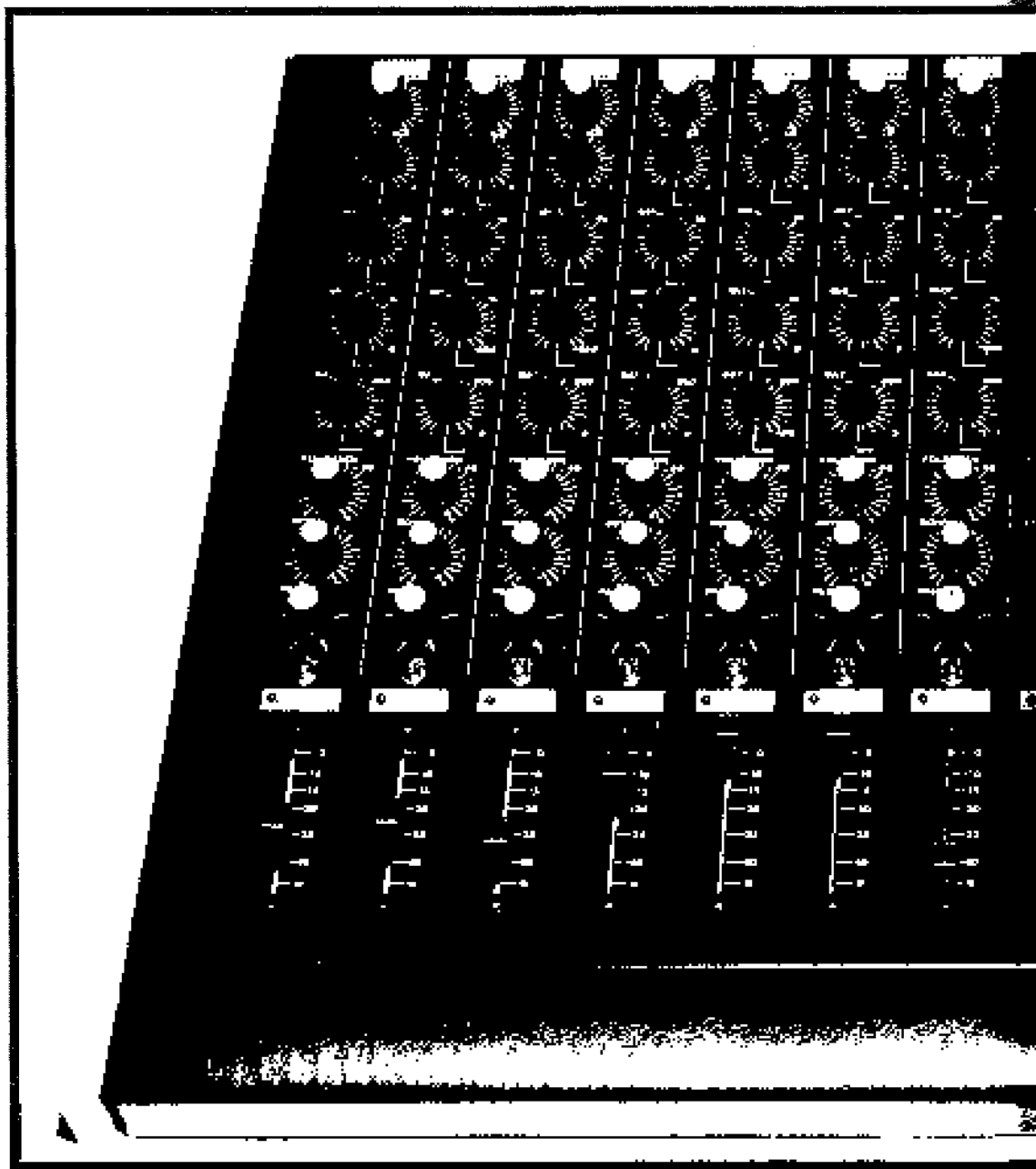
As a parting shot, I was disappointed in the lack of user information, handbook and so forth, as the amplifier came only with a brief two-page specification leaflet. An amplifier of this quality needs a better send-off than this: musicians have come to expect good handbooks and the amplifier certainly deserves better.

Mark Sawicki



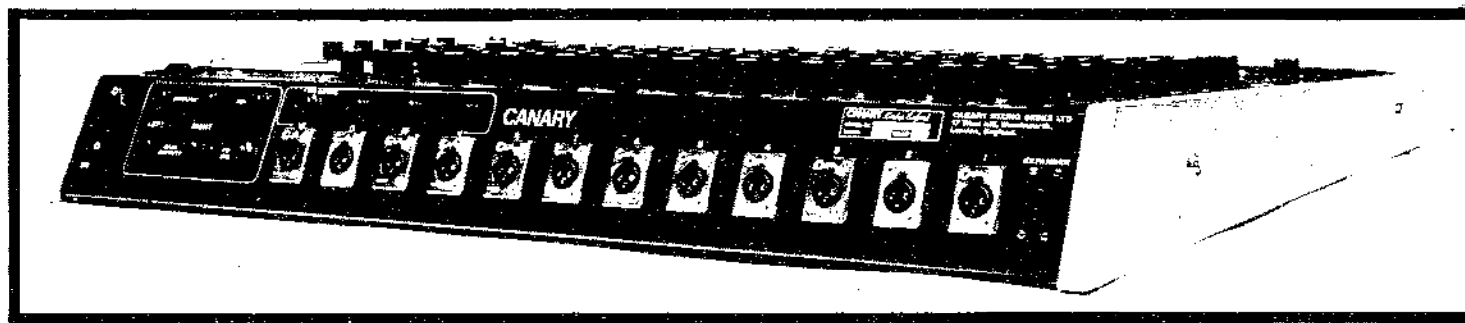
PARAMETER	RESULT	TEST CONDITION	COMMENTS
Specific power output watts RMS Ref. 1KHz	138.06 W RMS 87.12 W RMS 56.25 W RMS	Onset of clipping into 4 ohms Onset of clipping into 8 ohms Onset of clipping into 16 ohms	Manufacturer claims power output: 120 W RMS into 4 ohms, 70 W RMS into 8 ohms. No damage will occur if amp is driven into loads of less than 4 ohms.
Total harmonic distortion (THD) Ref. 4 ohms dummy load, 1KHz	0.41% 0.28% 0.15% 0.14% 0.26% 0.39% 0.63% 0.88%	@ 120 W RMS @ 100 W RMS @ 80 W RMS @ 60 W RMS @ 30 W RMS @ 15 W RMS @ 5 W RMS @ 1 W RMS	The <i>minimum</i> level of THD occurs at approx. 50% of specific nominal power level, and the THD level increases with lower power levels, reaching about 0.88% at 1 W RMS.
Input sensitivity in mV RMS for 120 W RMS (21.9V RMS) output	13.9mV RMS 9.1mV RMS	Input No. 1 (Normal) Ref. 1KHz/ 4 ohms Tone controls — flat Input No. 2 (Bright) Distortion — Out Graphic EQ — flat	Manufacturer claims input sensitivity: 25mV @ 1KHz with the Bright input. Treble boost +18dB @ 5KHz. Quite high sensitivity for instrument amp.
Input impedance	Approx. 22 Kohms	Max. input — approx. 500mV Headroom 30dB	Satisfactory. Max. input/headroom very good.
"Slave output" level	650mV	Ref. 21.90V RMS output (4 ohms/ 1KHz)	Manufacturer claims 775mV "slave output" level.
Tone controls range (swing in dB)	39.12dB 39.8dB	Treble @ 5KHz Bass @ 100Hz	Master Bass and Treble controls combined with a six-band graphic EQ provide a full range of tone control and adjustment.
Sustain Control	Approx. 20dB boost	Ref. mid. band	Very good.
Graphic EQ	32.5dB swing in dB 35.1dB swing in dB 35.9dB swing in dB 35.5dB swing in dB 30.3dB swing in dB 29.1dB swing in dB	@ 125Hz } @ 250Hz } Tone controls — flat @ 500Hz } Sustain/distortion @ 1KHz } controls — off @ 2KHz } @ 4KHz }	<i>Better than specified</i> ±12dB @ centre frequency of 125Hz, 250Hz, 500Hz, 1KHz, 2KHz and 4KHz. EQ sliders (Noble: 56mm long, Japan). Nice and symmetrical. A 741 op amp girator used separately for each EQ band.
Signal/noise ratio	Better than 80dB	Tone controls — flat below full power level.	Unweighted RMS reading with Ref. to approx. nominal power output into 4 ohms.
Capacitance load test	OK	2µF non-electrolytic capacitors and 4 ohms dummy load	Satisfactory
Short circuit test	30 seconds	Short circuit at full drive EQ/tone controls at max. Distortion/sustain — max.	Very good output protection. No ill effects with short removed.
Open circuit stability test	OK	Gain — max. EQ/tone controls — max. Distortion/Sustain — max. Dummy load — removed.	Professional stability margin.

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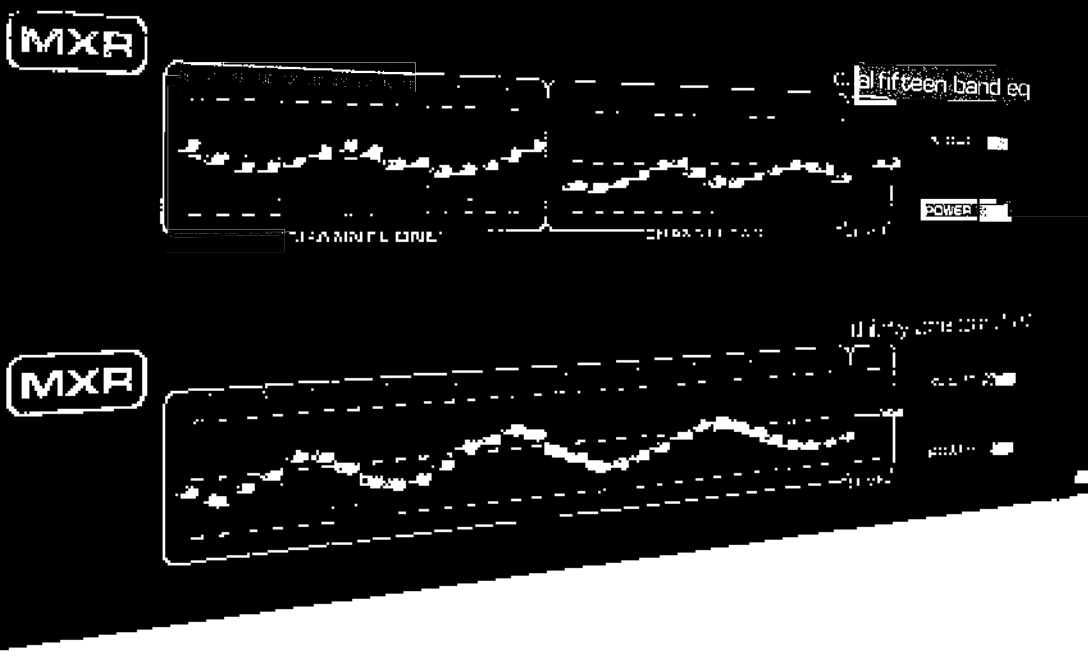
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Keyboardcheck

Keyboard players often complain that they would prefer to have an organ with more organ to it and less "other" effects. They need look no further than the new Hammond B 200.

When I first heard about this organ, I was intrigued to see how well it lived up to Hammond's description of it as a "portable". Two dirty great boxes were delivered to our office, either of which would have given me more room to live in than my present flat. The larger of the boxes contained the organ, while the other housed the Leslie speaker cabinet necessary for this organ.

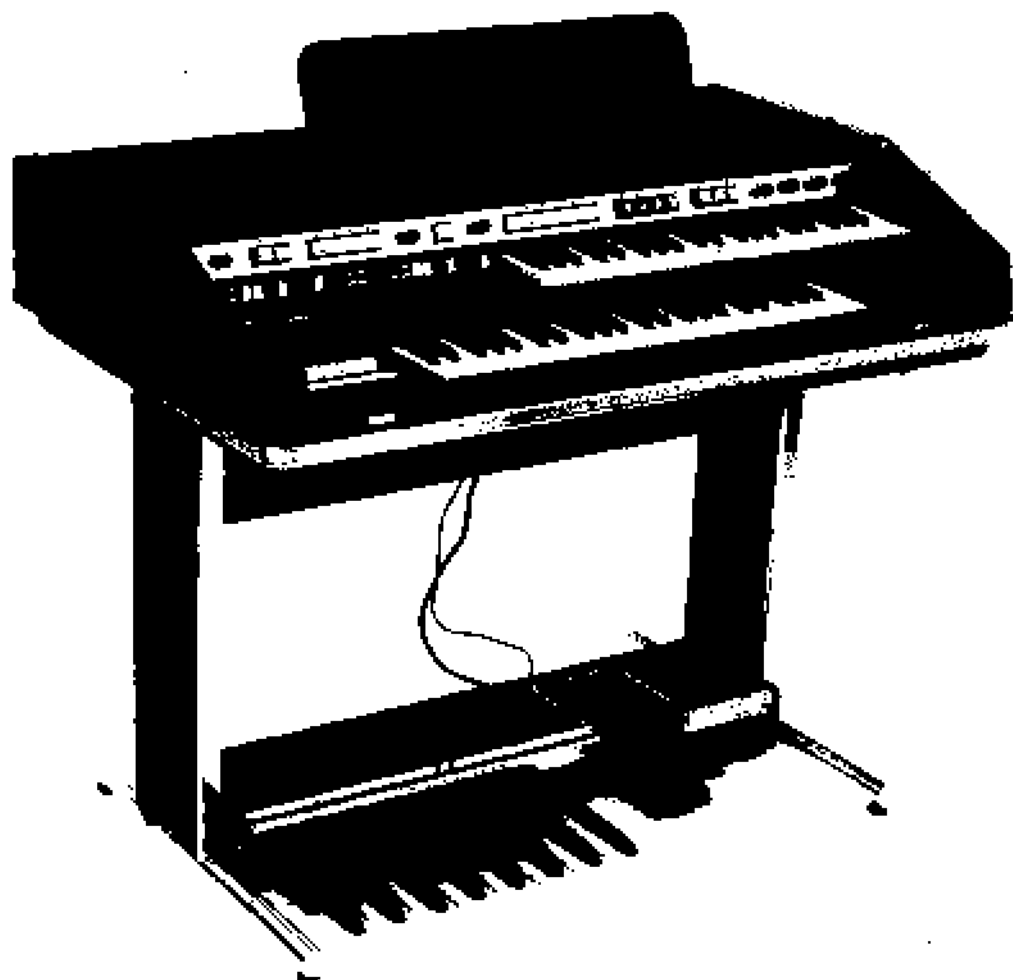
However, enlisting the help of some stout hearted fellers, I unpacked the beast and put it together. As soon as I started to do that, my opinion of the instrument changed rapidly. It went together so obviously and easily (we didn't think to look in the owner's manual for the assembly instructions until after we had put it together!). The total time taken to assemble everything from the first cut through the tape with a knife until it was complete was less than five minutes — and that included unpacking the Leslie as well. In fact, it took us longer to wire the mains plugs on than to fit it together. There are two side pieces, which come pre-assembled, held together with, first, one cross-piece and then the pedals. A recess in the pedal unit takes the swell pedal which simply clips on very quickly. Then the whole of the "console" sits on the frame. Once the top is in position,

nothing short of a 20 stone ballerina accidentally bumping into it would shift the completed unit. Plugging the units together is simplicity itself. None of the leads can be confused as they are all of different types. First there is the one from the pedals to the console, which is terminated in a Cinch-Jones type plug. Next comes the connection from the swell pedal and that's just a five-pin DIN plug. Finally, apart from the mains leads, there is a long brown lead with an 11 pin plug one end and an 11 pin socket on the other. This is the one which connects the Leslie cabinet to the organ.

Having assembled it all and plugged in the mains (after checking the organ was set for the correct mains voltage) and started to play, I was immediately transported back through the years to almost the very first electronic organ I ever played — it was a Hammond pre-war model installed at the Butlins holiday camp at Clacton, which had been taken over by the Royal Navy as a training ship during the war. In those days, all the models were the tone-wheel type (or spinning half-crowns, as we irreverently called them). Now, everything is chips, microprocessing computers etc. But whatever Hammond has done to this machine, it produces an almost identical sound to those earlier models. Pull out a fistful of drawbars (878766543 for full theatre organ if my memory serves me correctly), switch the Leslie to fast and away we go!

It was almost uncanny, so realistic was the ►►

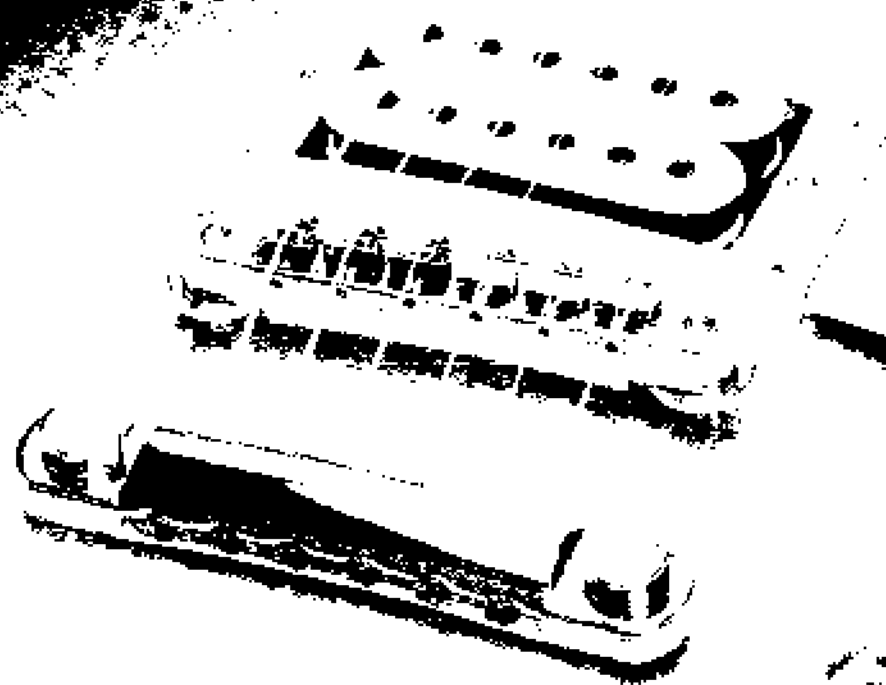
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Keyboardcheck

imitation. Even the touch felt exactly the same and I remembered that if you "flicked" a note in the old days it would seem to bounce and repeat the note very quickly. I tried it on the B 200 and lo and behold, the same thing happened! But the time had come to put aside nostalgia and look at this machine objectively.

There is only one set of drawbars per manual and the usual two sliders for the pedals. Those for the manuals are of the same footages as before, there being nine on each bank. They are 16, 8, 5.1/3, 4, 2.2/3, 2, 1.3/5, 1.1/3 and 1 ft. The pedals are 16 and 8ft. Each slider will extend out to the figure 8 with the characteristic clicks on the way. Having dispensed with the drawbars, it was time to look at the other bits and pieces which have been added.

Presets: these used to be present in the form of reversed coloured keys but now appear as buttons — with a big difference. Those who remember the days of yore may recall that if you tried to press more than one reverse coloured key, the result sounded like a decapitated bee buzzing its last. Now, however, mixing presets is permissible and practicable. They may even be mixed with drawbars. While there aren't so many presets, what are there ensure that rapid registration changes are possible.

And so to the percussion section — and I do not mean a rhythm unit. Let it be said before we go any further, there is no rhythm unit on this instrument. And while we are about it, there are no one-finger chords, automatic basses, memories, arpeggiators, wahs, wows or woos. Coming back to the percussion side, there is a row of six buttons and a knob which control these functions. The two which provide the recognised percussion are Second Harmonic and Third Harmonic respectively. These are speaking stops and produce first an octave note above the one being played and secondly a fifth above. These two together produce that beautiful throaty note reminiscent of the older Hammonds. Either of these may be repeated, the speed of iteration being controlled by a graduated knob, and may also have their decay rate changed to provide a sharp cut-off. The last two buttons are for the piano. By comparison, the piano on the B 200 is good. It may be added to any other stops in use, or by depressing the last button marked 'Piano Solo' all the other stops are automatically disengaged and you are left with nothing but the piano on the upper manual.

There is also a useful bass section on this organ. Apart from the two slider controls (16 and 8ft), there are four other controls. The first is Bass Sustain, which is self explanatory. Then comes Bass Guitar followed by Bass Guitar Accent — again, reasonably obvious as to what they do. Then appears Bass to Lower Manual, and this wee device is for those who elect, from time to time, not to use the pedals. What happens is that the pedal stops are transferred to the bottom two octaves of the lower manual. Why *two* octaves? Because it really covers both the 16 and 8ft octaves, giving an effective 25 notes for the pedal tones.

As far as the Animation is concerned, needless to say this organ has a genuine Leslie Speaker, or rather, it has a genuine Leslie Speaker cabinet. Being a portable organ, the speaker system is not built-in and therefore a

separate cabinet is required. The one specifically designed for this purpose is the HL 822. Not only is there a fast/slow control on the console, there is also the facility for switching either manual through the Leslie or the straight channel and a fourth control for the chorus where the Leslie and straight channels are combined.

So what of this instrument generally? The word "portable" has obviously been used in its widest sense as I would defy one person to carry the console or the Leslie (which has casters incidentally) on his own. The weight quoted in the specification is 184.8lb, of which the console is by far the greatest part. It does come apart very easily and may be stored in a relatively small area.

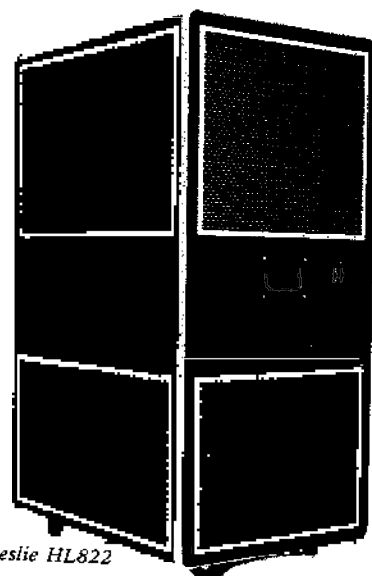
Hammond has made this whole unit to be as versatile as possible. There are auxiliary inputs — and outputs for use with other instruments for group use. Beware the owner's manual however. The one we had with this organ stated categorically that the power source was 60Hz AC 120 Volts! That was why we checked ours thoroughly to make certain it was suitable for the 50Hz AC 240 Volts of this country.

I would have preferred to see the control buttons with lights inside them, instead of the very small lights situated over the top. Any sort of strong light makes them very difficult to see.

Let me repeat what I said in the beginning of this test report — this is an organ with a great deal of organ and very few "other" things — ideal for those who deplore the addition of "extras".

Phil Baldwin

Phil Baldwin MIMIT is an accomplished keyboards player who is also Editor of IM's sister magazine, Home Organist and Leisure Music.



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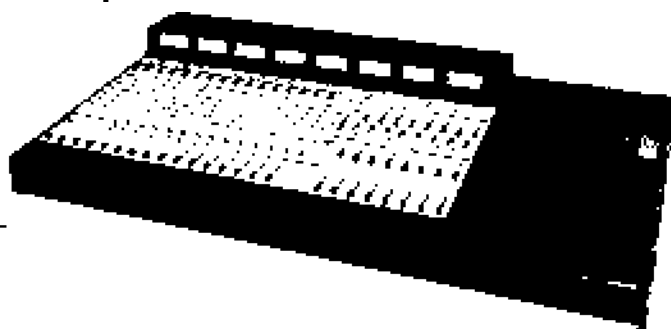
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In Brief

Ludwig 472 Rock/Concert snare drum £154 inc. VAT

This drum is 6½" deep, has a wooden shell and is beautifully finished inside and out with a 450 flange and a very small (looked like one-ply) bearing edge. There is no snare bed but the same gradual indentation as on Ludwig's 400 metal-shell drum. I noticed something interesting about the Rock/Concert: there's a pronounced gap between the outside of the shell and the rim. I suppose it's about a quarter of an inch. The shell itself measures a little under 14" in diameter. Unless the drum I inspected is a rogue, the purpose of this gap is to provide a timpani-type head seating. This means that only the head is in contact with the shell, not the rim. The philosophy is that if the rim touches the shell itself it will interfere with it acoustically and not allow it to resonate freely. Therefore they keep the rim away from the shell.

The drum has an unusual cam-action snare strainer by "concert" drum standards. It's a beautifully smooth and solid mechanism called P87-1, which up to now has been fitted only to the Challenger field drums, and is by far the most effective I've ever seen — even better than the 400's P85 because it allows for really tight snare tensioning. The butt end is cast and attaches to the shell in three places with extremely thick business-like washers and locates the individually adjustable super-sensitive type snares. These are "hybrid" snares, eight strands of wire with two strands of gut on each side of them. The idea behind this is to marry the sensitivity of the gut to the projection of the wires.

As you would expect from this sort of drum, it has 10 tensioners which locate into double-ended nut-boxes with short swivel-nuts (inserts). Whether or not these are padded, I can't say, since I never had the opportunity to commit the sacrilege of ripping apart the drum. I just wanted to play it. But if they aren't, and I

suspect they are, they should be (if you see what I mean).

Finally, the drum has an internal damper which operates under the batter head, and the triple-flange counter hoops. The drum is available also with a 5" deep shell and your choice can be the magnificent natural maple finish or, according to the catalogue, any pearl covering. The drum I tried was fitted with a 1000Db Silver Dot head.

The most important information you want is how does it sound? Well, it sounds as good as it looks — although I question the claim that it's a rock or concert drum. Obviously, it's a great concert drum and equally it's a great rock drum but not, I hasten to add, for every heavy rocker. It is not particularly easy to play nor to tune up, and needs a modicum of experience and expertise to "draw" the sound from the drum — this, of course, is because of the gut snares. I once played Billy Cobham's Hinger drums which had roughly the same sort of hybrid snare configuration, except his were, if I remember rightly, alternate gut and cable (not wire) and, although it sounded amazing, it was an absolute bastard to play and exceedingly demanding. So, back to the Rock/Concert.

The response from the drum was very good and it produces a really snappy sound, a satisfying "clonky" rim-shot with ample power, depth and balls. The drum sounds to me very "Buddy Rich" — and I understand he uses one. To sum up, here is an excellent (there's no other word for it) drum which any percussionist would happily endorse, and any rocker could/should have in his armory if he's got a 400 anyway. It's not cheap, but neither is a Rolls-Royce.

Henry Roberts

Boss TU-120 Tuner £89 inc. VAT

Many musicians find it difficult to tune their instruments, through no fault of their own. Various situations can make it difficult, if not impossible to tune up. Most musicians have come up against the problem of trying to tune up backstage while a million megawatt power trio are blasting out

Led Zeppelin numbers four feet away. Many musicians also suffer temporary tone deafness and thus have particular difficulty in tuning an instrument. That's where tuners like the Boss TU-120 come in handy.

This unit is a fairly sophisticated yet compact little job which runs off a single 9 volt battery. It can also be connected, via an AC adaptor, to a mains supply. The accompanying literature guarantees that it's possible to tune your instrument with an accuracy of + 1 per cent — and that's near enough for jazz, or any other music for that matter!

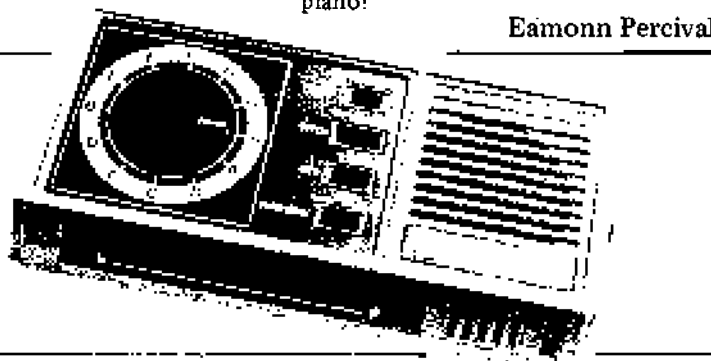
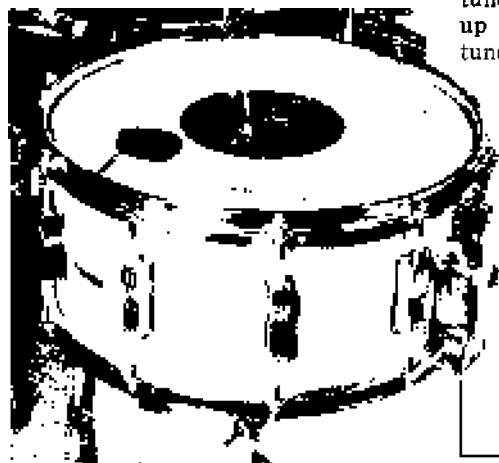
Operation is simple enough — there's a dial on the front so you can select any note and it's possible to tune over a range of five octaves with the Octave switch. There is also a Pitch Selector with which it's possible to select any of four concert pitches (A4 = 440/442/443/444Hz).

The function switch has three positions — Tune, Tone and Check. The first thing you need to do is to set this at Check and turn the small calibration wheel on the front of the unit until the 16 LEDs in the front window become stationary. This means the generated tone is the standard 440Hz. From here, it's simplicity itself. By turning the dial to the note you require and setting the function on Tune, it's possible to tune by ear — like having 12 tuning forks with infinite sustain!

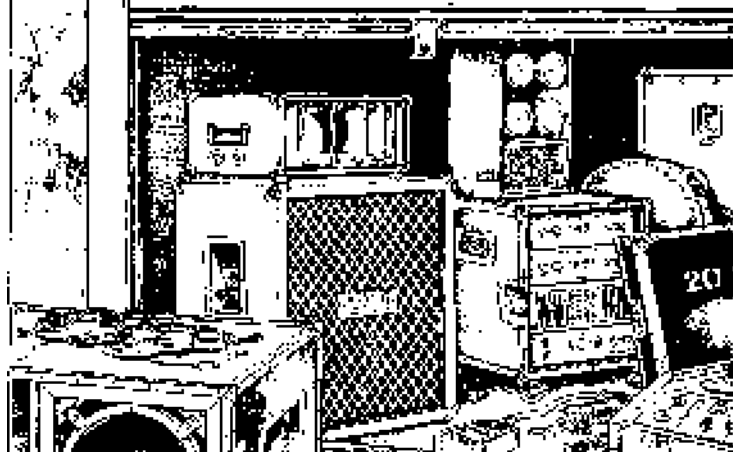
The other way is the Strobe method. This entails plugging the instrument into the jack input located at the side of the tuner (for acoustic instruments, a built-in mike is provided) and setting the function selector to Tune. Then, just select the required note and octave, and tune up your instrument until alternative groups of LEDs light up. When they do, your instrument is perfectly in tune with the note selected. Particularly useful is the sharp and flat signs on the LED window. If the LEDs flow to the right, your instrument is flat, and vice versa.

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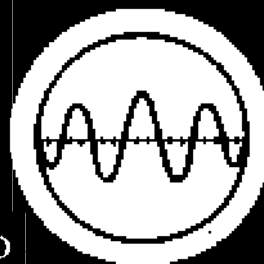
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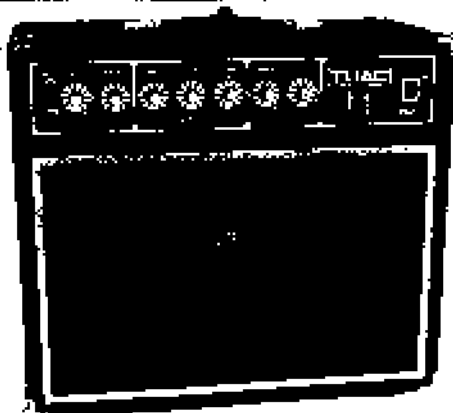
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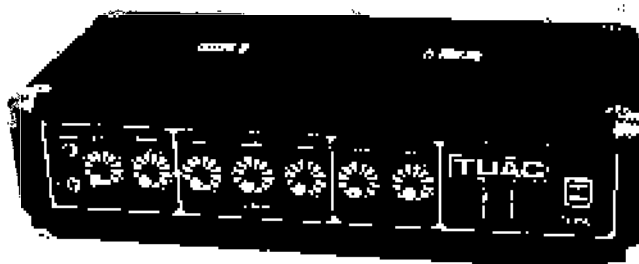
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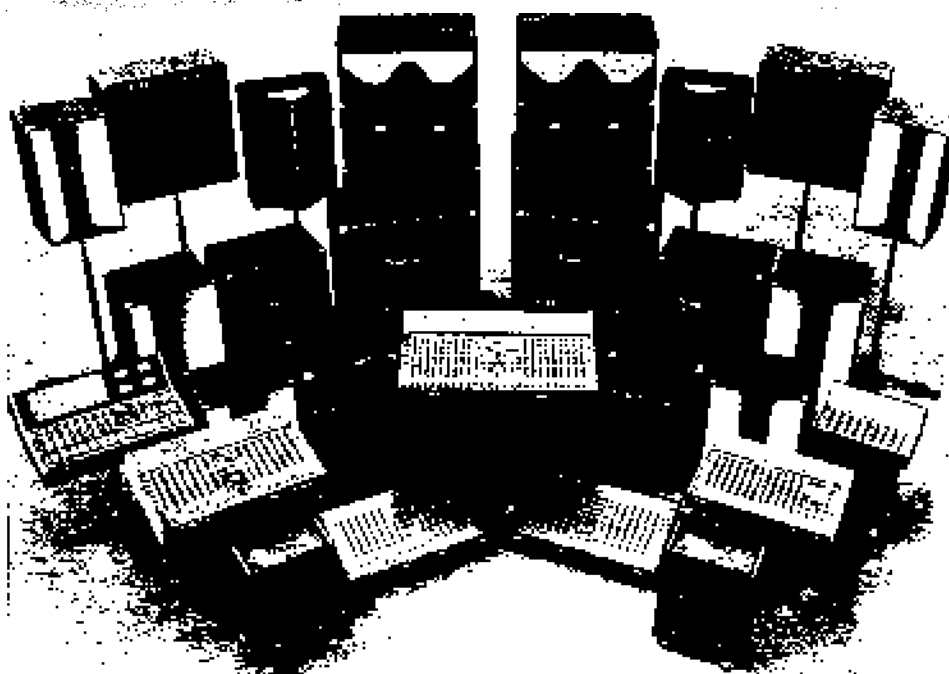
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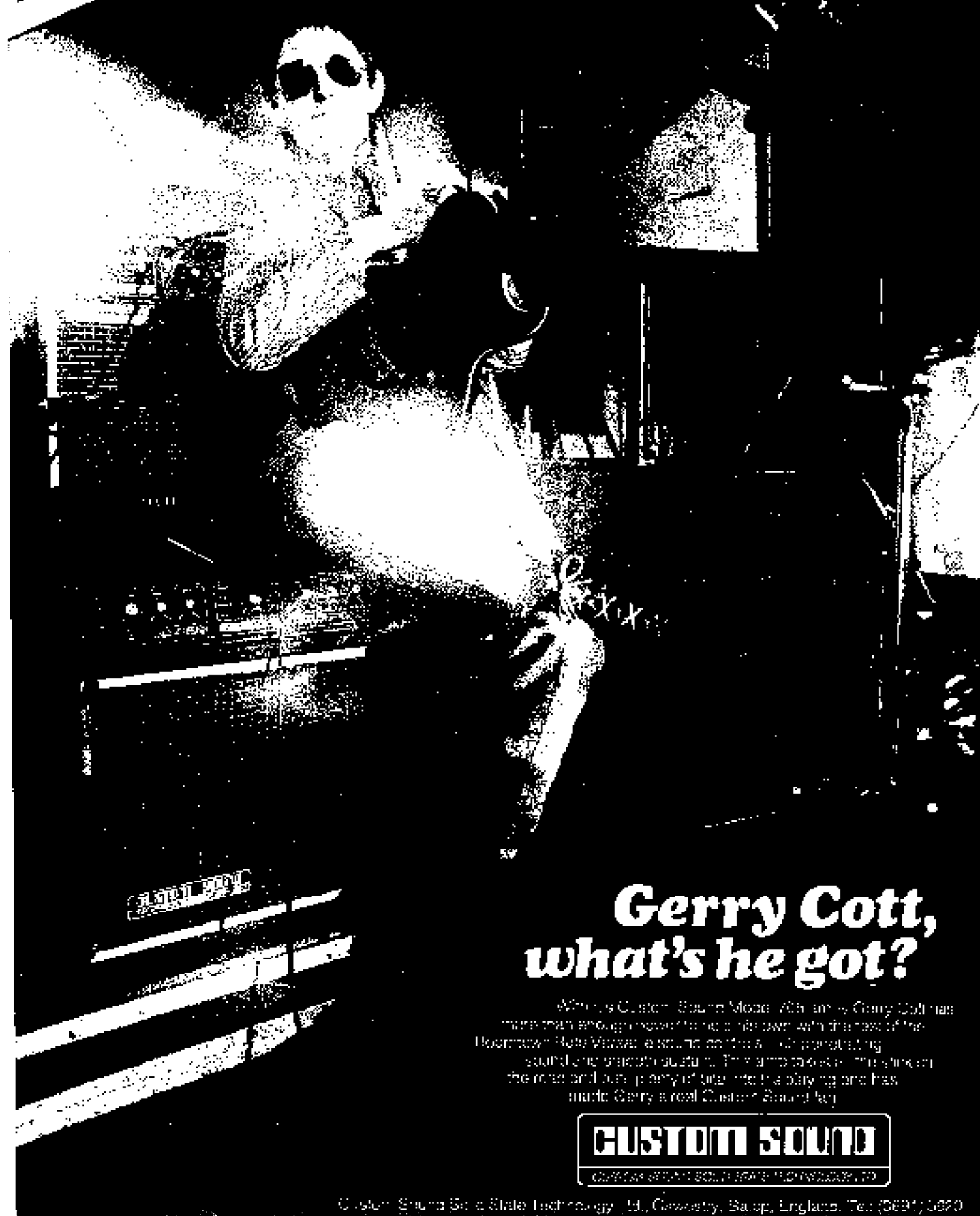
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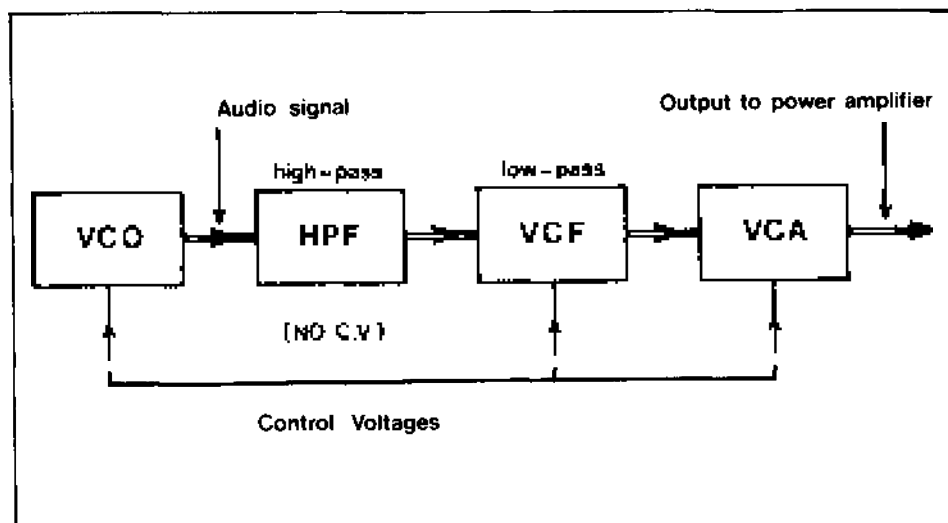


Fig. 4: Block diagram showing position of high pass filter with respect to other synth modules.

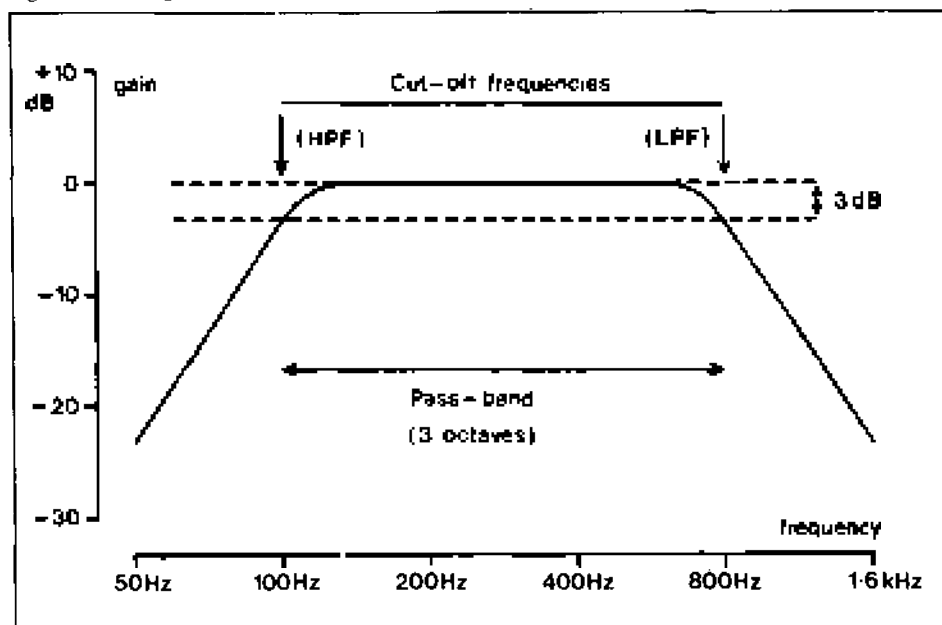


Fig. 5: Frequency response of a band-pass filter showing the two cut-off frequencies. This type of response is produced by a high pass filter and low pass filter in series.

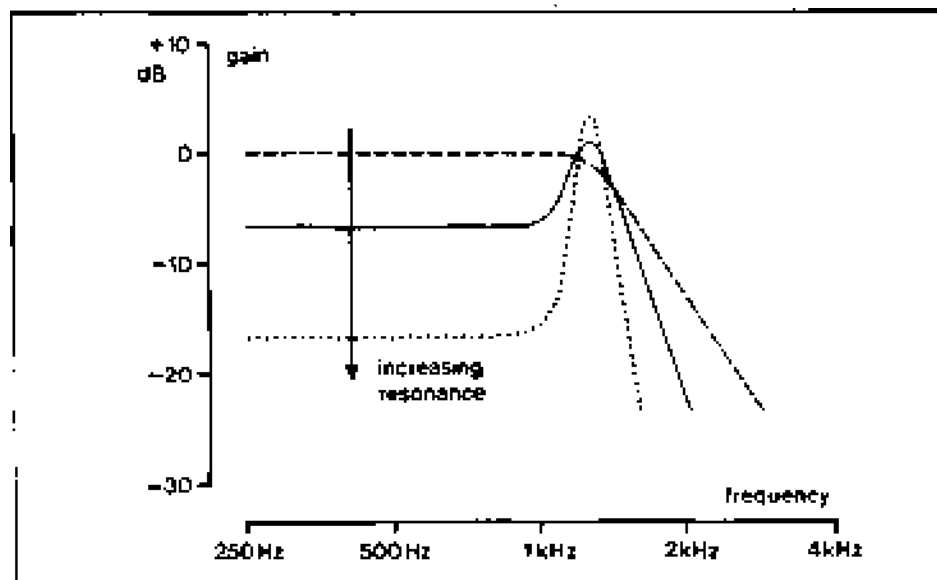


Fig. 6: Effect of increasing setting of resonance control on frequency response of a low pass filter.

often not available from the VCO; and secondly, the oscillations occur at (or near to) what was the cut-off frequency. Last month, I explained that the keyboard voltage is usually one of the control inputs to the VCF (the control voltage determines the cut-off frequency), so you can imagine that a self-oscillating filter can be "played" in the same way as a VCO. In fact, if the resonance control is advanced far enough, the VCF effectively becomes a VCO.

Audio-signal input mixers

In the articles about the VCO, VCA and VCF modules (Parts 4 onwards), I described how in each module control voltages from a variety of sources are added together in an input control voltage mixer to produce one final control voltage which determines the frequency (VCO), amplification (VCA) or cut-off frequency (VCF). Apart from the very simplest synthesizers, most synthesizers also contain facilities for adding (i.e. mixing) together audio-signals. More often than not, these audio-signal mixers are associated with a specific module. Fig. 7 makes this clearer: it shows the audio-signal input mixer for the HPF in a two-oscillator synthesizer. The amount of audio-signal reaching the HPF from the two VCOs can be independently controlled by adjusting the appropriate input level controls.

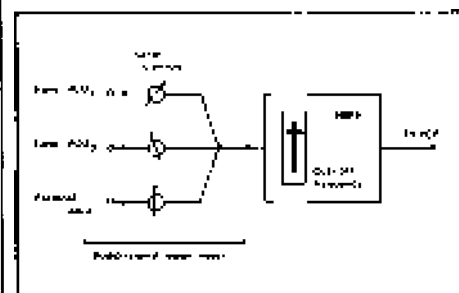


Fig. 7: Audio-signal input mixer for the HPF in a two-oscillator synthesizer. An external input allows the HPF, and following VCF and VCA, to modify sounds from other instruments or from a microphone.

The same figure also shows an external input connection, with its own level control. This is a point at which a signal from an external instrument such as a guitar could be connected directly into the synthesizer. The HPF and following VCF and VCA would then modify the sounds produced by the instrument according to the settings of the various HPF, VCF and VCA controls. For example, a keyboard player could chop up sustained chords produced by a guitarist in rhythm with his own solo. The possibilities are endless!

In this series I have now covered the essential features of most synthesizers, although there are several other modules (including the ring modulator and sample-and-hold module) to be introduced before moving on later to sequencers and polyphonic synthesizers. However before I introduce any more modules, next month I am going to summarise the contents of Parts 1-9 in an article which will describe a complete basic synthesizer.

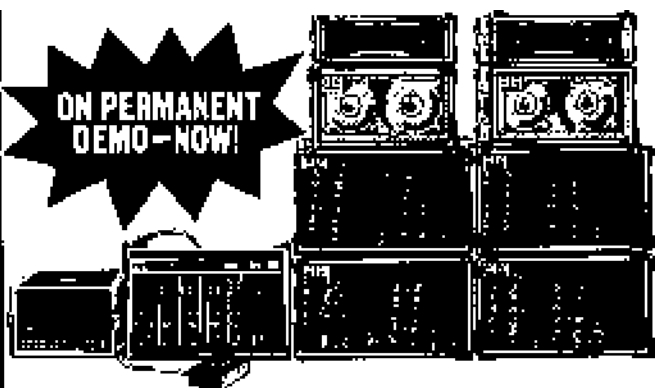
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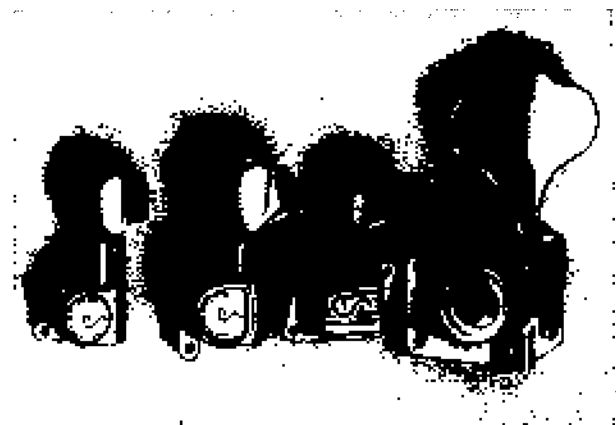
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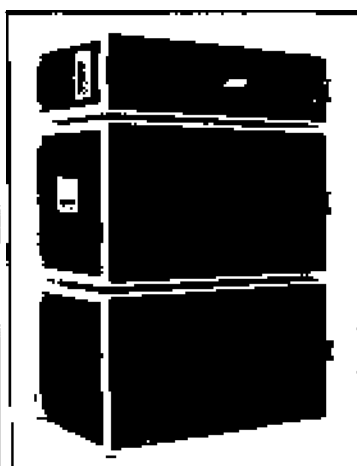
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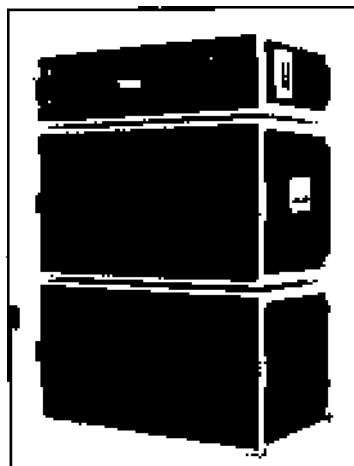
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Strings, pedals and amps

by Dave Hayward

In this final article of the present series, I'm first going to try to cover some aspects of pedal steel which have so far been left out, a kind of tying up of loose ends. Then I'll give a few more exercises, this time based on scales, to round off.

Strings

When you first need to replace a broken string on your steel, it's easiest to use one of the same gauge and type. Now this might seem a rather obvious thing to say, but not when you consider the consequences of using a different gauge string. The size of each string in a matched set for pedal steel has been chosen to give similar tension to the other strings when they are all tuned to correct pitch, and also to give an exact straight line across the top surface of all the strings. Both these functions are important as they affect the pressure with which the strings contact the bar when it's held in place. If, say, one string in a set is of too light a gauge, then it will rest on the underside of the bar with a much reduced pressure compared to its neighbours, and when the string is picked it will buzz. The fault will be most apparent when the bar is placed near the roller nut, perhaps at the first or second fret position.

There is another important reason why string gauges are important on a pedal steel. The set of strings with which an instrument is supplied is the set for which the pedal mechanism has been adjusted by the manufacturer or supplier. I'm not referring here to the travel of the string changers; these will have to be adjusted from time to time anyway as a string stretches with use. Also, when a string is replaced, even with one of the same gauge, the movement needed to raise or lower it exactly the correct amount will probably be slightly different simply due to it being new and therefore less "fatigued" than the old one. (This adjusting procedure was outlined in Part Three in the November 1978 issue.) What I am referring to is the balance between tensions on pairs of pedalled strings. Take, for instance, the action of pedal A. As you know, it raises both the fifth string and the tenth string from B to C sharp. But the tenth is one octave below the fifth string and therefore very much thicker. Obviously, then, a lot more force will be needed to pull the tenth string than the fifth string. Also, when the pedal is pressed, both these strings should ideally start and end their travel together although the two lengths of travel will almost certainly be different.

Now, given these conditions and remembering that only one pedal movement has to result in the synchronised pull of two separate strings, it follows that there must be some kind of adjustable compensation in the mechanism. In practice, this is achieved by employing adjustable tension springs,

variable throw levers, moveable pivots and the like, depending on the make of instrument; and these adjustments are made, usually at the factory, before the steel is sold. It's not an easy matter to change these settings successfully yourself (remembering that there are as many pairs of string tensions as there are levers and pedals on a steel) although some makes are simpler than others. In fact you might be well advised to leave the mechanism alone.

You can see, from all this, the importance of using a "balanced" set of strings, because if the strings are replaced with others of different gauges, it's the same as altering the balance of the mechanism. If you do wish to change your steel over to a different weight of string, you should either make absolutely certain that you know how to re-balance the mechanism or be prepared to take it to an expert for it to be done. Incidentally, your steel will still work after a fashion even though it may not be adjusted correctly but it will be impossible to make smooth sounding chord changes with certain pedal combinations.

Here, then, are the recommended standard string gauges for a 24-inch scale length (which most pedal steels are) from one of the major instrument manufacturers. The others don't vary very much from this set and it only applies, of course, to the E9th chromatic tuning:—

String 1 (F sharp)	— .013 inch
String 2 (E flat)	— .015 inch
String 3 (G sharp)	— .011 inch
String 4 (E)	— .014 inch
String 5 (B)	— .017 inch
String 6 (G sharp)	— .020 inch
String 7 (F sharp)	— .026W inch
String 8 (E)	— .030W inch
String 9 (D)	— .034W inch
String 10 (B)	— .036W inch

But this is not the only set you can use, although I suppose it's the nearest to a "standard" that there is, and the choice is not anywhere as extensive as with sets of strings for normal guitar. A few players I have met are using heavier gauges on the lower strings, and this is something that I prefer as well. It's largely a case of what feel you like, what sort of picking action you have, and the sound you prefer. As an example, here are the gauges I am using at present:—

String 1	— .013 inch
String 2	— .015 inch
String 3	— .011 inch
String 4	— .014 inch
String 5	— .017 inch
String 6	— .024W inch
String 7	— .028W inch
String 8	— .032W inch
String 9	— .036W inch
String 10	— .040W inch

It is possible to buy ready-made sets of strings for pedal steel from the main dealers but this seems a rather inconvenient way, as certain strings always break much sooner than the rest. The strings prone to breakage are the third,

fourth, fifth, sixth and tenth, because they are the pedalled ones and consequently become fatigued fairly quickly. Of these, the third and fifth strings break most often as they are also fairly light and "un-covered". I believe it's better to buy strings by gauge as and when you need them. That way you can keep a reserve stock of the gauges which break most often. It seems that this relatively high breakage rate of some strings on pedal steel guitars is just something you have to live with. It happens with just about all steel players at a rate depending on the steel itself, how hard you play, how often, and how much you use the pedals. The trick is to anticipate when a string needs to be replaced, and change it at the last possible moment to get the best use out of it, but at the same time to avoid a breakage at an awkward moment, like in the middle of a solo!

As for what make of string to use, I think the best advice is to try whatever you like and settle eventually on the make which suits your ear and your pocket best. There are makes which are supposedly supplied especially for pedal steel use, as well as the more well-known brands for normal guitar, and they all seem to work satisfactorily. It's up to you. Personally, I use one of the more popular makes of guitar string which I can buy in whatever gauges I want in almost any music shop.

Just a couple of extra points to finish off this section on strings. Firstly, modern pedal steels are invariably fitted with wire-wound strings, not tape-wound. In fact I don't know a single player who uses flat-wound strings on pedal steel, they just don't seem to give the "edge" which is required for today's steel sound. The second point concerns the way a string is wound around the machine head roller. If it is not tight then it will be difficult to preserve accurate tuning when the pedals are used and the string tension changes. Stephen Delft passed on a useful tip on page 189 of the January 1979 issue of *I.M.* which applies equally to steel guitar machine heads and should alleviate the problem of string slippage. Whatever method you use, keep 'em tight!

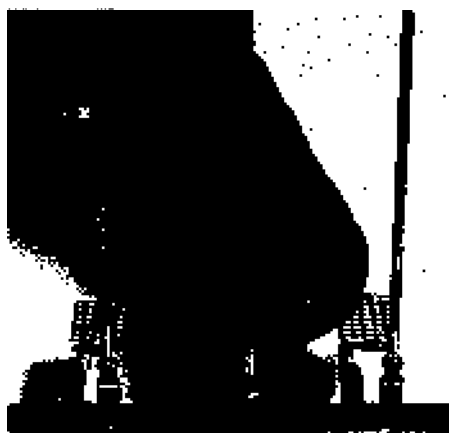
Pedal technique

So far in the series, I've talked about operating certain combinations of the floor pedals and knee lever, but to complete the picture we should examine exactly how this is done. It warrants doing so in some detail because I believe that the way the pedals on the steel are used has a great effect on the sound a player gets, more so than a lot of actual players realise. I see the feet and knees almost as an extension of the fingers, in the sense that they do, through the pedals and levers, largely what the fingers of the left hand do on an ordinary guitar, i.e. change the notes of chosen strings by set intervals or by "bending".

You will have seen that the floor pedals can be used singly or in adjoining pairs. What you should do is at all times cover either pair A and B or pair B and C with the sole of the shoe of your left foot using the heel as a pivot. Notice that the spacing and width of the pedals has been arranged specially to allow you to do this. When it is required to depress, say, pedal A, then rock your foot sideways to do it, leaving the other half of your foot resting over pedal B but not pressing it. Some care is needed otherwise pedal B will be partly depressed causing the string it operates to be pulled "out of tune".

Likewise if pedal C only is required then cover both B and C pedals and rock your foot over so that one side is pressing pedal C and the other side is poised over pedal B. If you wish to operate pedal B only, then you have a choice of which pair to cover as this pedal is in the centre of the other two; but whichever pair you

won't be able to twist your ankle over far enough to completely clear a pedal which is still covered, resulting in some strings being slightly sharp as mentioned above. Bear in mind, too, that while the foot may be twisted over one way, it's possible that the leg will need to be moved simultaneously the other way to operate the knee lever, and this will increase the angle at the ankle even more. Also the shape and stiffness of the sole, length of toe, height of heel etc. will influence ease of pedal operation. All you can do is take each of these points into consideration, then experiment a little and decide which type of footwear suits you best. A lot of pedal steel players do in fact stick with one pair of shoes or boots all the time. Personally, I like to wear one particular pair of boots which I have with very soft leather uppers allowing all the movement I need and which star in the accompanying photographs.



do cover simply rock your foot over away from the outer pedal and on to pedal B.

You should get used to constantly resting your foot over one or other pair of pedals whilst playing, so that you can be ready to operate either pedal separately or both of them together. This technique means that there is less actual movement of the foot between different pedals and it is possible to make the majority of pedal operations very fast because you don't have to lift and move your foot sideways, you just rock it over to one side or the other. Also you must be able to carry out all the pedal movements without looking at your feet and the above method does help toward this, as it obviates the need to "stab" at single pedals with your foot, trying to hit them centrally.

I've found that the way the left foot is used to operate the pedals has a great deal of influence on what type of footwear you use. There is no one type of foot or shoe that is "right" for pedal steel work, but you'll soon realise when you start that the rocking action of the foot demands a fair bit of flexibility of the ankle and some types of boot do inhibit this movement. It's possible that you

You can see in the pictures two examples of how the foot is rocked sideways to operate only one pedal whilst also covering the one next to it.

Amplifiers

When I first started working out what to write about amplifiers for this article, I quickly came to the conclusion that technically there was little I could say which most musicians don't already know about the range of amplification available at present, and about which other contributors to this magazine are much better qualified than I to comment. At the same time I feel I should offer some constructive advice to pedal steel beginners; after all, that's what this series has been all about. Therefore I shall confine my writing to a few general comments which I hope you will find helpful.

I have often heard the question asked by would-be steel players "What amp should I get?" There's no simple answer to that. Playing pedal steel in a group situation with other amplified instruments, or in other words, every situation other than practising, demands that the

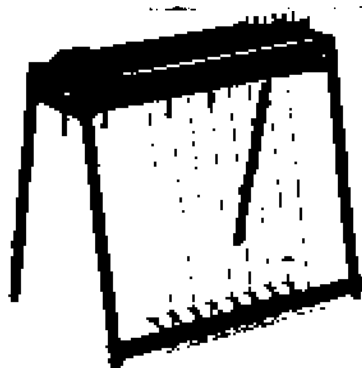
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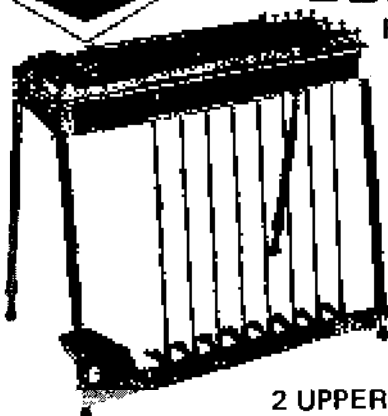
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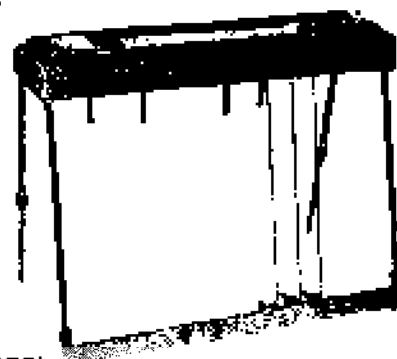
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STEEL WORKS

steel be used through an amplifier with the cleanest possible sound at all frequencies with a fairly high power capability. Look around at what steel players are using and you'll see how few amps fulfill these requirements.

It has been a deliberate policy on my part during this series not to get into talking about this or that make of equipment but to talk mainly about the playing side and to give general

information about the technical aspects. However I shall make an exception here, as there is one item of equipment which is ubiquitous where pedal steel is concerned. For many years the Fender Twin Reverb has been almost "standard issue" for pedal steel, due to its very clear, punchy, and powerful sound. There seemed to be very few amps which could equal it for this particular use. But recently we have seen the arrival of one

or two really excellent alternatives, and indeed they are beginning to be used by many players. Getting back to the original question, the answer should be an amplifier which satisfies all the conditions I have just mentioned above, whichever make you prefer.

But all this only applies if you intend to use your steel with a group very soon after starting to play. For most people, this could be some considerable time, so common sense tells us that it's better to get a smaller, cheaper amplifier to learn and practise with, and in fact your pocket may well limit you to this anyway. At this point, the choice becomes very wide because any instrument amplifier will suffice. You could buy the cheapest amp you can find, accepting that if you're changing it later there's no use in spending any more than you can help at the moment. On the other hand, you may feel that you would like to spend a bit more to get equipment in the middle price range with perhaps built-in reverb, a more acceptable sound and better reliability. It's up to you. "You pays your money and you takes your choice" applies very much here, but be assured of one thing; if you progress on pedal steel to the point where you wish to perform in public you'll almost certainly end up with an amplifier of at least 100 watts output, probably with two 12-inch loudspeakers or one 15-inch, of high quality, with built-in reverb, and, because of all this, probably around the top of the price range.

Conclusion

Well, I feel that I've gone about as far as I can in this series on the basics of pedal steel. I hope I've given enough information for the beginner to be able to make more sense of the instrument and to make a fair start at playing. Believe me, the exercises we've looked at over the months are only the tip of the iceberg. They should have got you used to using the bar and pedals together with the right string combinations to form some of the more commonly used chords and progressions. The rest is up to you. If you want to know what to do next, I'd say listen to all the recorded pedal steel guitar you can get your hands on, and go to see and talk to all the steel guitarists you can find. Watch them playing, pick their brains, and copy and adapt any of their licks you fancy. Read all the books and tutors you can find on the subject and try their exercises and arrangements. The tablature systems vary but it's all good practice. Most important, at the end of the day play your steel the way you feel. As time goes by you may well become opinionated on sounds and styles, fanatical about what you want to achieve, jealous of what other players can do, and worried about your own apparent inadequacy, but you'll still enjoy what you do. If these things do happen then you will have become a pedal steel guitarist — welcome to the club!

Scales

So far in this series we have looked at a lot of ways of playing chords and I feel we should now take a look at some basic scales on pedal steel, which will give you an idea how melodies can be put together.

Let's take, say, the key of C, and look at one way of playing an ascending C major scale

1									
2									
3									
4									
5									
6									
7									
8	8	10	12	13	15	17	19	20	
9									
10									

This single string run without pedals starts and ends on a C note, and serves to illustrate the intervals of a major scale nicely, but the E9th chromatic tuning we are using allows the same scale to be played across the strings using pedals but no bar movements:

1									
2									
3									
4									
5					8	8A		8	
6									
7		8	9	8B					
8	8								
9									
10									

Of course this scale can be carried on up or down half an octave or so either side of the one shown, still without moving the bar:

1								8	
2							8		
3								8	8B
4									
5									
6									
7					8	8B	8	8A	
8									
9		8A	8						
10	8	8A							

It's also possible to play a harmony note with the melody note in a scale. Here is the same C major scale but with a harmony note added above, you can see that quite a lot of bar movement is necessary:

1									
2									
3									
4									
5									
6			8	8		13	15	15B	
7		8		11	13				
8	8	8L	8	11L	13L	13	15	15	
9									
10	8								

When you start looking at the possibilities of harmonies on pedal steel it seems an endless choice, for example here is another scale in C, this time with the melody line an octave above the previous example but with a harmony note below it, this time using different pedals:

1									
2									
3		8C							
4	8		10C	13	15	15C	17C	20	
5									
6	8	8B	10B	13	15	15B	17B	20	
7									
8									
9									
10									

Try playing these examples until you can make them sound smooth and evenly paced. Then try them backwards as descending scales. As a further exercise you could transpose them to other keys and get used to playing them in different positions:

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MORLEY

The name has become the symbol among career musicians for the highest degree of precision craftsmanship and quality products in electronic sound modification equipment. While individual features vary between different Morley electric failsafe pedals, all share fundamental attributes.

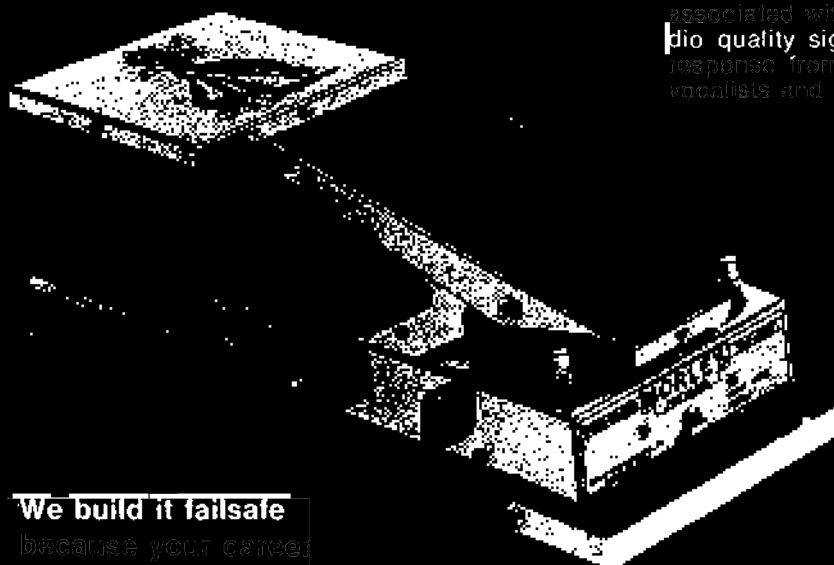
- All are manufactured to identical high quality standards to insure consistent performance under the most rigorous operating conditions.
- All are AC powered to eliminate batteries. A 9 volt circuit only produces somewhat less than 8 volts peak-to-peak signal output under perfect conditions. By comparison, the power supply in Morley products delivers over 60 volts DC which allows far greater dynamic range, higher output, much lower noise levels, and far less distortion than 9 volt circuits. As batteries deteriorate, performance deteriorates. Because Morley Pedals do not use batteries, there is no performance deterioration possible.
- All use opto-electronic circuitry at critical points. This eliminates noisy, crackling pots and rack and pinion gears that eventually wear out or break.
- All use heavy duty, chrome plated steel chassis and industrial grade AC power cords to insure maximum durability. They are built to last.
- All use high impedance input circuitry to insure perfect response regardless of the type of instrument

used. With Morley, you hear everything the instrument is capable of producing.

- All have long, uncrowded pedal travel up to three times longer than conventional rack and pinion type pedals. By using photocells in place of potentiometers, the entire sweep of Morley Pedals is linear and quiet. There are no dead spots in the pedal travel.
- All feel smooth without the slightest binding or hanging up found in even the best ordinary type pedals. The uneven resistance to pedal pressure common to such rack and pinion type pedals is eliminated.
- All undergo 33 on-line inspections and are individually tested before being packed.
- All are completely manufactured in the United States and are backed with Morley's famous One Year Guarantee.

The above are a few of the reasons why, among professional musicians, Morley is indisputably the finest pedal made. Now lets talk about features and sound.

ECHO/VOLUME (EVO-1)

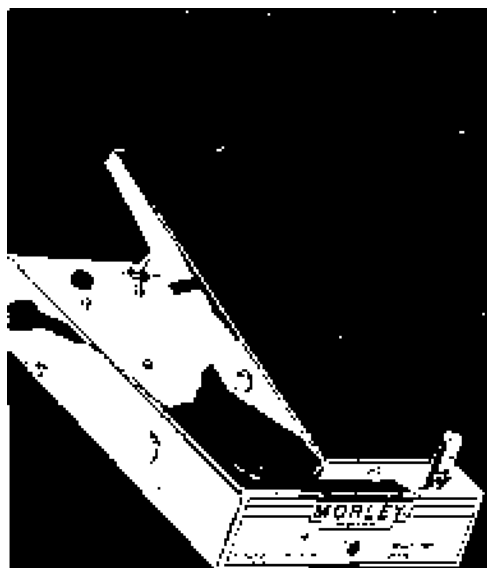


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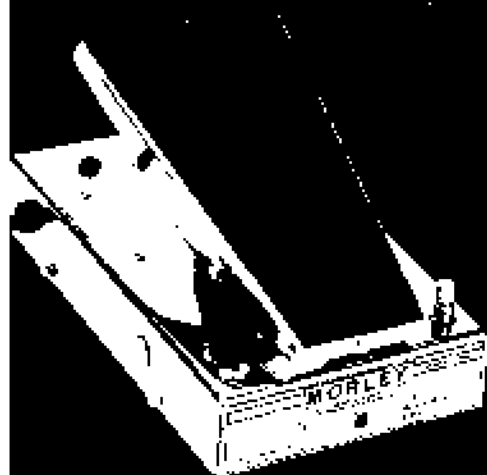
The exclusive and patented Morley Echo system is non-magnetic. Because no tapes or magnetic discs are used the hiss, noise and routine services associated with tape systems are eliminated. Studio quality signal to noise ratio plus wide range response from 30Hz up, make the EVO ideal for vocalists and for use with any musical instrument.

The pedal provides continuously variable control of repeats from a single repeat to multiples in runaway or instant cancel. Dual output jacks are provided for true stereo operation with a foot switch to combine both channels for mono. Two master controls allow total regulation of Echo Volume and the maximum number of repeats. A continuously variable delay control offers precise adjustment of the time between repeats. A second foot switch turns the Echo off and permits the treadle to be used as a Volume/Expression Pedal. No other echo, regardless of cost, can match the performance of the Morley Echo/Volume Pedal.

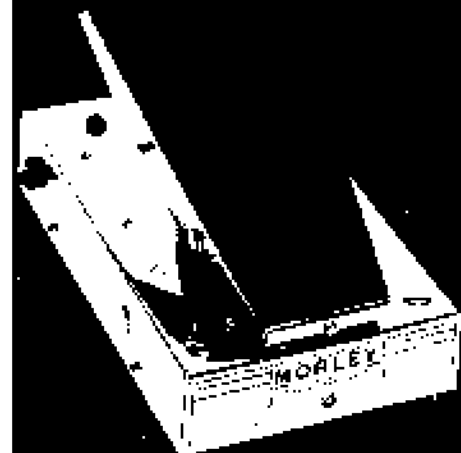
(EVO-1)



POWER WAH (PWO)



WAH/VOLUME (WVO)



STEREO VOLUME (SVO)

POWER WAH (PWO)

The Morley Power Wah Pedal was designed to fulfill the exceptional creative challenges of the serious musician. The PWO stands alone in offering an active response of over seven octaves making it suitable for use with bass, guitar, synthesizer, organ and most other amplified instruments. It features long, sweeping, uncrowded pedal action with over three times the travel of ordinary pedals for exceptional control. A footswitch allows you to bypass the Wah without loss of highs or volume. If your requirements for a Wah include wide-range response, low-noise operation, and the ability to enhance any musical instrument, then the Morley Power Wah is the only possible choice.

VOLUME (VOL)

The Volume Pedal uses unique opto-electronics to achieve wide-range, low-noise response. A photo-cell gives smooth, uniform attenuation without the pop and scratch sounds common to potentiometer controlled, rack and pinion type pedals. Long pedal travel assures accurate, precise control without sudden level change. There is no insertion loss, or reduction of high frequency response.

WAH/VOLUME (WVO)

The Morley WVO combines all the features of the VOL and the PWO into one exciting pedal. The WVO is exceptional for use with any keyboard instrument requiring a combination Expression Pedal with the most sophisticated Wah.

VOLUME/BOOST (VBO)

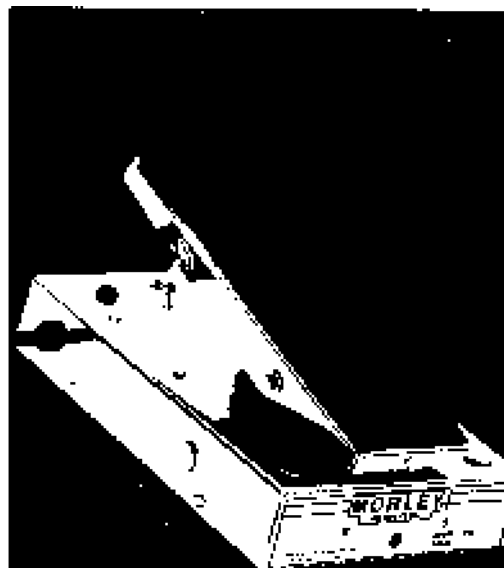
The VBO is identical to the VOL in the Volume mode. The Boost position is designed for musicians who need extra gain to boost the signal of low level instruments. It can also be used to overdrive the amplifier to achieve natural distortion at low levels. By carefully matching decay and boost rates, long sustain times can be generated as much as five times the natural sustain length without distortion or feedback. The amount of Boost may be preset using the continuously variable Boost Control for as much as 40dB of voltage boost (a 100 time increase of signal level).

STEREO VOLUME (SVO)

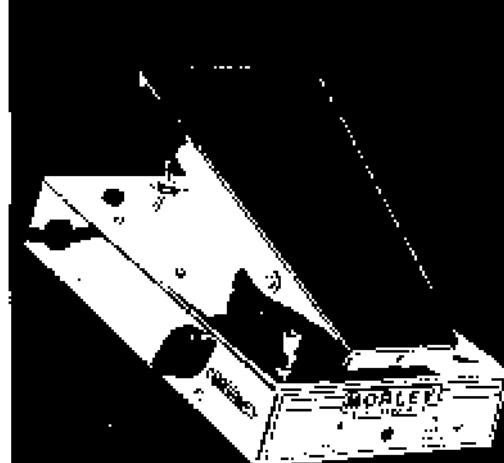
The SVO is designed to discreetly control two separate signals simultaneously. Signals from guitars, organs, etc. with stereo outputs or signals from any two separate instruments are fed into two isolated inputs. The signals can then be fed into separate channels of one amp or into two separate amps. The SVO may also be used as a conventional Volume pedal when only one input is utilized.

PRO PHASER (PFA)

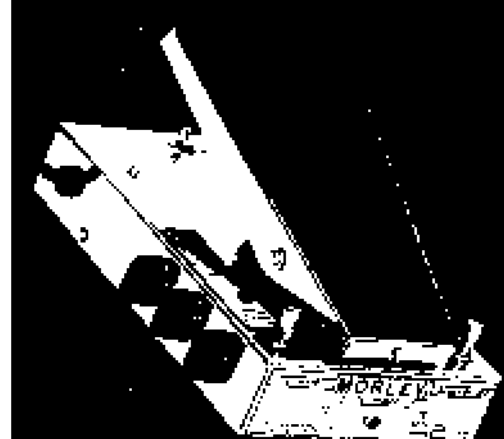
The Morley Pro Phaser is acknowledged by most career musicians to be the finest and most professional phaser made. The range of tone colors attainable is virtually without limit. In the Automatic mode the angle of the treadle sets the rate of phasing. Three side knobs control the amount of Phase Travel, the degree of Harmonic Emphasis, and the Center frequency of the initial phasing cycle. In the manual mode, the treadle controls the phasing like a Wah allowing a full variety of tone colors which may be manually swept or used in a stationary position. The Morley Pro Phaser introduced a new standard of excellence previously unattainable.



VOLUME (VOL)



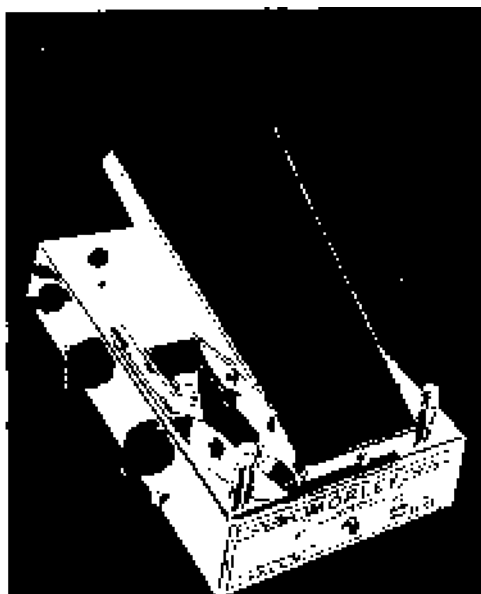
VOLUME/BOOST (VBO)



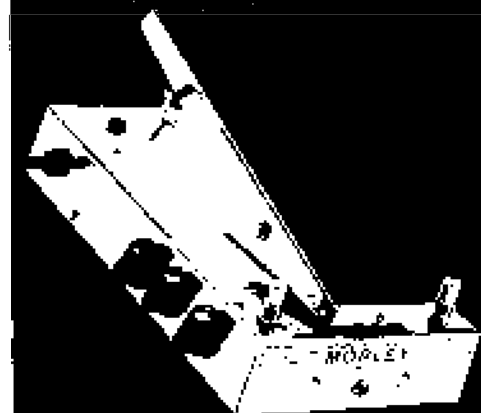
PRO PHASER (PFA)

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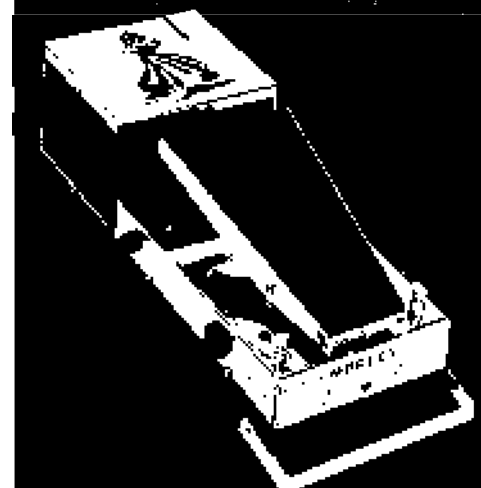
We build it in Utah because your career depends on it - and so does ours.



AUTOMATIC WAH (PWA)



VOLUME PHASER (PFV)



ROTATING WAH (RWV)

MORLEY

AUTOMATIC WAH (PWA)

The PWA offers a myriad of new effects to test the professional musician's creative ability. Unlike triggered wahs, the PWA utilizes an oscillator controlled automatic Wah circuit. The automatic Wah rate is controlled by the angle of the pedal. Two master controls on the pedal base can be preset for desired Wah travel and the exact frequency range the Wah will cover. An LED indicator lamp lights up in the Wah mode. A second LED pulsates indicating the rate at which the Wah is set. The PWA may also be switched to manual Wah or Volume control.

POWER WAH FUZZ (PWF)

The PWF is the only Morley pedal to offer a full Fuzz with a distinctive mix feature that lets you blend the Fuzz with the straight signal by using the treadle as a mix control. The Fuzz may be added to the Wah to create a hard driving lead or rhythm sound that puts you out in front. Two continuously variable controls on the side of the PWF offer precision adjustment of the intensity and tone of the Fuzz. The PWF incorporates the famous Morley Power Wah and the Morley Volume Pedal and is uniquely suited to fulfill the needs of today's creative musicians.

VOLUME PHASER (PFV)

Identical to the Pro Phaser PFA but with an added Volume position. An LED indicator light shows when the Phaser is on.

POWER WAH/BOOST (PWB)

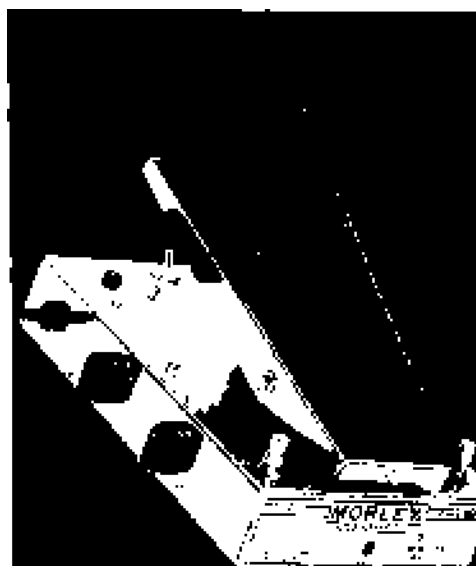
The Power Wah / Boost Pedal combines Wah, Boost, and Volume effects making it an extremely versatile pedal. The Boost is actually a preamplifier providing as much as 40dB of gain. The PWB can be used as a Boost circuit, a Volume Pedal with Boost, a Wah pedal with Boost, a straight Volume Pedal, and a straight Wah Pedal. This unique five-way flexibility has made it a mandatory piece of equipment among the effects of leading recording groups.

ROTATING WAH (RWV)

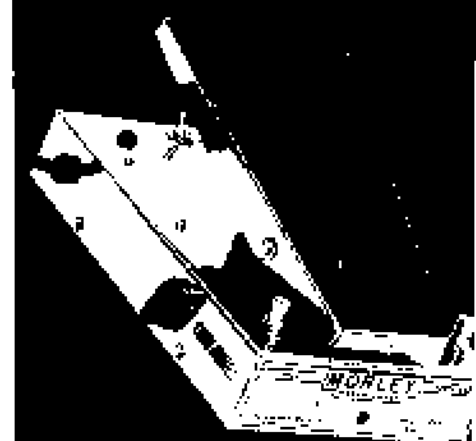
The RWV has now become standard equipment for most keyboard players as well as for guitar players since it combines an Expression Pedal, Wah, and the sound of rotating speakers into one compact pedal at a fraction of the cost of separate units. Five distinct functions include Wah, Rotating Speaker Sound, Expression, Rotating Wah, and Rotating Sound with Expression. Because of this exceptional versatility, the RWV has become popular for use with pedal steel.

PRO PANNER (PVL)

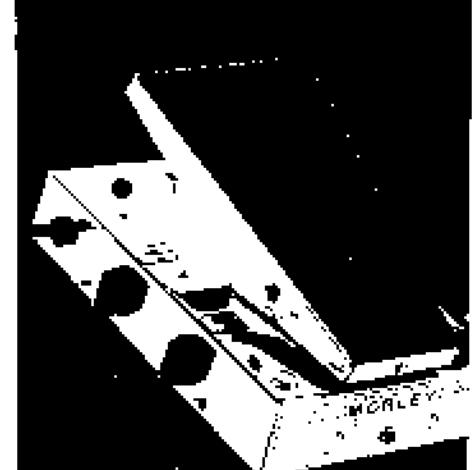
The Morley Pro Panner opens new dimensions of sound possibilities with your present equipment. With it you can Pan between the channels of your amplifier or between two amplifiers positioned on either side of the stage. Set the amplifier controls for a rhythm setting on one channel and a lead setting on the other channel. Add any special effects you desire. The continuously variable "PAN SEPARATION" control lets you jump dramatically from one amplifier to the other, or sweep smoothly between channels. An LED indicates the Pan mode. In the Volume mode, the "VARIABLE THROW" control allows you to set the amount of pedal travel desired. "Long" throw for full expression, "Short" throw for rapid bursts of volume.



POWER WAH FUZZ (PWF)

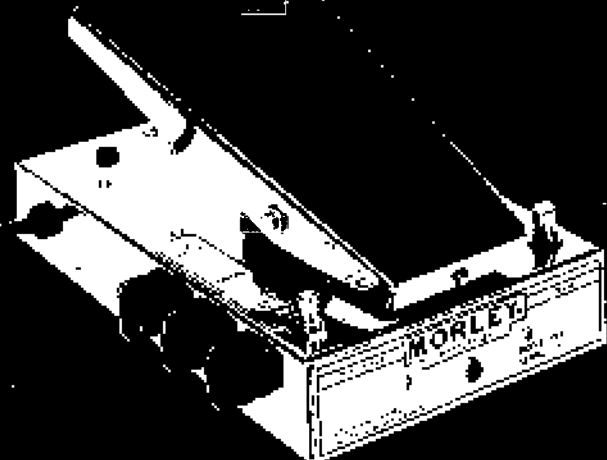


POWER WAH/BOOST (PWB)



PRO PANNER (PVL)

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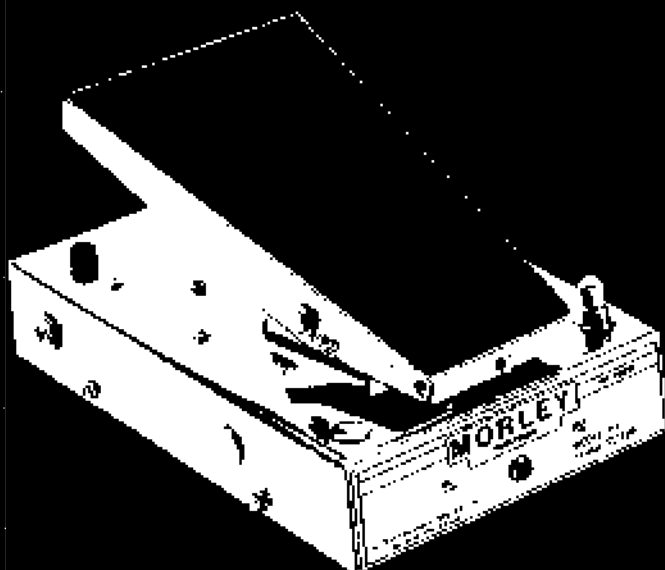
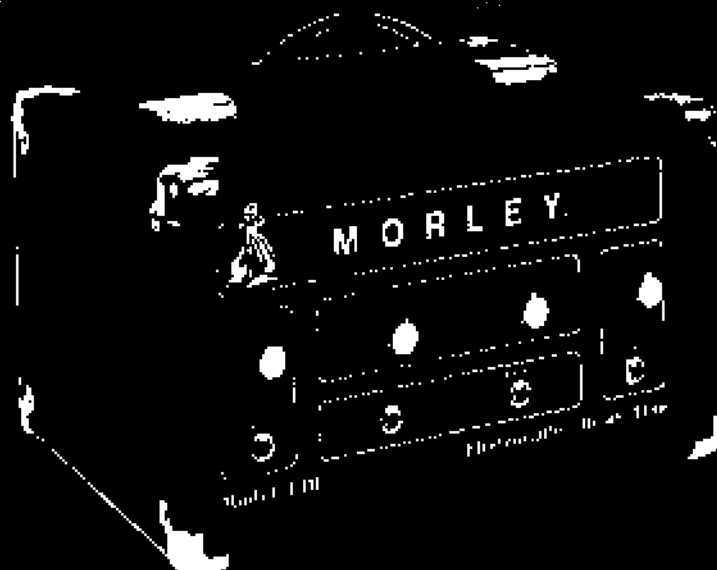
Excels in performance and offers these unique features:

- o In "Automatic" the pedal pre-sets any selected sweep from .1 second to once every 25 seconds.
- o In the non-automatic position the sweep varies with the movement of your foot.
- o Indicator lamp reveals when you are in the flanging position and also oscillates at the flanging rate when on "Automatic."
- o Phase switch changes the harmonic content of the sound.

We build it failsafe because your career depends on it -- and so does ours.

ELECTROSTATIC DELAY LINE (EDL)

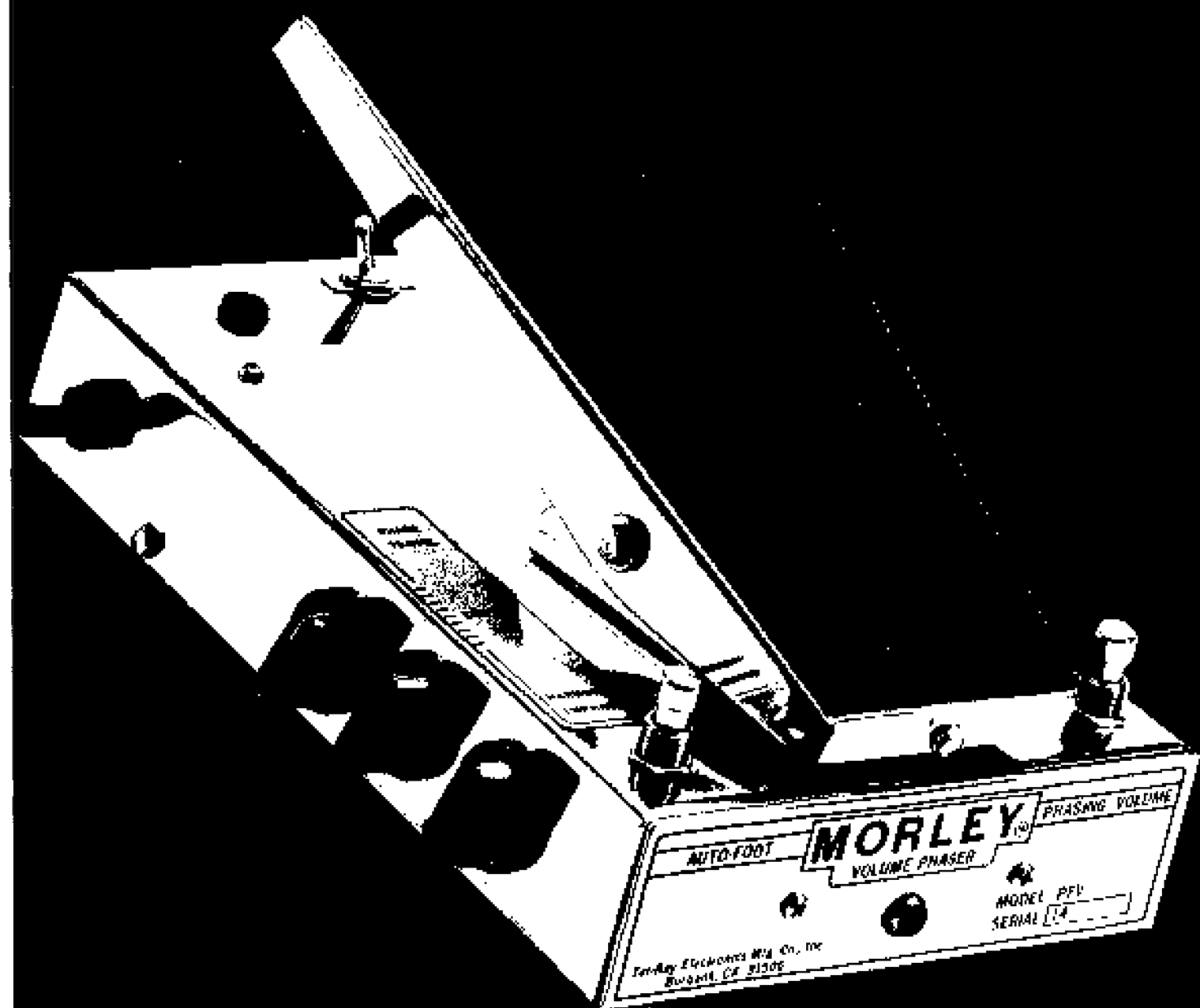
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POWER PANNER (SPV)

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RECORDING WORLD

A Mother in the studio

Interview with Frank Zappa by J.C. Costa

Frank Zappa's prodigious talents as a composer, musician, arranger and satirist often obscure the fact that he's produced all but two of his 23 albums while also finding time to produce Alice Cooper (*Pretties For You*), Captain Beefheart (*Trout Mask Replica*) and Grand Funk Railroad (*Good Singin', Good Playin'*).

By the time the Mothers of Invention, riding the crest of Los Angeles freakdom, were signed to MGM-Verve in November of 1965, Zappa had already acquired considerable experience at his infamous Studio Z in Cucamonga. Asked about his first brush with a "professional" recording studio, his answer is typically caustic and to the point.

"I didn't have any experience as far as being a producer from the real world. I knew that working on the equipment I had in my place in Cucamonga, I could get the job done. I always thought, 'maybe there's a better way. Maybe these guys from the real world - they're all-pro and they know what's happening. They know all about session musicians and all that stuff so maybe we could get a good sound.' I found out that was wrong, totally wrong. The main difference between a regular recording studio and what I had was that some of the things in my studio were better."

Needless to say, most of the conventional engineers of the day were hardly prepared for Zappa and the Mothers' brand of lunacy. Songs like "Brain Police" and their "exploded" instrumentation elicited some characteristic responses.

"There were some eyebrows going

very far up toward the ceiling in those days. Fortunately, the engineers who worked on *Freak Out* took the point of view, 'If I'm getting paid to do it and that's what he wants, he can have it. If it weren't for that attitude I would've been in trouble.'"

Taking over the production duties from Tom Wilson on the Mothers' third album, *We're Only In It For The Money*, Zappa was immediately confronted with several kinds of decisions.

"I had certain theories I wanted to test. If you have a really tiny budget like they give you when you're making your first album, you have to make rapid choices between carrying on your experimentation and just getting your album done within the length of time that the company gives you. I split the difference in a couple of cases and the quality of some of the production might have suffered because I was taking that little extra amount of time to experiment on something else. But nobody cared. Who cared? It was only one of those Mother of Invention records - who gave a shit whether something was wrong with it? To most people it was all wrong anyway, so who could tell the difference? But those experiments, they add up over the years."

To add to his problems, Zappa had trouble finding studios with the technical means to capture the universe of sounds swirling around in his head.

"The first two albums were done four-track and *We're Only In It For The Money* was eight-track and done in a real primitive studio. The first 16-track album was *Hot Rats*, and it was done on a home-made 16-track at the same studio where we recorded *Freak Out*, *TTT* (Los Angeles)."

When evaluating a studio, Zappa is usually more concerned about what's going on in the control booth rather than the actual sound of the room.

"I'm in favour of analysing how your room sounds but I don't do that much studio recording per se. Most of the recording I do is live tracks that are overdubbed. You get more balls in the tracks when the basic is being played in front of an audience and you

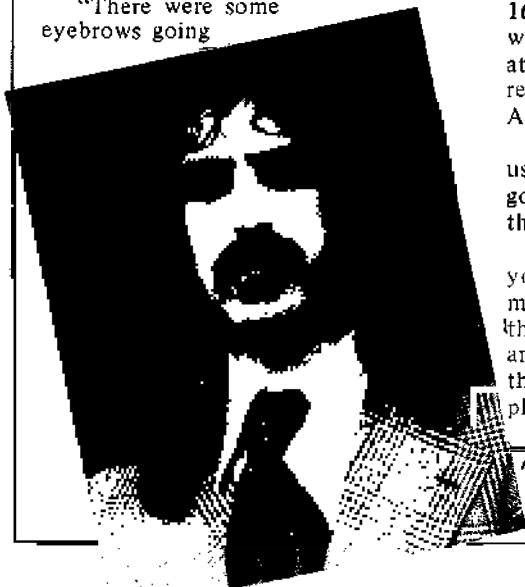
have musicians out there trying to show off. You get good separation during the live recording - which I've managed to do most of the time - then you go to the studio and "tweeze" the shit out of it. Consequently, the sound of the room where they put the instruments is not that important to me most of the time. The things I'm interested in are: How good is the monitor system? How much head room does the board have? How quiet is the board? What kind of outboard gear is available and does the studio charge exorbitant rates for every piece of outboard gear?"

In a general sense, Zappa views the studio as a component part of a greater whole.

"I see the whole studio as a musical instrument, something on the order of a pipe organ. In the way that a pipe organ gives an orchestral effect, it has a lot of tonal colours and a lot of power to it. The person who does the mixing is roughly the equivalent of a conductor in front of a symphony orchestra. The proportioning of the composition as it will be stored for time immemorial will be done at the time of the mix. The actual final shaping of the music takes place when you master it on to a disc."

A characteristic Zappa trademark on virtually all of his recordings is a colossal bass drum/tom sound, usually the dominating presence on the mix.

"Most people don't like to hear as much drums in the mix as I do. If I have a characteristic bass drum sound it's simple because I turn it up louder in the mix. I also like tom-toms. One of the things I usually do with the drums left/drums right track - You know how that stuff is normally set up on a 24-track. You have your kick track, your snare track and then drums left/drums right which contains the overhead for your ride cymbals and maybe the close-up mike on the high hat and individual mikes on the tom-toms. At the time of mix you take that pair of tracks, put it through a P.D.M. and bring it up on another pair of faders. Then you combine that with the uncompressed drums left/drums right track so you get all of your snap, attack and transients from the plain tracks - you jack the top end up on them - and you boost the tracks being put through the P.D.M. around 200 to 400 to make the tom-toms sound really ponderous. You get the propor-



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RECORDING WORLD



tions right between those four faders and presto chango - you have that mongoloid tom-tom sound everyone adores."

Zappa is also known for his fluid and dynamic lead guitar work. Over the years, he's developed some fairly concrete theories about how an electric guitar should be recorded.

"There are a couple of things to remember about recording a guitar. If you're just looking for notes, then a Pignose will do. But if you're looking for some sort of audio sensation the best way to do it is with a larger room and some air to move around. The thing that's impressive about a rock 'n' roll guitar sound is how the pressure of it hits you. A microphone doesn't just determine the wiggles that tell you what the pitch is. It also determines the sound pressure level. What you get from turning your amp up really loud in a large room is all that superlow-end thrust that you obviously don't get from a Pignose. If you want to sound like you're really kicking somebody's ass, you gotta actually turn it up loud and have the microphone experiencing a loud sound. The best way to get that room-end rumble with all of the "frazz" and top-end squeak sound is to record the guitar in an empty theatre."

Although many mistakenly suppose that Zappa is a cerebral modern composer who only writes complicated, asymmetrical melodies in odd time signatures, it should be pointed out that basic rock 'n' roll has always been the spiritual locus of his

music. Because of this, he has little trouble in defining a musical form that has often eluded the critics.

"The thing that sets rock 'n' roll apart from other music - it's not the repetition, it's not the lyrics and it's not the chords - is the *timbre*. That's the key. You can take the same three chords from any popular rock 'n' roll song of the grossest variety, you can take "Louie Louie" and write it out for an accordion, an oboe and a harp and it's *not* rock & roll anymore. Even if you transcribe it note for note. On the other hand, you can take any kind of a song from another field of music and orchestrate it for a couple of fuzz tone guitars, a loud bass and a drum set with tom-tom fills and by God, it's rock 'n' roll. That *timbre* makes the event. Also the attack and the attitude with which the instruments are played. If you were a legit guy and you were forced to write rock 'n' roll on paper with all of the traditional terminology that they normally apply, your marking would be 'molto deliberato.'"

Invariably, Zappa has been plagued with the problem of grandiose conceptual ideas without the proper funds to implement them. His dense, intricately constructed recordings give the impression that he spends exorbitant amounts of money in the studio. He quickly refutes any such notion.

"I'll give you some examples. *Freak Out* cost \$20,000 - which was preposterous in that day and age. People were shocked. The average rock 'n' roll album then cost \$8,000, mainly

because it was a collection of all your hit singles with a couple of Chuck Berry tunes thrown in on the side. When *Freak Out* was released it didn't sell. The first year it didn't do shit, so the company was very upset and when it came time to do the second album they spent a grand total of \$11,000. We had one day with 15 minutes per song to do the vocals.

"When we made our first deal with Warner Bros. to distribute *Bizarre*, the budget they gave me for albums was \$22,500 up to \$27,500, and that increase was based on union costs going up. Imagine doing some of those albums for that amount of money. Try *Hot Rats* for \$22,500 today, would ya? No way, buddy. When we made the second deal with Warner Bros. they, in their infinite wisdom, allowed us a budget of \$60,000 per album. And this was a time when your average 'big time' group was spending a quarter of a million per album."

With his prolific output of albums and films, it's remarkable that Zappa has found the time to produce other acts. For one who has such a well-defined musical persona, he is surprisingly "laissez-faire" in the studio.

"It's different. If I'm producing my own stuff there may be a discrepancy between what I'm used to spending and what *they* can afford to spend, so you have to work accordingly. My function when producing somebody else is more in the technical vein. I'm there to help them get their musical ideas across - to mix them and sort them out to their specifications. I might think they're making some mistakes but it's not my job to say that. Unless somebody specifically requests that I take their musical style and 'tweeze' it to my specifications, I stay out of it. It's their music, I just get it onto a disc the best way I can."

The one occasion where Zappa ventured out of the control room to sit in with one of the bands he was producing, Grand Funk Railroad, is something he still regrets to this day.

"They'd asked me to play on the album (*Good Singin' Good Playin'*) but I refused. Finally, I had to because we'd had to add a Craig Frost tune, an instrumental ("Out To Get You"), at the last minute. I really shouldn't have done it, because when the album got reviewed - just to show you what assholes the people that write about these things are - the only thing they wrote about was that song because I'd

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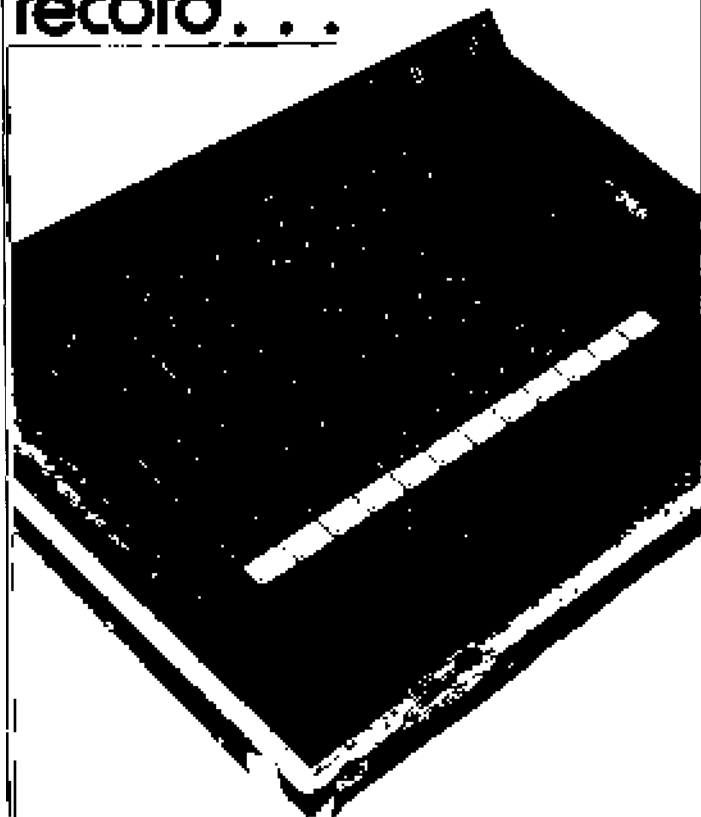
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ZAPPA

played on it. They said I played well on it. I don't think I played well on it at all. It doesn't sound that good, it's just a stupid guitar solo. And they wrote that was the only thing on the album and reviled everything else. I think they were full of shit. The band was having troubles anyway — they broke up during the vocal overdubs and I was having to hustle to keep them together. When the reviews came out they broke up for good, didn't tour or promote the album, so the record went onto the junkpile of rock and roll history. Which is a shame."

Zappa is known for his rigid disciplinary approach to keeping a band in line and efficient. Those who harbour the notion that Zappa is incoherent or drugged-out because of his music and public demeanor are in for a rude awakening when confronted with the man himself. His work ethic also extends to recording and studio procedure. He brooks no hanger-outers or wasting time.

"What usually happens is: Once you go in there, you don't come out until it's done. They bring in the food to ya' and ya' just keep doin' it. Our normal schedule is five days a week, 12 or 14 hours a day for about three months. That's what it takes to do it if you want to get it right.

"But if you're working with some-

thing outside the usual form, it's difficult to inflict a groove on the musicians unless you have a certain amount of equal comprehension among all the members of the group. That's one of the things that's held me back for years. To get each guy who's playing his part to understand enough of what the final thing is supposed to sound like so they can do it right. Usually, I record something and it's not really right but once they hear it done they go, 'Oh, that's the way it's supposed to be.' Then they play it on stage and it's better. I wind up releasing something that's tantamount to a demo of the album. That's why I've done a lot of live recordings, so I can recapture some of that material."

In effect Zappa has recorded a substantial number of live albums — six at last count, and many of his studio lp's are interspersed with live tracks. It stands to reason that he would have some expertise when it comes to this often tricky area.

"You'd be surprised how much separation you can get in live recording if you just mike it right and use a little tasteful baffling to keep things out of the monitor system.

"The biggest problem in live recording is your ground loops. Buzzes and 'Frazz' you gotta track down before you record. But if you have a good

crew they'll clean it up. Another problem with live recordings is the musicians, under normal battle conditions when they're out there being stars and stuff, they have a tendency to forget the levels set during the soundcheck. And then, in the middle of a song, wheeoo and the poor engineer is sitting in the truck with frizzled hair, his eyes pressed back in a face contorted like one of those early rocket sled pictures."

Although an "unofficial" album, *Studio Tan*, has just been released on Warner Bros., Zappa has switched to Phonogram in the US (for distribution) and is currently mixing his next album, *Martian Love Secrets*, in New York. He is also mired in a welter of litigation with his former label and desperately trying to raise a half a million to get his new film project (either "Martian Love Secrets" or "Baby Snakes GasMask") off the ground. And even though national radio airplay in America continues to elude him, Zappa retains his gritty, sardonic point of view about it all.

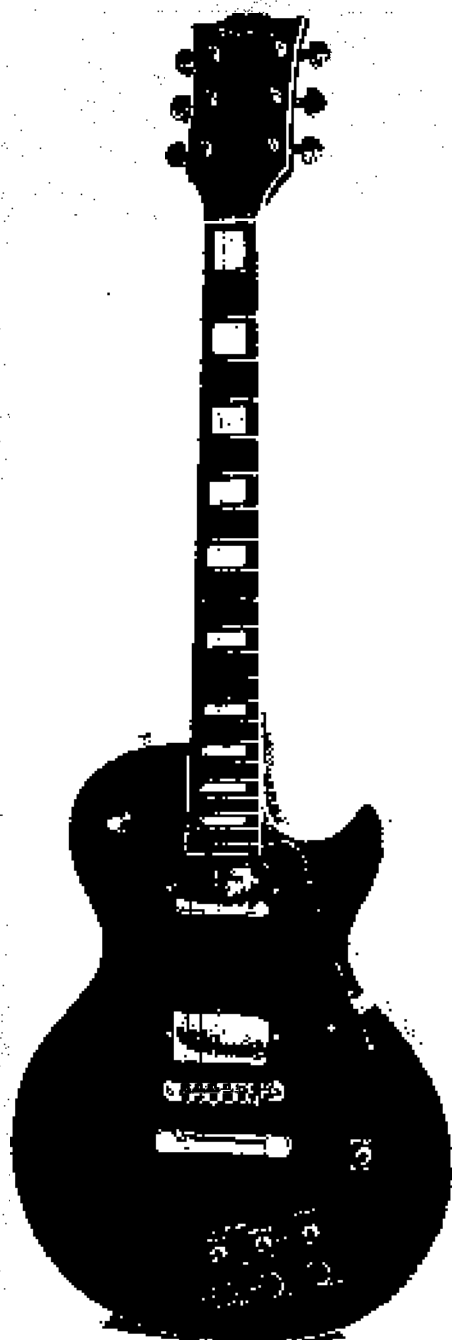
"Well," he said, a faint sneer crossing his lips "there's more important groups to get on the radio. Groups that are relevant to your lifestyle. Things that reinforce your ideas of self-worth and propulsion towards the future."



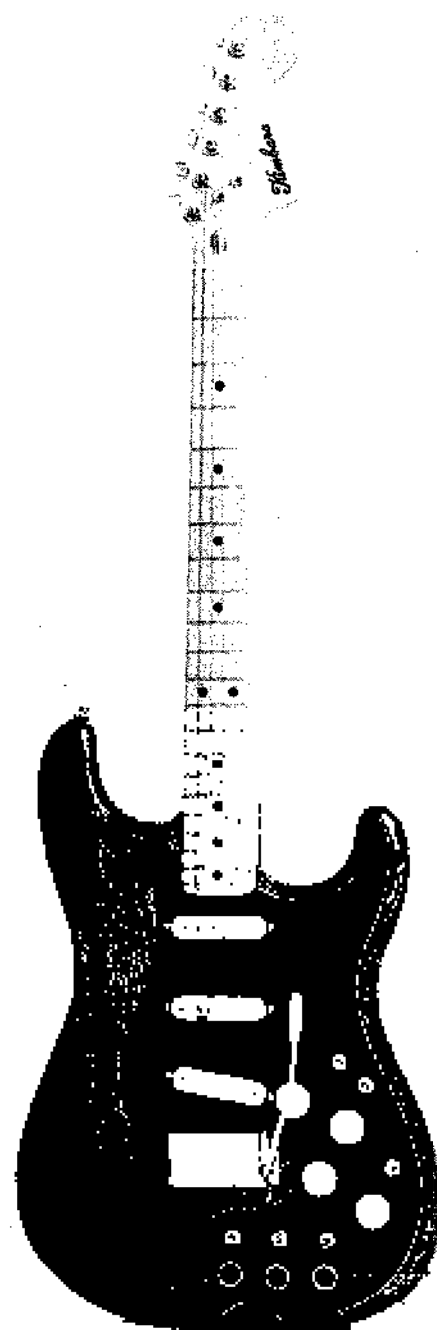
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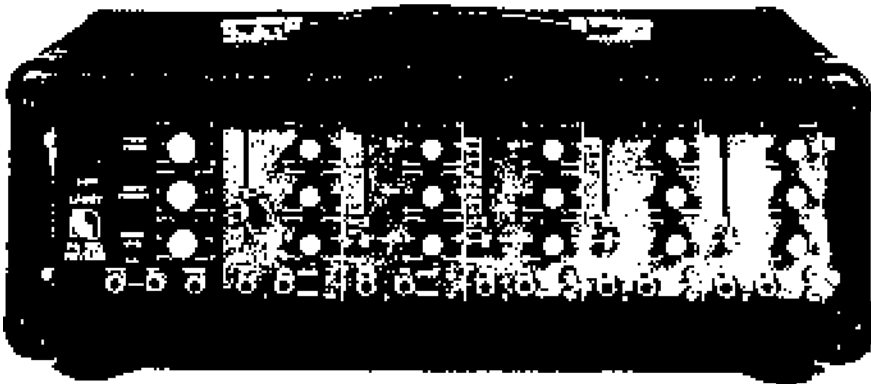


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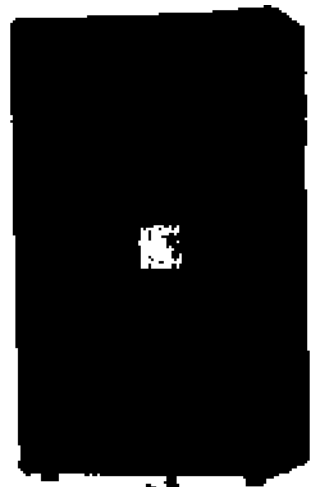


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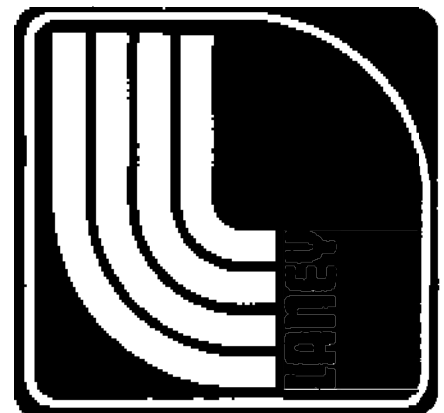
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STUDIO DIARY

Who's been recording what, where...

Air

This air was full of sounds... UK have been in for a self-produced album engineered by John Punter... Chris DeBurgh's new piece of vinyl is produced by Andrew Powell with John Lowy at the controls... A big star from Israel (11 gold albums), Igal Basham has been doing a big thing for Arista with producer Mark London... Tony Ramone is producing a single by Strangeways... The Sex Pistols film has been mixed down... Lovely Siouxsie and her Banshees may be chartbound again with a new single...

Britannia Row

The Floyd will be back with an album in 1979! The producer is Bob Ezrin and the engineer James Duthray. They began recording November last and are due to leave the studio in late March... Spring could be pink...

Music Centre

The Darts have been recording for a show to be broadcast on LWT... Dead Fingers Talk have recorded a single... The Members have mixed their single there under the control of engineer Peter Wandless. They'll soon be back for an album... Leighton Buzzard have been through recording sessions for an album... The Who were possibly mixing their single there while the *Quadrophenia* soundtrack is being mixed by an engineer who at the moment calls himself Scy... Heatwave are due in for overdubs...

Trident

French disco king Cerrone has recorded bits and pieces for future use... Bachman Turner Overdrive have been working on an el-pee with Jim Valence producing and John Brand engineering... Charlie have lined up some more tracks with producer Steve Short... A band called After the Fire are mixing a single... Heavyweight champion Demis Roussos is working on a new album with Alex Constandinos producing and Steve Taylor on the technical side... Also produced by Constandinos is a single by Continental band Bad News Travels Fast... Anthony Phillips has also been in with producer Rupert Heim with an album in view...

Central Sound

The Perishers will soon be on our TV screens; behind the cartoon will be voices like Leonard Rossiter's and Sheila Hancock's. A jingle has been recorded in Central Sound to promote the series... Yugoslavian producer Kornell Kovach was in with top Yugoslav male singer Dravko... White Snake for triple album. Martin Birch (Purple, Rainbow) is producing... Mainland are on the new Christie label with a tune called *Who Do You Love?*... Joe Public have been working with producer Trevor Jones... Roger Glover is producing a new album by Bob Young and Micky Moody... Cozy Powell is due in for an album...

Ramport

The Who have recorded tracks for their film *Quadrophenia*... Thomas Norton producing an album by French singer Martine Clemenceau... The Tyla Gang are mixing a new album with producers Gary Phillips and Matthew Kaufman... Peter Green is mixing a new album produced by Peter Vernon Kell... Jeff Beck is working on an album produced by John Punter... Tony Ashton produced a Charlie Ainley album...

Manor

Split Enz have an album due out soon, produced by Mallory Earl from the US of A. The engineer is Hugh

Padjam... So have Blood Donor, produced by Malcolm Cecil... New artist Andrew Matherson also has an album in hand with M. Earl producing... New Wave band Fingerprints have recorded a single, handled by David Bachelor... the mobile unit has caught Peter Gabriel at Hammersmith... Penetration in Newcastle and Woolwich... Devo in Bristol... Dean Friedman and Chris Rea at the Dominion, London... Ralph McTell and John Williams at Drury Lane... Dutch band Sweet De Basta playing at home... Magazine playing away at Farmyard... Johnny Halliday in Paris... Busy, busy...



Roger Waters of Pink Floyd



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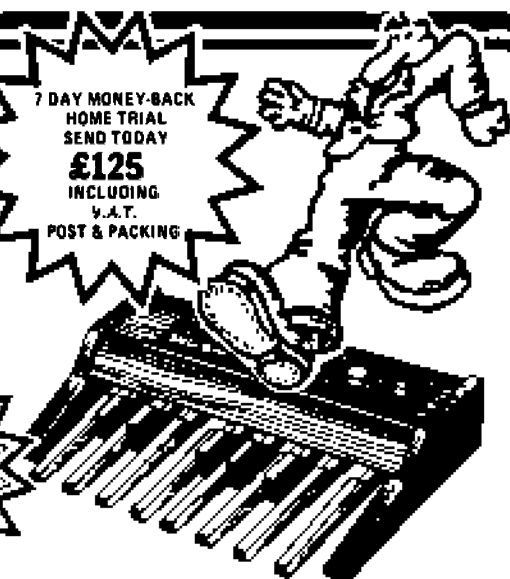
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Basing Street

Meanwhile, on the roads of the UK, the Island Mobile have been very busy. Rod Stewart's gigs in Manchester and Olympia are now on tape, destined for BBC Scotland and DIR New York. Other celebrities to have been recorded are Boney M in Dublin for RTE (Radio Telefis Eireann). The mobile unit also followed the Clash, Third World and Hi-Tension.

Abbey Road

Back in the warmth of EMI's legendary Abbey Road studios, Roxy Music have been working on their new self-produced album, engineered by Rhett Davies.

The up-coming Only Ones were also there recently with Robert Ash, the producer . . . Mick Taylor is a stone's throw away from a new album engineered by John Burns . . . Malcolm Cecil produced some Blood Donor tracks for Arista . . . Reggae-Regular have finally done some tracks for Decca under the supervision of Nick Raymond and Robert Ash.



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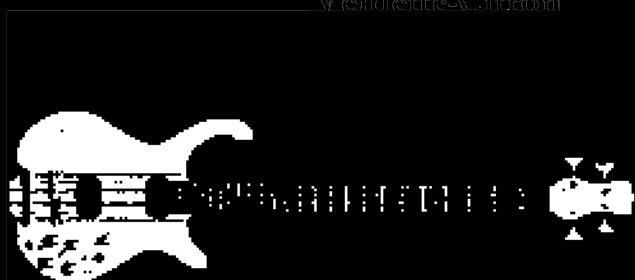
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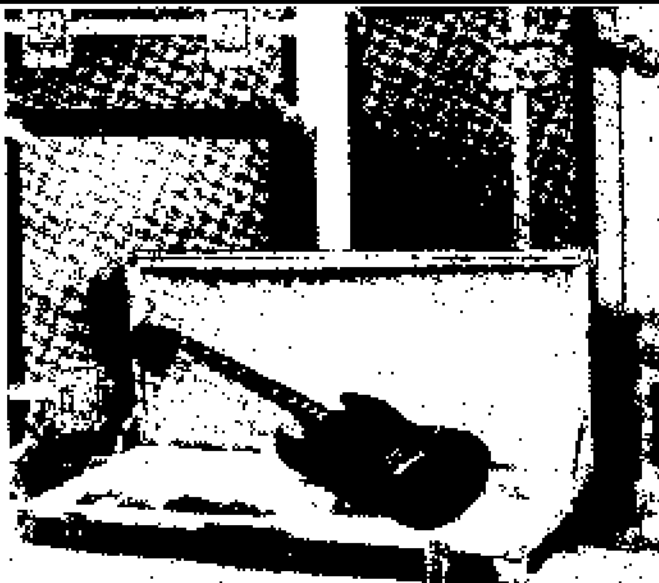


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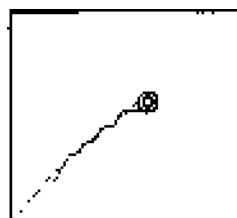
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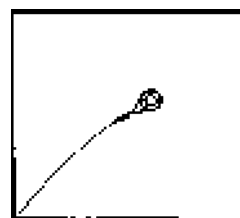
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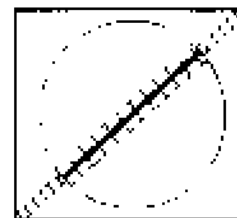
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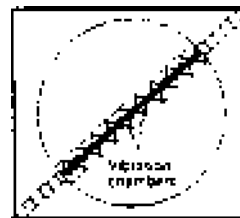
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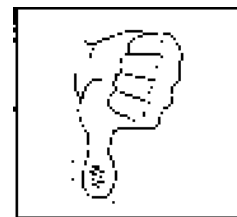
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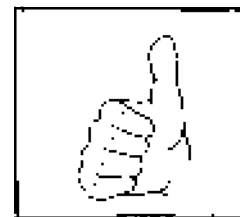
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Sounder result

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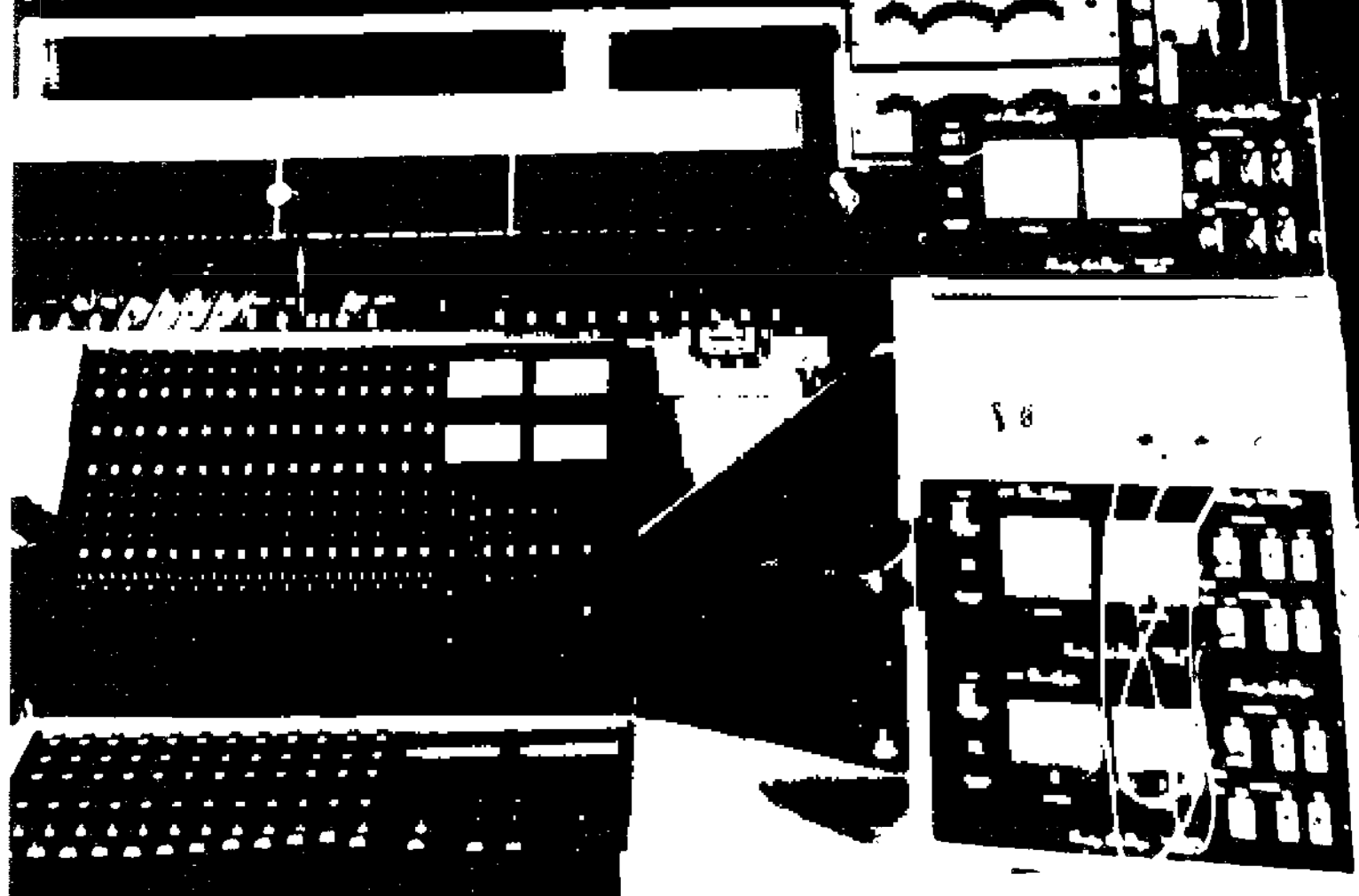
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Albums

Gary Moore

Robert Johnson

Roy Ayres &

Wayne Henderson

Gary Moore

Back On The Streets (MCA)

In many ways, this has been a long awaited album from Gary Moore. When he first played in England with Skid Row 10 years ago, he picked up a lot of fans who were waiting for the coming of the next guitar god. Not wishing to be involved with deification, Moore went on to different forms of music including his own blues-orientated Gary Moore Band, a short spell with Thin Lizzy and a later flirtation with jazz-rock in Colosseum II. He recently re-joined Lizzy, replacing Brian Robertson, and returned to a more basic hard rock style. In fact, this album includes performances by Lynott and Downey (Lizzy), Don Airey and John Mole (Colosseum II) plus the much-in-demand Simon Phillips.

The album goes a long way in explaining why so many people have raved about Moore for so long — his guitar playing is dynamite and his singing ain't too bad either. However, it's not all six-string pyrotechnics: there's also a lot of melody in the material.

Three of the tracks are almost standard Lizzy fare — the title track, Lynott's *Fanatical* and a re-vamped *Don't Believe A Word*, which sounds not unlike *Black Magic Woman*.

There are three pretty adventurous tracks — *Flight Of The Snow Moose*, *Hurricane* and *What Would You Rather Bee Or A Wasp* — on which Moore sounds and plays almost too close to Beck for comfort. Airey, too, on keyboards does a great Jan Hammer impression. The arrangements of these tunes are very similar to recent output by the Jeff Beck/Jan Hammer collaboration with guitar and synth playing fast, intricate passages in unison before swapping over for solos.

Eamonn Percival

Produced by Chris Tsangarides and Gary Moore, engineered by Chris Tsangarides. Recorded at Morgan, London.

Robert Johnson

Close Personal Friend (Ensign)

Not a collection of classics by the King of the Delta Blues, more's the pity. This Robert Johnson is a youngster from Memphis who has apparently played session guitar for Isaac Hayes, Ann Peebles and others. His first album under his own name suggests that he should stick to session work until he has something more interesting to say.

Johnson's not a bad guitarist. At least, he's got plenty of technique, but his sound is thin and his licks are all too familiar. He wrote all the songs on this elpee too, which was another mistake, 'cause they're just very derivative. Maybe that's the idea. Maybe this flimsy trio (David Cochran, bass, Blair Cunningham, drums) playing corny blues-rock riffs is supposed to be tongue in cheek, a sort of light metal. There's one track, *Leslie*, which is an obvious, self-conscious pastiche. Imagine, if you will, an early Beatles-style number (Lennon, not McCartney), played by mid-period Shadows and sung by Elvis Costello. Very droll and very clever. The rest all sound the same — new wave-ish without the fire or the surprise, heavy metal-ish without the relentless energy, rock and roll without the soul.

Jeff Pike

Produced and mixed by Robert Johnson and William C. Brown III, engineered by David Thoener, Greg Caruso and Rod O'Brien. Recorded at the Record Plant, New York.

Roy Ayres & Wayne Henderson

Step In To Our Life (Polydor)

A combination of the musical expertise of vibes player Roy Ayers and trombonist Wayne Henderson, and also of their recently developed production capabilities. Both have lately found considerable success with their respective production companies — Ayers with his own product including a couple of disco hits and Henderson more with his protégé saxophonist Ronnie Laws.

However, no-one can accuse Henderson of turning to disco-orientated funk in the hope of the fast buck. After all, he spent an incredible 20 years with the Crusaders. Like much Crusaders material, and indeed fusion music in general, Henderson on this album tends to play in a faultless, economic but rather uninspiring fashion.

The disco tracks are sub-standard, but the jazzier side of the album is another matter. George Del Barrio's strings provide a superb atmospheric surround for the title track and the excellent *Lovers Should Always Be Together*, both interesting compositions featuring delightfully restrained vibes from Ayers.

An inconsistent album, but a highly promising collaboration and almost worth buying just for the first half of Side Two which represents fusion music at its best.

David Lawrenson

Produced by Roy Ayers and Wayne Henderson. Recorded at Automated Sound NY, Sigma Sound NY and Oceanway, Santa Monica, California.



Gary Moore

Rod Argent

Moving Home (MCA)

Long-awaited album from one of Britain's best keyboardists, singers and songwriters. Since Argent split, Rod's been very busy with sessions, including *Who Are You* and *Variations*; but has also found time to record this, for me, very satisfying solo album. For back-up musicians, he has recruited Phil Collins, Morris Pert, Clive Chaman, Alphonso Johnson and Jack Lancaster, while handling all the keyboards and vocals himself.

The recent single *Home* opens the album, a big production with layers of keyboard instruments and even more layers of vocals. A slowish song, it builds up at the end to a great climax with a Beach Boys-type wall of harmonies and devastating drum fills from Collins. One of my particular favourite cuts follows. It's called *Silence* and shows what a great vocal range Rod possesses, as well as boasting one of the most effective Moog solos I've heard for a long time. Now I know what the pitch bend wheel does.

Another standout is *Tenderness*, probably the nearest thing to a straightforward pop song on the album. The beautiful melody has a really nice acoustic piano solo that builds and builds. In fact, acoustic piano is featured fairly heavily on this album, displaying Rod's sense of economics and dynamics — he hasn't fallen into the trap of using synths for synths' sake.

The musicianship is superb throughout. Alphonso Johnson is frightening on *I'm In The Mood* and *Pastorious Mentioned*, and Clive Chaman displays his penchant for funk on the tongue-in-cheek *Well, Well, Well*.

Eamonn Percival

Produced by Robin Lumley, recorded at Trident.

Japan

Obscure Alternatives (Ariola/Hansa Records)

I can't reconcile Japan's physical appearance with their music. Their pretty-boy multicoloured hair makes a jagged contrast with the menacing mutant funk on this album. Maybe that's all part of the plan.

The record is riddled with images of decay and consumer-packaged emotions. "A love is churning out on factory lines," sings lead person David Sylvian in *Suburban Berlin*. In *Love Is Infectious*, he claims that "We're simulating sex instead." It's depressing. While ennui stalks the streets, the rest of the band manufacture careful musical vistas. ... *Rhodesia* is about the best of the bunch, where Mick Karn's alert bass propels a squashy funk beat. The band's playing is generally economical and thoughtful, but the turgid tempos cry out for a little light relief.

Sometimes I Feel So Low is, in fact, the least threatening piece on the album, and verges on the cheerful. It's a shame that Sylvian's voice isn't more expressive. A lot of the time he sounds like Bowie, but his voice lacks the Beckenham lad's capacity for whimsy.

Altogether, a rather grim album. Credibility is strained when Japan maintain, in *Deviation*,

that "We had fun, fun, fun." If this is fun, show me the alternatives.

Adam Sweeting

Produced by Ray Singer, engineered by Chris Tsangarides.

Sham 69

That's Life (Polydor)

Don't be fooled into thinking that this is Sham's answer to *Tommy*. It's just a straight ahead rock'n'roll album, which says much the same for today's teenagers as *My Generation* did all those years ago.

The focal point of the band is undoubtedly vocalist Jimmy Pursey, who rivals John Lydon as the New Wave's leading front man. Despite not having quite the same distinctive voice as young John, Pursey nevertheless has an abundance of talent which ranges from song-writing to co-producing this album.

Most of the numbers are up-tempo rockers like *Leave Me Alone* and *Sunday Morning Nightmare*, featuring power chord work from guitarist Dave Parsons. *Hurry Up Harry* works better as an album track, with some nice piano from engineer and co-producer Peter Wilson, while *Angels With Dirty Faces* shows the band at their best.

A good album which shows the continuing development of the band. Sham are to be applauded for their efforts in attempting a "concept" type album which leaves them wide open to criticism but more than justifies their decision.

David Lawrenson

Produced by Jimmy Pursey and Peter Wilson, engineered by Peter Wilson. Recorded at Startling Studios, Ascot.

Phil Manzanera

K-Scope (Polydor)

No-one should have expected a follow-up to *801 Live* in Manzanera's *K-Scope*, and he certainly hasn't provided one. Though this album has some high spots, the overall feel is emotionally detached. However accomplished the players are, and the works they are performing, Manzanera fails to inject any heat.

The title track is hard-edged, percussive and busy, yet cold. Simon Phillips drives the track



Sham 69

Rod Argent

Japan

Sham 69

Phil Manzanera

Albums

Funkadelic

Alice Cooper

Kim Fowley

Joe Gibbs

with his drums and Mel Collins and Lol Creme come in with sax and Gizmo parts but fail to supply any texture. The same insistent drumming and some driving guitar and bass riffs give *Remote Control* a sort of power but it seems only awesome. It takes the quavering vocals of Split Enz's Tim Finn, reminiscent of Marc Bolan's, to make *Cuban Crisis* strangely attractive. Eddie Rayner, another Split End, contributes nagging but funky bass synth pedal lines.

Hot Spot is one of the album's high points. The rhythmic excitement and sax and vocal parts make it a fun track. The lead guitar is ethereal, as usual. *Gone Flying*, with its subtle bass riff from Bill MacCormick, has a wide and clear space in which the dreamy vocal and echo guitar float in.

There are plenty of guest artists, like Francis Monkman, Godley and Creme, Eddie Rayner, Finn and regulars Bill MacCormick, Simon Phillips and Simon Ainley on this record. Perhaps it is a tribute to Manzanera's production abilities that their contributions blend in so well.

Sean Hogben

Produced by Phil Manzanera, recorded at Sun Park Studios, Surrey, by Greg Jackman.

Funkadelic

One Nation Under A Groove
(Warner Bros.)

This is an album and a half, and no mistake. As well as your average 12" LP, the mind-warping double sleeve also contains another disc with, on one side, the 12" disco mix of the title track at 45rpm and on the other — get this — another four instrumental tracks at 33½. More of what you're funk'n' for, as the sleeve subtly suggests.

Me, I could do with a little less. If only Funkadelic didn't go on so. There's no denying

they're a super-funky rhythm section, fuelled by Tyrone Lampkin's drums and Bootsy Collins' bass, and blasted into the stratosphere (this sleeve-note style is catching) by the guitars of Gary Shider and Mike Hampton. But all the tracks without exception take a neat, simple idea and flog it to death. Great for dancing to, pleasant to hear, boring to listen to.

Mastermind George Clinton has the whole funkextravaganza well under control, down to the last groan by the last backing vocalist. So he must take the blame for making this really rather tedious. The off-the-wall lyrics are a giggle first time around, but endless repetition soon makes them boring too. Shame. Good music to do the washing up to.

Jeff Pike

Produced by George Clinton, engineered by Jim Vitti, Pete Bishop and Mike Iacopelli. Recorded at United Sound, Detroit.

Alice Cooper

From The Inside (WEA)

There's no doubt that Alice Cooper has been through the horrors. Beer stories of Alice are legend and whenever he has appeared for a chat or a photograph, an ever-present can of Budweiser has been at his side. His latest recorded work is an unashamed testimony to his fight to give up booze and so is one of the sincerest works he has ever completed.

From The Inside gives various insights into Alice's life on the road and the false camaraderie that makes having "just one more drink" so easy. Musically, it comes nowhere near his previous works, like *Lace and Whiskey*, for the depth and diversity of compositions but it seems by far his most honest recorded work.

Dick Wagner and Bernie Taupin are Alice's main collaborators and Wagner is the main instrumentalist. He contributes powerful, flashy guitar work on *Wish I Were Born In Beverly Hills*, which has a fine lyric about the gilded life of a Hollywood wastrel. *Serious* and *The Quiet Room* share some strafing, distorted guitar work and *Serious* backs up with a strong vocal chorus, a hard rocker in the traditional Cooper vein.

Inmates, *Jacknife Johnny* and *How You Gonna See Me Now* all show Alice to be a very intelligent writer of lyrics. I'm glad he could see his way out of the asylum. This record makes powerful statements and the lyrics prick one's conscience. Every song sounds like good therapy.

Sean Hogben

Produced by David Foster, no other details available.

Kim Fowley

Visions of The Future (Capitol)

Though he has written and produced songs for artists as various as Kiss and Cat Stevens, Kim Fowley's music is an acquired taste.

The near-legendary Californian music biz figure who produced *Papa Oom Mow Mow* and Gene Vincent has at last had a compilation of his striking songs released. They range from surprising and spare New Wave songs (recorded in 1972) to pleasant and melancholy ballads. The choice was Fowley's and it was an excellent one.



Alice Cooper

Hollywood Confidential, Shine Like A Radio and Visions of The Future are what the writer calls "instant slime classics". They have a spare arrangement that, coupled with tense, metallic guitar, sound as modern as today. Key words like "underworld" and "fabulous" characterise the lyric of *Shine Like A Radio*. However malevolent Fowley can sound, his superb, confident arrangements have achieved beautiful ballads in *ESP Reader*, *Mom and Dad* and *International Heroes* a teen classic

Sean Hogben

Produced by Kim Fowley and Jeff Cheen, engineered by Dave Hassinger, Paul Grupp and Mike Ross.

Joe Gibbs

African Dub 1-3 (Lightning)

It's not often that a review on these pages appears under the name of the producer, still less a set of three albums. (They're available separately but make even more sense as a trilogy.) But as every reggae fan knows, dub is the art of the producer and/or the engineer. It's the result of an instinctive skill at the faders which turns a fully-mixed reggae track into a sparse sound-picture by a process of selection, rejection and unexpected interjection. There's nothing else in the whole of contemporary music that sounds anything like it, and arguably there's no-one who does it better than ace Jamaican producer Joe Gibbs and his trusty engineer Errol Thompson.

These three albums are roughly chronological, if not in order of recording then at least in illustrating the development of dub. The first (Chapter One) works from basics: simple tracks with just about everything skimmed off at the desk, leaving just hypnotic bass and drums to outline the shape of the tune and imply more than any instruments could state. Chapter Two throws in a few more effects – echo, reverb, phasing and odd instrumental twiddles at unlikely moments. Chapter Three is the full flowering of the art: snatches of vocals, haywire guitar and synth passages, more and madder echo, an infinite jigsaw of sound.

If you still can't comprehend exactly what this review or these albums are about, listen to *Angola Crisis* on Chapter Two. It's a dub version of *Up Town Top Rankin'* (Joe Gibbs produced Althia and Donna's ditty). It's instantly recognisable, but utterly different from the crossover chartsmash single. Beginning to see the magic? Now listen to the rest. Loud, preferably.

Jeff Pike

Recorded at Joe Gibbs Studio, 24 Retirement Crescent, Kingston 5. Produced by Joe Gibbs. Engineered by Errol Thompson.

SHORT CUTS

Chuck Mangione: *Children of Sanchez* (A & M)

A great double album from my favourite Mangione, this is the soundtrack (and more) from Hall Bartlett's film of the same name. Very atmospheric and immaculately performed. The best moments, for me, occur on Side

Three's *Death Scene*, *Echano*, *Bellavia* and *Lullabye* tracks. EP

Champion: *Champion* (Epic)

This was the band that was to be called Rough Diamond until they were forced to change their name. They should have just dropped the "Diamond" part. Heavy, funky, Southern boogie from a band that includes Clem Clempson (ex-Humble Pie) and Geoff Britton (ex-Wings). EP

Spitballs: *Spitballs* (Berserkley)

An all-star line-up of Berserkley acts including Greg Kihn, Jonathan Richman and Sean Tyla blow through a collection of mostly Sixties material like *Bad Moon Rising*, *Telstar*, *Chapel of Love*, *Knock On Wood* and *Boris The Spider*. Good fun. EP

Nazareth: *No Mean City* (Mountain)

Loud, heavy, 'orrible.

EP

Isaac Hayes: *For The Sake Of Love* (Polydor)

The Shaft man isn't likely to regain much of his former glory with this poor imitation of his *Hot Buttered Soul* days. His *Shaft II* is little different from the original, but only on one track, *Zeke The Freak*, with some great brass, does Hayes reveal he is capable of good modern disco sounds. DL

The Tymes: *Cameo-Parkway Sessions* (London)

Delightful tracks from 1963-64. Lead singer George Williams – a macho Johnny Mathis – croons through 20 pretty tunes, surrounded by four-part close harmony. Simple, naive stuff with a charm all its own. JP

Steve Miller Band: *Greatest Hits 1974-78* (Mercury)

What can you say about a greatest hits album? Except that, as usual, not all these tracks were strictly speaking hits. But they all could've been. Consistently high standard rock by an underrated band. JP

Tyla Gang: *Moonproof* (Berserkley)

More of a compilation than a genuine album, because Sean Tyla's influences – from the Beatles to the Boomtown Rats – are so strong they often overwhelm all original ideas. Only the last three tracks avoid forgery and deliver genuine hard rock. HC



Isaac Hayes



NEW HAMMOND B-200

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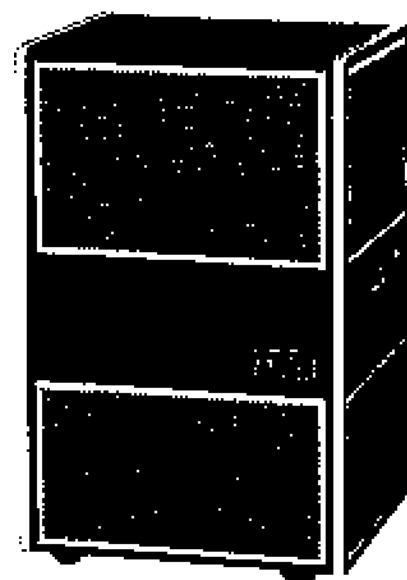
The B-200 . . . Another reason why most pros won't settle for anything less than a Hammond. It features the famous 'Hammond Sound', copied by many but achieved by none. The B-200 is devoted to professionals who depend on superior performance and great sound. It's portable with no sacrifice in features or tone of traditional Hammond Tonebar organs. There's also a new, custom high powered Leslie Speaker, the model HL 822, specially created for the B-200. The blending of the best, Hammond and Leslie.

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A Bass in the Country

Country crossover is at large! Purists turn pale but the masses delight in the musical melting-pot that country queen Dolly Parton is stirring. In the last two years Dolly has burst from the confines of the country circuit and is gathering in pop fans like a Texas twister. Her easy shift of musical emphasis has been made easier by the Dolly Parton Band, a tightly-knit but amiable group who have accompanied her during two solid years of touring, swinging from hard rock to lilting ballads at the flick of a pickup switch.

Bassist Paul Uhrig is the stage-left half of the rhythm section, a well-qualified road musician who relishes the many different styles of music he must play with Dolly. He is one of the new breed of country musicians — no redneck. Paul's roots are in rock but his leaning is towards country. He explains: "You don't have to have a whole bunch of country roots to play really good country. That's one of the things that has to be realised in Nashville as well. With all due respect to the old country players, there is always the danger of losing the traditional side of anything. There must be this influx of new players, no matter what kind of influence they've had before. If a really strong soul player arrives somewhere and starts playing heavy rock, the peers in the rock field look at him as if he is some kind of stranger, as if to say 'what is he doing in our ball game?' The same thing happens in country as well."

"The guys who specialise wind up with not necessarily more acclaim but

more respect for what they do, simply because you can put a label on it. But I can see why respect for country music comes from rock circles, not simply because rock owes a lot of its roots to country music of one form or another. You can take a good country song with all its standard changes and make a dynamic rock song out of it. You can take a few of the songs that Don Williams has written — though I like them mellow as they are — and make them ballsy rock and roll, as with Merle Haggard. Well, Jerry Lee Lewis does that with his songs, Mickey Gilley does a lot of that too."

Paul has been with the Dolly Parton Band for nearly two years. He joined them in Los Angeles when Dolly was appearing on the Tonight show and her keyboard player and band leader Greg Perry was scouting around for a bassist. Paul had been working as a session player in LA since 1972.

About three years before that, Paul had played his first bigtime gig when he joined Bobby Gentry's backing band. He visited Australia with the band, then came to Los Angeles, where he started working with Captain Beefheart and the Magic Band. He didn't record with the Captain but tried to capture the "feel" of his recorded material after joining the band at short notice. At the end of the Beefheart tours, Paul played a few smalltime sessions. Then came his first real country music job...

"I joined up with Don Everly right after the Everly Brothers broke up. We toured round for six weeks and I gained a lot of experience. We were playing in the South on bills with a lot of other country acts. I remember one bill we did near Washington DC with Conway Twitty, Mel Tillis, Donna

Fargo, Jerry Lee Lewis and of course Don."

After working for Don Everly, Paul decided that he would come off the road and try and build up his session accounts. "I'd lived in Los Angeles for three years and hadn't gained any more accounts than I did in my first year there because I was travelling too much. New York was impossible, being on the other side of the country. Nashville I didn't know all that much about, although I had been there before as a kid. In fact most of the first things I recorded were done in Nashville. As far as Los Angeles was concerned I really wanted to get involved with the sessions going on there but then I met Dolly and I've been on the road ever since."

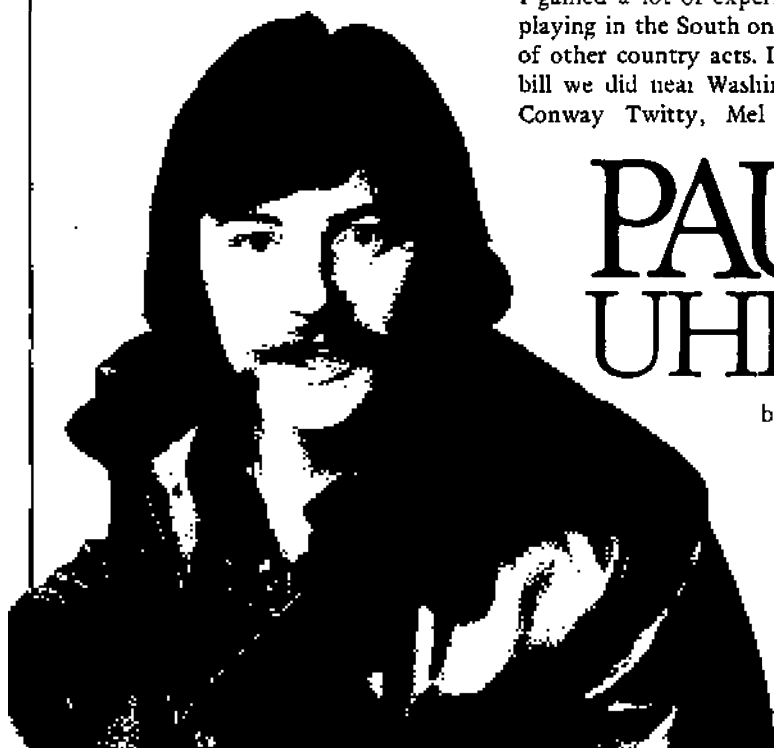
Paul thinks that the Dolly Parton Band are fluent enough to sweep through several musical styles and satisfy everybody, playing particular numbers as well as they could ever be played. "I think that's why Dolly has found these particular types of players. It's taken her a while, in the past two years that I've been in the band we've had perhaps four or five different members. Different players would leave because of the amount of versatility that Dolly requires. It's a rare thing among a lot of players. I enjoy it this way. If we went out and did a straight country show, even though I like country music, I would probably get tired of it in the second week of a five week tour. But now, if I'm feeling down, I get off on the ballads and if I really feel like hitting the bass hard I get off on the up things. This way, it makes it a lot easier to play."

"I've always used a Fender Precision bass. I also use a Rickenbacker and I love the Music Man basses. I use Nashville Straights flatwound strings for recording because they make a flat sound with no overtones. I like that sound, so does Dolly."

Despite Dolly's new direction, Paul is convinced country music in a pure form is here to stay. "There will be just as much traditional country music around as there is traditional rock material. Probably more, because there are more people recording traditional country material. Our primary market is... well, at one time it was very linear but now, in addition to all those country fans Dolly had before, she has gained pop fans and rock fans that before maybe thought country was a little hokey."

PAUL UHRIG

by Sean Hogben



PAUL UHRIG PLAYS IT STRAIGHT



"I use Nashville Straights bass strings for recording. They give me the clean flat response I want, with no overtones"

**Nashville Straights—the
connection, just as you play.**

Nashville Straights are manufactured by Pretech Industries, 1234 Shallowford Ave.

Ever lost your head at a Gig!

You know the feeling well. It always happens when the band is really "cooking": your drums heads start to slacken off with the resulting loss of sound and projection. No longer need this be a problem of yours. Why? SNAPLOK is the answer to every drummer's prayer.

This ingenious method of locating works as follows: The nut-box insert now has a little horizontal slot cut through it into the thread and this locates a half-round D-shaped wire spring clip. The tension screw itself has a flat on two opposite sides and the spring clamps hard against this wedging it tight. This system guarantees that you will not get an inadvertent detuning

A great deal of time and thought lies behind this seemingly simple invention. Like many great ideas, simplicity is the keyword, but effectiveness is the judge. Finally there is an answer to the nasty looks thrown over shoulders at drummers who have to desperately start re-tuning in the middle of a set.

From now on all new Sonor kits will be fitted with SNAPLOKS. Hours of frustration will be saved and the feature will prove especially valuable in the recording studio where slackened heads have often been the cause of costly delays. All that is over. Snaplok to the rescue of recording engineers, producers and, most important of all, drummers.



Revolutionary "SNAPLOK" non slip tension rods.

Stop Press

NEW FINISHES

In addition to the wide range of finishes already available on Sonor outfits, four new genuine wood finishes are now available. These are in addition to the natural rosewood finish that has become so popular in the last couple of years.

The new finishes are all genuine wood veneers and Sonor are now pleased to offer: NATURAL OAK, RUSTIC OAK, RED MAHOGANY and DARK MAHOGANY.

Your Sonor Key Dealer will be happy to give you details about how to order these new finishes.

NEW WOOD SHELL SNARE

Many drummers are returning to the warm sound created by a wooden snare drum. Sonor have just introduced a new 5 1/4" snare drum made entirely of 9 ply beechwood.

Designated the D505PA the new drum has all the tonal qualities Sonor tom-toms are famous for and brings to snare work a warmth and depth that cannot be found elsewhere.

Factory Expansion

Over 250,000 DM has been spent on extending and modernising the Sonor plant at Aue in West Germany.



Mr. & Mrs. Horst Link welcome visitors to the Sonor factory, Aue

World wide demand for Sonor percussion products has led to this major development and President Horst Link tells us:

"We needed to expand to keep pace with demand. We have undertaken a major expansion programme involving the building of a new chrome shop - we do all our own plating - a new showroom we're enlarging and extending our existing facilities, and a demonstration studio. I think it's important that customers can hear the products as well as see them. For this reason we're constructing an area specially built for that purpose. We want our percussion products to be heard under the best possible conditions.

"We're also building premises for a new consumer liaison division. This is an important step for us because it brings us closer to the musicians. They've been welcome to visit our factory for many years and thousands have already done so, but we felt we needed an area where they could arrive at any time and be sure of help about any aspect of percussion. We're here to give advice and generally help with the technical aspects of their career.

Another important facet of the expansion is the development of a new research and development complex. We're always working on new ideas to our products and we're making a large investment now for ten years time. It's the only way we can be sure that Sonor will stay number one in Europe."



Inside the Ultra Modern Sonor Factory

U.K. NEWS



After three successful years as Promotions and Marketing Manager for the Sonor Drum Company, Gordon Williamson has been appointed European Marketing Director of Sonor.

Gordon's appointment recognises his outstanding contribution to Sonor's progress in the European market in the last few years and the new responsibilities mean that much of Gordon's time will be spent with both types of Sonor customer - the dealer and the drummer.

In recent years Gordon has taken a special interest in the educational aspect of percussion and has toured many parts of the world giving lectures to education authorities and teachers and personally demonstrating his own, unique, method of explaining the items that form the percussion family.

Naturally Gordon is a percussionist himself and he still finds time occasionally to play just for his own enjoyment. He has vast experience of the musical instrument industry and has experience at retail level as well as in the distributive end.

Sonor UK has a new Promotions Manager in the shape of Chris Stevens, who has joined Sonor's UK distributors, M. Hohner & Co. Ltd. Chris has been appointed to arrange the entire UK promotions schedule for Sonor percussion and he is working in conjunction with Sonor Marketing Director Gordon Williamson.

Chris is well known on the British percussion scene and has been a busy drummer for many years. He has been in retail for some time and joins Hohner with a considerable amount of Sonor experience behind him.

"I'm very enthusiastic about the new job", Chris told Sonor News. "I'm very excited to be given the chance to bring such a high quality product to the discerning drummer in Great Britain.

"Being a drummer helps me to understand drummers problems and my experience in the retail end of the business allows me to understand the need of the Sonor Key Dealers and I've worked out a programme of promotions that I hope they will find beneficial."



WHAT THE PAPERS SAY

QUALITY

"The rosewood drums without doubt look superb inside and out".
I.M. Jan '79

DETAIL

"I must mention again how impressed I am with SONOR's attention to detail... I recommend this set to anyone looking for a complete (in every sense of the word) top quality drum kit.

I.M. Jan '78

MARKET POSITION

... the kits produced today are as good, if not better, than the best of the American/English/Japanese kits ...

SOUND INTERNATIONAL

May '78

VALUE

... not over-expensive either and as far as I'm concerned is well worth the money.

SOUNDS Jan '78

SOUND

Overall then a good kit, with a great sound and excellent stands.

BEAT INSTRUMENTAL Oct '78

COUNTRYWIDE PROMOTION ACTIVITY FOR 1979

Sonor is going to be more evident on the British music scene than ever before, predict M. Hohner and Co, Sonor UK distributors.

No less than 25 Clinics are to be held during this period and drummers everywhere in the British Isles will have the chance to hear Sonor under controlled conditions and ask as many questions as they like about the outstanding drums.

The 1978 series of clinics was particularly successful and the '79 series will follow a similar pattern. Coupled with the unique "Test Drive" concept of drum test (see elsewhere on this page) Sonor drums will be the most accessible drums in Britain!

A very special award naming two Sonor Key Dealers as Golden Key Dealers will also be announced in 1979.

Test Drive Sonor

When the idea is explained to them, drummers all over Britain have said: "Why has nobody done this before?"

The idea is simple. Now you can TEST DRIVE a Sonor before deciding which kit you'd like. It sounds simple but there's never before been a national scheme which allows drum dealers to let customers here a new, actually on a gig. Now you can walk into a Sonor Key Dealer and ask to try a Sonor kit on your next gig. The dealer will be only too delighted.

This scheme has been made possible by a move originated by

Sonor Marketing Director Gordon Williamson and Promotions Manager Chris Stevens. Each Sonor Key Dealer will be provided with a TEST DRIVE kit which he is allowed to take out to concerts, recording sessions and similar. Here serious customers can try the kit under proper playing conditions and can really evaluate the performance of the Sonor kit they have in mind. Previously drummers were forced to try kits in dealers stores and it has often been hard to satisfactorily gauge how the kit will sound under playing conditions. Now the problem is solved.

The Drummers Who Play The Drummers Drum

SHELLEY MANN JOINS SONOR

The West Coast jazz giant, Shelly Manns is now playing Sonor Phonic drums.



Shelley Mann

This startling, and pleasing news, was realised recently when it was revealed that Shelly had chosen a genuine Rosewood finish set.

The natural wood finish has become very popular with well known jazz players and the success of the rosewood finish has led to the introduction of four new genuine wood finishes, two oak shades and two mahoganies.

BAILEY ON SONOR

Richard Bailey, one of the best respected young drummers to emerge from the recording studios is now playing Sonor drums. He is best known, perhaps for his work with Jeff Beck (including "Blow by Blow") and Linda Lewis. Richard



Richard Bailey

has now started his own production company and uses his kit in the studio and on live work.

Soon after Oscar Peterson breezes into London he makes one very important phone call. "Let's see if Martin Drew is free."

You could say that Martin has arrived as a jazz drummer. He's always busy, but as you might expect he works very hard to make time to play with Oscar Peterson.

A pianist who's so conscious of rhythm is a rare musician and it's a drummer's dream to play behind that sort of melody line. Martin plays Sonor drums.

Martin's off to Australia with the Ronnie Scott band and naturally he's taking his Sonor with him. Martin is often playing a completely different type of gig one night to the next and when you take over Louie Bellson's stool - as Martin does - you've got to be the best. Which is why he plays Sonor - "When only the best is good enough."



Phill Rudd uses Sonor drums right up at the "sharp end" of rock 'n' roll.

He's the powerhouse drummer with AC/DC and had a new Sonor Kit delivered for the next AC/DC European tour.

A significantly large proportion of drummers in "new music" bands are switching to Sonor, favouring the "thicker sound" over other kits. It's a move that reflects the trend to smaller band line ups again.



When there's less sound on stage the quality of drum sound becomes particularly important and the thinner sound of less instruments also requires a stronger percussion note. That's why Sonor is selected - "When Only The Best Is Good Enough."

Jim Pearson is one of Denmark's top drummers. He's currently playing with Akropolis - a band he describes as a symphony rock band. He's been a Sonor player for a long time.

We talked to Jom about Sonor:

"I've played drums in all types of places from touring around most of the States and Europe to basement parties like the one last night. Right now I'm playing with the symphony rock group "AKROPOLIS". Our music is a combination of classical type themes spoken in rock terms. Our latest record "HALF A MILLION HOURS SYMPHONY" is a brief description of a human life from birth to death. We used a grand piano and several various Synthizers to hi-light the big sound of this piece.

As far as drums go, I have had an american kit for the past thirteen years. The old drums I got in 1966 were by far the best I could find and as I got around and tried new brands over the years, I couldn't beat the sound. In 1976 at the Frankfurt Trade Fair, I played on a beautiful set of octave Sonors. When Gordon Williamson (Sonor's Marketing Manager) asked me to jump up on one of his drum shells I almost laughed . . . but it didn't break, no matter how I tried. The project and power of these shells (nine ply) was incredible!!!! The fittings looked like they were designed for some high class military use.

Last year I sold my fine old drums and bought some Rosewood Sonors. My set today consists of two 24" bass drums, an 18" floor Tom plus four Roto Toms.

Our new symphony is a demanding piece of music and this set really meets the test. The outstanding quality and looks of these drums are only equalled by the sound. This is the drum set I've dreamed about. We start our concert tour in Poland during the last of February this year. I'm sure 100% that the set I'm behind won't let me down. As they say "When only the best is good enough".



SONOR

THE DRUMMER'S DRUM WORLDWIDE



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BIG F



JOE LABARRERA



JOHN WILCOX

SONOR DRUMMERS – INTERNATIONAL LIST

GREAT BRITAIN

Martin Drew
Graham Jarvis (Cliff Richard)
Tony Mann
John Marshall (Soft Machine)
Tommy Thomas
Bobby Worth
Mike Grigg
Richard Bailey
Jon Stevens
Dobby Irwin
Will Birch
Big Figure
David Early
Nicko McBrain
Ricky Winter
Laurie Allan

Mike Burt
Gary Husband
Geoff Cox
Freddie Adamson
Alan Ganley
Nigel Morris

U.S.A.

Tommy Aldridge (Pat Travers Group)
Jim Chapin
Jack De Johnette
Frank Gant
Connie Kay (Benny Goodman quartet)
Russ Kundel
Don Lamond
Shelly Mane
Bob Moses (Hal Galper Group)
Alphonse Mouzon
Don Moye (Art Ensemble of Chicago)
Sonny Payne (Harry James)
Garry Peterson
Bernard "Pretty" Purdie
Ben Riley

Steve Schaeffer (Herb Alpert)
Steve Smith (Journey)
Art Taylor
Greg Thomas (Leon Russell)
Buddy Williams (Rimona Francis)
John "Willie" Wilcox (Utopia)
Eliot Zigmund (Bill Evans Trio)
Joe Laberbua

GERMANY

Charly Antolini (CH)
Peter Bauer
Peter Baumeister
Manfred von Bohr (Birth Control)
Kurt Bong
Frad Braceful
Jorg Gebhardt
Heinrich Hock (Jazztrack)
Gilbey Karno (SA)
Jacky Liebezeit (Can)
Evert Fratermann (Volker Kriegel Group)
Bernd Noske
Fritz Randow
Barry Reeves (James Last)
Arnold Riedhammer (Munich Philharmonic Orchestra)
Detlev Schonenberg
Ronnie Stephenson (GB)
Harold Fisher
Alan Jackson
Harry Hugh
Simon Fox
Louis Moholo
Terry McVay
Len Clarke
Jim McCarty

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Alain Arya
Jacques Bonnardel
Philippe Combet
Christian l'Efe
Rene Guerin (Martin Circus)
Daniel Humair
Aldo Romano

NETHERLANDS

John Engels Jr.
Marc Jansen

BELGIUM

Cel de Cauwer
Jean Pierre Onraedt (Dream Express)

SWITZERLAND

Stuff Combe

AUSTRIA

Firtz Ozmec

IRELAND

Ray Miller (Miami Showband)

FINLAND

Urpo "Upi" Sorvali

YUGOSLAVIA

Lala Kovacev

HUNGARY

Imre Koszegi (Koszegi Rhythm & Brass)

POLAND

Jamusz Stefanski

AUSTRALIA

Phil Rudd (AC/DC)
Derek Pellicci
Virgil Donati
Ian McLellan
Jeff Barnes
Brian Czempinski
Mark Kennedy
Barry Cram
Rick Brewer
Frank Corniola
Rick Whittle
Malcolm Green

SOUTH AFRICA

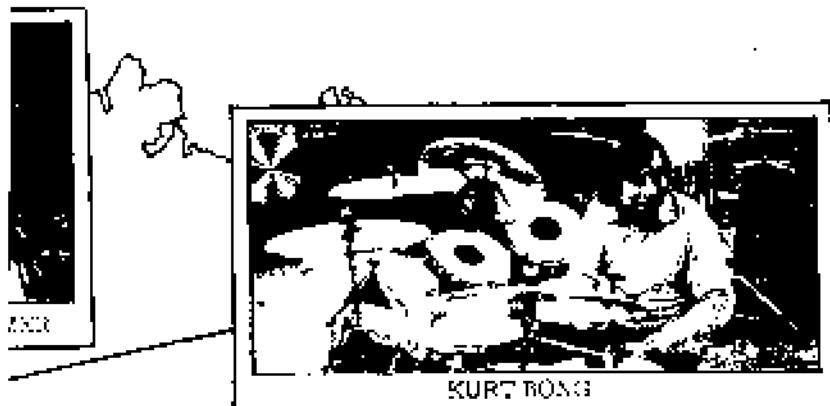
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Cedric Samson
Bobby Brier
Bobby Gien

BRAZIL

Gunther Hiernais

DENMARK

Jim Pearson



KURT BONG



DEREK PELLICCI



DEREK PELLICCI

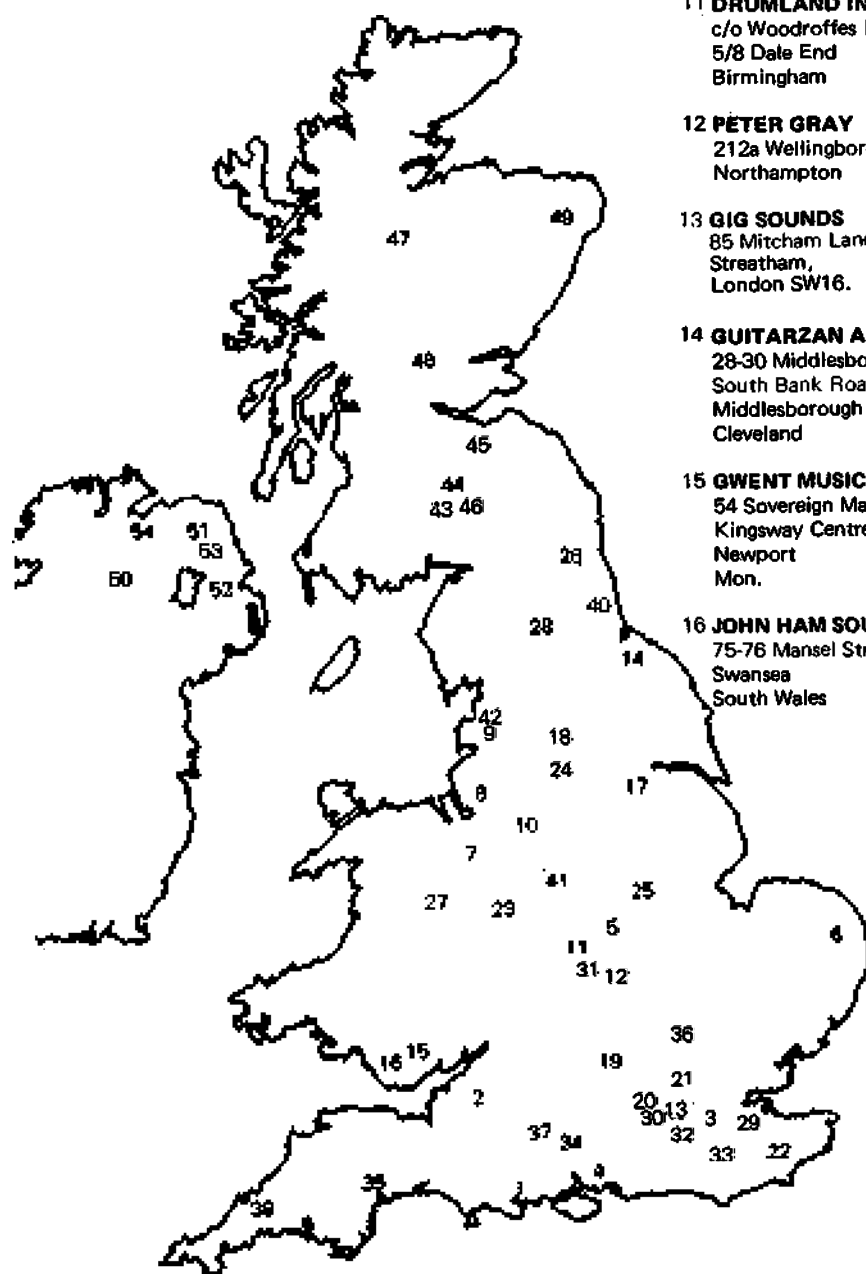


RICK WHITTLE



JEFF BARNES

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Jack DeJohnette

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Jack DeJohnette is possibly the most vital drummer in jazz today. Since arriving in Manhattan in 1966, DeJohnette has been in great demand for club work, concerts and recording sessions. He brings a keyboardist's sensitivity to the drums, making him an ideal accompanist, explosive yet restrained. As his many recordings demonstrate, DeJohnette has the ability to blend perfectly into any ensemble, yet still provide an aggressive, percussive spark that ignites soloists. "I play against people," DeJohnette says. "Not busy, just pushy and strong. I like to challenge players, play with them and against them. It depends on the particular piece. Sometimes if I feel a piece is too stiff I'll inject some fire into it so that it'll loosen up and the players will get the spirit."

The music of Jack DeJohnette's Directions is a sum total of all the different styles DeJohnette has played: free-form, bebop, standards, blues, classical and rock. To call his music fusion is to do it a disservice, because instead of uniting the duller forms of music in search of a trendy formula, Directions employs any and all forms in search of communal spontaneity. DeJohnette compositions like *Last Chance Stamp* and *New Rags* create a historical continuity between musical eras and forms—the only common denominator is the hipness of the music. DeJohnette plays Sonor.

"Sonor has made a lot of improvements in the construction of a drum. The wood shells are thicker, but more important than that is the level of craftsmanship they put into the drums—they're beautiful. Sonors have their own distinctive, personal sound and I dig them. I used to use another kit but they tend to be too boomy and ringy for me. Sonors are right inbetween—you can have them ringy or short. Sonors can be light and heavy at the same time, which corresponds to my particular touch because I can be very light or heavy depending on the situation.

"I used to have my drums tuned way up high, now I'm starting to tune them down again, but not real low. Just enough so that when you hit them you can get that guts feeling where they

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sound right through the floor. And I never muffle any of my drums. Of course that depends on what type of music you're playing, but if I'm doing a funk date I'll just use a studio set without the bottom heads, maybe taking a bit of the muffle off so that it will ring a little bit instead of being completely dead. But for my set-up I use Remo Ambassador heads, top and bottom, including my bass drum—there's no muffle on that either.

Leaving the bass drum open is nothing new; Roy Haynes has been doing it for years; Kenny Clarke too. That way the bass drum rings—it has some tone. A lot of people hear a bass drum ringing and they say they never knew a bass drum could sound

like that—but that's the characteristic sound of the drum. And I just love that sound."

As a listen to any of DeJohnette's recording will show, he is an aggressive, forward-rushing drummer. More than just an accompanist, he is an equal solo voice in the ensemble.

"The biggest thrill I got when I was playing in Chicago was the time Coltrane came to town. It was at a place called McKee's Lounge. I used to go down there to play in the jam sessions. So I was there one night, and Elvin disappeared for the last set. So Coltrane was going to go up, and probably would have gone up without a drummer, but McKee said, 'Hey Coltrane. Let Jack go on. He comes out and sits in, and

he's a good drummer.' So Coltrane didn't even bat an eye. He respected McKee enough to say okay, and we went up and started playing immediately. Let me tell you, I was scared shitless—I mean, Coltrane. I held my own, but I was very nervous playing with Jimmy Garrison and McCoy Tyner. That was the most fantastic feeling in my life—playing with Coltrane. And he was like a train. He was like a locomotive. I felt this magnet pulling on me, he just had so much energy. I played three tunes, and I was just about to play *My Favorite Things*—and I said, wow, I'm going to play *My Favorite Things*—when Elvin came back (laughter), and said 'Thank you, baby'.

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Soundcheck:2

Canary 12/2 Mixer £440+VAT

Canary Mixing Desks Ltd., Wandsworth, London SW18, are well-known around town for their range of mixing systems. Their new 12/2 desk which I tested in my lab is from the first production batches. Of course, I had heard of Canary products previously, but have never had the occasion to test one, so I was quite pleased to get my hands on a model and to put it through its paces.

Construction

All the Canary 12-into-2 microphone mixer control functions can be divided into two basic groups: Input channel control functions and Master area control functions. The input channel control facilities are quite comprehensive, for Canary provides as standard: eight-band frequency equalisation, individual input gain, foldback/echo send, stereo pan controls, pre-fade listening push button, red LED peak programme indicator and finally a 72mm long channel fader potentiometer.

The eight-band frequency EQ is divided as follows: *Treble control and treble frequency selector*: this raises/lowers the level of treble in each channel, with the choice of two settings of treble frequency, 10KHz and 5KHz. The 10KHz step gives very high sharp sound while the 5KHz is more like the conventional treble control. *Upper middle and frequency selector switch*: Canary claim that this control acts like a presence control. Raising this control makes the input sound "tinny" or sharpens the sound. The selector switch is calibrated for 3KHz and 1KHz operation and among the suggested applications for this are lead guitars and/or saxophones. *Lower middle and frequency selector switch*: Claimed as conventional "middle", to help make vocal sounds fuller and give drums more "body". The switch settings are 500Hz and 200Hz. *Bass control and*

frequency selector switch: In practice, when lowering this control you should improve the sound of bass drums, basses, foot-tapping and even stage noises. The frequency selector switch settings are 40Hz and 100Hz.

Apart from the individual channel provided but this will be described later on.

To continue with the input channel control functions, we still have three more rotary pots

for Foldback, Echo and Pan functions, with the Foldback control being the pre-fade — but it comes after the tone controls, so it must be remembered that certain changes in the tone controls may cause feedback. The channel slider and Pan will not affect this control. A word about the stereo Pan control: this moves the sound signal on the channel across the stereo sound pattern. Move the control anticlockwise and the sound moves to the left, clockwise and it moves to the right. In control position flat, it comes out at both directions and can therefore be regarded as "mono".

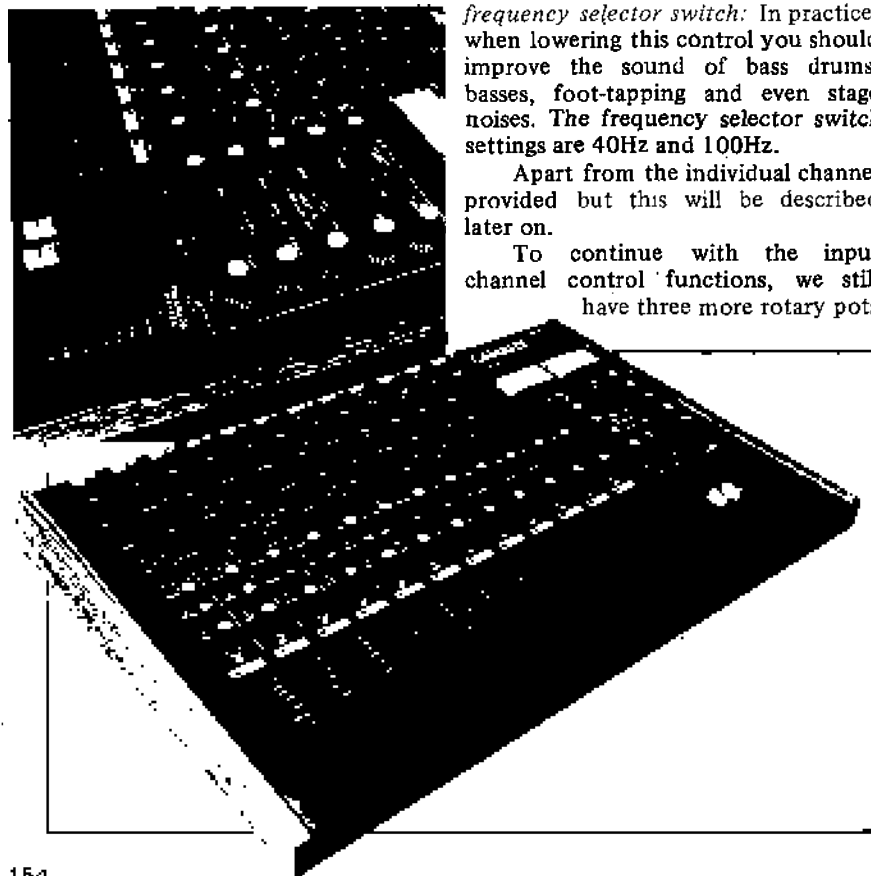
Each channel of the 12/2 Canary mixer is provided with an LED peak programme indicator (LED lights up when a signal reaches distortion level), also a PFL (pre-fade listen) push-button, allowing you to hear the particular channel before listening to the total sound. All 12 channel inputs are of a balanced type incorporated with totally screened input transformers; the channel connectors are XLR Cannon (Neutrik) sockets. In addition there are four line inputs — ¼" jacks. All input connector functions are duplicated by a 12-pin Expander socket fitted as standard on each mixer on the rear side.

The Master section consists of the following controls for each channel (left and right): auxiliary send potentiometer, treble control pot, upper middle pot, lower middle pot, bass control pot, master EQ (active/flat switch) and master fader pots, and for the total system: echo return control pot, master volume control pot, monitor/PFL (slide switch), foldback/PFL (push-button) and VU meters calibrated +7/0dB switch. The VU meters are Componex and calibrated in the studio style. Just above the right channel's VU meter is a phones/monitors jack socket and a standard On/Off neon illuminated power switch.

The output connectors group (at the rear, all ¼" jacks) incorporate the following (left to right: mains outputs sockets, auxiliary sockets, echo and foldback). Both sides of the 12/2 are finished with teak end-pieces and the operator's front edge is padded for greater comfort. The overall measurements are length 779mm, max. height 95mm and depth 562mm, with a weight of approximately 15.5kg.

From the electronics point of view, each channel features individual demi-modular PCB construction, magnetically screened transformer input, three-stage cascaded pre-amp circuit (BC169C/BC214L/BC184L), EQ stage (741 opamp combinational circuit with four BC184L transistors).

The internal signal "communications" is established by means of a usual Bus type circuit FB, Echo, R, L, PFL, etc. and separate power supplies rails (3+V, -V, 0V). The master EQ circuit uses a very similar components array to the channel EQ. The main difference is the absence of frequency selector switches. The phones monitoring amplifier is the simplest I've seen so far, just two transistors (non push-pull) — BC169/BFY51 amplifier. Power supply is smoothed and regulated. The only protective fuse (500mA/220V — 20mm glass type) is internally wired so you need a screwdriver to remove the back plate/cover. But don't worry: it only takes about three minutes should a fuse blow during a gig.



Conclusions

The Canary 12/2 Mixer is supplied at a price of £440 (ex. VAT), which is reasonable, bearing in mind the advanced electronic construction and many professional features. Personally I'm quite happy with the measured performances, which overall were very similar to the figures received from the Canary people. True, there is a slight difference in the THD levels, but I am inclined to believe that this may be the result of different test methods. Nevertheless this does not influence the system's sound, which is satisfactory for the work for which it was designed.

The 12/2 equalisation is quite comprehensive for both input channels and masters and all the EQ bands are designed efficiently and symmetrically to cater to the audio frequency spectrum.

I am given to understand that this particular Canary product belongs to the first production batch so it might be the time to mention that a little bit more care should be paid to the mechanical hardware: the bottom cover plate needs firmer fixing to the main body, with perhaps rubber feet underneath, and a carrying handle on the front might prove to be useful.

I liked the 12/2 instruction manual which differs from the usual "literature". Not only does it have all the mixer control functions, but also a nice educational explanation of PA mixing techniques, setting up, tests, sound-check, preshowcheck and of course the operational detail. The booklet is also illustrated with complete circuitry schematics and even studio layouts. Well done!

Mark Sawicki

PARAMETER	RESULT	TEST CONDITION	COMMENTS
Input sensitivity	-43dBm	Ref. 1.0KHz	Manufacturer claims that microphones used should always be low impedance, 200 ohms, balanced. The leads can be reasonably long if so desired. Max. input approx. +8dB/1KHz.
Maximum Gain	62dB approx.	Ref. 1.0KHz	The Canary 12/2 operates basically at the studio level OVU = +4dBm (1.2V RMS).
Total Harmonic Distortion (THD)	0.092% 0.085%	Distortions "mike" Ref. 1KHz/ Distortions "line" 1V RMS output level	Manufacturer claims TDH at 0.07% and 0.05% respectively. Predominance of the 2nd harmonic product observed. Red LED lights up when a signal reaches distortion.
Equivalent input noise	Less than -120dBm (-125dB typically)	Unweighted 20Hz-20KHz bandwidth, input termination is 200 ohms.	Very good.
Frequency response	±1.2dB	25Hz-18KHz	±0.2dB difference between my measurements and specified ±1.0dB. Ref. the same bandwidth.
Channel equalisation (swing in dB)	36.5dB 27.5dB 28.1dB 23.3dB 21.2dB 14.4dB 31.9dB 39.8dB	Treb. @ 15KHz; B (40Hz), M (200Hz) M(1KHz) — Flat Treb. @ 5KHz; B (40Hz), M (200Hz), M (1KHz) — flat Mid. @ 3KHz; B (40Hz), M (200Hz), T (5KHz) — flat Mid. @ 1KHz; B (40Hz), M (200Hz) T (5KHz) — flat Mid. @ 500Hz; B (40Hz), M (1KHz), T (5KHz) — flat Mid. @ 200Hz; B (40Hz), M (1KHz), T (5KHz) — flat Bass @ 100Hz; M (200Hz), M (1KHz), T (5KHz) — flat Bass @ 40Hz; M (200Hz), M (1KHz), T (5KHz) — flat	±18dB @ 15KHz ±11dB @ 5KHz ±13dB @ 3KHz ±10dB @ 1KHz ±10dB @ 500Hz ±7dB @ 200Hz ±18dB @ 100Hz ±20dB @ 40Hz Almost identical with manufacturer's specs. Master EQ during measurements — flat. The 15KHz setting is high and sharp, whilst 5KHz is more like a conventional treble control.
Master equalisation (swing in dB)	29.8dB 25.3dB 25.1dB 37.1dB	1 reb. @ 15KHz; M1/M2/B — flat Mid. @ 2KHz; M2/T/B — flat Mid. @ 600Hz; T/M1/B — flat Bass @ 50Hz; T/M1/M2 — flat	±15dB @ 15KHz ±12dB @ 2KHz ±12dB @ 600Hz ±18dB @ 50Hz } like "presence" control Nice and symmetrical. Again these figures are virtually equal or better than those specified.
Echo/send/return levels	+17dBm -5dBm unbalanced	Echo output (send) } 1KHz Echo return	Acceptable. Echo send is post fade controlled. Individually provided in each channel.
Foldback output level	+17dBm	Ref. 1KHz	OK. More than adequate for most foldback applications.
VU meters	OVU = 100% = 1.262V RMS OVU = 100% = 1.259V RMS	Ref. Left chan. (-10vu = 0.420 V RMS) Ref. Right chan. (-10vu = 0.417 V RMS)	Both VU meters are non-rectified, professionally scaled (-20, 0, +3vu) and quite accurately calibrated. Meter (R&L) +7dB/0dB Switch is also provided.
Multi Input Priority	Satisfactory on actual experiments.	12-channel test and variations	Very good. Checked both for mikes and line inputs.

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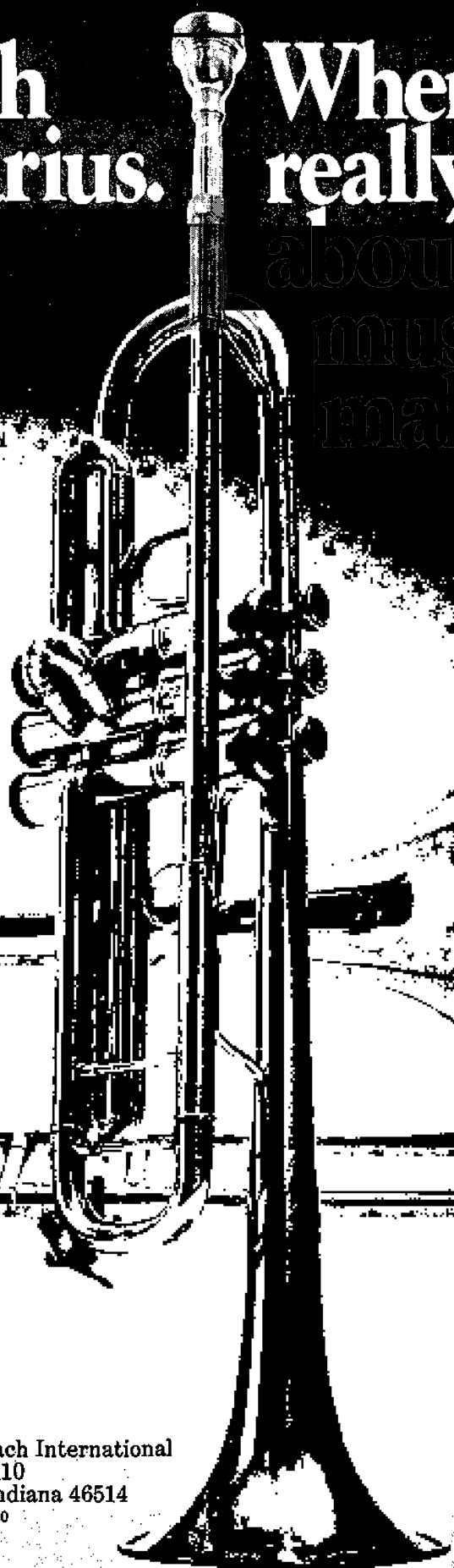


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MICROPROCESSORS

An IM Report

The story so far

By Tony Horsman

During the last 10 or 15 years, incredible advances have been made by the electronics industry in the miniaturisation of components. These advances are already having a profound effect in many different walks of life. We have tiny portable calculators, digital watches and TV games; we have computerised bank accounts, airline booking services and hospital patient records; we have machines that can talk and recognise voices, polyphonic synthesizers and digital delay-lines. Whether we like it or not, the technology which the electronics industry developed to meet the demands of military and space projects of the Sixties now affects us all.

Valves and transistors

If this rapid technological evolution can be traced back to any one starting point, it must be to the invention of the transistor by Bardeen, Brattain and Shockley in 1948. Up to that time, valves were the only "active" components in electronic circuits; they could amplify voltages, and turn currents on and off. In their favour, valves can handle very large voltages and currents and transmit kilowatts of power through radio and radar aerials. But against them, they are bulky, their performance deteriorates quite quickly, and their heated filaments (which are the source of the valve current) consume a lot of power.

After 1948, the germanium transistor was rapidly developed and the first transistor radio became available in 1954. In contrast to the valve, the transistor is small; has no filament to waste power and does not deteriorate in performance. During the early

Sixties, improved types of transistors employing another semi-conductor like germanium called "silicon" were introduced. The performance of silicon transistors was (and is) good enough for transistors to replace valves in most applications, except those involving high voltages and very high currents.

Early computers

Electronic digital computers, which need vast numbers of electronic switches, were first developed in the early 1940s, prior to the invention of the transistor. In the first computers, huge arrays of valves were used as electronic switches, consuming tens of kilowatts of power with the result that special air-conditioning systems were required to keep the computer rooms at a reasonable temperature. The impact of the transistor on computer design was immediate. The physical size and power consumption of computers was drastically reduced, their reliability increased and it was possible for designers to extend the computer's capacity way beyond the limits imposed by valve designs.

Despite this enormous advance, engineers were still faced with the problem of connecting all these components together. Even relatively small "mini-computers" used thousands of transistors and other components. However, all computers use the same sorts of electronic building blocks — with strange names such as "flip-flops", "one-shots", "and gates", "or gates", etc. — and designers realised that their job would be greatly simplified if these building blocks could be pre-packaged.

Integrated circuits

Integrated circuits (ICs), formed on tiny slices of semiconductor called "chips", are minute packages of electronic components — transistors, diodes, resistors and capacitors — connected together in such a way as to carry out a specific task. In the first ICs to come on the market in 1960, not many components were "integrated" together, so the basic units from which computers were assembled were still relatively simple. Predictably the technology advanced, "small-scale integration" (SSI) progressing to "medium-scale integration" (MSI) and ultimately to "large-scale integration" (LSI).

The variety of choice in the functions the ICs could perform increased with the scale of integration, so that nowadays it is very unusual to design any circuit that does not use ICs: there are so many types available that almost every possibility has been covered. Also with increasing integration, the computers needed fewer and fewer components; the building blocks themselves now included hundreds of the earlier building blocks and in the early 1970s the ultimate step — the "computer-on-a-chip" — was becoming a real possibility.

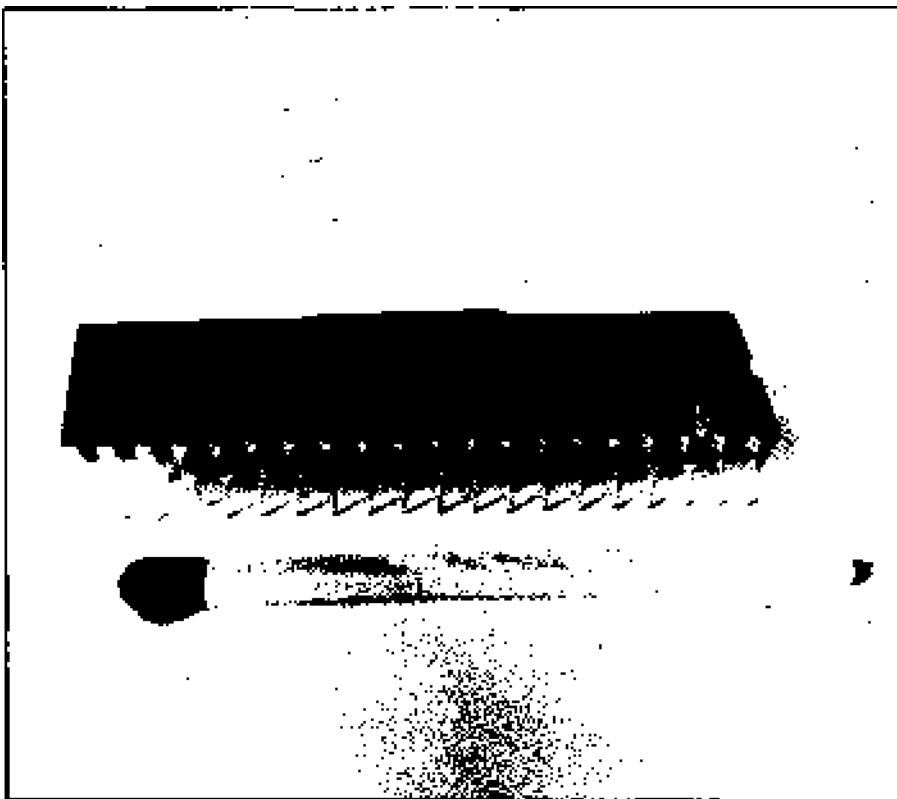
A 50 watt valve amp, circa 1965



(Photo courtesy of Ling Dynamic Systems Ltd)



A modern 50 watt transistor amp



A silicon chip (in the middle of the board, protected by perspex)

Microcomputers

Today's microprocessor and the other LSI circuits which together make up a microcomputer represent the very latest step in large-scale integration. In the microprocessor itself, tens of thousands of electronic components are combined together on one chip to form the essential heart of the computer. The microprocessor manipulates all the numbers making up the computer programme and its data, working at fantastic speeds, perhaps taking for example only two microseconds (two millionths of a second) to add two numbers together.

A typical microcomputer is outlined in Fig. 1, which shows the microprocessor at the centre, a memory in which the computer programme is stored (ROM) and another memory (RAM) in which, for example, results of calculations are stored. ROM stands for "Read-Only Memory", a particular kind of memory used for holding programmes which are retained even when the power is switched off. RAM stands for "Random Access Memory", a temporary storage area for results which are lost when the power is switched off. The arrows in Fig. 1 indicate that the microprocessor can only fetch numbers out of the ROM — which is why it is called "read-only memory" — but that the processor can both put numbers into and fetch numbers out of the RAM. So for example an intermediate result can be saved in the RAM to be retrieved later when needed (the memories of calculators behave like RAM).

To enable the microprocessor to communicate with the outside world, "input/output (I/O) ports" are required as shown at the bottom of Fig. 1. Numbers flow in and out of these ports on their way to or from the processor, coming from or going to units called "peripherals" which are physically separate from the microcomputer itself.

Peripherals

The computer user (a term which is gradually including more and more musicians) is generally not concerned with the inner workings of the computer, only how he can communicate with it and how it can communicate with him. Computer peripherals (or "input/output devices") are the units which allow this communication and several different types of peripheral are shown in Fig. 2. Any or all of these peripherals can be "interfaced" through I/O ports to the microprocessor. Common "input devices" are a keyboard (like a typewriter), cassette player, disc drive and punched paper tape reader. (Discs are rather like LPs coated with a magnetic oxide layer.) Another possible input device is a musical keyboard — key depressions can be represented as numbers, so the computer can remember which note was played and for how long.

The Visual Display Unit (VDU) is an "output device" which is becoming a standard peripheral in many commercial microcomputer systems, since an unmodified TV set can often be used for the purpose. Other output devices include the paper tape punch, printer, cassette recorder and disc drive. It is actually possible to use a conventional speaker as an output device for a computer by using a circuit called a "DAC" (digital-to-analogue converter) between an I/O port and the amplifier driving the speaker as shown in Fig. 3. Using a DAC, sequences of numbers can be turned into variations in voltage and currents which produce sound in the speaker in the normal way.

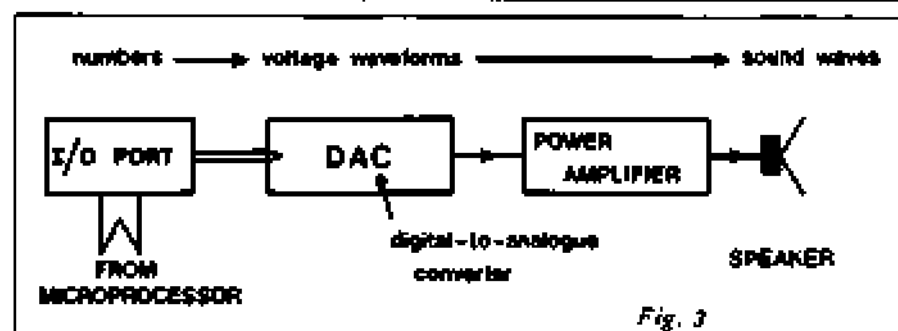
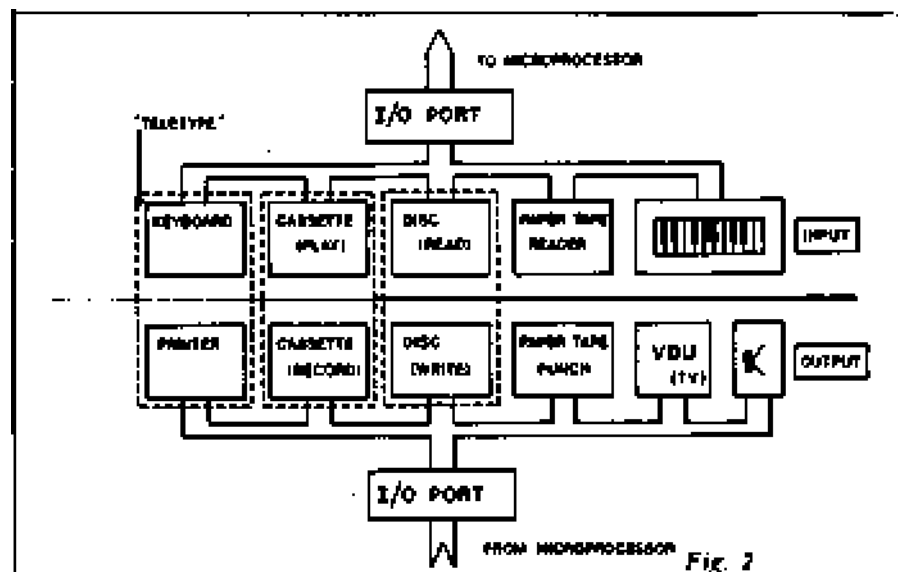
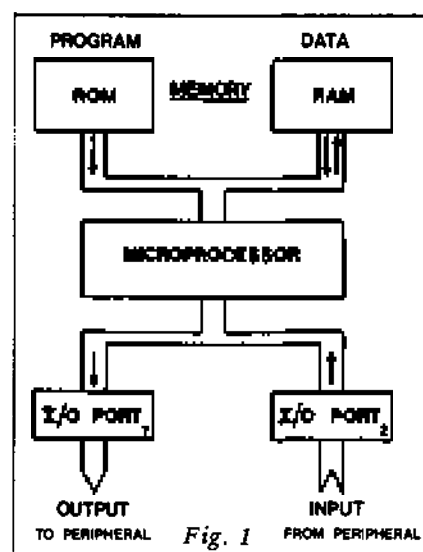
Advantages

To the equipment and musical instrument manufacturer, microprocessors offer enormous reductions in component numbers; they are extremely powerful, flexible, cheap, fast and reliable. The price paid by manufacturers for these advantages is that their designers must spend a lot of time developing and de-bugging programmes; however, once this has been done, ROMs containing the programme can be mass-produced very cheaply. Provided development costs are not too high, the savings in production costs resulting from the application of microprocessors in musical instruments could perhaps be passed on to the customer. Electronic musical equipment has certainly become prohibitively expensive. The microprocessor might reverse this trend.

Fig. 1. A microcomputer system consisting of a microprocessor, read-only memory (ROM) in which the programme is stored, random access memory (RAM) and two input/output (I/O) ports. The I/O ports allow the microprocessor to communicate with the outside world through peripherals.

Fig. 2. Peripheral devices for microcomputer systems. Input devices, which send information to the microprocessor through an I/O port, are shown in the top half of the diagram. Output devices, which receive information from the microprocessor through another I/O port, are shown below.

Fig. 3. The numbers generated by a microprocessor can be used to produce speech and music. The numbers are converted by a digital-to-analogue converter (DAC) into voltage waveforms which are then amplified and reproduced in the usual way.



MICROPROCESSORS

An IM Report

Is this the future for music?

by Malcolm Green

Where to next? Will the microprocessor radically change the world of music as the transistor and integrated circuit did? The answer is, yes certainly, although the change will be somewhat more gradual. We are not going to see a sudden rejection of standard components in musical equipment for a few years hence. But in certain areas, especially keyboards and synthesizers, the more progressive manufacturers will be moving in fast.

The possibilities of using microprocessors against the "hardwired"

circuitry of today have such tremendous advantages that the big manufacturing companies in the music business will not be able to ignore their potential. The potential for the microprocessor is enormous and one that will bring about many exciting changes in amplification products and keyboards, with great advantages for musicians.

What sort of effect will the microprocessor have on electronic music equipment and what sort of changes will the musician be seeing? Will the design changes that come about be really significant, and will the extra goodies cost more or less? That will depend very much on the progress made by manufacturers towards designing microprocessors into their products. If the leading companies go for it in a big way, the other companies will have to follow. The result will be products using many fewer components than before. Result: large savings in their manufacturers' prices, with obvious price advantages to the musician.

Price savings are just one thing to look forward to. The other advantages are improved reliability, more design features and refinements and easier servicing. Controls could be simplified on certain types of electronic musical equipment, which would be a great advantage over some of the products on the market today. Manufacturers should be able to offer quite sophisticated design features, such as pre-set memory programmes, sequencers and so forth, at vastly reduced prices. We say "should be able to" as we cannot guarantee that the savings in large amounts of components will be passed on to the musician. Hopefully they will be, as companies will be competing for musicians' business and price advantages are a good way of getting it. Will this step forward in component technology push amplification and

keyboard products down in price as dramatically as calculators, digital watches and other electronic products? Possibly not so dramatically, for the potential market for electronic musical equipment is obviously extremely limited in comparison to watches and calculators. No doubt synthesizer marketing men dream about everybody owning a polysynth, but in reality it is not likely to happen.

Synthesizers and keyboards are not the only instruments that will be affected by the move towards microprocessors. Effects units should be improved enormously. With discrete circuitry (individual components, transistors, resistors, etc.), it is often necessary to compromise with design, owing to the large amount of components required to carry out the effects functions. This component density can be virtually eliminated with one microprocessor: we are replacing about 1,000 bits with one chip. Also, controls could be simplified — which should please many musicians already becoming baffled by the large numbers of faders, push-buttons, switches and knobs designed on a lot of today's equipment.

Power amplifiers and integrated amplifiers, such as PA amps and guitar amps, could also be developed by using microprocessor circuitry, with significant advantages to musicians. These changes will probably be introduced more slowly, for many of these areas lag behind technologically speaking, compared to the large keyboard conglomerates. There are also the more traditional aspects of guitar amps — like the valve sound preferred by a lot of guitarists — which cannot be ignored.

Amplifiers in the future could quite conceivably use microprocessors to control protection circuitry and to feed back control information to LED



All these components, and more, can be replaced by ...

ladder displays or warning lamps, for example. At the same time, the microprocessor could also be feeding back to the control panel information about heat dissipation in the power stage of the amplifier. These sort of refinements will probably come about in time. To introduce them now, using standard components, would be far too costly for most manufacturers even to contemplate. The only way these refinements could be incorporated into amplifier designs without seriously effecting the price is by using microprocessor techniques.

Integrated amplifiers offer extra scope to the creative designers and could be developed to a much higher extent incorporating every conceivable effect, phasers, flangers and so forth, with good specifications – and keen prices. There should be some exciting developments in instrument amplification within the next two years.

Mixer designers will also have to consider the potential of microprocessors for eliminating large areas of "hardwired" circuitry. Microprocessors will come into their own for sub-grouping, improving routing, meter control, LED displays, overload indication and other areas no doubt that we have not yet considered. The advantages with price savings and increased reliability are obvious. We hope that these benefits will eventually be passed onto the musician!

The synthesizer has come a long way in just a few years but the market trend for constant development and improved facilities has brought about a great deal of circuit duplication. Previously there was no way around this and it was necessary to use large amounts of analogue and digital circuitry with banks of PCBs. In fact, most of the products on the market today are in this category. Now there is a new path and the leading compan-

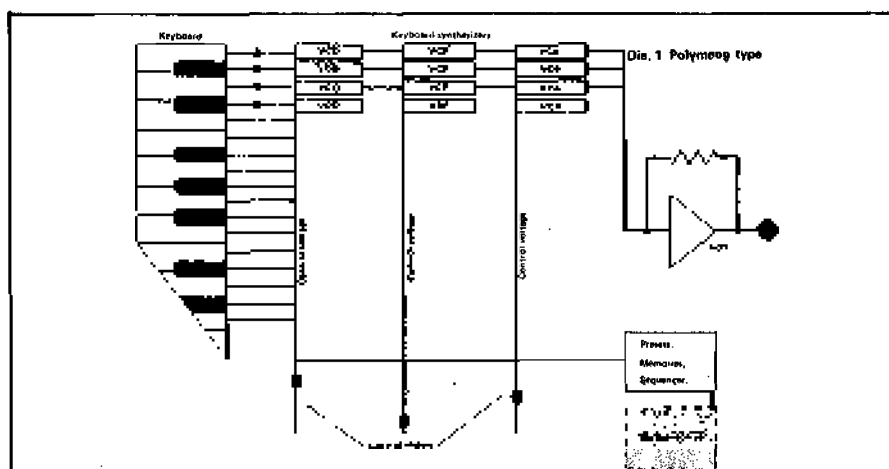
ies could well be considering blazing a trail through the technology as we now know it and completely revolutionising synthesizer and organ prices as they do so.

We might consider polyphonic synthesizers, for example, in two brigades, the heavy type and light variety. The heavy brigade, such as the Polymoog and big Korg systems, use a VCO-VCF-VCA chain for every key on the keyboard. Each "key-synthesizer" must receive the usual control voltages and gate pulses, and the control voltages are fed in parallel to the "key-synthesizers" by the slider controls (presets) on the instrument (see diagram 1). In this type of system it is doubtful whether the microprocessor could contribute very much to eliminating the "key-synthesizer" chains, although a microprocessor could be introduced to control the "preset" facilities and memorise keyboard events in order that performances could be played back. This in itself could contribute considerable savings in component density.

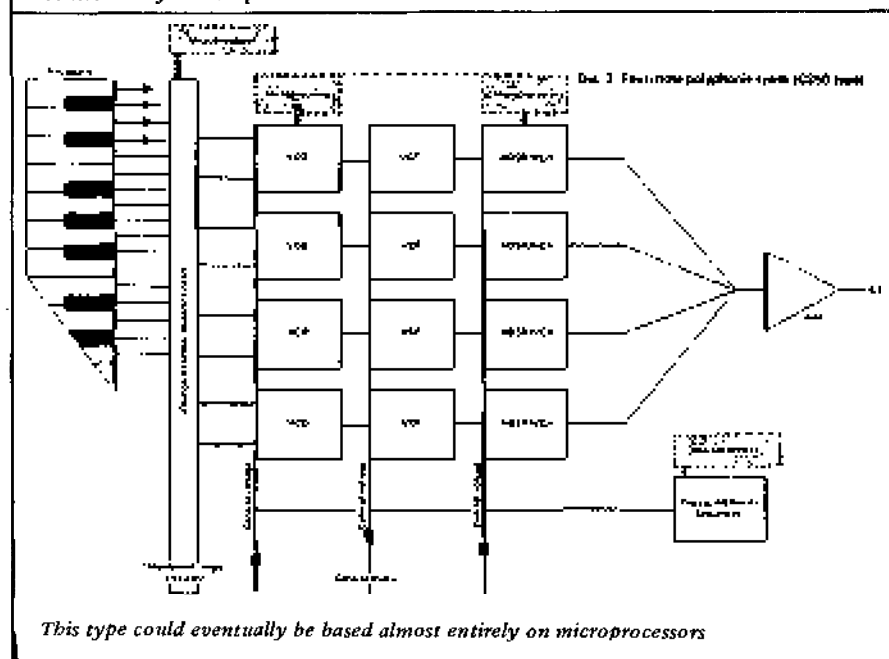
The second type, or "light brigade", of synthesizers uses a limited number of VCO-VCF-ADSR/VCA chains – say

four, six or eight. These then "play" whichever notes are depressed on the keyboard; but the logic required is quite complex. The keyboard is "scanned" and the VCOs are allocated the notes on a priority basis. All synthesizers of this type have to use the keyboard scanning technique, and it is in this area that microprocessors will be used instead of hardwired logic circuitry (see diagram 2). With this type of system, using limited amounts of VCO-VCF-VCA chains, it is possible to visualise a synthesizer based almost entirely on microprocessors. Waveforms can be stored in memories for example. It is also possible to filter the waveforms digitally, and amplitude modulation is quite simple. This is an area that will no doubt be developed with some extremely exciting products emerging in the future.

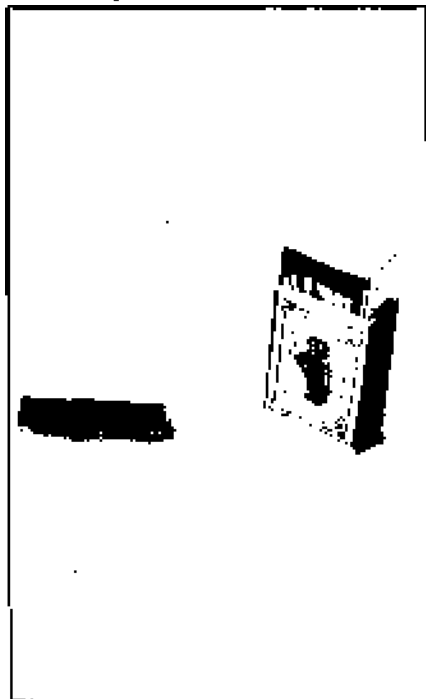
It certainly looks as if the microprocessor is here to stay and we predict that some pretty big changes will come about in electronic musical equipment design over the course of the next couple of years. We should see better and more exciting products evolving and in many areas prices could be taking a dive.



In this type of polyphonic synth, only the preset and memory facilities might be controlled by a microprocessor



This type could eventually be based almost entirely on microprocessors



... one silicon chip

BOOOOO BOOOOO BA BOOOOOOOOOOO -DRUM SYNTH

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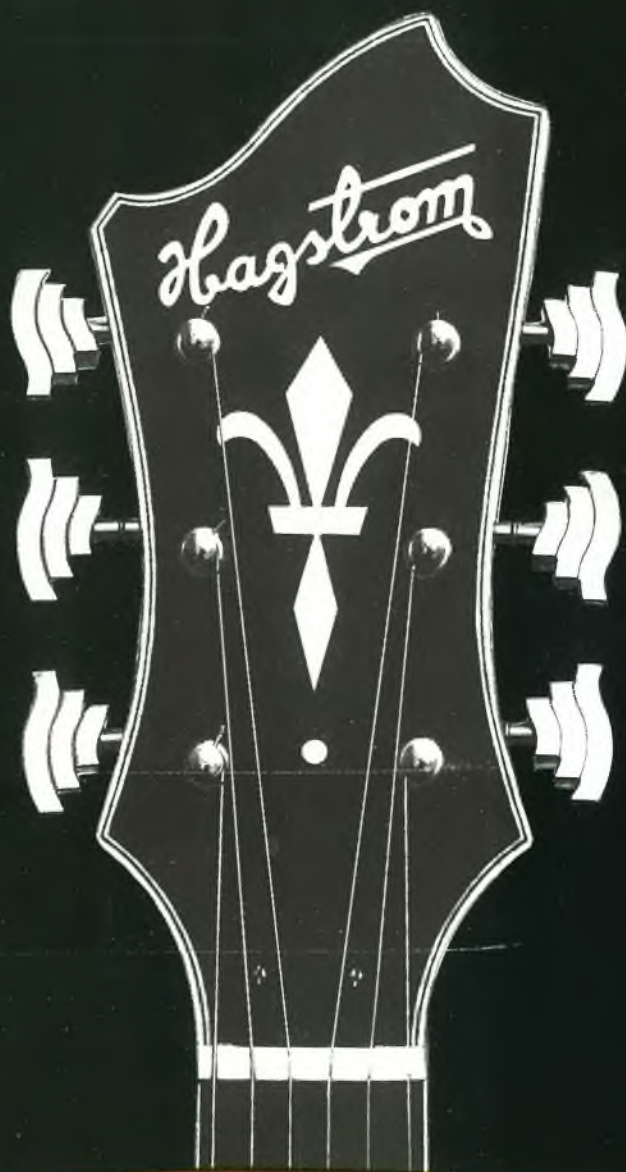
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Hagstrom

Electric Guitars/Bass Guitars/Semi-Acoustic Guitars/Western Guitars





Western

This magnificent new Hagström acoustic with its 12-stringed sister is the result of years of product development with today's needs in mind. The natural matt finish which displays without hindrance the superb materials and the unique Hagström head shape combine to give a refreshing departure from recent stereotypes. The top is solid spruce, the sides, back and neck mahogany. The fingerboard, top nut, saddle, bridge pins and endpins are all ebony. (The 12-string model has a fully adjustable metal bridge and metal tailpiece). The body is bound back and front in wood and, naturally, the neck incorporates the patented H-design expansion rod and highly polished frets ensuring a stable neck and fast action.

The guitar is beautifully balanced throughout the range with perfect intonation and because we recognize that different players use different gauge strings, rather than having an adjustable bridge on the 6-string which we believe is detrimental to tone, each guitar is provided with a set of varied saddles.

Without doubt these are significant new instruments and worthy additions to the Hagström range.

Hagström

FCN
music

Fletcher Coppock & Newman Ltd.
Morley Road, Tonbridge, Kent TN9 1RA
Telephone: 0732 365271

Superswede

For years the Hagström Swede has been one of the most coveted solid body guitars in the world and now guitarists are offered an alternative version of this fabulous instrument.

The SUPERSWEDE maintains many of the features incorporated in the Swede but offers players several important alternatives.

The result after many years of development particularly by Egil Strazdovskis, a highly respected player, teacher and repairer in Scandinavia, is superb.

Still there are qualities of a largely handmade guitar, the highest grade materials available, crafted and finished to perfection. The patented H-rail and truss rod and the Hagström precision bridge with individually adjustable stringbearings. New features include a wider slimmer neck with 22 wide precision levelled and polished frets.

Scale length 25½" - 648 mm. Top quality Schaller machines designed by Jimmy D'Aquisto and specially made for Hagström, ebony nut, zero fret to give parity of tone on open strings and fretted notes.

Separate tail-pieces for each string. The neck is buttjointed to the body with the heel profiled for ease of access to the highest frets. A new mode switch offers the player the choice of either humbucking or single coil pickups. These features plus many, many more contribute to make the SUPERSWEDE as much desired as her sister the Hagström Swede.

The SUPERSWEDE is available in the following versions:

MAHOGANY: Colours: cherry red and natural.

MAPLE: Colours: golden sunburst, wine, tobacco brown and white.

Illustration shows the maple wine version.

10 years of guarantee on all Hagström necks.

Left handed version available upon request.



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Swede

The Hagström Swede is one of the most coveted guitars in the world. It is so compact and comfortable, it seems almost too small for the magnificent sound it produces. The two Hagström pickups - humbucking, sensitive and efficient - are both activated by separate volume and tone controls and by two 3-position switches. One switch is for tone, sharp, mellow and deep, independent of the pickup in use. The second switch is for choice of pickups - treble, bass or both. Perfect intonation is made possible by the Hagström-made precision bridge, which allows individual adjustment of each string. The unusually slender neck can be precisely adjusted with the patented Hagström H-design truss rod.

Solid mahogany body and neck, polyester finish.
 2 humbucking pickups.
 3-position pickup switch.
 Patented H-rod neck construction.
 Ebony fingerboard.
 Scale length 24 3/4". 628 mm.
 Pearlloid inlays.
 22 precision levelled and polished nickel-silver frets.
 Machine heads designed by Jimmy D'Aquisto.
 Celluloid bindings.
 Colours available; natural, cherry, white and black.
 Custom colours available on request.
 Illustration shows natural and white.

10 years guarantee on all Hagström necks.
 Left handed version available upon request.

Hagström



Fletcher Coppock & Newman Ltd.
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 Telephone: 0732 365271

Patch 2000

The specially prepared Hagström Swede guitar coupled with the Ampeg Patch 2000 converter/pedal is a system which enters the realm of synthesized sounds. The set-up includes the converter pedal and the Swede guitar together with cases for both (you provide the synthesizer) and offers the equivalent of three instruments in one.

The Swede fingerboard is specially wired to transmit input to the synthesizer, when the string touches the fret a synthesizer note is activated.

The Swede guitar can be played independently as a guitar. As a third alternative, the Patch 2000 can combine a synthesizer output with a normal guitar audio output. It is possible to activate a synthesizer note and to pluck the guitar string to play a guitar note over the synthesizer note.

In addition, the Patch 2000 contains a Fifth Harmony Switch which allows the player to add the natural fifth of the synthesizer note. Between these three note producing sources is the possibility of stereo and limited three part harmony.

10 years guarantee on all Hagström necks.



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Viking

Semi-acoustic, »slim body« guitar.
 Arched top and back.
 Body and neck made from carefully selected laminated birch.
 Polyester finish.
 Patented H-rod neck construction.
 Jacaranda fingerboard, with pearloid inlays.
 Scale length 24 3/4" - 628 mm.
 Two high quality Hagström humbucking pickups.
 3 position tone switch.
 22 precision levelled and polished nickel-silver frets.
 Chrome-plated machines designed by Jimmy D'Aquilto.
 Fully adjustable Hagström bridge.
 Neck, body and F-holes fully bound.
 Colours available: sunburst, golden sunburst, white, natural, bubinga and cherry.
 Custom colours available on request!
 Illustration shows white and bubinga.
 10 years guarantee on all Hagström necks.
 Left handed version available upon request.

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Jimmy

Professional, semi-acoustic guitar designed by one of the world's finest custom guitar makers, James L. D'Aquisto, USA.

The JIMMY is available in F-hole and oval hole versions.

Venetian cutaway design-body. Laminated birch arched top, arched back and matching sides.

Adjustable ebony saddle with ebony bridge base contoured to the outside top dimensions.

(Adjustable metal bridge available on request.)

Laminated birch neck with patented H-rod construction.

Ebony fingerboard with block inlays.

20 precision levelled and polished frets.

James L. D'Aquisto designed machines.

Scale length 24 $\frac{3}{4}$ " 628 mm.

Colours available: polyester finish in cherry, sunburst, golden sunburst, white and natural.

Illustration shows sunburst and natural.

10 years guarantee on all Hagström necks.



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Scanbass Scandi

SCANBASS

Solid body electric bass.
Scale length 34" - 864 mm.
Solid mahogany neck and body,
finished in high gloss polyester.
Patented H-rod neck construction.
Jacaranda fingerboard with
pearloid inlays.
20 precision levelled and polished
nickel-silver frets.
SCHALLER high quality machines.
2 highly sensitive single coil,
double pole pickups.
Individual volume controls for
each pickup and a master tone
control.
Hagström bridge with individually
adjustable stringbearings and a
common adjustable stringmute.
*The SCANBASS is also available
in a fretless version with ebony
fingerboard.*
10 years guarantee on all
Hagström necks.
Colours available. Natural, cherry
red, sunburst and white.
Left handed version available
upon request.

SCANDI

Solid body guitar.
Scale length 25½" - 648 mm.
Solid ash body and neck, comfort
contoured, polyester finish.
Patented H-rod neck construction.
Solid maple fingerboard with
multiple layer of polyester
lacquer. High gloss finish.
20 precision levelled and polished
frets.
SCHALLER high quality machines.
Three highly sensitive single coil
pickups.
Individual tone controls for each
pickup and master volume.
Individual on-off switches for
each pickup allow any pickup
combination.
Hagström precision bridge with
individually adjustable string-
bearings.
Colours available - natural, cherry
and sunburst.
Custom colours available on
request.
10 years guarantee on all
Hagström necks.
Left hand version available upon
request.

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The Hagström difference

1



2



1.

Hagström is the only guitar maker to support the neck with a rail. Everybody else uses a rod.

2.

If a guitar neck isn't properly supported, it can warp or bow. (Left.) Or twist.

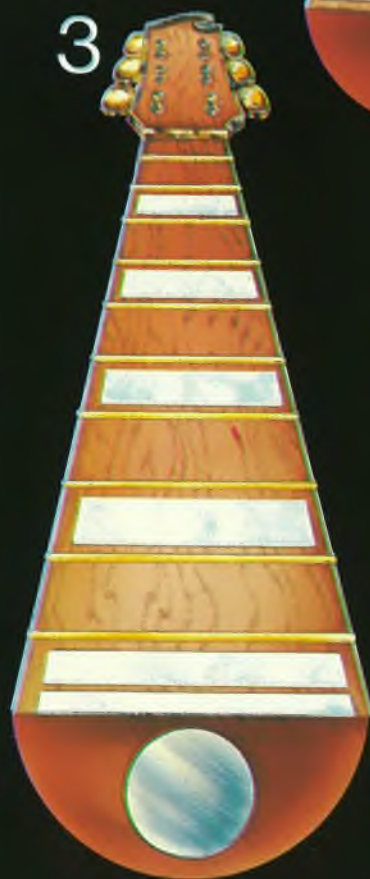
3.

A rod can correct warping or bowing. Just like the Hagström rail can. But a rod is powerless over twisting. It's round. The wood rolls around it.

4.

The Hagström rail stops twisting in its tracks. A simple idea. As most great ideas are.

3



4



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The Hagstrom Craftsman- ship

All Hagström instruments are made from carefully selected woods and components. Every wood piece and detail is treated by highly skilled Swedish craftsmen with years of experience. At Hagström we are not making conveyor-belt guitars, we only use machines where these can do a better job than man.

The result of our conservative manufacturing policy is hard to describe in a catalogue and can only be judged by players with a feeling for highly handcrafted quality. Hagström offer a 10 years »no nonsense« guarantee to the original purchaser on all guitar necks without any of the usual »it has to go back to the factory first«, and a replacement neck automatically starts its own 10 years guarantee.

10 years guarantee



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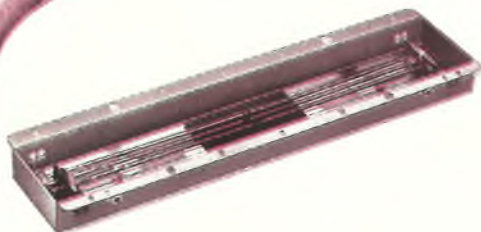
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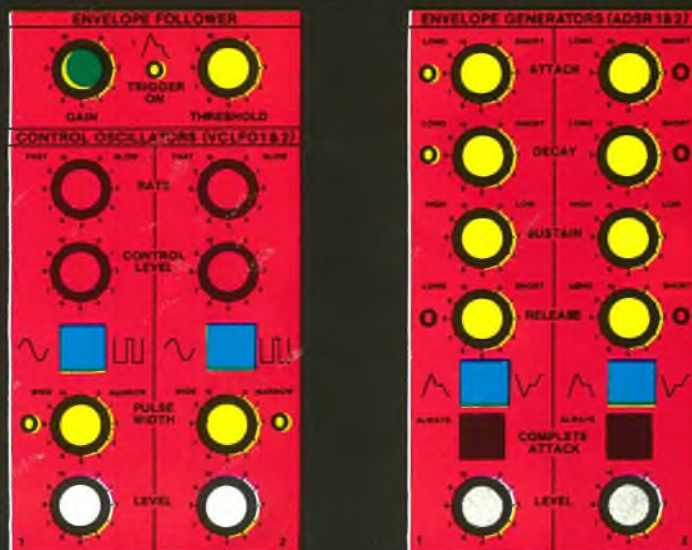
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EMS polysynthi

Electronic Music Studios (London) Ltd

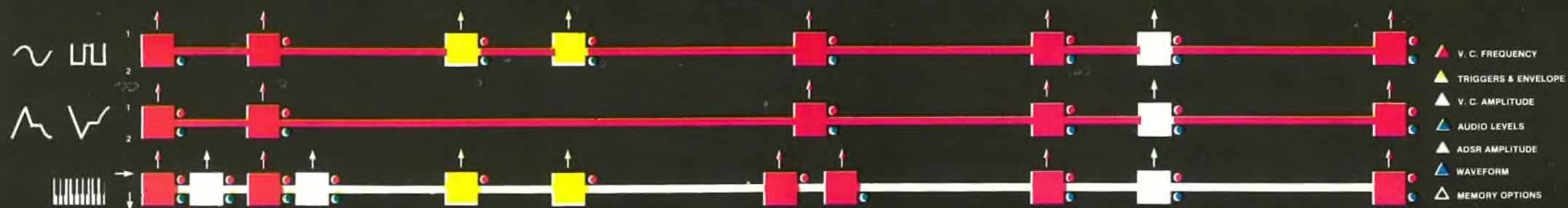
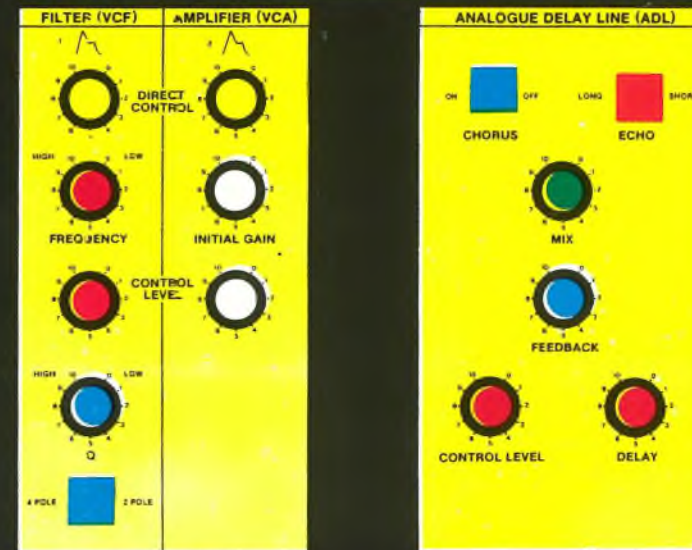
Controls



Sources



Treatments



PITCHBEND



EMS POLYSYNTHI

The EMS POLYSYNTHI introduces an entirely new concept in live performance synthesizers. At last the problem of combining a genuinely large range of special effects with instant and dependable patch switching has been solved. The EMS POLYSYNTHI has the following important features.

- Equally tempered, fully polyphonic oscillator bank, easily tuned and completely stable, covering nine octaves in six overlapping ranges.
- Four-octave standard keyboard with three simultaneous outputs — polyphonic, position dependent control voltage and pressure dependent control voltage.
- Two comprehensive voltage controlled low frequency oscillators with variable waveforms.
- Two ADSR envelope generators with LED displays.
- Analogue delay line for echo, chorus, flanging and reverberation effects.
- Panel ergonomics specially designed for ease of operation plus perfect reliability under concert conditions. LED-indicated control voltage switching, colour coded function areas, clear legending and logical layout give the performer an enormous range of easily patched, repeatable effects.
- Optional add-on polyphonic sequencer allows even greater flexibility. Up to ten minutes of polyphony can be stored and edited by this unique device. Hundreds of special effects with pinpoint accuracy using the latest microprocessor techniques. No other available sequencer offers a truly polyphonic memory.
- No special training needed — you command, POLYSYNTHI does it.

The EMS POLYSYNTHI is played by means of a 4-octave pressure sensitive mechanical keyboard. This supplies polyphonic information to the oscillator bank, plus two control voltages corresponding to the highest note played and the pressure applied. These voltages may be routed to the other devices.

Above the keyboard is a 6-bus switching system. Coloured switches allow the performer to choose between two low frequency oscillators (VCLFO), two envelope generators (ADSR), and the two keyboard control outputs (highest note position and pressure). The switches are centre-off and situated directly below the device to which they relate. Coloured LEDs indicate which voltages from the busses are being routed.

The main panel is divided into five coloured sections. The two red sections are the **CONTROL** units: envelope follower, the two voltage controlled low frequency oscillators and the two ADSR envelope generators. The centre (blue) section contains the **SOURCES**: the three waveforms from the oscillator bank, the output from the noise generator, and an external input. These sources are mixed together in any desired proportion. The two yellow right hand sections contain the **TREATMENTS**. One section has the voltage controlled switchable two- or four-pole filter and the voltage controlled amplifier. The other has the analogue delay line (ADL) with voltage control of delay and with variable feedback and mix.

DETAILED DESCRIPTION

NB: Capital letters are used to denote control knobs on the front panel. Many devices have CONTROL LEVEL. This determines the amount of voltage control switched in from the busses and is not individually mentioned for each device. The devices are described from left to right on the front panel.

CONTROLS

ENVELOPE FOLLOWER

GAIN matches the input amplifier to the level of the external input. THRESHOLD sets a level above which a trigger pulse will be delivered to ADSR1. When this trigger level is adequate the yellow LED will light up.

VOLTAGE CONTROLLED LOW FREQUENCY OSCILLATORS

The two VCLFO's produce a sine or variable pulse waveform over a range of .08Hz (12 seconds) to 20Hz. RATE sets the repetition frequency and this may be voltage controlled by either keyboard voltage, either ADSR and the other VCLFO. PULSE WIDTH varies the on-off ratio of the pulse wave, which is routed by the switching system and may trigger either ADSR when positive (indicated by yellow LED).

ADSR ENVELOPE GENERATORS

These are of the retriggerable ADSR (Attack, Decay, Sustain, Release) type. The output waveform is invertible, and the voltage envelopes are sent to the switching busses via AMPLITUDE. Each phase of Attack, Decay and Release is variable between 1ms and 10 seconds, allowing extremely fast percussive attacks as well as long, slowly changing envelopes. The Sustain level is variable from full on to full off. Each ADSR may be triggered from either VCLFO or from the keyboard: ADSR1 may also be triggered from the envelope follower. For slow attacks the COMPLETE ATTACK switch determines whether the ADSR continues to the peak voltage or goes into Release if the keys are released before the Attack is finished. Besides being routed to the switching busses ADSR1 is directly connected to the voltage controlled filter and ADSR2 to the voltage controlled amplifier. In both cases the amplitude of the ADSR signal is determined by DIRECT CONTROL.

SOURCES

VOLTAGE CONTROLLED OSCILLATOR BANK

The VCOB produces up to 49 simultaneous outputs determined by what notes are played on the keyboard. Three waveforms (triangle, square and pulse) may be mixed in any proportion. RANGE switches the oscillator bank in octaves from 1' to 32' (8' is normal register). TUNE adjusts pitch to suit the tuning of other instruments, and the VCOB's drift-free circuits ensure long term stability. PITCHBEND is operated either by the large red knob with centre-sprung return on the left of the keyboard or by a foot pedal plugged to a rear jack socket. Other frequency modulations can be obtained via the switching busses from either ADSR either VCLFO and from the keyboard pressure voltage. KEYBOARD MEMORY determines whether the last note or chord is held indefinitely or ceases when the keys are no longer depressed. The ADSR's release is automatically set to short when the keyboard memory is off. The VCOB may be disconnected from the keyboard while still remembering the polyphony last played, but with keyboard control outputs still operative. This allows the performer to modify a treatment from the keyboard without changing the pitches heard.

NOISE GENERATOR AND EXTERNAL INPUT

White noise and an external input can be mixed with the oscillator bank before being routed to the filter. A stereo jack socket on the rear panel accepts balanced or unbalanced, line or microphone, high or low impedance signals. If no external input is connected the EMS POLYSYNTHI's own sources can be used as a feedback signal to generate various effects.

TREATMENTS

VOLTAGE CONTROLLED 2-4 POLE FILTER

The filter is a lowpass, switchable two pole (12dB/octave) or four pole (24dB/octave) voltage controlled device. It has variable Q, and any of the ADSR, VCLFO and keyboard voltages can be used to control its frequency. In addition ADSR1 can sweep the filter frequency by an amount set by DIRECT CONTROL. A foot pedal may be connected as an external frequency control via a jack socket on the rear panel.

VOLTAGE CONTROLLED AMPLIFIER

The output of the filter is fed to the voltage controlled amplifier (VCA), whose INITIAL GAIN is adjustable. Like the filter, the amplifier can be controlled by either ADSR, either VCLFO and either keyboard voltage. A foot pedal socket allows external control of amplitude (swell).

VOLTAGE CONTROLLED ANALOGUE DELAY LINE AND OUTPUT AMPLIFIER

The output of the VCA is taken to an analogue delay line (ADL) and then mixed back with the original signal at the output amplifier to give a nominal +4dBm signal at low impedance. The ADL is capable of producing echo, reverberation from zero to 'howl around'. As the delay time is voltage controlled either ADSR, either VCLFO and either Keyboard Voltage may be used for special and unusual effects. One switch selects long or short delay time ranges, another decides whether the ADL is in Chorus or Echo mode.

KEYBOARD

The 49-note keyboard covers C to C. It provides polyphonic information to the VCOB and the two control voltages which are routed to the switching busses. One corresponds to the highest note played, the other is proportional to the pressure applied to the keyboard as a whole.

REAR PANEL

Jack sockets for external input, the three foot pedal inputs and the output are situated at the rear left of the instrument. A switch selects LINE or MICROPHONE input. Panel space is allowed for expansion of the EMS POLYSYNTHI by adding the polyphonic sequencer. This is supplied with simple fitting instructions and no works modification is necessary.

SEQUENCER OPTION

The sequencer option allows the EMS POLYSYNTHI to be expanded considerably. Up to ten minutes of polyphonic music can be stored in the memory — a facility unique to this device. A microprocessor controls a fully polyphonic sequencer capable of many simple and complex effects such as octave additions, transpositions and complex harmonic voicings. Editing is simple and indeed almost any logical manoeuvre is possible. The programming is based on the research at the EMS computer studio, and uses many of the techniques developed specially for this very advanced studio.

PolySynthi was designed by Graham Hinton at EMS.

£800

EMS

Electronic Music Studios (London) Limited
c/o Peter Zinovieff, The Priory, Great Milton, Oxford Tel: 08446-729

Creative Expansion

Expanding the potential of your instrument



Super Distortion™ Humbucker

The SDHP is the pickup that first put the word 'hot' in the guitarist's dictionary. For the rock guitarist, the SDHP does it all—at full volume, it provides the most powerful, sustained sound your guitar is capable of. At lower volume, the SDHP becomes clear and warm, useful for all playing styles. This is accomplished without squeal or unwanted hum, and without any loss of frequency range, as is common in other 'hot' pickups.



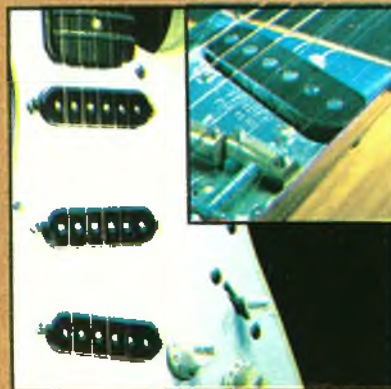
PAF™

The PAF is a special pickup, with a special sound. It is the sound of the "patent applied for" pickup made in 1957-1960. This sound is not one of sheer power, but of a warm tone, and a singing sustain. It has only been available until now to the limited number of players able to acquire old instruments.



Dual Sound™ Humbucker

Everything written about the SDHP is also true of the Dual Sound—it's the same pickup, with the added option of a second sound, available at the flick of a switch. This allows the guitarist to go instantly from the sound of the Super Distortion to a clean, bright sound similar to that found in Stratocasters and Firebirds. No increase in noise is experienced, and, unlike other companies' 'split coil' pickups, the Dual Sound pickup is humbucking in both modes.



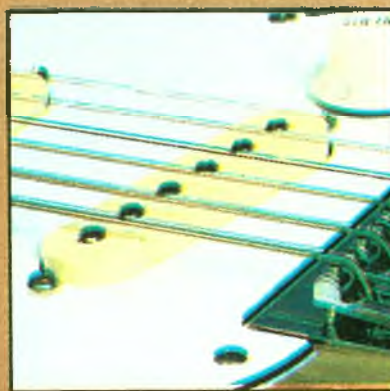
FS-1™ & Pre B-1™

The FS-1 & Pre B-1 are direct replacement pickups for Stratocasters and Telecasters. The Pre B-1 is made for installation in the bridge position of Telecasters, as shown in the insert photo. The FS-1 can be used in all positions on Stratocasters, but is especially recommended for use in the bridge position. Both pickups mount with no modification to the guitar. The FS-1 and Pre B-1 enhance the basic qualities of the guitars they mount in by offering increased output and greater midrange response.



Super II™

Any guitarist who has had trouble cutting through, or has a guitar that sounds dull, will appreciate the Super II. It offers slightly less output than the Super Distortion, but has increased treble response. Combining this performance with low cost gives a pickup ideal for guitarists looking to upgrade their present equipment.



SDS-1™

The SDS-1 is a Stratocaster replacement pickup like nothing you've ever seen or heard before. It is the first Strat replacement pickup with fully adjustable pole pieces. It is the first pickup of its kind powerful enough to let Strats compete with the hottest guitars on the market. The power of the SDS-1 is not weakened by the double tones and out-of-tuneness common to other Strat-type pickups, because it has 50% less string pull.

from DiMarzio.

expands the potential of your music.



Model I™ Bass Pickup

The Model I fits directly in EB-0 basses, as well as in the bass position of the EB-1, 2, and 3. It produces the sound the owners of these basses have always wanted—powerful, yet crystal clear. Every note down to the lowest can be heard distinctly. A

miniature switch is included with the Model One. Installation of this switch lets the Model One produce two distinct sounds. One is similar to that made by the Fender Precision, while the other has a Rickenbacker-type sound. The switch is optional; it can be omitted, with either sound available alone.



Acoustic Model II™

The Acoustic Model II is a humbucking, magnetic pickup for steel string acoustic guitars. A simple, sliding rail arrangement gives the Model II the unique ability to tune any acoustic guitar for harmonic balance—the player can emphasize overtones, or fundamentals, in any proportion he chooses.



DiMarzio Model P™ Bass Pickup

The DiMarzio Model P offers several major advances not previously available to Precision players. It has adjustable pole pieces for each string. It has a magnet structure which eliminates distortion and double-tones, and yet has noticeably increased out-

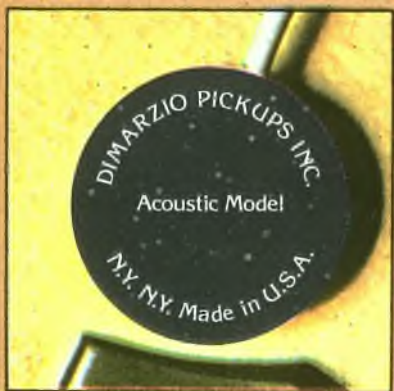
put. The effect of this is to give the bass a brilliant sound, with punch and clarity on every note of the bass.



Accessories

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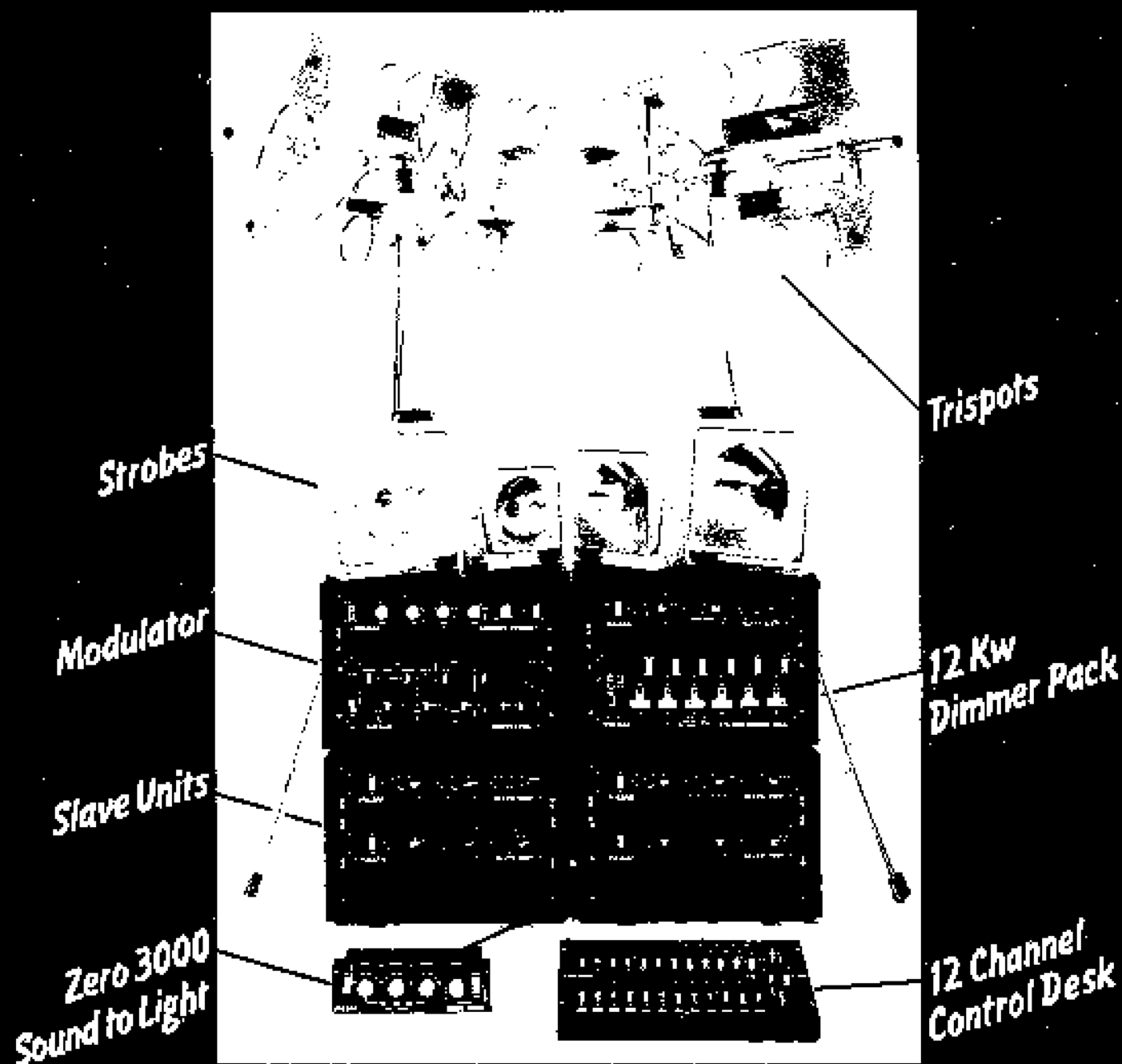
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Adding a Pickup

by Stephen Delft

This month's article contains many pictures and relatively few words. It is not intended for absolute beginners, and there are no comprehensive explanations of working methods or pitfalls. However, all the necessary supplementary information has appeared in my previous series on making a solid guitar, if you wish to look for it.

I'm sure that many of our readers have already fitted alternative or additional pickups, knobs and switches to electric guitars, with varying degrees of success. There is nothing spectacular about the conversion job shown in the photographs, but the finished instrument does seem to have a certain finesse about it which I find pleasing and satisfying. I hope that it will give our more experienced readers some useful ideas.

This particular single-pickup Guild model has been made and sold in quite large numbers, and it happens that the existing control panel does not have an ideal layout for accommodating extra knobs and switches. As the guitar was intended to have only one pickup, this is perfectly reasonable, but it does make things difficult for owners of this model who may wish to add a second

pickup. It also happens that the control panel forms the mounting for the original single pickup, so a replacement modified panel would require a large sheet of the right sort of plastic and a considerable amount of careful work.

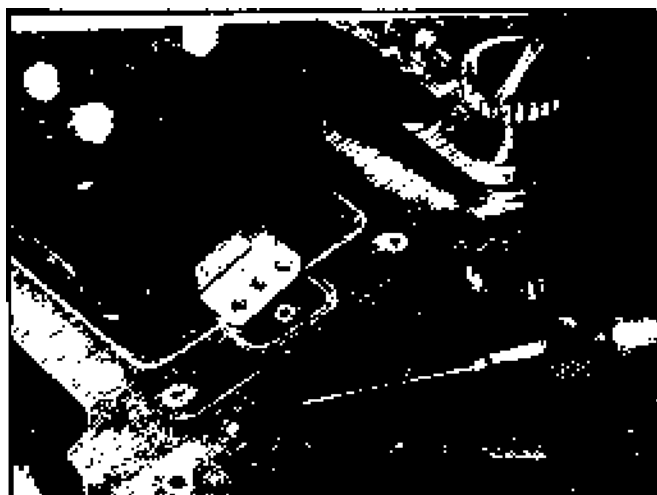
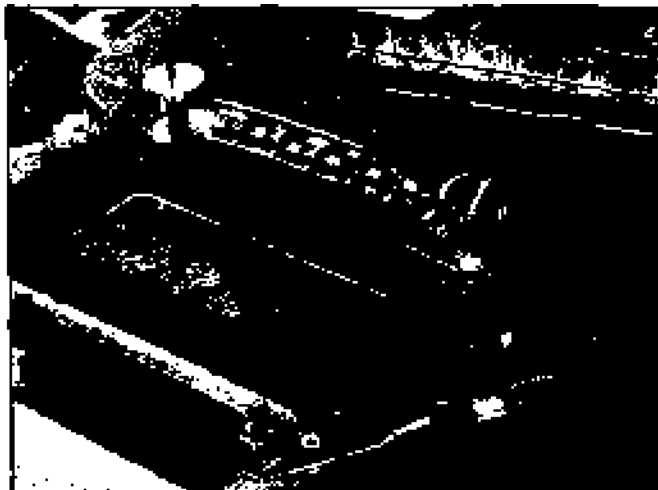
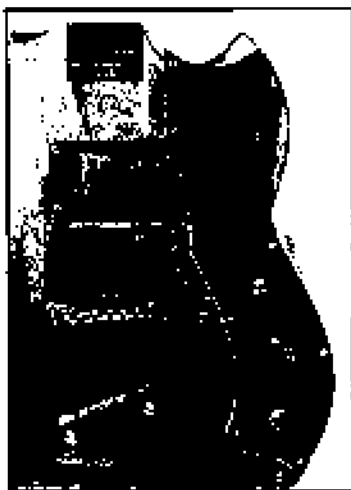
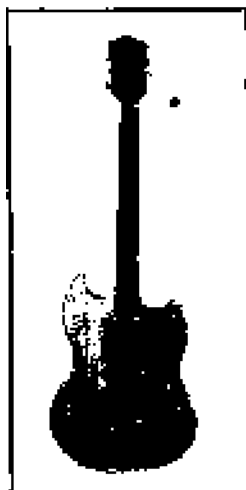
There was a similar Guild guitar with two pickups, and a control and pickup panel for this may still be available, but I seem to remember that neither of the pickups coincided with the central position between bridge and fingerboard on this model. I would not recommend that you cut a total of three pickup recesses between neck and bridge in a relatively shallow mahogany body. If you want a hollow-bodied guitar, buy one. Don't cut the middle out of a solid and then expect it to work well.

So we come back to square one: how to put some extra bits and pieces on this guitar without making it look (and possibly also sound) like the morning after an office party. The key to the problem in this instance came from two things: first, from listening carefully to what the owner wanted, and secondly from the idea of using the existing jack position in the front panel for fitting one of the controls and

moving the jack socket to the edge of the guitar.

After some discussion, it became apparent that the second pickup and selector switch were required to produce a fast change from bright-toned rhythm playing to a hard but smooth overloaded amp sound for solo work, and that the second pickup should sound as different as possible from the original one. The original Guild pickup had a fairly "wide" sound spectrum, with no particularly strong "voicing" or emphasis in any particular range and a moderately high output. The existing tone control produced a wide range of tones from bright to very mellow.

Some of the very high-output "replacement" pickups have a considerable emphasis in the mid-range, and produce so little in the way of high frequencies anyway, that a tone control is almost redundant. I decided that one of these would give the maximum possible output level for overloading the amp, without the need for booster pedals or adjustments to the amp settings. Its middle emphasis would complement the sound of the original pickup nicely, and its attenuated treble, requiring no tone control, meant that



I would only need to add to the guitar one volume control and a selector switch. Moving the jack socket to the edge provided one mounting hole, and the only modifications needed on the control panel were one hole drilled and reamed out to size for the selector switch, and a small corner filed away to clear the edge of the second pickup surround. At the owner's request, I put the volume control for the added bridge-position pickup adjacent to the bridge (for violining) and moved the existing volume and tone controls along by one hole each.

The long Switchcraft jack socket needs some care in fitting. On the outside it should ideally fit within the flattest part of the guitar's edge. This is usually in the centre of the body thickness, but it may vary a little if the body edges are not rounded over equally. On the inside of the control cavity, the solder tags (which may be bent a little or trimmed shorter if necessary) must not foul any of the existing or added wiring or controls. As the body of the socket will probably project some way into the cavity, it should probably be fitted to come out *between* two controls on the inside of the guitar. If the cavity is not deep enough to

allow for a nut on the inside to fasten the socket, you may be able to deepen the cavity *slightly* at this point. The outer knurled ring of the socket can be held with veterinary scissor-forceps while tightening the nut inside with a spanner. If the back wall of the cavity is already rather thin, you can obtain a similar jack socket fitted with an *external* mounting plate as a Barcus-Berry accessory part.

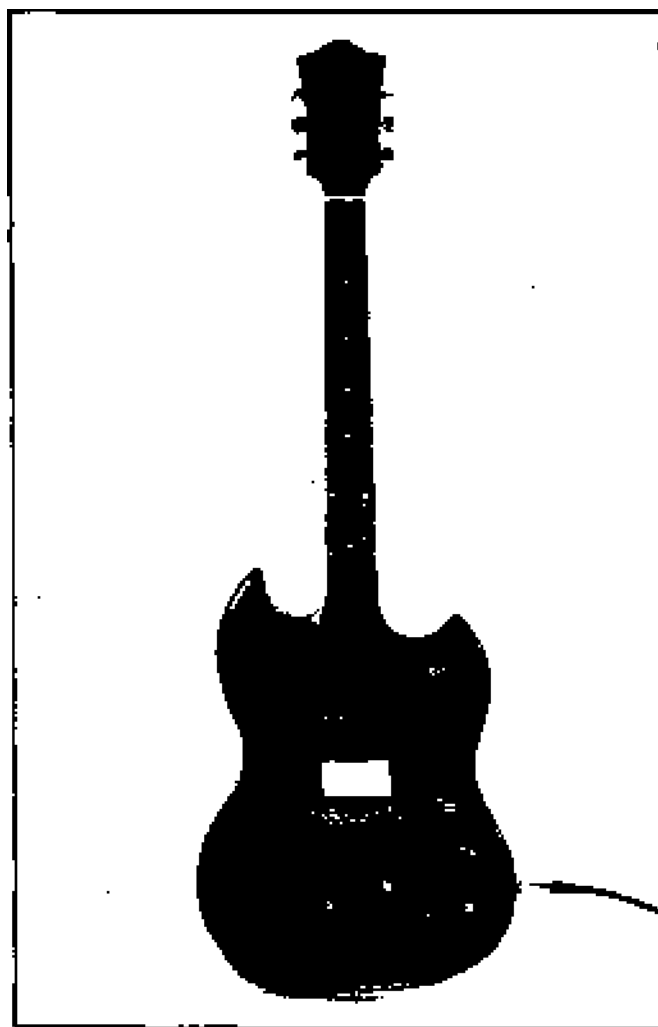
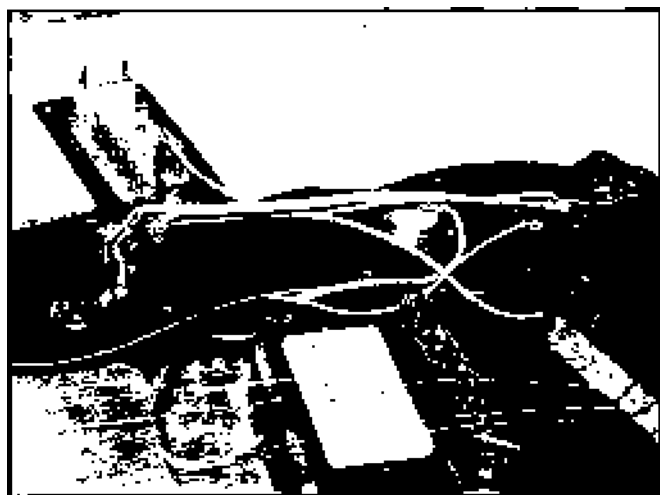
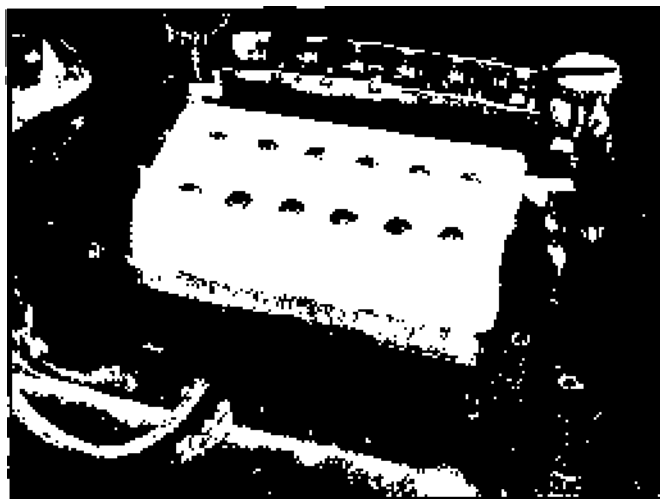
One or two final points. In the photographs you will see both black and cream pickups. In the case of this particular manufacturer there is no difference in size, performance or fitting. I used whichever would provide the clearest photograph in any situation. The scriber shown is a thick sewing needle in one of the superb Eclipse adjustable pin-vices (Part No. 121). If you are heavy-handed, grip the needle nearer to the point and wear eye protection in case it snaps under pressure.

The pickup used in this conversion was a "Velvet Hammer EMF Plus", wired with its coils in phase and in series, and the whole pickup in phase with the original Guild pickup. The switch was a Guild spare-part selector switch.

Screws, springs and surround were from the DiMarzio range with a few slight adjustments. That happens to be what I used. You could obtain the switch and socket from most Switchcraft stockists, and pickups and fittings from any one of several guitar accessory companies. Not all high-output pickups sound the same. You may have some mechanical and assembly problems with some samples of Velvet Hammer pickups. I am willing to tolerate this and, if necessary, rebuild the pickups, because I like the sound and some of my customers like the very high output on this particular model. It also has a higher than usual source impedance and requires the use of low-loss leads, unless you want even less treble than it has to start with.

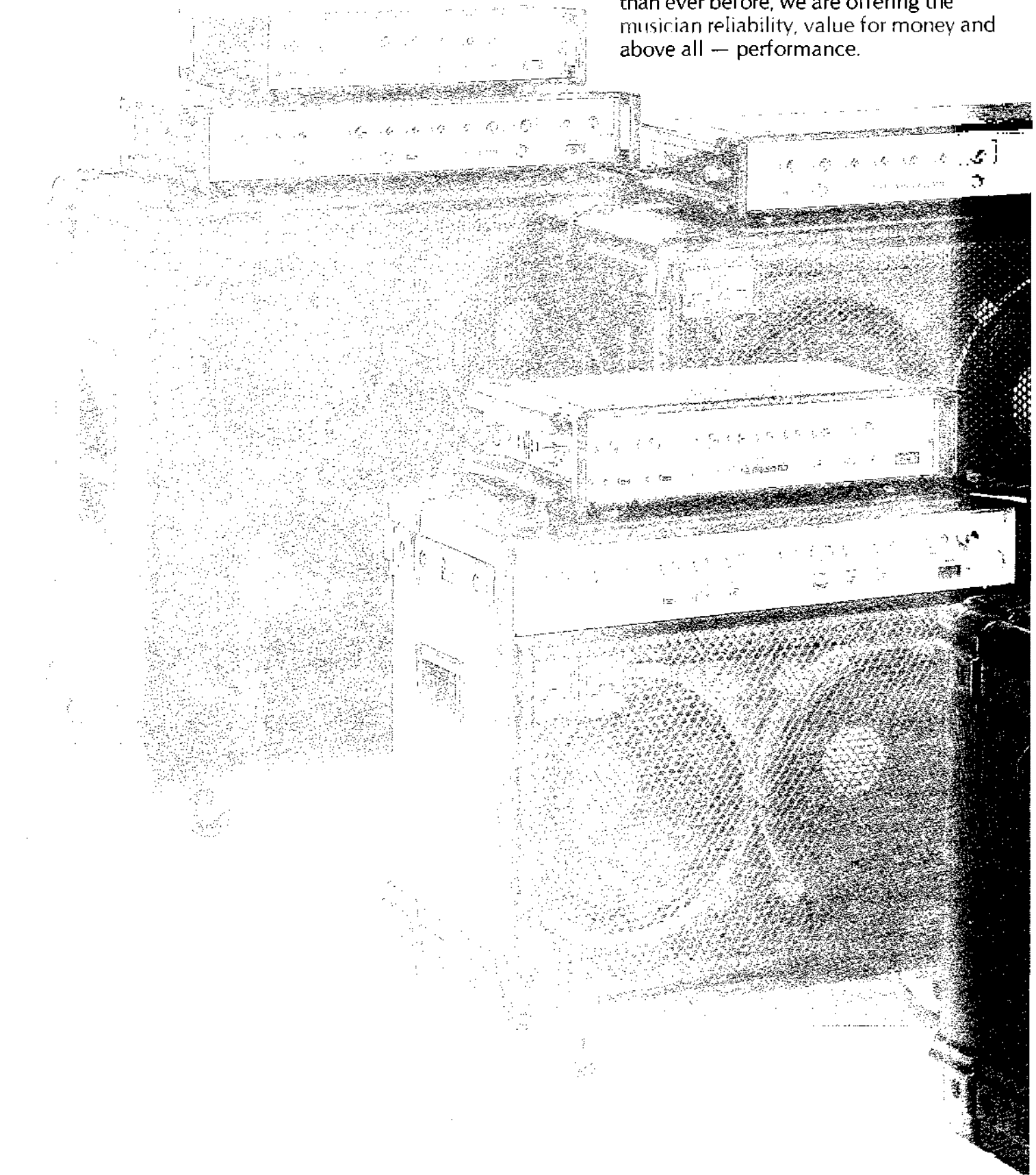
You will need a hole in the body for the new pickup and a smaller one for the selector switch. Don't cut out any more wood than you have to, and try to keep away from the neck joint and the bridge support pillar.

This sort of careful conversion is only worthwhile on a guitar which you intend to keep. If you want to sell it, better to sell it as it is: you are unlikely to recover the full conversion costs on resale.



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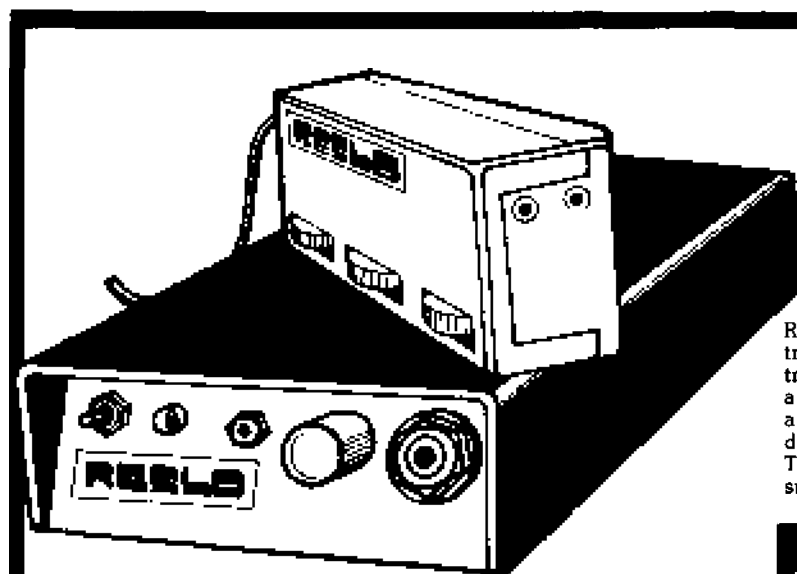
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BGW 750 B/C	225 Watts/ch.	360 Watts/ch	20	Forced air cooling for 2 massive removable modules	Active arc- interrupting circuitry	Front panel magnetic circuit breaker	Modular air Teflon wiring	Relay operated transient delay circuitry	Full complimentary	0.02%	\$ 999 — Model 750C \$1099 — Model 750B	1978
CROWN DC300A	155 Watts/ch.	NO FTC RATING	16	Passive airflow only	None provided	Rear panel fuse only	Hard-wired, non-modular	None	Quasi- complimentary	Not specified	\$ 919 ***	1974
YAMAHA P2200	200 Watts/ch.	NO FTC RATING	12	Passive airflow only	None provided	Rear panel fuse only	Hard-wired, non-modular	None	Full complimentary	Not specified	\$1095	1976

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*Based on manufacturers' published specifications and prices available 7/1/78.

**BGW 750B/C FTC Specification: 225 watts minimum sine wave continuous average power output per channel with both channels driving 8 ohm loads over a power band from 20Hz to 20kHz. The maximum Total Harmonic Distortion at any power level from 250 milliwatts to 225 watts shall be no more than 0.1%.

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'Special' compression drive units

Having set out our stall for the testing of compressive drive units in last month's issue, and tested a handful of such units from what we call the "standard" category, we now take a look at some of the more specialised component drivers to see just what you get for some of the very high prices charged at this end of the market. With prices starting at over £100 and rising to around £300 each, we are obviously at the professional end of the market – the type of drive unit that is likely to be found at the back of the mid-range and high-frequency horns at a Rolling Stones, Who or Floyd gig. We have samples from DAS, Vitavox, Electrovoice and JBL included in this review but unfortunately, the Gauss 4000 unit offered did not arrive in time to be included in our testing schedule. Gauss tell us that this was due to having none in stock in the UK because of an unexpectedly heavy demand at the time we were testing. Maybe we can include the 4000 at a later date, as I am often asked about this particular unit.

At this stage, I must make an apology. In the August *Speakercheck*, we did a review of the Vitavox S3 unit coupled to a Vitavox 4KHz high-frequency horn, and the review published was not very complimentary. Since then, I have come to the conclusion that the particular S3 tested must have been a faulty unit – although brand new, as supplied by the manufacturer for review purposes. The shortcomings found with the unit at that time have not manifested themselves at any subsequent tests, nor are they apparent on the maker's own test results. Instead, the S3 reviewed in this issue comes up with an excellent set of results – on a par, in fact, with some of the very expensive American units tested, at about half the price. Therefore, I wish to withdraw the comments made on this unit at the time, and we will re-test the 4KHz horn itself in next month's review of horn flares. I have myself used S3 units in rigs and have been very happy with their performance, and the test result now published is much more in keeping with the sort of figures I would have expected.

Before going on to discuss the results obtained this month, I would remind readers that all drivers submitted for testing were coupled to a standard test horn, and all results obtained are pertinent only to the performance of a given unit on our horn. In practice, results obtained with other horns are not likely to vary significantly, provided that the horn used is compatible with the particular driver and is of a suitable acoustic design in terms of cut-off frequency, flare rate

and acoustic loading. The standard test horn used was discussed in detail and illustrated, and the testing procedure set out, in last month's *Speakercheck* and you should refer to this when interpreting the test results published.

The one major problem that has become apparent is that of incompatibility between drive units of different makes. In the case of the "standard" category units reviewed last month, most employed the 1.362" x 18tpi screw thread entry and thus presented few problems. However, with the units reviewed here, there would seem to be little or no attempt at any form of standardisation. The three-bolt, 1" flange, and four-bolt, 2" flange entries as adopted by JBL tends to be accepted as a standard, but I would suggest that this is simply because so many JBL drive units and horns are in general use that users have become familiar with this system. None of the other units submitted for test are, in fact, compatible with the JBL system.

Both Electrovoice and DAS use a flange-type throat entry of about 1.3" in diameter for their larger type of drivers, but the pitch circle diameter of the four mounting bolts is quite different. For their smaller type of driver, Electrovoice employ the standard European 1.362" screw thread, while DAS employ yet another, peculiar, three-bolt, 1" flange coupling, which is not compatible with the JBL 1" three-bolt system! RCF, on their TW200 unit, employ a 0.75", four-bolt flange coupling, while Altec seem to favour an odd two-bolt flange system. Vitavox are different again, using the standard European 1.362" screw thread on their GP1 and GP2 units, and have adopted a 2.620" x 16tpi screw thread system for their larger type of unit, the S2 and S3. (As far as I am aware, no other manufacturer employs this larger thread system.)

Several manufacturers, JBL and Vitavox in particular, are able to supply a range of adaptors, but in general these only permit, for example, a Vitavox S3 unit to be coupled to a JBL 2" horn, or a JBL unit to be coupled to a Vitavox horn. If you want to fit, say, an RCF TW200 unit to a Vitavox horn, or to fit a DAS horn with an Electrovoice unit, this becomes almost impossible without the use of custom-made adaptors. It is all so crazy and unnecessary. Personally, I favour the Vitavox and JBL systems, and with a little thought, I cannot see why one of the four couplings thus offered could not be adapted to practically any type of drive unit and horn throat. After all, such an arrangement would offer two sizes of screw thread entries, two sizes of

flange entries, with throat couplings at 0.75", 1" 1.3" and 2" diameters. These would be adequate for most purposes and would have the added advantage of being easily adapted between each other. I would be interested to hear manufacturers' comments on this matter.

What of the results obtained this month? I really think that the individual reviews speak for themselves. It is obvious that the DAS M-300 just does not bear comparison with the rest of the field and is totally out of its depth. I cannot imagine this unit finding application in the professional market, but at this price, it is far too expensive for more general application. The Electrovoice DH1012 and Vitavox S3 are very similar types of unit, of similar construction and size and with similar general performance parameters, except that the Vitavox has a considerably smoother frequency response, and does not suffer from the high levels of distortion measured on the DH1012. The DH1012, on the other hand, is marginally more sensitive, but is also considerably more expensive.

What can really be said of the JBL units that has not already been said? A look at the smoothness of the frequency response plots, the sensitivity figures, and the mechanical construction is all that is necessary. Of the samples submitted, these must be the "Rolls-Royces" in compression drive units. The only area really open for any significant improvement is that of distortion, but this problem is by no means peculiar to JBL as our results tables show. The JBL products are expensive, but as usual with this manufacturer, this is due to the product having been designed to a specification instead of to a price. On a value-for-money basis, I feel that the Vitavox S3 takes some beating. It is only that its response is not quite as smooth as the exceptional plots measured on certain JBL units that separates the two stables. After all, the S3 has confirmed a 100 watt rating as a wide bandwidth unit, and must therefore be compared to the 2440 and/or 2482 JBL units, and these are at the very top of the price range. In terms of distortion and sensitivity, it is equal to the best measured.

Next month, provided that we can get it together in time, we will evaluate the performance of horn flares as separate components, and depending upon the response obtained to our requests for samples, this may spill over into the April issue as well. After this, we will publish our first review of complete loudspeaker systems, and I must admit that I am looking forward to this particular exercise.



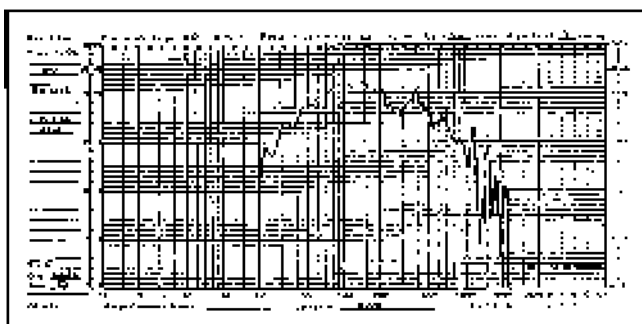
SPEAKERCHECK

ELECTROVOICE DH1012 RRP incl. VAT £277.75

Ser. No. 12280

Mounting: 1.3" Flange — 4 bolts, 0.25" x 20tpi, on 3.5" pcd.

Parameter	Manufacturer's Rating	Test Result
Power	60w RMS sine wave above 400Hz — short term	Not confirmed — see text
Distortion	Not stated	20% at equivalent sine wave power of 4w RMS, 30% at 60w RMS
Sensitivity	106dB @ 1w @ 10ft coupled to EV HR4020 horn	119dB @ 1w @ 1m averaged between 5.5—7 ohms
Resonance	Not stated	2KHz coupled to std. test horn
Impedance	8 ohms nominal	500Hz
Recommended c/o freq.	400Hz min.	500Hz
Useful freq. response	400Hz—10KHz (Essentially flat 400Hz—2.5KHz, with 6dB/oct rolloff to 6KHz, 12dB/oct rolloff to 10KHz, rapid rolloff beyond).	300Hz—10KHz @ -12dB — see graph



In appearance, this unit looks rather like a model tractor tyre. It consists of a massive, 7" diameter ceramic magnet carrying a 3" diameter aluminium diaphragm on its rear face, and enclosed by a cast alloy finned housing. It is very heavy and is of substantial construction. Unfortunately, the mounting arrangement does not conform to any standard practice, and as far as I am aware, only the Electrovoice HR series horns are directly compatible. For our tests, it was necessary to clamp the driver to our test horn and great care was taken to ensure accurate alignment and a good seal.

Performance-wise, it can be seen that apart from the high levels of distortion measured, the unit performed very well indeed. It returned the highest sensitivity figure yet measured, over a usefully wide bandwidth, and the maker's frequency response figures are, as usual, confirmed. Without doubt, it is the distortion figures which give the only real cause for concern with this unit. It is apparent from its performance at 60w sine wave that power handling capability itself is not a problem — the unit has an inherently high distortion figure, with substantial levels of third, as well as second harmonic overtones present. This is unusual for this manufacturer. However, for our reviews, we have adopted a distortion-related criterion, and on this basis the DH1020 does not come up to our requirements for confirmation of the maker's power rating. In all other respects, this is a very nice unit indeed, if somewhat expensive.

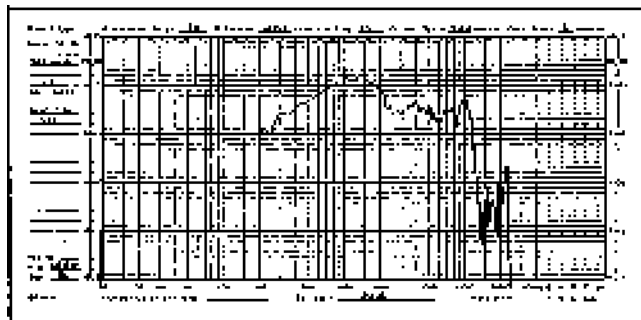
VITAVOX S3

RRP incl. VAT £156.00

Ser. No. 3425

Mounting: Screw thread — 2.62" x 16tpi

Parameter	Manufacturer's Rating	Test Result
Power	100w RMS pink noise above 500Hz	Confirmed at equivalent sine wave power of 10w RMS above 400Hz.
Distortion	Not stated	10% @ 10w as above
Sensitivity	118dB @ 1w @ 1m coupled to 200Hz horn	117dB @ 1w @ 1m averaged between 100Hz and 10KHz
Resonance	Not stated	1.5KHz coupled to std. test horn
Impedance	15 ohms	15-20 ohms
Recommended c/o freq.	Not stated	Above 400Hz
Useful freq. response	200Hz—15KHz unqualified	200Hz—12KHz @ -12dB — see graph



This unpretentious unit — not unlike a flying saucer in appearance — is essentially similar to the EV DH1012 in construction, except that the outer casing is of plastic and is bereft of fins or other cosmetics. It simply consists of a large and very heavy ceramic magnet assembly, to which is fitted a field-replaceable 3" diaphragm and a threaded throat coupling, which, as far as I am aware, is peculiar to Vitavox — although a variety of adaptors are available to enable the unit to be coupled to various more standard horn entries. The unit is of substantial proportions and is nicely made.

The measured sensitivity figure of 117dB is very good indeed and is among the best achieved — especially taking into account the large bandwidth over which the figure was averaged. The frequency response is also very good indeed and as the plot published shows, is nicely uniform over most of the useful range, though it falls a little short of the maker's upper figure. The unit confirmed the maker's power rating, and withstood subsequent sine wave tests at 20w RMS and 40w RMS without damage — although distortion increased to about 20% at the higher levels.

(The performance measured here is more in keeping with the performance I would expect from the S3, and it can only be assumed that the indifferent results published in the August 1978 Speakercheck, with the unit coupled to the Vitavox 4KHz horn, were obtained using a faulty S3 drive unit.)

This is without doubt a first-class compression drive unit from a British manufacturer, and represents excellent value at this price. It is equally suitable for use as a mid-range driver, or for high-frequency use, and can usefully be crossed over at any frequency between 400Hz and 4KHz, depending upon the characteristics of the horn flare with which it is used.

DAS M-300

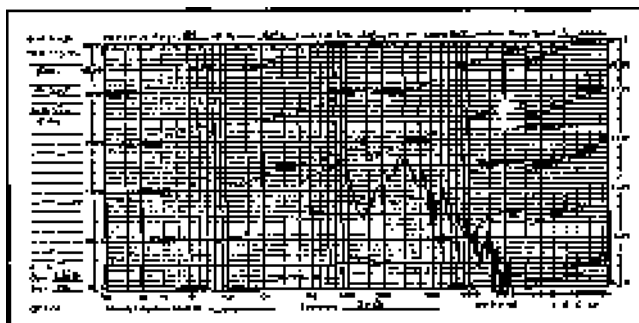
RRP incl. VAT £154.48

Throat Diameter: 1.3"

Mounting: Flange — 4 bolts, unspecified

Parameter	Manufacturer's Rating	Test Result
*Power	15w "continuous" 60w cont. music 150w peak	Confirmed at equivalent sine wave power of 6w RMS and at 15w RMS above 800Hz
Distortion	Not stated	10% @ 6w and 15w as above
*Sensitivity	107dB @ 1m input level not specified	103dB @ 1w @ 1m averaged between 2KHz and 5KHz
Resonance	Not stated	1.5KHz coupled to std. test horn
Impedance	8 ohms nominal	11-22.5 ohms
Recommended c/o freq.	800Hz or 1.5KHz implied	2KHz
Useful freq. response	800Hz—15KHz unqualified	1.5KHz—8KHz @ -12dB — see graph

*Qualification statement as in January '79 issue.



This Spanish-made compression drive unit is almost an exact replica of the standard JBL design, except that the mounting flange is of a non-standard pattern which is compatible only with DAS horn flares. It consists of a large Alnico magnet with a tapered hole through its centre, carrying a 72mm diameter diaphragm on its rear face. A large damped rear cover provides access to the diaphragm for easy on-site replacement. The unit is quite well made and finished and termination is by means of a pair of colour-coded plastic screw terminals. The non-standard mounting arrangement made it necessary for the sample to be assembled to our test horn by means of clamps and a gasket.

Although the unit confirmed the maker's power rating at both our 10 per cent of continuous rating level and at the maker's assumed 15w sine wave rating, the sensitivity was found to be very much down when compared to its competition and the frequency response fell very far short of the maker's claims. As can be seen from the response curve published, a massive 12dB dip, a whole octave wide, centred at about 1.4KHz virtually dictates that the crossover point must be raised to somewhere in the 2KHz region. However, from 3KHz, the unit exhibits a rapid roll-off in response of about 9dB/oct, and is 12dB down at 8KHz.

OK, so it is cheap by comparison with other units tested, but for my money, a better overall performance can be obtained with several of the low-priced integrated horns, selling at below £30 as reviewed in the August and September 1978 Speakercheck features. I really cannot envisage a useful application for a driver of the characteristics exhibited by the DAS M-300, especially at this price.

JBL 2482

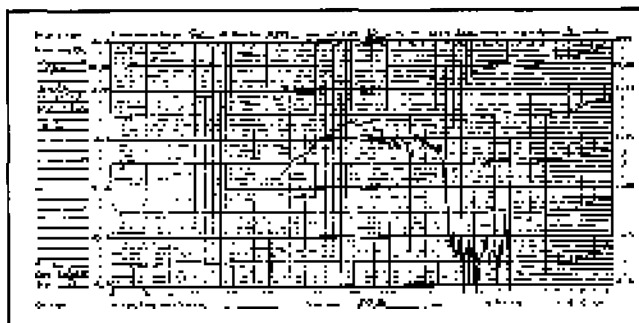
Net professional price incl. VAT

Ser. No. 18748

£291.60

Mounting: 2" flange, 4 bolts, .25" x 20tpi.

Parameter	Manufacturer's Rating	Test Result
Power	120w cont. prog.	Confirmed at equivalent sine wave power of 12w RMS above 300Hz
Distortion	Not stated	10% @ 12w as above
Sensitivity	118dB @ 1mW @ 30ft	111dB @ 1w @ 1m averaged between 500Hz and 5KHz — see graph
Resonance	Not stated	Not clearly defined
Impedance	16 ohms nominal	12-17.5 ohms
Recommended c/o freq.	300Hz minimum	500Hz
Useful freq. response	300Hz—6KHz unqualified	250Hz—6KHz @ -12dB — see graph





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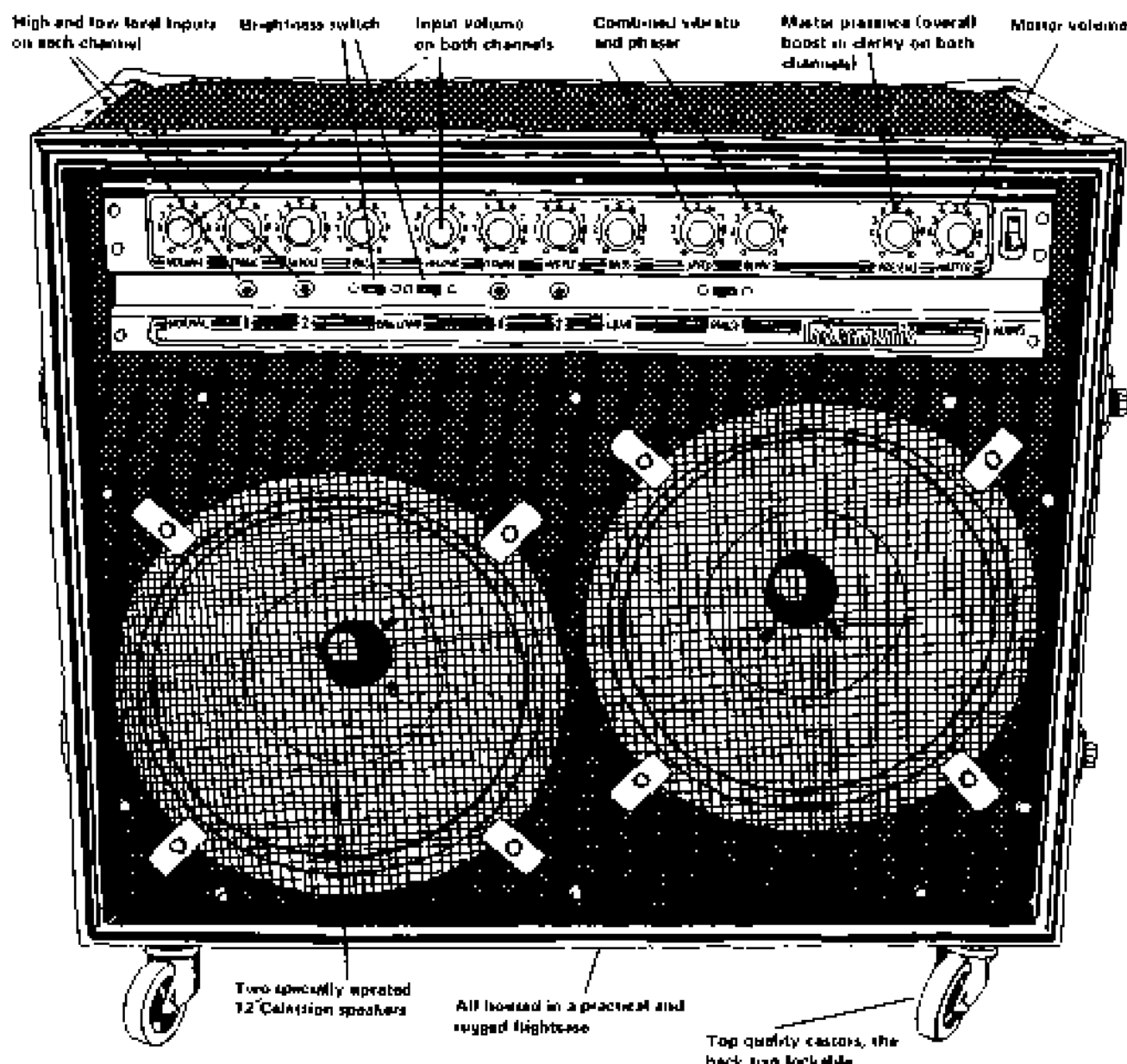
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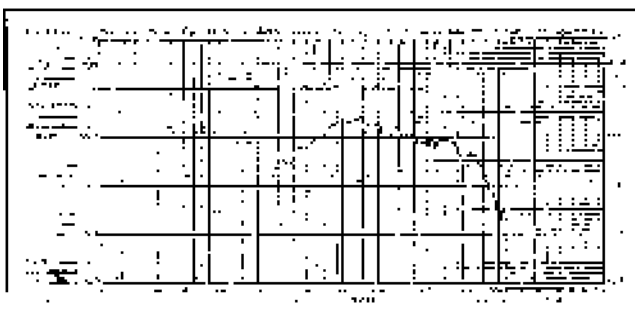
PA:CE Ltd., Knebworth Street, Royston, Herts.

*Exclusive of VAT

SPEAKERCHECK

JBL 2470 Net professional price incl. VAT
Ser. No. 12057 £172.80
 Mounting: 1" flange, 3 bolts, 0.25" x 20tpi

Parameter	Manufacturer's Rating	Test Result
Power	50w cont. prog.	Confirmed at equivalent sine wave power of 5w RMS above 500Hz
Distortion	Not stated	10% @ 5w as above
Sensitivity	117dB @ 1mW @ 30ft	108dB @ 1w @ 1m averaged between 600Hz and 6KHz — see graph
Resonance	Not stated	Not clearly defined
Impedance	16 ohms nominal	16.5–20 ohms
Recommended c/o freq.	500Hz minimum	800Hz
Useful freq. response	500Hz–12KHz unqualified	300Hz–11KHz @ -12dB — see graph



JBL 2440 Net professional price incl. VAT
Ser. No. 22165 £270.00
 Mounting: 2" flange, 4 bolts, 0.25" x 20tpi

Parameter	Manufacturer's Rating	Test Result
Power	60w cont. prog.	Confirmed at equivalent sine wave power of 6w RMS above 500Hz
Distortion	Not stated	10% — 6w as above
Sensitivity	118dB @ 1w @ 30ft	112dB @ 1w @ 1m averaged between 500Hz and 10KHz see graph
Resonance	Not stated	Not clearly defined
Impedance	16 ohms nominal	11.5-17 ohms
Recommended c/o freq.	500Hz minimum	800Hz
Useful freq. response	500Hz–12KHz unqualified	450Hz–10KHz @ -6dB — see graph



With just one exception, JBL have submitted a sample of every compression drive unit in their catalogue, and not to be outdone, we have risen to the challenge and reviewed the lot. In fact, we always get an enthusiastic response from this manufacturer to our requests for samples and usually we are invited to subject these products to any trial we care to impose and publish our findings whatever the outcome — such is the manufacturer's confidence in his own product. This confidence is generally justified, as previous results have shown, and the compression drive units submitted here are no exception. The general design and construction of all five units is virtually identical, and vary only in dimensions and materials used. Therefore, we have grouped them all together in a single, mammoth review.

The relatively large proportions of all these units is due primarily to the fact that the substance of their construction is a massive Alnico V magnet with a tapered hole through its centre. This, in all probability, also accounts to a large extent for the comparatively

high prices. The front face of this magnet is drilled and tapped to receive the mounting bolts and is fitted with a cork gasket for direct coupling to the throat of a horn flare. The rear face of the magnet carries the diaphragm assembly which, in the case of the 1" throat units, is 1.75" diameter, and on the 2" units, is 4" in diameter. All voice coils are wound with aluminium ribbon, and the diaphragm themselves — in the case of the 2410, 2420 and 2440 units, are also of aluminium, as these units are intended for wide-range applications. The diaphragm assemblies fitted to the 2470 and 2482 are of a phenolic impregnated linen, and these are intended for high power applications without the risk of diaphragm break-up. All diaphragm assemblies are easily replaceable on the road with just a screwdriver, and are self-aligning. A cast rear cover is fitted, which serves both to protect the diaphragm assembly and to provide an acoustically damped chamber in which the diaphragm operates. This basic mechanical arrangement has been derived from the compression

JBL2420**Ser. No. 40240**

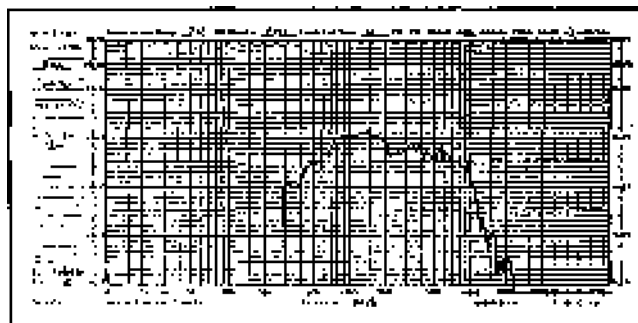
Mounting: 1" flange, 3 bolts, 0.25" x 20tpi

Net professional price incl. VAT

£172.80

Parameter	Manufacturer's Rating	Test Result
Power	30w cont. prog.	Just confirmed at equivalent sine wave power of 3w RMS above 500Hz
Distortion	Not stated	12% @ 3w as above
Sensitivity	118dB @ 1mW — 30ft	110dB @ 1w @ 1m averaged between 500Hz and 8KHz — see graph
Resonance	Not stated	Not clearly defined
Impedance	16 ohms nominal	8.5-14 ohms
Recommended c/o freq.	500Hz minimum	500Hz
Useful freq. response	800Hz—20KHz unqualified	300Hz—15KHz @ -12dB — see graph

RRP in

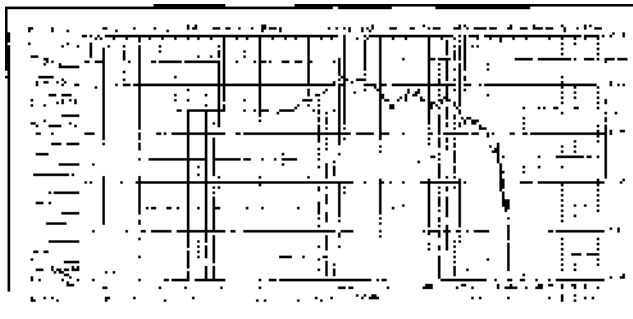
**JBL 2410****Ser. No. 4807**

Mounting: 1" flange, 3 bolts, 0.25" x 20tpi

Net professional price incl. VAT

£151.20

Parameter	Manufacturer's Rating	Test Result
Power	30w cont. prog.	Just confirmed at equivalent sine wave power of 3w RMS above 500Hz
Distortion	Not stated	12% @ 3 as above
Sensitivity	117dB @ 1mW @ 30ft	118dB — 1w @ 1m averaged between 500Hz and 8KHz — see graph
Resonance	Not stated	1.5KHz coupled to std. test horn
Impedance	16 ohms nominal	9-19.5 ohms
Recommended c/o freq.	500Hz minimum	500Hz
Useful freq. response	800Hz—15KHz unqualified	250Hz-15KHz @ -12dB — see graph



drive units used in cinema sound systems from the 1940s, and is one often adopted by other manufacturers. The overall engineering quality and standard of finish and presentation is to the usual, immaculate JBL standard, and in the JBL livery of grey crackle stove enamel. Termination in all cases is by means of a pair of colour-coded, spring retaining terminals, and the JBL 5-year professional products warranty applies to these units.

As can be seen from the results tables published and from the frequency response curves, all five units returned an excellent set of figures — the only possible room for improvement being in terms of second and third harmonic distortion. This aspect seems to be a problem with all drivers of this type, and none of the units tested in this category have shown distortion figures of less than 10 per cent. The frequency response curves are incredibly smooth over very wide ranges in every instance and sensitivity is of a very high order indeed. Note particularly that in the case of the 2440 we have been able to quote a useful

frequency response that to all intents and purposes, confirms the maker's figure at just 6dB deviation — as compared to the 12dB criterion usually permitted. Note that in most instances we have been unable to establish the system resonance with any accuracy. This is due to peculiarities on the measured impedance curve from which the resonance figure is taken. Although to a large extent the problems are outside the useful range, we have found resonances over a wide part of the frequency spectrum and without further investigation, cannot be reasonably sure as to which of these is the fundamental electrical resonance.

These are without doubt superb compression drive units, in terms of performance and manufacturing quality, and fully justify the prestigious reputation they hold. They are, however, very expensive, and one should justifiably expect something special at these prices.

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These days it's "fashionable" to bitch about high prices and the marginal quality of most "name brand" guitars, but "snob appeal" and lack of a viable alternative have enabled the "great corporate ripoff" to continue. Now, if you are a player who's interested in a unique blend of craftsmanship, caring, technology and are daring enough to actually pay less to get more of what you want, then I earnestly ask that you try our "labor of love".

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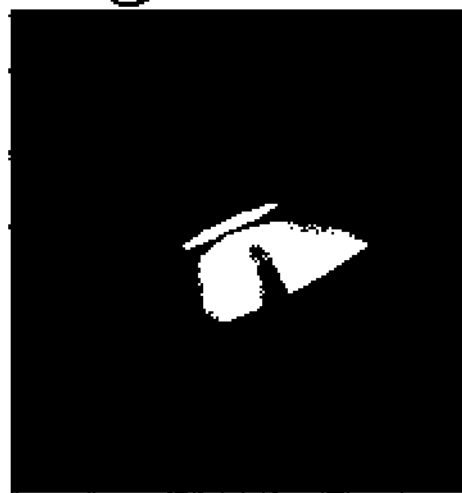
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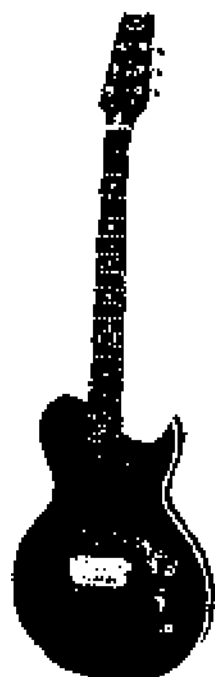
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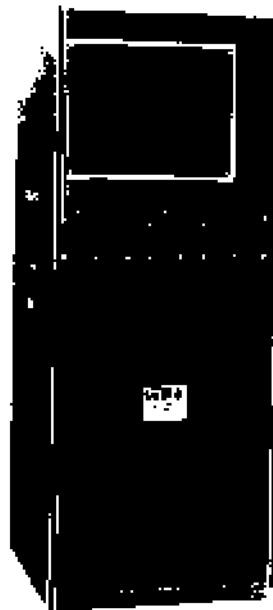
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Small Things

SOUP SADDLES AND NUTS

A seasonal conservation/
culinary tip from Stephen
Delft

The cold weather is the time for warming soups and for conserving ivory and elephants. The large leg bones of beef make an adequate ivory substitute for guitar nuts and saddles — and also make good soup.

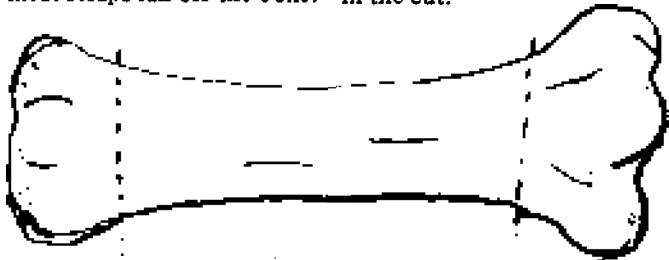
Stage 1. First find a proper butcher — not the meat department of a supermarket. Ask for a large leg bone of beef and ask the butcher to cut it, *not* in the middle but to cut the two knobbly ends off, leaving the straight middle piece intact. Given a choice, pick the largest leg bone with the longest and thickest straight centre section of bone. Take the largest saucepan you can find, and cover the bones with cold water. Bring to the boil and simmer for 1½ hours or until the meat scraps fall off the bone.

(For an extra-filling main course soup, add any veg. you may have about: potato, turnip, parsnip, swede, cabbage, etc. or you may add further meats such as cubed bacon, or sliced smoked sausage.) Simmer soup for ½ hour, season to taste and serve. Give knobbly ends of bone to dog.

Alternative Stage 3 for Vegetarians. Boil up marrow and end-pieces of bone and give to dog, pouring the gravy over dog biscuits.

Stage 4. Boil centre section of bone in clean water and washing soda (Sodium Carbonate crystals). Then boil it again in more clean water and soda. Then again in just clean water. Rinse and allow to dry. Inspect the ends and discount the porous bits.

Decide where to cut the bone in half, along its length, so that you will have the thickest and hardest bits intact for nuts and saddles. Hold the bone in a vice with wooden packing pieces and cut the bone with a hacksaw, using a sharp medium blade and soap rubbed on the blade to stop it sticking. Used blades are more likely to stick in the cut.



Stage 2. Remove centre section of bone and push and scrape the marrow out of the inside. Add to stock in saucepan: also scrape off all bits of meat which have not already fallen off the bone. Put cleaned centre section to boil in *another* saucepan, with washing soda or detergent, to clean and to remove grease.

Stage 3. Judith's Winter Soup. To the saucepan with the end pieces, meat scraps and marrow, add the following: ½ cup lentils, ½ cup pearl barley, 2 sliced carrots, 2 onions or leeks, 1 clove of garlic (optional), 1 bay leaf, 6 black peppercorns, 3 cloves, either celery leaves or parsley, either celery sticks or celeriac or root parsley (called Petrushka).

Smaller pieces can be cut from the bone with a "Junior" hacksaw. You may occasionally find a crack in a finished piece of work. All bones have occasional porous bits. Small cracks can often be fixed with a Cyanoacrylate adhesive such as Super-glue (UK) or Eastman 910 (USA). Both of these are capable of gluing your fingers together in seconds. Read the safety precautions on the packing and keep them away from children or from any adults who might not read the label before opening the bottle.

Enjoy the soup.



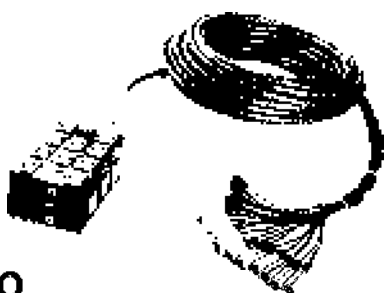
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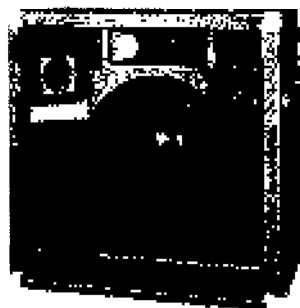
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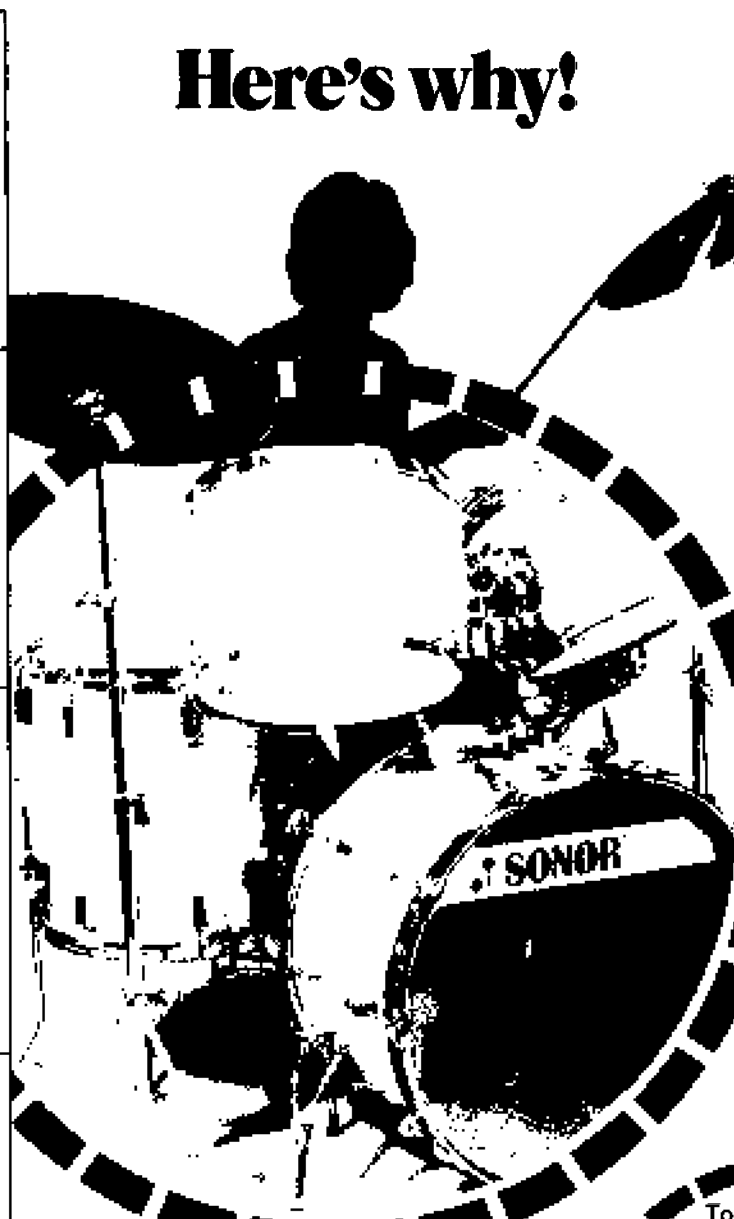
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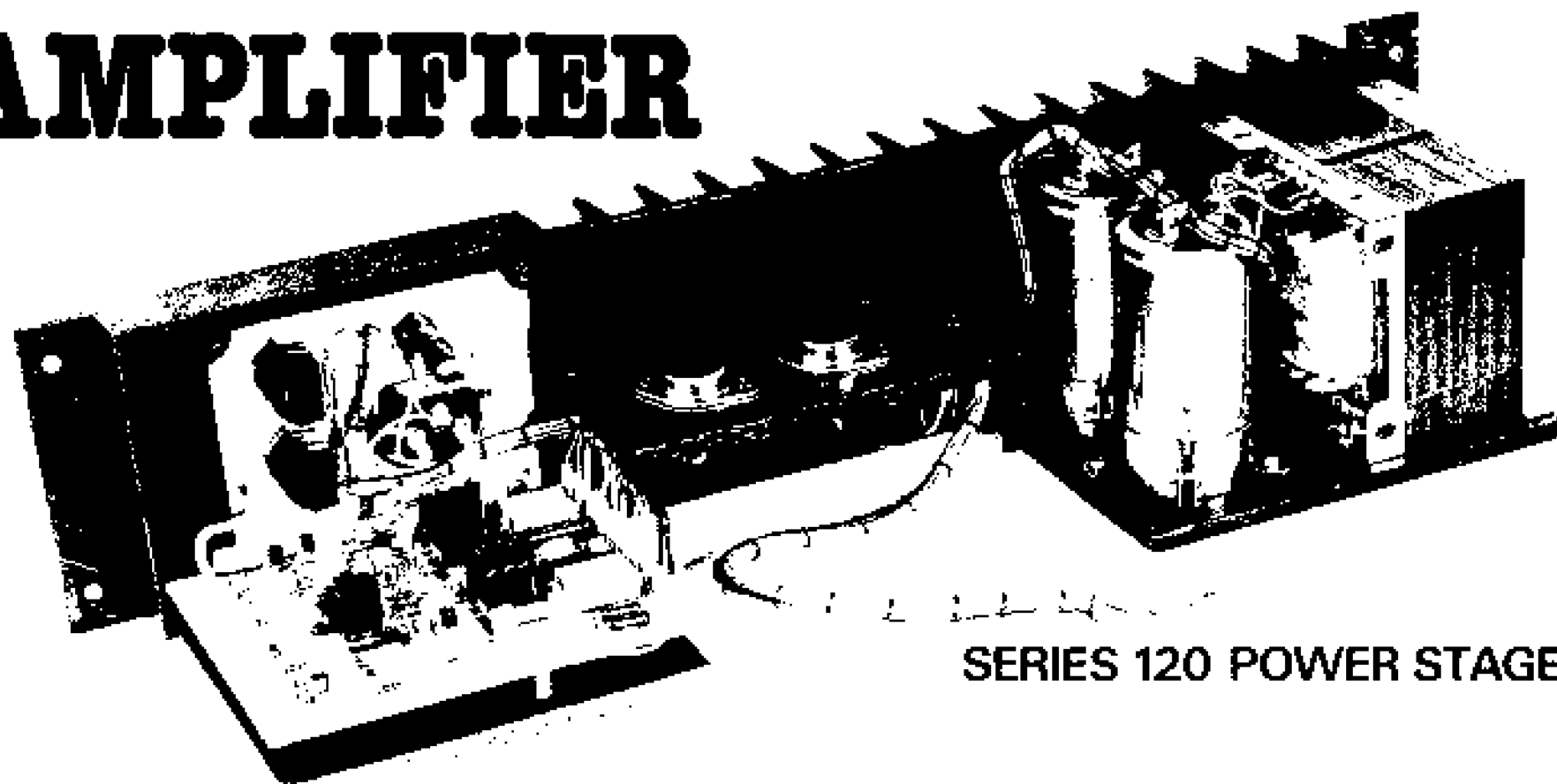
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The first of a new series by Mitch Holder

This being my first article for this magazine, I would like to extend my wishes that the material covered in this and future articles be both useful and informative to the serious guitar player. Since the guitar is such a diverse instrument, people who play it come from varied backgrounds, and the techniques of the instruments turn out to be very diverse as well. As a studio player myself, a wide variety of styles as they relate to the guitar have been presented to me, and the one thing that truly makes the guitar unique is that there isn't one way to play it.

My purpose is not to present you with absolutes on the instrument. Rather, it is to point the way to achieving for yourself a better understanding of the physical, musical and psychological aspects of playing the guitar. In future articles, I will be talking about such topics as left and right hand technique, melodic considerations, rhythmic considerations, improvisation, improving reading skills and achieving musicality in all aspects of guitar playing, while also delving into areas such as amps and modifications, effects ("toys" as they are more affectionately called), studio techniques and the different types of guitars and fretted instruments needed in that area.

In this article, I would like to discuss a topic which many musicians (not just guitar players) tend to overlook: sound. Have you ever heard a soloist play and be dazzled by marvellous technique but realise that something was missing, that you should have been moved more than you were? Nine times out of 10, the sound was not appealing — not that a musician shouldn't be free to express the sound he hears, but possibly he never took the time to learn where the sound comes from and how to control it.

Let's talk first about producing sound and the main control of it, the right hand. Whether you play with a flat pick, finger picks or classical style, the action of your right hand has complete control over your sound. This includes electric playing too, because no amount of equalizing can cover up a weak basic sound from the instrument.

Let's try an experiment. Play a Bb on the third string, third fret, and pluck it using whichever right hand technique you are comfortable with. Notice very carefully how your fingernail and flesh of your finger, or the pick, come across the string. For a solid, full sound, your pick or nail should strike the string at an even angle, i.e. the entire area of the pick should be in contact with the string. In classical technique, the fingers should come across the strings at very close to a perpendicular angle. Keep in mind the sound you have achieved.

Now, let's see how altering that angle affects the sound. If you're using a pick, tilt your thumb and index finger so that only the right side of your pick comes into contact with the string. If you play using classical technique, tilt your index finger in the same way so that just the bottom part of the nail strikes the string. What do you notice about the sound? There probably is a lack of the roundness of the sound and at the same time it has taken on a different texture than before. Now do the opposite, that is, tilt your fingers so that the left side of the pick is striking the string. What happens now? You get more of a nasal, softer sound. You can do this with your fingers too, and get much the same results.

In classical technique, the right hand, remember, is the main source of the produced sound (with due justice to the instrument, of course). For basic playing technique, in either style, you should strive for the first approach



I have described. The other two, in some cases, may be used to create different sound effects. For example, you may want to use the side of the pick to dig in more and get a "bluesier" sound, or to make a passage of music quieter and more nasal sounding, as in a ballad or solo piece.

Another aspect of the right hand is the amount of attack given to a note or chord. You may strike a particular note hard and give it more edge as well as volume or strike it softly to produce a soft, warm sound. With electrics, you may use the amplifier volume to affect the attack. Keeping the amp volume a little higher than you would normally need gives you great control over sound as well as giving you "head room". This means that you have more power than you need coming out of the amp, but the sound will be good because you're not straining your technique by playing harder than is necessary, nor is the listener straining to hear what you're doing. By giving yourself head room, you can get louder *if you have to* without hassling with controls. This allows you to concentrate on the music and control dynamics with your right hand.

Since sound is such a relatively abstract subject, you may have been wondering as you've been reading this just what exactly a good sound should be. This is completely up to the individual and what is a great sound to one person is terrible to someone else. Let's face it, there's no way to get around this. All you can do is strive for a sound that is pleasing to you. Once you have survived the obstacles and pitfalls of playing the guitar in the first place, you will develop a definable sound. It does, however, take much experimenting to find out what it is you do like and how to achieve it.

Something to consider, and this is something I've learned from doing studio work, is that no matter what style of music you're playing, if you have the right sound you're three-quarters of the way to doing a great job. In any case, take some time and think about your own ideas about sound and how to control it to enhance your music.

I hope some of the ideas presented here will give you food for thought and help in the everlasting learning we're all involved with concerning the mastery of the guitar. Good luck and see you next time.

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

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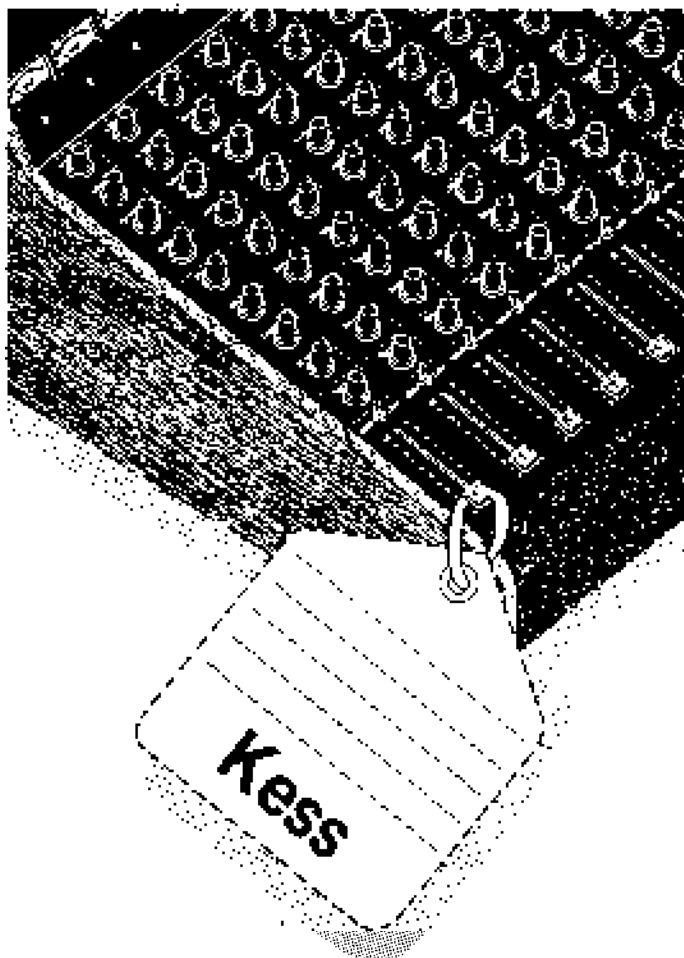
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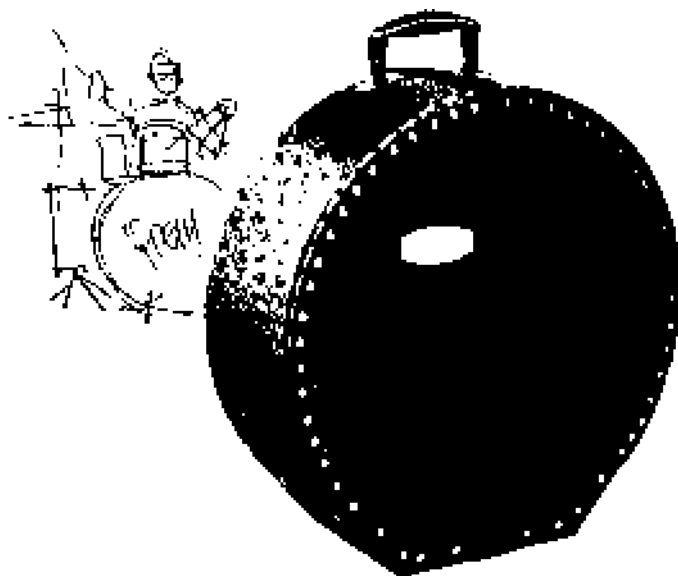
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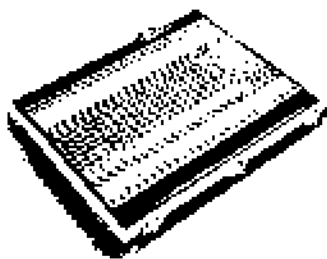
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Die Firma Colin Barratt "Exports in Sound" ist Fabrikant und Grosshändler und stellt wiederum eine grosse Auswahl an neuen Instrumenten aus: Verstärker, Trommeln, Schlagzeug, Saiten und Effekteinheiten.

Zur Auslage gehört auch eine neue Serie von Carlsbro Ton-



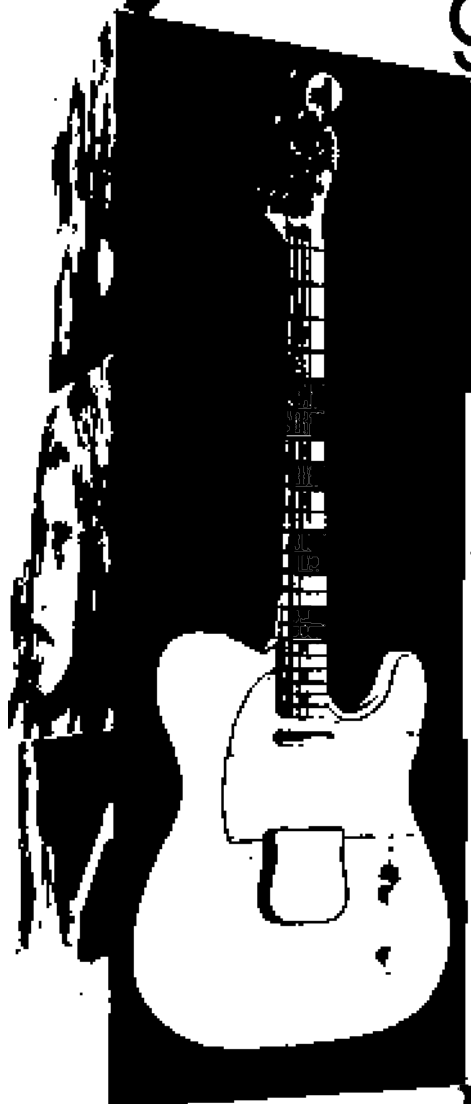
anlagen, die 150 Watt Kombos für Gitarren und Keyboards umfassen. Ferner wird gezeigt: ein neues super-elektronisches Echogerät, neue Effekteinheiten, ADT, Chorus, neue Stereo Fremdsynchronisation, grafische Einheiten, Einfassungen und Sprecherzargen in neuer Ausführung.

Erstmalig werden in Grossbritannien hergestellte Atlanta Drums vorgeführt. Diese Qualitätsinstrumente weisen die einmalige "Sound Edge" ("Tonkanten") Herstellungsmethode auf, die die Lautstärke steigert.

Auf dem Stand heissen Colin und Susan Barratt alle Besucher willkommen.

Colin Barratt, fabricants et grossistes pour "les Exportations en Sonorisation" présentera une fois de plus toute une gamme d'instruments nouveaux: amplificateurs, tambours, percussion, cordes et unités à effets.

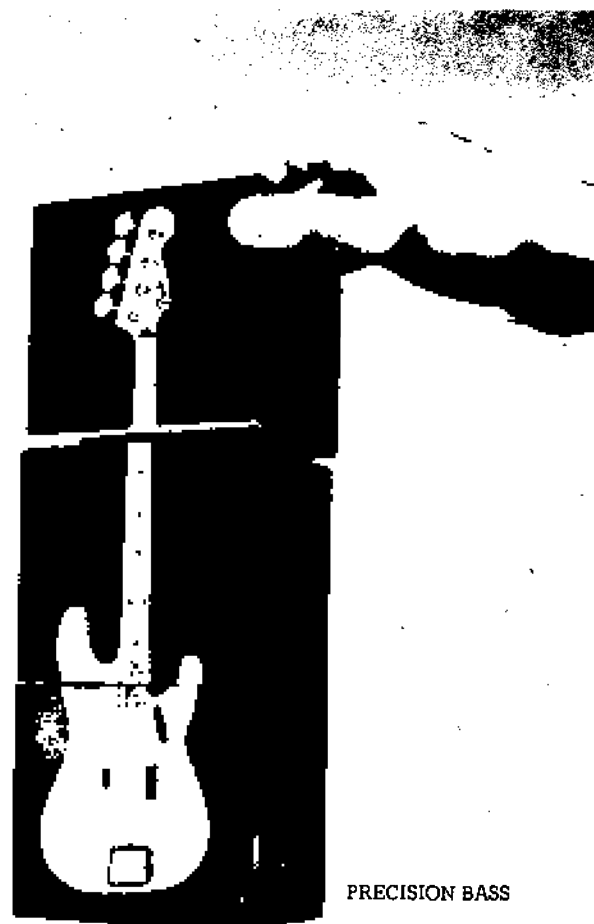
Fender legte den grundstein des rock



TELECASTER



STRATOCASTER



PRECISION BASS

Überlegen sie einmal, was Fender für sie tun könnte

Schon in der allerersten Zeit des Rock & Roll waren Fender-Gitarren führend. Telecaster – die erste elektrische Gitarre der Welt mit massivem Rumpf – wurde bereits in den frühen 50er Jahren von Fender hergestellt und ist auch heute noch die meistbenutzte elektrische Gitarre der Welt. Das ist ein Kompliment an die Qualität, das Design, die Konzeption und die Verarbeitung dieser Gitarre. Heute wird die Telecaster durch eine Serie anderer Gitarren der Fender-Familie ergänzt, wie beispielsweise die Stratocaster mit ihrem einzigartigen geschwungenen Rumpf, der in der ganzen Welt als die Fender-Form bekannt ist.

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50449
FRANKFURT FAIR 1979



GITARREN

Durch die drei speziellen Fender-Pickups erhalten Sie den bekannten Stratocaster-Klang mit dem gewissen Etwas. Und die Präzisions-Bassgitarre – grossartige Leistung – grossartiges Aussehen. In der heutigen schnellebigen Zeit der Superstars, die über Nacht berühmt werden und ebenso schnell wieder verschwinden, mag Fachtuchtigkeit unnötig erscheinen. Bei Fender wird sie immer noch gross geschrieben. Darauf beruht der gute Ruf von Fender. Jetzt, da diese solide Grundlage besteht, kann Fender Ihnen helfen, Ihren Ruf aufzubauen

IN ANY LANGUAGE-
The Best!

FRANKFURT 79

On pourra également voir à Francfort une nouvelle gamme d'équipement sonore Carlsbro inclure des combos à 150 watts pour guitare et clavier. On verra un nouvel Echo superélectronique ainsi que de nouvelles unités d'effets AD1 et Chorus. On verra de même à l'étalage de nouvelles unités graphiques et auxiliaires stéréo ainsi que des coffrets redessinés.

Les tambours Atlanta fabriqués au Royaume-Uni seront présentés pour la première fois. Ces tambours de qualité supérieure sont réalisés selon un procédé de fabrication exclusif à bord sonore qui accroît vraiment considérablement le volume du son.

Colin et Susan Barratt accueilleront tous les visiteurs au stand de la firme.

Colin Barratt 'esportis-suoni', fabbricatrice e grossista, introdurrà nuovamente un'intera gamma di nuovi strumenti: amplificatori, tamburi, percussioni, corde e unità-effetti. A Francoforte verrà anche esibita una nuova gamma di attrezzature sonore Carlsbro includendo i Combos 150 watt per chitarra e tastiera. Verrà anche mostrato un nuovo super Eco elettronico ed anche nuove unità-effetti ADT e Chorus. Inoltre verranno esibiti dei nuovi schiavi stereo ed unità grafiche.

Saranno mostrati per la prima volta i tamburi Atlanta, costruiti nel Regno Unito. Questi tamburi d'alta qualità presentano il metodo unico di fabbricazione "sound edge", il quale aumenta notevolmente il volume del suono. Colin e Susan Barratt daranno il benvenuto a tutti i visitatori al loro stand.

L'attrazione della mostra Barratts sarà la gamma di chitarre-basso Wal Pro fabbricate dalla Electric Wood Ltd., per le quali Barratts di Manchester ha l'esclusività di distribuzione. Questi strumenti altamente acclamati sono disponibili con "pick ups" (riproduttori acustici) singoli o doppi, "Active Electronics" (elettronici attivi) e facilità DI. Le chitarre Pro Bass sono disponibili in una scelta di undici rifiniture e con l'opzione di tastiera con o senza fret.

Alla Fiera vi saranno i signori Adrian F. Barratt, Ray Grand, Ian T. Waller e Derek Morris.

Colin Barratt.
8 "Hayfield Road",
Cheddle, Halton, Cheshire.
電話 (061) 485 1007.
Colin Barratt は「音の輸出」を
モットーに今年も、アンプリファイ
ドラム、打楽器、弦、効果ユニットを

と新しい全製品を発表します。カール
スプロ サウンド装置の新しいモデル
として、ギター及びキーボード用の
150ワット コンボもフラン克福ルトに出品
されます。新しいスーパー エレクトロニック
エコー及び ADT 及び コーラス の効果
ユニット、更には 新しいステレオ スピー
ク及び クラシック ユニットの、それに、ス
テールの変更した キャビネットなども展示
されます。

イギリスで作られた、ドラムドラムは
初めて出品されます。この高級ドラム
は、ユニークなリムと、エッジが
採用されており、音量が非常に増加
します。これをおさなうものとして、カステ
ル、ビョリー、シデなどの各種のロイ
ヤルドラム、スティック、ムービー、シン
バルなどがあります。

リョー、チェイス 弦のほか、フロム ステ
リス スチールの新しい「ハワ」バス、エ
レクトリック バス、ギター、セットが出品さ
れます。一方カラーサウンドとエコー効果
は、ギタリストが バス、ギター、用にも
音楽は同様の テキスツが、得られ
るホーカイザーなど、5-6の新モデル
を展示します。エコー及び ジェネレーター
ユニットは、カラーサウンド フラットには
新しいもので、エコー効果は、ミキ
サー モデルと拡大した クラシック 均
等装置のある 16/チャンネル モデルと
それに含まれています。

Colin Barratt が フラット
に出る全訪問者を歓迎します。

Barratts of Manchester Ltd.,
652 Chester Road, Old
Trafford, Manchester
M16 0RX.

Tel: (061) 872 0713.

The feature of Barratt's display will be the range of Wal Pro Bass guitars manufactured by Electric Wood Ltd., for which Barratts of Manchester are the sole distributors. These highly acclaimed instruments are available with single or double pickups, Active Electronics and DI facility. Pro Bases are obtainable in a choice of eleven finishes and with the option of fretted or fretless necks.

In attendance at the fair will be Adrian F. Barratt, Ray Grand, Ian T. Waller and Derek Morris.

Im Vordergrund der Barratt Auslage steht die Wal Pro Bassgitarrenserie, die von Electric Wood Ltd. hergestellt und von Barratts allein vertrieben wird. Diese hochbewerteten Instrumente sind mit einfachen oder Doppeltonabnehmern, Aktiver Elektronik und Direkt-einführung erhältlich, und können in 11 verschiedenen Verarbeitungen, mit oder ohne Bünde, geliefert werden.

Auf dem Stand befinden sich Adrian F. Barratt, Ray Grand, Ian T. Waller und Derek Morris.

L'élément principal de l'étalage de Barratts sera la gamme de guitares Wal Pro Bass fabriquées par Electric Wood Ltd., dont la maison Barratts de Manchester est le distributeur exclusif. Ces instruments extrêmement appréciés existent avec capteurs simples ou doubles, Active Electronics et

facilité DI. Les Pro Bass existent en un choix de onze finis avec un choix de manches avec ou sans frettes.

La permanence à la Foire sera assurée par Adrian F. Barratt, Ray Grand, Ian T. Waller et Derek Morris.

バラツツ オフ マンチスター リミテッド
652 チェスター ロード、オールド・トラ
フォード、マンチスター M16 0RX
電話 (061) 872 0713

バラツツ社の展示の主力は、同社が
総代理店をしているエレクトリック
ウッドリミテッド製造のウォルプロ
バス、ギターです。この好評のギター
は、シングルまたはダブルピックアップ、
エレクトロニック及び DI 装置のものか
があります。フロバス、ギターは、11種の仕
上げのもの、及びフレット、ネックまたは
フレットなし、ネックのものがあります。
バラツツ社製造の「行進バンド」系
器も展示され、デュニエル、オ・ナフル
カバリー、トランペットの全モデルも出
品されます。シンバルまたは明るい
銀メッキで美しく仕上げられた、マウ
スピース及びケース付新モデルもあり
ます。

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防省で使用され、これは、現在イ
ギリスの多くの行進バンドで広く使
用されている新しい、変形ドラムスト
ンペットと共に展示されます。

ショーには、アドリアン F. バラット、
レイ・グランド、イアン・T. ウォラー、及び
デレック・モリスが出席します。

**Boosey & Hawkes (Musical
Instruments) Ltd.,**
Deansbrook Road, Edgware,
Middlesex HA8 9BB.
Telephone (01) 952 7711.

At this year's Spring Fair Boosey & Hawkes will launch a 'Year of Europe' to include not only their sole distributors in Switzerland, Norway and Sweden, but also the 13 European markets where the company is successfully selling to established dealer networks. One of the principal themes at Frankfurt will be their European Main Dealer Programme, which is a unique concept and aims at giving much closer support to dealers.

On the stand will be Jacob Kahn and a complete team of experts.

Auf der diesjährigen Frühlingsmesse wird die Firma ihr "Europa-jahr" lancieren, was nicht nur ihre Alleinvertriebsgesellschaften in der Schweiz, Norwegen und Schweden einbeziehen soll, sondern auch 13 andere europäische Gebiete umfassen wird, in denen die Firma ihre Produkte durch bekannte Handelsvertretungsnetze mit Erfolg absetzt. Eines der Hauptthemen in Frankfurt wird sich mit dem europäischen Vertriebsfirmenprogramm befassen, dass auf bedeutend engere Zusammenarbeit mit den Vertretungen gezielt ist.

Auf dem Stand befinden sich Jacob Kahn und seine Experten.

A la Foire de Printemps de cette année, Boosey & Hawkes lancera une "Année Européenne" intéressant non seulement ses distributeurs exclusifs en Suisse, Norvège et Suède mais aussi les 13 marchés européens où la firme vend avec succès à des réseaux de concessionnaires établis. L'un des principaux thèmes à Francfort sera le programme des principaux concessionnaires européens qui est basé sur un concept unique en son genre et vise à fournir une assistance beaucoup plus soutenue aux concessionnaires.

La permanence au stand sera assurée par Jacob Kahn et une équipe complète d'experts.

Alla Fiera primaverile di quest'anno, la Boosey & Hawkes lancerà un "Year of Europe" ("Anno d'Europa") per includere, non soltanto i suoi esclusivi distributori in Svizzera, Norvegia e Svezia, ma anche nei 13 mercati europei dove la compagnia sta vendendo con successo a stabilite reti di negozianti. A Francoforte uno dei principali soggetti sarà il suo programma per i principali negozianti europei, il quale è un concetto unico e mira a dare un supporto più grande ai negozianti.

Allo stand vi sarà il Sig. Jacob Kahn ed una squadra completa di esperti.

ブーシー・アンド・ホークス (ミュージカル
インストルメント) リミテッド
ディーンズブルック ロード、エッジワ
ー、ミッドセックス HA8 9BB.
電話 (01) 952 7711

今年のスプリング フェアでは、同社は
今年の「ヨーロッパ」を発売します。
これには、スイス、ノルウェー及びスウェ
ーデンの総代理店だけでなく、同社
が「ディラー ネットワーク」を構築した他
の13のヨーロッパ市場も含まれます。
フラン克福ルトの主なテーマの一つは
「ヨーロッパ ディーラー プログラム」で
、これは、ディーラーにより 密な支持
を受けることを目的としたユニークな
アイデアです。

ショーには、フルート モデルに加えら
れる新しい「カーバー」ヘッドが出品
されます。有名なフルートのデザイナーで
ある アルバート・カーバーは、フルートの
大家、ジェームス・ゴッルウェイの使用す
る楽器を作り、フルート作りの世界
最高のオトリの一人に数えられ
ています。更に、新しい「ソベリン」バ
リトン、新しい「スタジオ」906 トラン
ペット、バンド トロンボーン、新しい
ラッパ、トランペット、B♭、E♭、エンペ
ラクション、新しい、チニス、ウィック
マウスピース、同社がヨーロッパの総
販売権をもっている高級 アランジェ
(オロスコ) ギターの新しいモデルな
どが展示されます。
スタジオには、ジェイコブ・カーン及び
専門家チームが出席することになっ
ています。

**Bose (UK) Ltd., Milton Regis,
Sittingbourne, Kent.**
Telephone 0795 75341.

The company, with headquarters in Massachusetts, USA, manufacture electronic equipment of the highest quality. They have subsidiaries in 8 European

FRANKFURT 79

countries and are particularly well-known for their unconventional loudspeaker systems.

At the Fair they will be showing the new 802 System and hope to arrange an audiovisual presentation of this unit. Also prominently displayed will be the 1800 Amplifier and the new 6-channel PM2 power mixer which may be used in conjunction with the XM6 extra mixer to add a further 6 channels.

On the stand will be Ulrich Kremp, Jacky Hornstadt, Barney Hesse and Monica Schmitt.

Die Firma hat ihren Stammsitz in Massachusetts, USA, und ist Hersteller von elektronischen Anlagen und Apparaten der besten Qualität. Tochtergesellschaften bestehen in 8 europäischen Ländern, und die Firma ist besonders bekannt für ihre ungewöhnlichen Lautsprecher-systeme.

Auf der Messe wird die Firma ihr neues 802 System ausstellen und hofft eine Vorführung darbieten zu können. Auch betont wird der 1800 Verstärker und der neue 6-Kanal PM2 Hochleistungsmischer, der sich mit dem XM6 Zusatzmischer verwenden lässt, und damit 6 weitere Kanäle verfügbar macht.

Auf dem Stand befinden sich Ulrich Kremp, Jackie Hornstadt, Barney Hesse und Monica Schmitt.



La firme dont le siège social est dans le Massachusetts, USA, fabrique de l'équipement électronique de qualité supérieure. Elle a des filiales dans 8 pays et elle est particulièrement réputée pour son système de haut-parleur peu conventionnel.

A la Foire, la firme présentera son nouveau système 802 et espère organiser une présentation audiovisuelle de ce modèle. On pourra également voir en bonne place l'amplificateur 1800 et le nouveau mélangeur supplémentaire XM6 pour ajouter encore 6 canaux.

Ulrich Kremp, Jacky Hornstadt, Barney Hesse et Monica Schmitt seront au stand.

La compagnia, che ha la base nel Massachusetts, USA, fabbrica attrezzatura elettronica di altissima qualità. Ha delle compagnie consociate in 8 paesi europei ed è particolarmente ben conosciuta per i suoi non-convenzionali sistemi d'altoparlanti.

Alla Fiera mostrerà il nuovo sistema 802 e spera di predisporre una presentazione audiovisiva di questa unità. Prominentemente in mostra vi sarà anche l'amplificatore 1800 ed il nuovo mescolatore di potenza a 6 canali PM2, il quale potrà essere usato unitamente al mescolatore extra XM6 per aggiungere altri 6 canali.

Allo stand saranno presenti Ulrich Kremp, Jacky Hornstadt, Barney Hesse e Monica Schmitt.

ボース (イギリス) リミテッド、ミルトン リー、システム・フォーン、セント・ジョンズ、電話 0795 75341

米国マサチューセッツに本社のある同社は、高品質エレクトロニクス装置のメーカーです。同社は、ヨーロッパ全地域に子会社をもち、従来のものとは異なるサウンド・システム・メーカーとして 特に出回っています。

ショーでは、新しい 802 システムを展示し、このユニットについてのフィルムを上映することを考えています。更に力を入れている製品としては、1800 アンプリアイア及び新しい 6 チャンネル PM2 パワー・ミキサーで、これは、更に 6 チャンネルを加えるため、XM6 エキストラ・ミキサーと関連して使用することになります。

スタンドには、ウルリッヒ・クレンプ、ジャッキー・ホーンスタット、バーニー・ヘッセ及びモニカ・シュミットが出ます。

British Music Strings Ltd., Pontygwindy Industrial Estate, Caerphilly, Wales.
Tel: (0222) 883904.

The Company's range of international music strings will be on show. Sound City in its distinctive new packaging, Londoner, St. David, Summit and Cathedral, presents its range of violin, cello, viola and double bass strings in metal or gut. Sound City will also be exhibiting its new Selector Gauge dispenser. The Phoenix range of amplification features the 100 watt amp with valves, with or without reverb, plus a slave unit. Speakers for this unit include 2x12 or 1x15, and the amp is for lead or bass guitar work.

Showing for the first time at Frankfurt will be the new 150 watt PA system, which is a 5-channel unit and includes fold-back on each channel plus matching speakers, and a new 70 watt valve combo.

On the stand will be George Oszeicher, Roger Clyne and the well-known international guitarist John Verity.

Die Firma führt auf der Messe ihr Programm an Internationalen Musiksaiten vor. Sound City, in der neuen, auffallenden Packung

von Londoner-St. David-Summit-Cathedral stellt die Serie für Violine, Cello, Viola und Kontrabass aus Metall oder Darm aus. Sound City bringt ebenfalls ihren neuen Selector Gauge Dispenser (Kaliberauswahl-Verteiler) auf die Messe. Die Phoenix Verstärker-serie betont den 100 Watt Röhrenverstärker, mit oder ohne Nachhall, und einer Fremdsynchronisierungseinheit. Die Sprecher für dieses Gerät umfassen 2x12 oder 1x15 und der Verstärker dient Lead oder Bass-Gitarre.

Zum ersten Mal in Frankfurt wird das neue 150 Watt PA System gezeigt, eine 5 Kanal Einheit mit Fold-Back (Rückklappbar) auf jedem Kanal und angepassten Lautsprechern. Ebenfalls noch nicht auf der Messe gesehen ist die neue 70 Watt Röhrenkombo.

La firme exposera sa gamme internationale d'instruments à cordes: Sound City sous sa nouvelle présentation de grande classe, Londoner, St. David, Summit and Cathedral, représentera sa gamme de violons, de violoncelles, d'altos et de contrebasses avec cordes métalliques ou boyau. Sound City présentera également son nouveau distributeur Selector Gauge. La gamme d'amplification Phoenix comporte l'amplificateur de 100 watts avec valves avec ou sans réverbération plus une unité asservie. Les haut-parleurs de cette unité comprennent 2 x 12 ou 1 x 15 et l'amplificateur est prévu pour première guitare ou guitare de basse.

On pourra voir exposé, pour la première fois à Francfort, le nouveau système de diffusion publique à 150 watts qui est un modèle à 5 canaux et comprend le repli sur chaque canal plus des haut-parleurs assortis et un nouveau combo à valve de 70 watts.

Sarà esibita la gamma internazionale di strumenti a corda di questa compagnia. "Sound City" nella sua nuova confezione caratteristica, "Londoner", "St. David", "Summit" e "Cathedral" presenterà la sua gamma di corde di metallo oppure di budello per violino, violoncello, viola e contrabbasso. La "Sound City" esibirà anche il suo nuovo distributore "Selector Gauge". La gamma di amplificazione "Phoenix" presenta l'amp di 100 watt con valvole, con o senza riverb., più una unità schiava. Gli altoparlanti per questa unità includono 2x12 o 1x15 e l'amp è per l'utilizzazione con chitarra o chitarra basso.

In esibizione per la prima volta a Francoforte sarà il nuovo sistema PA 150 watt, il quale è un'unità di 5 canali con reazione su ogni canale più alto-parlanti corrispondenti, e un nuovo combo valvola 70 watt.

フリアッシュ ミュージック ストリングス リミテッド、ロンドン・サマイト・カテドラル・インストロアル・エス・ティート、カース・リ、ウェールズ。同社の国際的な弦楽器・ショーに出品されます。サウンド・シティは、ロンドン・セント・デヴィッド、サマイト及びカテドラルの新しいパッケージで、金属またはガットのバイオリン、チェロ、ヴィオラ、コントラバスの弦を展示します。サウンド・シティはまた、新しいセレクター・ゲージ・ディスペンサーを出品します。フェニックス・ブランドのアンプリフィケーションは、バルブ付の 100 ワット・アンプ、リバーブ・ユニット、それに スピーカー・ユニットがあります。このユニットのスピーカーは、2x12 または 1x15 で、アンプは リードまたは バス・ギター用です。

Frankfurtではじめて展示されるものとでは、各々のチャンネルのホルドバック・リミッティング・スピーカーのある 5 チャンネル・ユニットの新しい 150 ワット PA システム及び新しい 70 ワット バルブ コンボがあります。両ユニットとも、お求めやすい価格で提供されます。BMS はまた、技術提携により製造している新しい シンセサイザーと出品します。これは本体が成型カゴで

Brodr Jorgensen, Great West Trading Estate, 983 Great West Road, Brentford, Middx. TW8 9DN.
Tel. (01)-568 4578.

Brodr Jorgensen of Copenhagen has the European distribution rights for Roland Products of Japan and will once again be bringing many new products to Frankfurt. Pride of place must go to the Roland Jupiter 4 (JP4) polyphonic synthesizer which has 10 preset voices and the facility to program a further 8 of your own voices.

Also strongly featured is their new MP600 piano. The 64-note keyboard is a completely new design of mechanical action requiring practically no maintenance or adjustment. Roland's new rhythm unit CR68 again introduces micro processors and a new concept - accent. This allows you to program a variable amount of accent on separate individual beats.

On the stand will be A. Jorgensen and Brian Nunney.

Brodr-Jorgensen von Kopenhagen besitzt die europäischen Vertriebsrechte für die japanischen Roland produkte und wird wieder eine Reihe neuer Anlagen und Geräte auf die Messe bringen.

Im Vordergrund steht der Roland Jupiter 4 (JP4) vielschreiber Synthesizer mit 10 festen Stimmbändern und der Vorrichtung 8 weitere Stimm zu programmieren.

Ein weiteres neues Keyboard Gerät ist der RS505 Synthesizer, der gleichzeitig eine Stereo-Synthesizer und getrennte Tiefton Abgabe ermöglicht. Stark betont wird auch das neue MP600 Klavier. Die Tastatur ist ein ganz neuer Entwurf maschineller Funktion, der kaum Instandhaltung oder Abstimmung bedarf. Roland's neue Rhythmus-einheit CR68

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- ㉓ ROGERS ㉔ BOSE ㉕ PAISTE ㉖ TOSCO ㉗ ZILDJIAN
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INSTRUMENTS

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FRANKFURT 79

mit Ivor Arbiter, Andrew Wallace, Reg Clark (GB); Helmut Koster, Holger Alker u. andere (Deutschland); Henry Gilbert u. Julie Sliva (USA).

Au stand principal, on mettra l'accent cette année sur les produits nouveaux. Pour 1979, les orgues Gulbransen seront présentées dans le théâtre du "Mode Musical de CBS", les démonstrations étant assurées par Stuart Day et Don Kingston. On pourra voir Fender/Rogers/Rhodes et notamment de nombreuses lignes nouvelles dont les détails seront divulgués aux clients à la Foire.

Vox Sound Ltd. n'aura pas son stand habituel dans le secteur britannique mais Erik Kendrick et Ray Haynes seront au stand de CBS/Arbiter dans le Hall 5. On pourra voir au stand des modèles établis comme le Top Boost AC 30, l'Escort à alimentation secteur/piles AC 50, AC 120, les SS 30 et AC 30 ainsi que de nouveaux produits dans la suite de réception à l'hôtel CPR juste en face de la Foire. On pourra également voir un nouvel Escort 100/120 transistorisé à un prix très compétitif.

La permanence au stand sera

assurée par une équipe de dirigeants comprenant Ivor Arbiter, Andrew Wallace, Reg Clark (GB), Helmut Koster, Holger Alker et d'autres (Allemagne), Henry Gilbert et Julie Sliva (USA).

Quest'anno sullo stand principale l'enfasi sarà sui nuovi prodotti. Per il 1979, gli organi Gulbransen saranno presentati nel teatro "il mondo musicale della CBS" con dimostrazioni da Stuart Day e Don Kingston. Saranno esposti Fender/Rogers/Rhodes, incluse parecchie linee nuove — i loro dettagli saranno rivelati ai clienti alla Fiera.

La Vox Sound Ltd. non avrà il suo solito stand nel settore inglese, ma i signori Erik Kendrick e Ray Haynes saranno disponibili allo stand della CBS/Arbiter nel salone 5. Saranno mostrati, nell'appartamento d'ospitalità dell'Hotel CPR, di fronte alla Fiera, dei modelli stabiliti come l'AC 30, "Top Boost", AC 50, AC 120 "Escort" corrente/batteria, 30 e AC 30 SS, e tanti altri prodotti. Sarà anche esibito il nuovo Escort 100/120 stato solido, ad un prezzo molto competitivo.

Vi sarà una squadra dirigenziale comprendente Ivor Arbiter, Andrew Wallace, Reg Clark (GB), Helmut Koster, Holger Alker ed

altri (Germania), Henry Gilbert e Julie Sliva (USA).

CBS/Arbiter GmbH, T. Manier, L. O. St. Strasse 1, 4000 Düsseldorf, Westdeutsch.

電話 (0211) 593039, イギリス (01) 805 8555

メイン・イベントは今年、新製品に重点がおかれ、1979年カルパレンホルカン・ミュージカル・ワールド・オブ・CBS、シアター・ステート・テイ・アンド・ドン・キンストンにより演説されます。フェンダー/ロジャース/ローランド、新製品の数々と共に出品され、詳細はショーで発表されます。

「ミュージカル・ワールド・オブ・CBS」の一部であるケマイン・ハート・フルト、ライオン・アンド・ヒーロー・ハーブも音楽プログラムに出品され、CBSではみなさんの御期待に答えると考えています。

ボックス・サウンド・リミテッドでは、いっそのようにイギリス部門にスタンドを出しません。エリック・ケンドリック氏とレイ・ヘイネス氏は、ホール5のCBS/Arbiterのスタンドに出ます。AC 30 トッパ・ブースト、AC 50、AC 120 エスコート 電源/電池、30及びAC 30 SS 及び、その反対側にある新製品は、フェアの反対側にあるCPRホテルのスイートで展示されます。手ごしらえの価格で提供される新しいエスコート 100/120 ソリッド・ステートも展示されます。

スタンドには、アイバー・アビター、ア・リバー・ウエスト、レック・クラフ（イギリス）、ヘルマート・コスター、ホルガー・アルカー（ドイツ）、ヘンリー・ギルバート氏及びジュリー・スライヴ（米国）などの経営幹部が出る予定です。

Rola Celestion Limited, Ditton Works, Foxhall Road, Ipswich, Suffolk IP3 8JP. Tel: (0473) 73131.

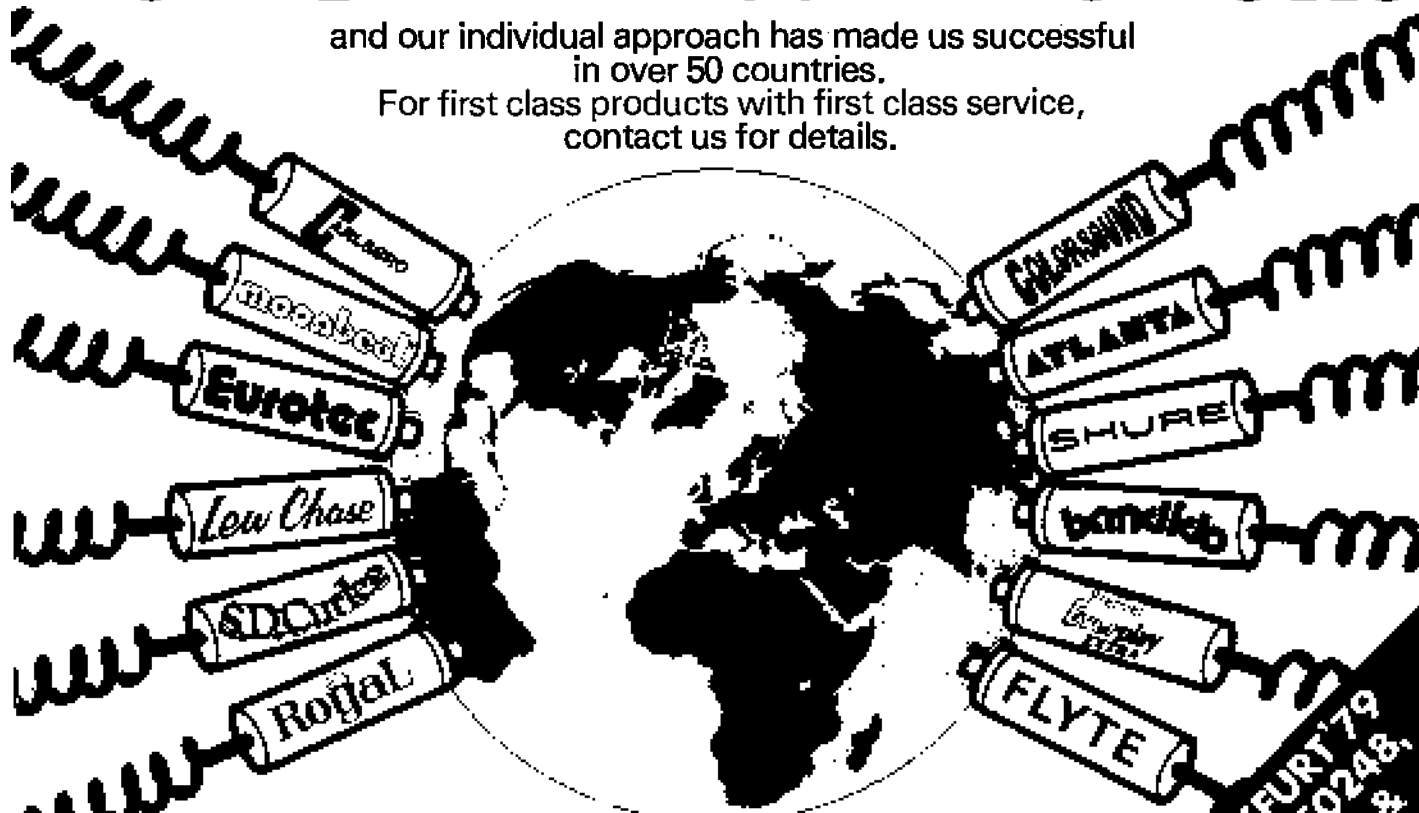
Renowned for over five decades for efficient, high quality loudspeakers, Celestion will be exhibiting a comprehensive display of power range speakers and sound reinforcement horns. Rated 15 to 250 watts, the thirty-four speakers range dimensionally from 8 1/4" (209mm) to 18" (457mm) and embrace the whole field of electronic music reproduction for Lead and Bass Guitar, Organ, Combos and PA. Complementing these are the horns for reinforcement of the treble and mid-range sequences.

Seit über 50 Jahren ist Celestion für ihre hochgradigen und leistungsfähigen Lautsprecher bekannt. Auf der Messe wird die Firma ein umfassendes Bereich von Grossleistungslautsprechern und Verstärkungstrichtern darbieten. In Stärken von 15–250 Watt und Formaten von 8 1/4" (209 mm) bis 18" (457 mm) umfassen die 34 Geräte das gesamte Feld elektronischer Musikwiedergabe für Lead und Bassgitarre, Orgel, Kombos und PA. Die Serie wird von Verstärkungstrichtern, speziell für Hoch und Mittelton Sequenzen, vervollständigt.

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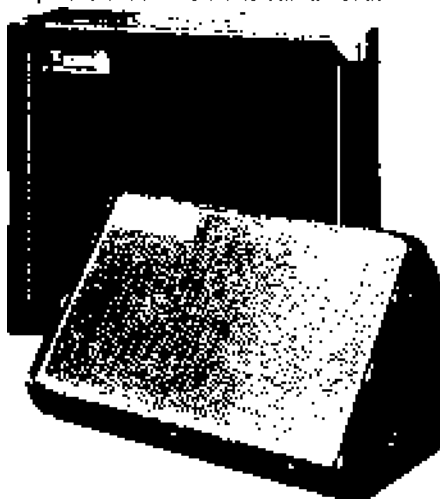
J & C SOUND SYSTEMS



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J&C SOUND SYSTEMS, NILE ROAD, HOLEY, WEST YORKSHIRE LS29 9DX. TEL: (0943) 608011

FRANKFURT 79

one of the foremost professional stage combination amps.

A number of new products will be on show, with an improved version of the 700A PA Mixer amp, and 8 channel powered mixer and the production version of the P12-2, 12 channel stereo mixer. A new version of the 700C slave amp may also be shown as well as some interesting new cabinets — provided all goes well with testing of prototypes!

On the stand will be Barry Phillips and his wife Marcia, Richard Jefferies, Philip Beaumont and David Gutteridge.

Die in Shropshire ansässige Firma Custom Sound unternimmt die Herstellung und den Vertrieb von preisgünstigen Transistor Instrumenten und Beschallungsverstärkern, Lautsprechereinsparungen, Effektpedalen und anderen Geräten für Musiker. Im letzten Jahr hat die Firma Rekordumsätze erzielt, wobei das Model 705 als eines der hervorragendsten Bühnenkomboverstärker für den Profi besonders erfolgreich war.

Eine Reihe neuer Produkte werden ebenfalls ausgestellt, vor allem eine verbesserte Ausführung des 700A PA Mischverstärkers und 8 Kanal Grossleistungsmischers, und die Normalausführung des P12-2 12-Kanal Stereomischers. Eine Neuausführung des 700C Fremdsynchronisierungsverstärkers, als auch einige interessante neue Zargen dürften gleich gezeigt werden — wenn alles mit der Prüfung der Prototypen klappt!

Auf dem Stand befinden sich Barry Phillips und seine Frau Marcia, Richard Jefferies, Philip Beaumont und David Gutteridge.

Basée dans le Shropshire, Custom Sound fabrique et distribue des instruments transistorisés offrant un excellent rapport qualité-prix ainsi que des enceintes de haut-parleurs, d'amplification pour systèmes de diffusion publique, des pédales d'effets et d'autres équipements pour le musicien. L'an passé, Custom Sound a battu ses records de ventes le modèle 705 combo, en particulier, a connu beaucoup de succès et c'est l'un des premiers amplificateurs de combinaison de scènes pour les professionnels.

On pourra voir au Salon un certain nombre de nouveaux produits avec une version améliorée de l'amplificateur mélangeur 700A P.A. et le mélangeur électrique à 8 canaux ainsi que la version de production du P12-2, qui est le mélangeur stéréo à 12 canaux. On verra aussi peut-être une nouvelle

version de l'amplificateur auxiliaire 700C ainsi que quelques nouveaux coffrets intéressants — à condition que tout aille bien avec l'essai des prototypes!

On rencontrera au stand Barry Phillips et sa femme Marcia, Richard Jefferies, Philip Beaumont et David Gutteridge.

Basata in Shropshire, la Custom Sound è fabbricatrice e distributrice di strumenti di stato solido a prezzi ridotti al minimo necessario, amplificazione per discorsi pubblici, rinchiuse per altoparlanti, pedali per gli effetti ed altre attrezzature per il musicista. Durante l'anno scorso la Custom Sound ha ottenuto delle vendite di primato ed in particolare il combo modello 705 ha ottenuto successo come uno dei principali amp di combinazione per palcoscenico professionale.

Parecchi nuovi prodotti saranno in esposizione con una nuova versione dell'amp 700A PA Mixer, ed il Mescolatore Potenziato ad 8 canali e la versione di produzione del Mescolatore Stereo ad 12 canali, P 12-2. Può darsi che verrà esibita una nuova versione dell'amp schiavo 700C ed anche dei nuovi interessanti armadietti — purché riusciranno bene le prove dei prototipi!

Allo stand vi saranno il signor Barry Phillips e sua moglie Marcia, Richard Jefferies, Philip Beaumont e David Gutteridge.

カスタム サウンド リミテッド ステート ラフノロジ リミテッド、カスタム ハウス、アンプ、ストリート、オスウェストリー、シュロブシャー、シュロブシャーに本社をもちカスタムサウンド社は、経済的なソリッドステート装置、演説用アンプ、ラウドスピーカー、エフェクトペダル、効果用ペダル及び音楽家のための他の装置を製造販売しています。過去一年間に同社は、記録的な販売の伸びを見、特にモデル705 コンボは、最も人気の高いソリッドステート・コンビネーション アンプの一つとみられるほどの成功をおさめました。このユニットは、同ブランドの他の製品とともに展示されます。また同様に人気のあるトラッカー ステート製品も出品されます。トラッカー P.A. は、昨年のフランクフルトで展示されたばかりにもかかわらず、現在イギリスではベストセラーの P.A. の一つです。

700A PA ミキサー アンプの改良版、8チャンネルパワーミキサー及びP12-2 12チャンネルステレオミキサーの生産版が新製品とともに出品されます。またプロタイプのアンプがいくつか行われ、新しいキャビネットと共に、700C ステート アンプの新型が出品されると思われ。現在あるモデルの主力である700K キーボード アンプ及び794 リードアンプも展示されます。

スタンドには、バーリー フィリップス及び夫人のマーシア、リチャード ジェファース、フィリップ ジェームズ、デビッド ガッターidge が出席予定です。

Darburn Ltd., Main Street, Farcet, Peterborough, Cambs. PE7 3DB.
Telephone (0733) 240 800.

Darburn Ltd. will be making their first appearance at the Frankfurt Spring Fair. The company is well-established in the UK and have just moved to much larger premises with the intention of launching their products into the export markets.

At the Fair they will be showing their range of seven combination amplifiers, each one designed with a specific task in mind, including lead and rhythm guitar, keyboards, electronic accordion, synthesizers, pedal steel guitar and bass guitar.

On the stand will be Messrs W. Venton and B.R. Drage.

Darburn tritt zum ersten Mal auf der Frankfurter Frühlingsmesse in Erscheinung. Die Firma ist im Vereinigten Königreich gut bekannt und hat ihren Sitz jetzt in die obrigen, viel grösseren Gebäude verlegt, mit der Absicht den Export ihrer Produkte in Gang zu setzen.

Auf der Messe führt die Firma ihre Serie von 7 Kombiverstärkern vor, von denen jeder einzelne für einen bestimmten Zweck entworfen wurde, wie z.B. für Leadgitarre, Keyboards, elektronisches Akkordeon, Synthesizers, Pedal Stahlgitarre und Bassgitarre.

Auf dem Stand befinden sich die Herren W. Venton und B.R. Drage.

Darburn Ltd. fera sa première apparition à la Foire de Printemps de Francfort. La firme est bien établie au Royaume-Uni et vient de s'installer dans des locaux plus grands dans l'intention de lancer ses produits sur les marchés d'exportation.

Elle exposera à la Foire sa gamme de sept amplificateurs de combinaison conçus chacun en vue d'une tâche particulière, y compris la première guitare et guitare de rythme, les claviers, l'accordéon électronique, les synthétiseurs, la guitare d'acier à pédale et la guitare de basse.

MM. W. Venton et B.R. Drage seront au stand.

La Darburn Ltd. farà la sua prima apparenza alla Fiera primavera di Francoforte. La compagnia è ben stabilita in Inghilterra e recentemente si è spostata a locali molto più grandi con l'intenzione di lanciare i suoi prodotti nei mercati di esportazione.

Alla Fiera mostrerà la sua gamma di sette amplificatori a combinazione, ognuno disegnato tenendo conto di un specifico compito, includendo chitarra, chitarra di ritmo, tastiere, fisarmonica elettronica, sintetizzatori, pedale d'acciaio-chitarra e chitarra-basso.

Allo stand saranno presenti i signori W. Venton e B.R. Drage.

ダーバーン リミテッド、メイン ストリート、ファースト、ピーターボロ、キャンバス PE7 3DB
電話 (0733) 240 800

ダーバーン リミテッドは、フランクフルト・スプリング フェアに初めて出品します。同社は、イギリスでは確立した地位にあり、輸出に力をいれるための最近より大きな場所に移転しました。

ショーでは、7つのコンビネーション アンプを展示します。これは、各々が特定の機能を果たすよう設計されています。これには、リード及びリズムギター、キーボード、電子アコーディオン、合成装置、ペダル スチールギター及びバスギターなどがあります。KGP モデルは、50/80 キーボード及びギターから成り、これには、大きな100 2X12、100 1X15 及び 100 1X15 ペダル スチール及び新しいバス 100 を含みます。更に二つのリード キタリスト アンプがあります。SRV 50/80 及び SRV 100M があります。スタンドには、W. ベントン及び B.R. ドレイジが出席予定です。

Deltec Musical Products, Deltec House, Jarvis Brook, Crowborough, Sussex. Tel: (08926) 62870.

Deltec will be making their second consecutive appearance at Frankfurt this year. Since their inception 7 years ago Deltec have established an enviable reputation for quality discotheque systems, both mobile and fixed installations.

However, much emphasis is now being put on loudspeaker production where the Eliminator style cabinet and other full range horn designs are used widely for PA.

The stand will be manned by M.D. Paul von Hinten.

Nun zum zweiten Mal hintereinander ist Deltec auf der Frankfurter Messe vertreten. Die Firma, die vor 7 Jahren gegründet wurde, hat seitdem einen beneidenswerten Ruf für transportfähige und feste Einrichtungen von Diskosystemen bester Qualität erworben.

Jedoch wird jetzt die Lautsprecherproduktion stärker hervorgehoben, da die Zargen im Stil des Eliminators und andere Serien von Trichtertypen ein weites Verwendungsgebiet für PA gefunden haben.

Auf dem Stand befindet sich Paul von Hinten.

Deltec figurera pour la seconde fois de suite à Francfort cette année. Depuis sa création, il y a 7 ans, Deltec s'est fait une réputation enviable pour les systèmes de discotheque de qualité, qu'il s'agisse d'installations mobiles ou fixes.

Toutefois, la firme met maintenant l'accent sur la production des haut-parleurs où l'enceinte acoustique de style Eliminator et d'autres modèles de cornets à plage totale sont couramment employés pour la diffusion publique.

FRANKFURT 79

La permanence au stand sera assurée par M.D. Paul von Hinten.

Quest'anno la Deltec farà la sua seconda apparizione consecutiva a Francoforte. Dal suo inizio, sette anni fa, la Deltec ha stabilito un'invidiabile reputazione per sistemi di qualità per discoteche, sia per installazioni fisse che mobili.

Però adesso l'enfasi è concentrata sulla produzione d'altoparlanti e sull'armadietto di stile "Eliminator" e gli altri disegni di avvisatori di estensione completa sono usati molto per il P.A.

Allo stand vi sarà il Sig. M. D. Paul von Hinten.

デルテック ミュージカル プロダクツ
デルテック ハウス、ジャービス、フルック
クロウバラ、サセックス
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築きました。
しかし現在では、エリミネーター スタイル、キャビ
ネット及び他の種々のホーン デザインが
広く PA に使用されるラウドスピーカーの
生産に重点を置いています。このショーに
は、新しい ディスコテック コンソールである
DS 500 が出品されます。これは、ワ
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護電力増幅器などをも含んでいます。
スタンドには、社長のホール フォン・ヒンテン
が 出ます。

Eastmill Audio Ltd.,
2 Heathfield Terrace,
Chiswick, London W4.
Tel: 01-995 5918.

Frankfurt will serve as the European introduction of the CT system which was successfully launched in America earlier this year. The main items of interest are a new range of bass horns constructed both to a new principle and using new materials; also a range of mid horns using an ATC driver, specially built to the company's specifications and available only through Eastmill.

Die Frankfurter Messe ist für die Einführung des CT Systems in Europa auserwählt worden, nachdem das System vor kurzer Zeit erfolgreich in Amerika lanciert worden ist.

Von größtem Interesse dürfte die neue Bassstrichterserie sein, die nach einem neuen Prinzip und mit neuem Material hergestellt worden ist. Ebenfalls von Bedeutung ist die Mitteltrichterreihe, die eine ATC Treiberstufe verwendet, die nach firmeneigenen Spezifikationen konstruiert wurde und nur durch Eastmill erhältlich ist.

Gezeigt wird auch ein Diskosystem, und eine Serie von Keilmontitor und Seitengeräten für die Bühne. Diese letzteren werden in der Tonkabine auf dem Stand vorgeführt, wo sich Neil Grant und Mick Johnson befinden.

Electro-Voice Products Ltd.,
Maple Cross Industrial Estate,
Rickmansworth, Herts.
Tel: (87) 75381.

Wersy will be displaying their full range of electronic organs and other equipment, together with a new Sound Computer and Wersiharp, also perhaps some other new products which have not yet been seen.

A well known European organist will be demonstrating instruments at fixed times throughout the day and Franz Lambert will be playing the Galaxy prior to his extended Intercontinental tour in the UK.

The total Wersy range in the UK is represented by Electro-Voice and on the stand will be K. Jones (UK), H. Hoppe (Germany) and a complete management team.

Wersy wird ihr gesamtes Programm an elektronischen Organen und anderen Instrumenten gleichzeitig mit dem neuen Sound Computer und der Wersiharp ausstellen, und vielleicht werden zuzüglich noch andere Neuheiten vorgeführt, die noch nie gesehen worden sind.

Ein weitbekannter europäischer Organist wird die Instrumente zu gewissen Zeiten während des Tages demonstrieren, und Franz Lambert spielt die Galaxy vor seiner verlängerten interkontinentalen Tournee im Vereinigten Königreich.

Die gesamte Wersy Produktion wird in Grossbritannien von Elektro-Voice vertrieben, und auf dem Stand befinden sich K. Jones (UK), H. Hoppe (Deutschland) und ein vollständiges Leitungsteam.

La maison Wersy présentera sa gamme complète d'orgues électroniques et d'autres équipements ainsi qu'un nouvel "ordinateur sonore" (Sound Computer) et le Wersiharp avec peut-être aussi d'autres produits nouveaux que l'on n'a pas vus jusqu'à présent.

Un organiste européen bien connu fera la démonstration des instruments à heures fixes d'un bout à l'autre de la journée et Franz Lambert jouera du Galaxy avant de prolonger son voyage intercontinental en allant au Royaume-Uni.

Toute la gamme Wersy au Royaume-Uni est représentée par Electrovoice et la permanence au

stand sera assurée par K. Jones (U.K.), H. Hoppe (Allemagne) et toute une équipe de dirigeants.

Gigsville, South Drive,
Phoenix Way, Heston,
Middx. TW5 9NP.
Tel: (01)-897 3792.

Directors Pete Tulett and Terry Mabey will be at Frankfurt and can be found on the stand of Aria & Co. Inc., manufacturers of Aria guitars. Pete and Terry are looking forward to the visit as it gives them the opportunity to see and discuss the many new lines of instruments that Aria & Co are introducing at Frankfurt.

The sales success story of Aria guitars in the UK since Gigsville began distribution in December 1977 is well known and Pete Tulett and Terry Mabey look forward to meeting and greeting their many friends in the trade at the Fair.

Die Firmendirektoren Pete Tulett und Terry Mabey werden sich in Frankfurt auf dem Stand von ARIA & Co. Inc., Hersteller der Aria Gitarren, befinden. Pete und Terry freuen sich dort die Gelegenheit zu haben, die vielen neuen Instrumente vorzuführen, die Aria auf die Messe bringt.

Der Erfolg der Aria Gitarren im Vereinigten Königreich, seit Gigsville den Vertrieb im Dezember 1977 übernahm, ist allgemein bekannt. Die Herren Tulett und Mabey sehen der Zusammenkunft mit ihren vielen Geschäftsfreunden gern entgegen und werden sie auf der Messe herzlich begrüßen.

I direttori Pete Tulett e Terry Mabey saranno a Francoforte e potranno essere incontrati allo stand dell'Aria & Co. Inc., fabbricante delle chitarre Aria. Pete e Terry aspettano con piacere questa visita che gli permetterà di vedere e discutere le tante nuove linee di strumenti che l'Aria sta introducendo a Francoforte.

E' ben conosciuta la storia del successo riguardante le vendite delle chitarre Aria nel Regno Unito da quando la Gigsville ha iniziato la distribuzione nel dicembre 1977.

ジグズビル、サウス ドライヴ、
フェニックス ウェイ、ヘストン、ミッドセックス
ペテ・タレット及びテリー・メイビーの二人の
重役がフランクフルトに出向き、ア
リア・ギターメーカーである アリア・プロ
ダクションのスタンドに出ます。ペテとテ
リーは、アリア・プロダクションからフ
ランクフルトで発表する新しい製品を見、これ
について話し合う機会を楽しみにして
います。

ジグズビル社が、1977年12月に、ア
リア・ギターの販売をイギリスで始めて
以来、売行きが好調なことはよく
知られています。ペテ・タレットとテ
リー・メイビーは、ショーで多くの取引先の
人々と会うことができていることを楽しみに
しています。

General Music Strings Ltd.,
Treforest Industrial Estate,
Pontypridd, Glamorgan.

Wales.

Tel: (044385) 2098.

The General Music Strings team are confident that the company's products will meet with even greater success than last year. Pride of place on display will be the new "all steel" bass guitar sets, the 7321/M, which are already taking the States by storm. This set is designed for today's new breed of bass guitarist giving a super - bright funky sound. Completing the display will be the full range of Picato, Monopole and Red Dragon strings.

The Peter & Nicholas range of microphone, speaker and amp stands will be featured on the adjacent stand (see under P&N). In attendance at the stands will be Alfred Stein, Dave Martin, Dick Thomas, Roger Heafield, Miss Connie Stein and Mrs. Angela Stein.

Das Team der General Music Strings ist zuversichtlich, dass die Produkte der Firma mit noch grösserem Erfolg rechnen können als letztes Jahr. Ganz prominent ausgestellt werden die neuen Ganzstahl Bassgitarren Sets 7321/M, die Amerika bereits im Sturm erobern! Diese Garnituren sind für den modernen Bassgitarriest gedacht und geben einen superklaren "funky" Ton wieder. Das Programm wird mit einer kompletten Serie von Picato, Monopole und Red Dragon Saiten vervollständigt.

Die Peter & Nicholas Serie von Mikrofon, Lautsprecher & Verstärkerständern wird am Nebensand gezeigt (v. unter P.&N.).

Auf dem Stand befinden sich Alfred Stein, Dave Martin, Dick Thomas, Roger Heafield, Miss Stein und Mrs. Angela Stein.

L'équipe de General Music Strings est certaine que les produits de la firme connaîtront encore plus de succès que l'an dernier. En première place au stand figureront les nouveaux jeux de cordes de guitare de basse "tout acier", modèle 7321/M, qui connaissent déjà un succès foudroyant aux Etats-Unis. Ce jeu est conçu pour la nouvelle génération des guitaristes de basse et donne un son extrêmement vif et "funky".

On pourra voir au stand adjacent la gamme de supports de micro, de haut-parleurs et d'amplificateurs Peter & Nicholas (voir à la rubrique P&N). La permanence au stand sera assurée par Alfred Stein, Dave Martin, Dick Thomas, Roger Heafield, Miss Connie Stein et Mrs Angela Stein.

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**H.H. Electronic, Viking Way,
Bar Hill, Cambridge CB3 8EL.
Tel (0954) 81140.**

During last year, H/H laid great emphasis on PA systems and will do so again in 1979. Many companies offer single items but few offer complete systems, from the Stage box and Multicore through to in-house manufactured replacement drivers. At the Frankfurt Show, H/H will therefore be displaying a full range of PA systems, in particular the Concert System which was outstandingly successful last year.

Also on display will be the PRO range of speakers, the Unit PA, a full range of Mixers and Amplifiers. A number of new products will also be seen, details of which are not yet available. The new '1200' and '1500' range of H/H Acoustics chassis speakers will be available direct to franchised dealers as from the start of the Show.

Amongst those in attendance will be: J.M. Harrison, C.R.C. Bradbury, Miss G. Burg and M. Wilson.

Voriges Jahr legten H.H. grossen Wert auf PA Systeme und werden sie auch dieses Jahr wieder betonen. Viele Firmen bieten Einzelgeräte an, aber wenige bringen komplette Systeme auf den Markt, von der Stage Box und Multicore bis zu Ersatztreiberstufen.

Infolgedessen konzentriert sich H/H auf der Frankfurter Messe auf ein vollständiges Programm von PA Systemen, insbesondere auf das Concert System, dass im letzten Jahr grössten Erfolg hatte.

Ebenfalls gezeigt wird die PRO Lautsprecherreihe, die Unit PA und eine Auswahl von Mischern und Verstärkern. Eine Anzahl neuer Produkte werden auch zu sehen sein, von denen jedoch Einzelheiten noch nicht erhältlich sind. Die neuen 1200 und 1500 Chassislautsprecher von H/H Acoustics können vom Anfang der Messe direkt an anerkannte Händler geliefert werden.

Es befinden sich auf dem Stand J.M. Harrison, C.R.C. Bradbury, Miss G. Burg, M. Wilson und Mitarbeiter.

L'an dernier H/H a mis l'accent

essentiellement sur les systèmes de diffusion publique et continuera à le faire en 1979. Un grand nombre de sociétés offrent des éléments simples mais rares sont celles qui offrent des systèmes complets depuis la boîte d'étage et le câble à conducteurs multiples jusqu'aux excitateurs de rechange fabriqués par la firme elle-même. Au Salon de Francfort, H/H présentera donc une gamme complète de systèmes de diffusion publique, notamment le Concert System qui a connu une réussite exceptionnelle l'an dernier.

On pourra également voir au stand la gamme de haut-parleurs PRO, l'unité PA, une gamme complète de mélangeurs et d'amplificateurs. On verra également un certain nombre de produits nouveaux dont les détails ne nous ont pas encore été communiqués. Les nouveaux haut-parleurs à châssis Acoustics H/H des gammes "1200" et "1500" seront vendus directement aux concessionnaires bénéficiant d'une "franchise" dès le début du Salon.

Parmi le personnel présent au stand, figureront J.M. Harrison, C.R.C. Bradbury, Miss G. Burg et M. Wilson.

Sarà anche esibita la gamma PRO d'altoparlanti, insieme all'unità PA ed una gamma completa di mescolatori ed amplificatori. Saranno anche esibiti

Durante l'anno passato, la H/H ha messo in evidenza i sistemi PA e lo farà di nuovo nel 1979. Tante compagnie offrono articoli singoli però poche offrono dei sistemi completi, dallo "Stage Box" e "Multicore" fino agli elementi di sostituzione fabbricati dalla ditta. Quindi, all'esibizione di Francoforte la H/H esibirà una gamma completa di sistemi PA e particolarmente il sistema "Concerto", il quale ha avuto tantissimo successo l'anno scorso.

parecchi prodotti nuovi, però i loro dettagli non sono ancora disponibili. La nuova gamma d'altoparlanti acustici a telaio della H/H "1200" e "1500" sarà immediatamente disponibile ai mercanti di franchigia dall'inizio della Fiera.

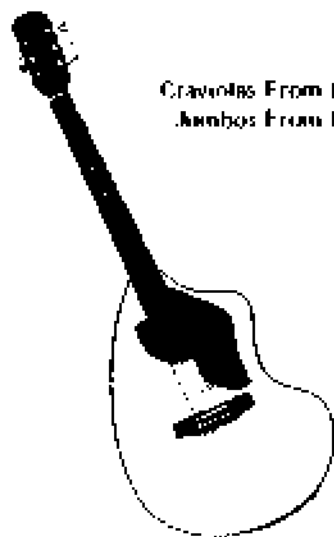
Fra i partecipanti saranno: J. M. Harrison, C. R. C. Bradbury, la signorina G. Burg e M. Wilson.

**Hammond Organs (UK) Ltd.,
19 Denbigh Hall, Bletchley,
Milton Keynes.**

Telephone (0908) 79561.

Once again the Hammond Organ Company, Chicago, USA, will be represented at the Frankfurt Spring Fair. Their exhibit will feature a totally-enclosed "Hammond Sound Room" wherein the complete Hammond Product Line will be displayed and demonstrated by

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Peter Legh Musical Instruments Ltd., 13 Waterside, Crayford, Kent. or telephone Crayford 522544.

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internationally famous artists.

A major attraction will be the new Model B-3000 which provides many new features made possible by Hammond's exclusive Multiplex Synthesis Technology.

A hospitality lounge will be provided for Distributors and Appointed Hammond Organ Dealers, and on Wednesday March 7, the company will host the Annual Hammond Organ Distributor Dinner at the Frankfurt Inter-Continental Hotel.

Nochmals wird die Hammond Organ Company von Chicago, USA, auf der Frankfurter Frühlingssmesse vertreten sein. Inbegriffen in ihrem Ausstellungsprogramm ist ein schalldichter "Hammond Sound Room", in dem alle Hammond Produkte vorgeführt und von international bekannten Virtuosen vorgespielt werden.

Eine Hauptattraktion stellt das neue Modell B 3000 dar, das zahlreiche moderne Vorteile aufweist, die durch die exklusive Hammond Multiplex Synthese Technik ermöglicht wurden.

Ein Gesellschaftsraum für Gäste steht Mitgliedern der Hammond Vertriebsfirmen und anerkannten Händlern zur Verfügung, und am Mittwoch 7. März gibt die Firma ihr jährliches Festessen für Koncessionäre im Hotel Inter-Continental.

Une fois de plus, la Hammond Organ Company de Chicago USA, sera représentée à la Foire de Printemps à Francfort. Son stand comprendra une "Salle Acoustique Hammond" totalement fermée où l'on pourra voir toute la série des produits Hammond dont des artistes de renommée internationale feront la démonstration.

L'une des attractions majeures sera le nouveau modèle B-3000 fournissant de nombreuses caractéristiques nouvelles rendues possibles par la technologie de synthèse Multiplex exclusive de la maison Hammond.

Un salon d'accueil sera prévu à l'intention des distributeurs et concessionnaires agréés des orgues Hammond et, le mercredi 7 mars, la firme sera l'hôte au dîner des distributeurs d'orgues Hammond à l'hôtel Inter-Continental de Francfort.

Ancora una volta la Hammond Organ Company, Chicago, USA, verrà rappresentata alla Fiera primaverile di Francoforte. Esibirà una "camera sonora Hammond" completamente rinchiusa, nella quale verrà esibita l'intera linea dei prodotti

Hammond — dimostrata da famosi artisti internazionali.

Una maggiore attrazione sarà il nuovo modello B-3000, il quale provvede tante nuove caratteristiche rese possibili dalla esclusiva tecnologia della Hammond di molteplici sintesi.

Verrà provvisto un salotto d'ospitalità per i distributori ed i negozianti nominati della Hammond Organs e mercoledì 7 marzo la compagnia darà l'annuale cena per i distributori della Hammond Organs, che si terrà all'Hotel 'Frankfurt Inter-Continental'.

James How Industries Ltd.
20 Upland Rd., Bexleyheath,
Kent DA7 4NR
Tel: (01) 304 4711

James How Industries, the sole manufacturers of RotoSound and Superwound music strings, have been established for over 18 years. At the Spring Fair their display will feature both RotoSound and the unique Superwound range of music strings.

The unique Superwound concept of only the core of the string going over the bridge represents a major advance in modern music string design and has been patented in a large number of countries. New Superwound strings shown for the first time at Frankfurt will be Country Gold, made from phosphor bronze; a range of individual gauges in stainless steel, called Singles, and the Double Six 12-string sets in medium, light and super light gauges.

In attendance at the stand will be Messrs. James, Ron and Martyn How, and Charles Higgs.

Mick Johnson Music,
277 Putney Bridge Road,
London SW15 2PT.
Tel: (01)-788 3491/2.

The company's extensive display will include ASS radial horns, new ranges of compression drivers and budget loudspeaker components, Turner professional power amplifiers and Ashworth transducers. Also on show will be microphone stands and drum stalls, a selection of accessories and the new polyphonic synthesizers from EMS.

In attendance on the stand will be Mick Johnson and Cliff Lake who will be pleased to deal with enquiries.

Die umfangreiche Auslage der Firma enthält ASS Hornstrahler, neue Drucktreiberstufen und Lautsprecherteile in niedriger Preislage, Turner Grossverstärker für Berufsmusiker und Ashworth Übertragungssysteme. Auch gezeigt werden Mikrofonständer und Trommelhocker, eine Auswahl an Zubehör und die neuen mehr-

stimmigen Synthesizers von EMS.

Auf dem Stand befinden sich Mick Johnson und Cliff Lake, die gerne Anfragen beantworten.

L'étalage extensif de la firme comprendra des cornets radiaux ASS, des nouvelles gammes d'excitateurs à compression ainsi que des composants économiques pour haut-parleurs, des amplificateurs de puissance pour professionnels Turner et des transducteurs Ashworth. On pourra également voir au Salon des supports de micro et des cases à tambour, un choix d'accessoires et les nouveaux synthétiseurs polyphoniques de EMS.

La permanence au stand sera assurée par Mick Johnson et Cliff Lake qui se feront un plaisir de répondre aux demandes de renseignements.

L'estesa mostra di questa compagnia includerà avvisatori radiali ASS, nuove gamme di elementi a compressione e componenti per altoparlanti economici, amplificatori di potenza professionali Turner e trasduttori Ashworth. Saranno anche esibiti dei sostegni per microfoni e tamburi, una selezione di accessori ed i nuovi sintetizzatori polifonici dall'EMS.

All stand vi saranno i signori Mick Johnson e Cliff Lake che saranno lieti di rispondere a tutte le richieste.

Leech Musical Services Ltd.,
Royal Oak Trading Estate,
Cooper Street, Stockport,
Cheshire.
Tel. 061 477 4744.

At Frankfurt this year Leech will be displaying a completely new range of amplification. The display consists of 120 watt PA, slave instrument and graphic amplifiers together with a 30 watt and 70 watt combo.

Leech are also introducing a complete range of professional equipment, including power amplifiers, electronic crossovers, graphic equalisers, mixers and powered bins. As in the past there will also be a large range of Leech speaker enclosures.

Logan Electronics (UK) Ltd.,
Unit 3 — Queensway
Industrial Estate, New Milton,
Hants. BH25 5NN.
Telephone (0425) 618220.

The Caravelle Collection from Logan has, since their UK operation's inauguration last summer, made great strides into the British market, although, of course, the company has been established for many years in other parts of the world. Their success is due in large measure to the unique organ specifications at their "value for music" prices.

On the stand will be UK Managing Director John M. Edgar and his team.

Seit der vorjährigen Einleitung des Geschäftsbetriebes im Vereinigten Königreich hat Logan's Caravelle Collection gute Fortschritte im britischen Handel gemacht, obwohl die Firma natürlich seit vielen Jahren in anderen Gebieten der Welt wohl bekannt ist. Ihr Erfolg ist hauptsächlich ihren einmaligen Orgel Spezifikationen und ihren "Musikwert" Preisen zuzusprechen.

Auf dem Stand befindet sich U.K. Generaldirektor John M. Edgar und sein Team.

La Collection Caravelle de Logan a fait de grands pas sur le marché britannique depuis l'inauguration de l'entreprise au Royaume-Uni l'été dernier quoique, bien entendu, la firme a été établie depuis bien des années dans d'autres régions du globe. Sa réussite est due, dans une grande mesure, aux spécifications uniques des orgues qui donnent un excellent rapport entre la musique et le prix.

Le Directeur-Général britannique, John M. Edgar sera au stand avec son équipe.

La Collezione Caravelle della Logan ha, da quando ha inaugurato le sue operazioni l'estate scorsa in Inghilterra, fatto un gran progresso nel mercato inglese, benché la compagnia è stata stabilita per tanti anni in altre parti del mondo. Il suo successo è dovuto maggiormente alle specificazioni del suo unico organo ai suoi prezzi di "valuta per musica".

Allo stand vi sarà l'amministratore delegato inglese, John M. Edgar e a sua squadra.

Maine Electronics Ltd., Maine
House, 193 Rickmansworth
Road, Watford,
Herts WDL 7JH.
Tel: (092) 45388.

Maine are now firmly established throughout Europe as manufacturers of quality amplification, with the emphasis on reliability. They have subsidiary companies in Germany, Holland, Belgium and Sweden, and currently are exporting to 20 countries. On show will be a complete range of Maine products, including their big sellers:

The PA 170 system which is a 200 watt, 3-piece, 10-channel set-up. The modern facilities such as graphic equalisation, Piezo horns and thermal sensors are included as standard in the system, which carries a 5-year guarantee in the UK.

Stage Club combo amplifiers, introduced this year to Maine European markets, are selling extremely well. The Stage model features two Celestion speakers with an 80 watt RMS power specification, including reverb.

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The Club model features 2x8" Celestion speakers and 50 watt RMS power, again with Hammond reverb.

Some countries in the world have no representation for Maine products and any interested distributors are most welcome to call at the Maine stand in Hall 5a and speak to Andy Cannon or Dave Wilson.

Maine hat nun in ganz Europa eine solide Grundlage als Hersteller von Qualitätsverstärkungsanlagen mit Betonung auf Zuverlässigkeit. Die Firma hat Tochtergesellschaften in der Bundesrepublik, Holland, Belgien und Schweden und exportiert gegenwärtig in 20 Länder.

Auf der Messe befindet sich das ganze Programm an Maine Produkten, einschliesslich ihrer Verkaufsschlager wie folgt:

Das PA 170 Beschallungssystem, das im Vereinigten Königreich besonders erfolgreich ist und sich durch ein 200 Watt dreiteiliges Zehn-kanalsystem auszeichnet. Zu den Normalausrüstungen dieses Systems gehören moderne Teile wie grafische Equalizer, Piezotrichter, und Thermo-Messfühler, mit fünfjähriger Garantie im Vereinigten Königreich.

Die Stage Club Combo Verstärker, die voriges Jahr in Europa eingeführt wurden, erfreuen sich guter Abnahme. Das Stage Modell wird von zwei Celestion Sprechern mit einer 80 Watt Effektivwert Spezifikation bedient, und Reverb. Das Club Modell hat 2x8 Celestion Sprecher und 50 Watt Effektivwert Leistung und ebenfalls Hammond Nachhall.

Einige Länder der Welt haben noch keine Handelsvertretung für Maine Produkte, und interessierte Vertriebsfirmen werden am Maine Stand willkommen geheissen, wo Andy Cannon und Dave Wilson gerne Anfragen beantworten.

Maine est une firme qui s'est maintenant solidement établie dans toute l'Europe comme fabricant d'amplificateurs de qualité, en mettant l'accent sur la fiabilité. Elle a des filiales en Allemagne, en Hollande, en Belgique et en Suède et exporte actuellement à destination de 20 pays. On pourra voir au Salon une gamme complète des produits Maine et notamment leurs best-sellers:

Le système PA 170 qui est un arrangement à 10 canaux, 3 pièces, 200 watts. Différentes facilités modernes comme l'égalisation graphique, les cornets piezoélectriques et les capteurs thermiques font partie

de l'équipement standard du système qui est vendu avec une garantie de 5 ans au Royaume-Uni.

Les amplificateurs combo Stage présentent cette année aux marchés européens de Maine se vendent extrêmement bien. Le modèle Stage comporte deux haut-parleurs Celestion avec une spécification de puissance efficace de 80 watts, y compris réverbération. Le modèle Club comporte deux haut-parleurs Celestion de 203,2 mm et d'une puissance efficace de 50 watts, là aussi, avec réverbération Hammond.

Dans certains pays, la représentation n'est pas assurée pour les produits Maine et les agences de diffusion qui seraient intéressées seront certainement les bienvenues au stand de Maine dans le Hall 5A où elles pourront s'adresser à Andy Cannon ou Dave Wilson.

La Maine ormai si è stabilita fermamente in tutta l'Europa come l'abbinante di amplificazione di qualità, con l'enfasi sull'affidabilità. Ha già delle compagnie consociate in Germania, Olanda, Belgio, e Svezia ed attualmente esporta in 20 paesi. Sarà esibita una gamma completa di prodotti Maine, compresi i suoi prodotti più venduti:

Il sistema PA 170, che è un gruppo di 3 pezzi, 200 watt, 10 canali. Le facilità moderne come il bilanciere registratore, avvisatori Piezo e sensori termici sono incluse come standard nel sistema, il quale, nel Regno Unito, ha una garanzia di 5 anni.

Gli amplificatori combo "Stage Club" che sono stati introdotti quest'anno al mercato europeo della Maine, vengono venduti molto bene. Il modello "Stage" ha due altoparlanti Celestion con una specificazione di potenza RMS (valore efficace) di 80 watt, incluso la riverb. Il modello "Club" presenta altoparlanti 2x8 Celestion e potenza RMS (valore efficace) di 50 watt, di nuovo con riverb. Hammond.

Alcuni paesi del mondo non hanno rappresentanza per i prodotti Maine e qualsiasi distributore interessato sarà ben accolto allo stand della Maine nel salone 5a, per parlare con il Sig. Andy Cannon oppure il Sig. Dave Wilson.

メイン エレクトロニクス リミテッド。メイン ハウス。193 リックマンズ・ロード。ワットフォード。ハーツ

メイン社は、ヨーロッパにおける、信頼性の高い、高性能増幅器のメーカーとしての地位を確立しました。ドイツ、フランス、ベルギー、スウェーデンに子会社を持ち、現在20カ国に輸出しています。ショーには、メイン社製品の全種が出品され、その中には次のようなベストセラーが含まれています。

① 200ワット、3ピース、10チャンネルセットアップのPA170システム。グラフィック均等化エコー、オートリミッター、センサなどの選

置がシステムにあり、イギリスでは5年の保証期間付で販売されています。②今年ヨーロッパ市場で販売されたステージクラブコンボアンプは非常に好評です。ステージモデルには、反響を含む80ワットRMSパワー、スピーカの二つのセレスティオンスピーカーが取り付けられ、モデルには2x8インチセレスティオンスピーカー、及び50ワットRMSパワーがあり、これにハモンド反響が付きます。③デュジション120Cコンボ。これは、ヨーロッパにおけるメイン社のベストセラー。ツイン反響を含む120ワットRMSが特長です。メイン社の代理店のない国がある中で、同社の代理店になることに興味のある方は、5Aホールのメイン社のスタンドにいるアンディ・キャノンまたはデヴィッド・ウィルソンにお話し下さい。

**A. Menghini & Co.,
Via S-Agostino (SS 77),
P.O. Box 40,
62019 Recanati, Italy.**

The Menghini stand will no doubt create great interest among visitors wanting to look at the line of Gherson guitars. In addition to their already established range, the Company will be showing the new Gherson range which features their own Super Distortion pickups with an option of DiMarzio pickups.

Mr. Tony Menghini will be in attendance on the stand throughout the Fair.

Zweifelloos wird der Menghini Stand grosses Interesse bei den Besuchern auslösen, die die Gherson Gitarren gut betrachten wollen. Die Firma wird, ausser ihrer bereits bekannten Serie, ein neues Gherson Programm vorführen, das ihre eigenen Super Distortion Tonabnehmer hervorhebt, und auch DiMarzio Pickups zur Wahl stellt.

Auf dem Stand befindet sich Tony Menghini.

Lo stand Menghini interesserà certamente beaucoup les visiteurs qui voudront voir les guitares Gherson. En plus de sa gamme déjà établie, la firme exposera la nouvelle gamme de Gherson comprenant ses propres capteurs Super Distortion avec, en option, les capteurs DiMarzio.

M. Tony Menghini assurera la permanence au stand pendant toute la Foire.

Lo stand Menghini creerà senza dubbio un grandissimo interesse tra i visitatori in attesa di vedere la linea delle chitarre Gherson. In aggiunta alla sua già stabilita gamma, la compagnia mostrerà la nuova gamma Gherson che presenterà i suoi Pickups (riproduttori acustici) Super Distortion con una scelta di pickups DiMarzio.

Il Sig. Tony Menghini sarà allo stand per tutta la durata della Fiera.

A. Menghini - Andy Cannon - Uffa S-Agostino (SS 77). 郵便箱 40. 62019 Recanati. イタリア メンジーニ社のスタンドには、カンソンギターを見た人々に比べて、大きな興味を引くことになり、同社の有名なモデルのほかに、ディマルジオピックアップをオプションとしたスーパー・ゆがみピックアップと特長とする新しいカンソンモデルも展示されます。オリーブのカラー・ギター・デザインの新しいモデルは、大きな印象物になると思われ、ショーの全期間中、トニー・メンジーニがスタンドに出ます。

**Nashville Music Strings Ltd.,
203 Ystrad Road, Pentre,
Rhondda.
Tel: (0433) 437928.**

The company are manufacturers of high quality music strings and will show a full range of their products. Associates Valley Music Strings will also have a complete display of Sounder strings at the Fair.

On the stand will be Jeffrey Jeffery.

**Norlin Music Services Ltd.,
114, Charing Cross Road,
London WC2H 0JS.
Tel: (01) 836 8131.**

Another comprehensive display of musical instruments from Norlin will be seen at the fair. Star of the show will be the legendary Les Paul, voted world's No. 1 pop guitarist in 1978, who will amaze and amuse with the latest Gibson Les Paul models.

Other Norlin instruments will be played by such famous demonstrators as Harry Stoneham, Gerry Allen and Dave Smith on Lowrey organs; Bruce Bolen and Dave Roberts with Gibson and Epiphone guitars and Lab Series amplifiers; Mark Thomas with Armstrong flutes and Piccolos, and Val Podlasinski with Moog Synthesizers and Signal Processors.

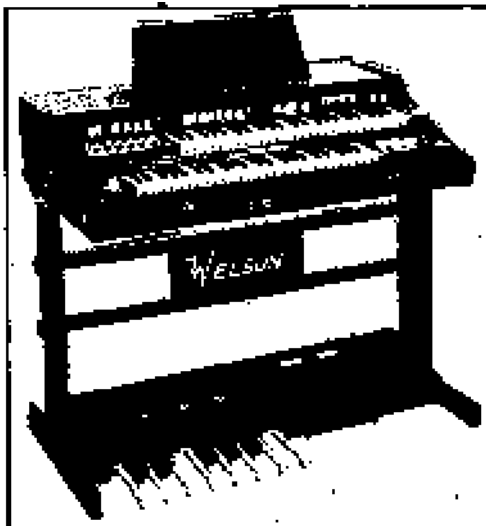
Auf der Messe wird wieder eine grosse Auswahl an Musikinstrumenten von Norlin dargeboten. Star der Ausstellung ist der sagenhafte Les Paul, der voriges Jahr als bester Pop Gitarrist der Welt ernannt wurde und der Besucher mit seinen Gibson Les Paul Modellen verblüffen und unterhalten wird.

Andere Norlin Instrumente werden von verschiedenen Virtuosen vorgespielt, so wie Harry Stoneham, Gerry Allen und Dave Smith an Lowrey Orgeln; Bruce Bolen und Dave Roberts mit Gibson und Epiphone Gitarren und Lab Series Verstärkung; Mark Thomas mit Armstrong Flöten und Pikkolos, und Val Podlasinski mit Moog Synthesizern und Signal Processors.

On pourra voir à la Foire un autre étalage complet des instru-

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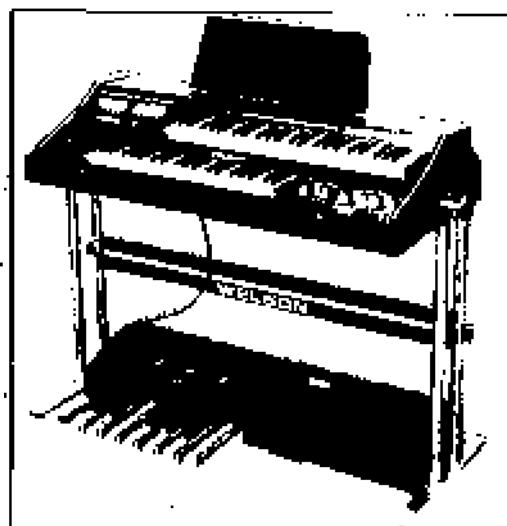


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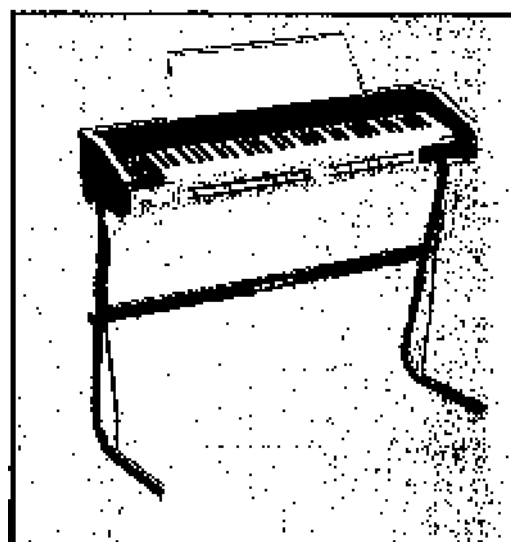
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THE PROFESSIONALS SHOP

FRANKFURT 79

Pearl Musical Instrument Company, 16-6 Narihara 4-Chome, Sumida-Ku, Tokyo, Japan.
Tel. 03 626 1171

Pearl of Japan will be out in force at Frankfurt this year with a full range of all their musical lines. Naturally Pearl Drums will be much in evidence along with the Maxwin percussion range plus the rest of the Pearl products including keyboards, amplifiers, sound modifiers, electric guitars, flutes and microphones.

Die japanische Firma Pearl bringt ein starkes Aufgebot nach Frankfurt und wird ihr Gesamtprogramm an Musikprodukten vorführen.

Es versteht sich, dass Pearl Drums in Vordergrund stehen, wie auch die Maxwin Schlaginstrumentenserie. Dazu kommen noch die firmeneigenen Keyboards, Verstärker, Ton Modifizierer, elektrischen Gitarren, Flöten und Mikrofone.

La firme japonaise de Pearl sera extrêmement bien représentée à Francfort cette année avec une gamme complète de toutes ses lignes musicales. Les tambours Pearl seront naturellement bien en évidence de même que la gamme d'instruments à percussion Maxwin plus le reste des produits Pearl et notamment les claviers, les amplis, les modificateurs de son, les guitares électriques, les flûtes et les microphones.

Quest'anno a Francoforte la Pearl del Giappone uscirà a tutta forza con una completa gamma di tutte le loro linee musicali. Naturalmente i tamburi Pearl saranno molto in evidenza assieme alla gamma di percussioni Maxwin ed in più il resto dei prodotti Pearl, includendo tastiere, amplificatori, modificatori acustici, chitarre elettriche, flauti e microfoni.

パールミュージカルインストルメントカンパニー、東京都墨田区なから4丁目6-16。

電話 03-626-1171

日本のパール社は、今年フランクフルトに同社の全製品を出品します。当然主力はパールドラムになりますが、マックスウィン打楽器のほか、キーボード、アンプリファイヤー、サウンドモディファイヤー、エレクトリックギター、フルート及びマイクフロホンなどの他のパール製品も展示されます。

Peter Legh Musical Instruments Ltd., 13 Princesses Parade, Waterside, Crayford, Kent DA1 4JD.

Tel: (0322) 522544/843481.

Peter Legh Musical Instruments Ltd. are UK distributors of Giannini guitars and cravolas. At the Giannini stand Peter Legh will be pleased to show British dealers the new range of folk and western guitars which are being introduced for the first time at Frankfurt.

Also of particular interest will be the "Sevilha" classic guitar which was first presented in the UK at the Live Music Show at Harrogate and which many English dealers may not have seen.

FBT Elettronica, 62019 Recanati (MC), Zona Industriale "E. Mattei".

Tel: 981480.

FBT Elettronica S.p.A. claim to be one of the largest manufacturers of amplification, group and discotheque equipment in Italy. Established in 1965, they export to over 50 countries.

At the Frankfurt Fair the company will be concentrating on the existing range of guitar amps and combos and an entirely new range of PA equipment. The PA Personal 1500 (150 watt) and Personal 3000 (300 Watt) will be surely drawing the attention of visitors either for the original design or for the modern technology of this compact, portable and foldable unit.

Electronic Manufacturing (Sales) Ltd., Devonshire House, High Street, Deritend, Birmingham B12 0LP.

This company handles world distribution of Laney Amplification, now established as one of the most popular brands in the UK and Europe. Their range at the fair will include combination and public address amplifiers, and PA and instrument speaker columns and boxes. New models on show will feature a K30 Twin Reverb combination, 100 watt and 50 watt valve amps and combinations.

Due to the great demand for the company's products during 1978 sales have been limited mainly to UK, West Germany, France and Denmark. However, production has now been doubled and the company is therefore able to accept additional export business, for which inquiries will be welcome.

Bob Thomas and Mike Cooper will also be on the stand and look forward to meeting both established and prospective customers.

Pluto Electronics Ltd., North Way, Andover, Hampshire SP10 5BN.

Tel: (0264) 51114.

The Pluto group of companies manufacture over fifty different products for the disco industry. The basic range consists of four custom built projectors, strobes, sound to lights, fibre optic lighting panels and a very large selection of accessories including cassettes and effect wheels.

Last year saw the launch of two new projectors, a sound to light slave unit, a new sound to light, the junction box, new style lenses, fibre optic disco panels and major increases in 3" cassettes and 6" wheels.

On the stand will be Richard Millington and David Winfield.

Das Pluto Konsortium stellt über 50 verschiedene Produkte für die Diskoindustrie her. Das Programm umfasst hauptsächlich Projektoren in 4 Abstufungen, Stroboskope, Ton-Lichteffekte, optische Faserbeleuchtungstafeln, eine grosse Zubehörauswahl, einschliesslich Kassetten und Effektscheiben.

Im vorigen Jahr wurden zwei neue Projektoren auf den Markt gebracht, als auch eine Ton-Licht Fremdsynchronisierungseinheit, Abzweigkasten, Linsen in neuem Stil, optische Faserdiskotafeln und zusätzliche 3" Kassetten und 6" Scheiben.

Auf dem Stand befinden sich Richard Millington und David Winfield.

Le groupe de sociétés Pluto fabrique plus de cinquante produits différents destinés à l'industrie des discotheques. La gamme de base comprend quatre projecteurs fabriqués sur commande, des stroboscopes, des "son en lumière", des panneaux d'éclairage à fibres optiques et un très grand choix d'accessoires, y compris des cassettes et des roues à effet.

L'an dernier, la firme a lancé deux nouveaux projecteurs, un ensemble auxiliaire son en lumière, un nouveau son en lumière, une boîte de dérivation, des objectifs de style nouveau, des panneaux de disco à fibres optiques et de grandes augmentations dans les cassettes de 3 pouces et roues de 6 pouces.

Richard Millington et David Winfield seront au stand.

Il gruppo di compagnie Pluto fabbrica più di cinquanta prodotti per l'industria per discoteca. La

base della gamma consiste di quattro proiettori 'fuori serie', strobes, "suono alle luci", pannelli illuminativi di fibra ottica ed una scelta molto comprensiva di accessori incluse le cassette e ruote-effetti.

L'anno scorso è avvenuto il lancio di due nuovi proiettori, un'unità schiava "suono alle luci", un nuovo "suono alle luci", la scatola di giunzione, lenti di stile nuovo, pannelli di fibra ottica per discoteche e maggiori aumenti nelle cassette da 3" e ruote da 6".

Allo stand vi saranno i signori Richard Millington e David Winfield.

フルート、エレクトロニクス、リミット、ノースウェイ、アンドーバー、ハンファシャー SP10 5BN

フルート、エレクトロニクスは、50種類以上のディスコ関係の製品を製造しています。基本の種類の製品としては、4つのプロジェクター、ストロボ、サウンド・ツール・ライト、ファイバースコープ、照明パネル、ケーブル及びエフェクトホイールなどの広範囲なアクセサリーなどです。昨年は、2つの新しいプロジェクター、

サウンド・ツール・ライト・スレーブ・ユニット、新しいサウンド・ツール・ライト、ジャンクションボックス、新しいスタイルのレンズ、ファイバースコープ、ディスコパネル、コネクティングケーブル及びエフェクトホイールなどを発表しました。フランクフルトではこれらの全種が展示されます。同社は、本年は輸出がまた更に伸びるものと期待しています。スタンドには、リチャード・ミリングトン及びデイビッド・ウィンフィールドが出席予定です。

The Premier Drum Co. Ltd., Blaby Road, Wigston, Leicester.

Tel: (0533) 773121.

Premier specialise in high quality percussion instruments and accessories. Their vast selection includes 30 different snare drums, 50 tom-toms, 25 bass drums, a wide choice of accessories as well as timpani, drumheads, mallet instruments, cymbals, marching band equipment, and a huge range of educational instruments, and accessories.

This year Premier will be sharing a popular up-to-date drum range in 3 different styles from Resonator, Elite and Soundwave. Also featured will be 3 brand new ranges of drumheads: Premier Gold, Blue and Black and again 3 ranges of cymbals, Ufip, Zildjian, Zyn, a trio of their best marching snare drums, tuned percussion instruments, and drumsticks in 3 different woods.

Premier staff attending are Derek Stephenson, Gerald Della-Porta, Rex Webb, Allan Hewitt, Alick Sidebottom and Roger Horrobin.

Premier spezialisiert sich auf Qualitätsschlaginstrumente und Zubehör. Ihre enorme Auswahl umfasst 30 verschiedene Snare Drums, 50 Tom-Toms, 25 Bass Drums und reichhaltiges Zubehör; ebenfalls Timpani, Trommelfelle, Schiegel, Becken, Marschkapellen-

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ausstattung und ein sehr grosses Angebot an Bildungs- und Übungsinstrumenten.

Auf der Messe verteilt Premier ihre Darbietung auf eine moderne Serie in 3 verschiedenen Stilen: Resonator, Elite und Soundwave. Ebenfalls zur Schau kommen 3 ganz neue Trommelfellserien: Premier Gold, Blue und Black, als auch 3 Beckenserien: Ufip, Zildjian, Zyn; ein Trio ihrer besten Snare Drums; abgestimmte Schlaginstrumente und Drumsticks aus 3 verschiedenen Hölzern.

Auf dem Stand befinden sich Derek Stephenson, Gerald Della-Porta, Rex Webb, Allan Hewitt, Alick Sidebottom und Roger Horrobin.

La maison Premier se spécialise dans les instruments à percussion de qualité supérieure et leurs accessoires. La firme offre un grand choix dont 30 tambours à timbre différents, 50 tam-tams, 25 grosses caisses, un grand choix d'accessoires ainsi que des tympans, peaux de tambour, instruments à maillet, cymbales, équipement pour orchestre défilant et un vaste éventail d'instruments pour l'enseignement et d'accessoires.

Cette année, la maison Premier partagera une gamme de tambours modernes et à succès en 3 styles différents: Resonator, Elite et Soundwave. On pourra voir également 3 gammes toutes nouvelles de peaux de tambour: Première Gold (or) Blue (bleu) et Black (noir) et aussi 3 gammes de cymbales: Ufip, Zildjian et Zyn, un trio des meilleures grosses caisses de défilé, des instruments à percussion accordés et des baguettes de tambour en 3 bois différents.

Le personnel de Premier assurant la permanence comprendra Derek Stephenson, Gerald Della-Porta, Rex Webb, Allan Hewitt, Alick Sidebottom et Roger Horrobin.

La Premier è specializzata in strumenti a percussione ed accessori d'alta qualità. La sua estesa selezione include 30 differenti tamburi "snare", 50 tam-tam, 25 tamburi di basso, un'estesa scelta di accessori ed anche timpani, teste da tamburo, strumenti a martello, piatti, attrezzature per bande di marcia ed una vasta gamma di strumenti ed accessori educazionali.

Quest'anno la Premier presenterà un'aggiornata gamma di tamburi popolari in tre stili diversi di "Resonator", "Elite" e "Soundwave". Verranno anche presentate tre gamme completamente nuove di teste da tamburo: Premier Oro, Blu e Nero, ed anche tre gamme di piatti: "Ufip", "Zildjian" e

"Zyn", un trio dei suoi migliori tamburi "Snare" di marcia, strumenti a percussione sintonizzati e bacchette da tamburo in tre legni diversi.

Il personale della Premier che parteciperà include Derek Stephenson, Gerald DellaPorta, Rex Webb, Allann Hewitt, Alick Sidebottom e Roger Horrobin.

プレミア ドラム カンパニー リミテッド
フタバ ロード、ウェクストン、
レスター

プレミアは、高品質の打楽器とそのアクセサリーを専門にしています。同社の多種の製品には、テンパニー、ドラムヘッド、マレット楽器、シンバル、マーチバンド用楽器など幅広い範囲の教育用楽器及びアクセサリなどがあります。本年は、プレミアは、ホビータン最新のドラム、レクネター、エリート及びサウンドウェイの三つのスタイルで出品します。更に、最新の三種のドラムヘッドとして、プレミアゴールド、ブルー及びブラック、また、エスツプ、ジルドジャン、ジンズの三種のシンバル、最も優れた三種のマーチ用小太鼓、調律打楽器、及び三種の種類の木製のドラムスティックなどが展示されます。

プレミア スタンドには、テック スターテンソル、ジェラルド テラホップ、レックス ウェブ アラン ヘット、アリック サイドボトム及びロジュー ホロバムルが出品しております。

Reslosound Ltd., Eagle Road, Rye, East Sussex.
Tel: (07973) 3959.

Reslosound Ltd., of Rye, Sussex, are exhibiting a wide range of their communications and PA equipment. Making its debut is an exciting portable PA system which contains a receiver for use with a radio microphone and produces an output of 30W RMS from its built-in amplifier. It houses inputs for microphone and tape deck, and a priority switching system.

The RGP71, or Reslostar, is a high quality super-cardioid microphone noted for its excellent sensitivity and feedback characteristics. Other Reslo products include miniature 'tie-clip' mikes and the range is complemented by a wide selection of accessories.

Reslosound hat ihr Werk an der Südküste und wird dieses Mal ein umfassendes Programm von Tonkommunikationen und PA Systemen zur Auslage bringen. Dazu gehört erstmalig ein hochinteressantes transportfähiges PA System, das einen Empfänger enthält, der mit einem Radiomikrofon verwendbar ist und 30 Watt Effektivwert von ihrem eingebauten Verstärker erzeugt. Es hat ferner Eingänge für Mikrofon und Tonband, und ein Vorwahlschaltersystem.

Der RGP71 (Reslostar) ist ein hochgradiges Mikrofon in Herzform, von sehr hoher Empfindlichkeit und Rückkopplung. Weiter

zu erwähnen wären noch Reslo Miniaturmikrofone zum anbringen an Kravatten, und das Gesamtprogramm wird mit einer grossen Auswahl an Zubehör vervollständigt.

Reslosound Ltd., de Rye, Sussex, expose une gamme étendue de son équipement de diffusion publique et de communications. Faisant ses débuts au Salon, on a un système de diffusion publique portable sensationnel contenant un récepteur susceptible d'être employé avec un microphone radio et produisant une sortie de 30W (efficace) grâce à l'amplificateur incorporé. Il abrite les entrées pour le microphone et la platine de magnétophone ainsi qu'un système de commutation de priorité.

Le RGP71 ou Reslostar est un microphone supercardioïde de haute qualité renommé pour ses excellentes caractéristiques de sensibilité et de réaction. Parmi les autres produits Reslo, figurent les micros miniatures dits "d'épingle de cravate" et la gamme est complétée par un grand choix d'accessoires.

La Reslosound Ltd. di Rye, Sussex, esibirà un'estesa gamma delle sue attrezzature P.A. e di comunicazione. Quello che farà il suo debutto sarà un sistema PA portatile, contenente un ricevitore per essere usato col radiomicrofono, che produce un'uscita di 30W R.M.S. (valore efficace) dal suo amplificatore incorporato. Alloggia ingressi per microfono e deck per nastri con un sistema di commutazione di precedenza.

Il RGP 71 o "Reslostar" è un microfono super-cardioide d'alta qualità, conosciuto per la sua eccellente sensibilità e le caratteristiche di reazione. Altri prodotti Reslo includono i microfoni in miniatura come "spille per cravatta" e la gamma è complementata da un'estesa scelta di accessori.

レスロサウンド リミテッド、イーグルロード、ライ、イーストサセックス。サセックス、ライにあるレスロサウンド リミテッドは、広範囲の通信及びPA装置を展示します。初めて出品されるのは、ラジオ・ホータル PA システムには、ラジオ マイクロホンに使用できるレシーバーがあり、内蔵の増幅器からは、30 W RMS の出力が得られます。これには、マイクロホン及びテープデッキ用の入力及び優先スイッチシステムがあります。

同社のラジオ マイクロホンは、おそろしく、最も経済的な価格で入手できる高品質なユニットで、その中には、キャパシタンス ソロ アナログに作られた、フーズケース入りです。TXT とよばれるトランスミッターと RXA とよばれる受信機には、179.8 mHz のバンドで動作し、電波の連綿とされるので、電波の危険を除くことができます。

RGP71 またはレスロスターは、高品質のスーパー・カード型マイクロホンで、おそろしく感度と優れたフォードバック特

性が特長です。他のレスロ製品には、エグザクティブ マイクがあり、このほか広範囲のアクセサリがあります。

Roost Sound Equipment Ltd.
Unit 3, Carlton Court,
Grainger Road, Southend on
Sea, Essex SS2 5BZ.
Tel: 0702-613232.

Roost Sound Equipment Ltd. will be exhibiting their well known range of valve amplifier tops and combos together with an associated full range of speaker enclosures to cover all purposes from lead guitar and bass to P.A.

Also on show will be the new 400S stereo power amplifier which is now available with XLR connectors and dual LED meters, and since being uprated to produce over 200 watts per channel has been in great demand.

Phil Jackson and Ron Bailey will be on the stand.

Roost Sound Equipment Ltd. zeigt ihre weit bekannte Serie von Röhrenverstärker-Oberstufen und Kombos vor, zusammen mit der eingegliederten Serie von Lautsprecherzargen. Auf diese Weise wird allen Zwecken gedient — von Leadgitarre und Bass bis zu Beschallungssystemen.

Ebenfalls vorgeführt wird der neue 400S Stereo-Hochleistungsverstärker, der jetzt mit XLR Anschlüssen und zweifachen LED Messern erhältlich ist und der grossen Zuspruch gefunden hat, seitdem die Leistung auf über 200 Watt gesteigert wurde.

Phil Jackson und Ron Bailey befinden sich auf dem Stand.

Roost Sound Equipment Ltd. exposera sa gamme bien connue de combos et de dessus d'amplificateurs de valeur avec une gamme complète connexe d'enceintes acoustiques pour couvrir toutes les applications depuis la première guitare et guitare de basse jusqu'à la diffusion publique.

On verra également au Salon le nouvel amplificateur de puissance stéréo 400S qui existe maintenant avec connecteurs XLR et doubles compteurs à diodes lumineuses et qui est très demandé depuis que sa puissance a été accrue pour produire plus de 200 watts par canal.

Phil Jackson et Ron Bailey seront au stand.

La Roost Sound Equipment Ltd., esibirà la sua ben conosciuta gamma di "tops" e "combos" per amplificatori-valvola, assieme ad una associata gamma di rinchiudi per altoparlanti che copriranno tutti gli scopi dalla chitarra e chitarra basso al P.A. Sarà anche mostrato il nuovo amplificatore stereo di potenza che adesso è disponibile con i connettori XLR e doppi misuratori LED e da quando è stato aumentato per produrre più di 200 watts per

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canale, è diventato molto richiesto.

Allo stand vi saranno i signori Phil Jackson e Ron Bailey.

ルース・サウンド イクイメント リミテッド、ユニット 3、カールトン・フォート、クレインシャー ロード、サウスエンド オンシー、エセックス SS2 5BZ.
電話 0702-613232

ルース・サウンド イクイメント社は、アンプリファイア、トンプ・及び コンボの有名なブランド、及び ロード、ギター、及びバスから PA までの全品を、キャパシタ 200 フット以上に強化されて以来、需要が非常に高まっています。フル ジャクション及び ロン ベイラー・カ・スタン・に出ます。

Rose-Morris & Co. Ltd.,
32/43 Gordon House Road,
Kentish Town,
London NW5 1NE.
Tel: (01) 267 5151.

Rose-Morris will launch a host of new products at Frankfurt. These include the full range of Marshall amplification, Natal percussion, Berg Larsen clarinet and saxophone mouthpieces, Interlock microphone stands and shaft drum hardware, Rose-Morris Clansman Marching Drums and their full range of marching accessories.

In addition to the 2150 1 x 12 Valve Combo, showing for the first time at Frankfurt, six completely new Marshall products will be on the stand:— 4145 4 x 10 Reverb Super Combo 100W Valve, 4150 4 x 10 Compressor Bass Combo 100W Valve, 2299 2 x 12 Reverb M. Vol Combo 30W Transistor, 2144 2 x 12 Reverb M. Vol Combo 50W Valve, 200W Reverb PA with 100W Monitor and 2959 100W Reverb Valve Amp Top.

New developments in Clansman drums feature the Clansman Chrome Bonded Marching Drum range, also seen for the first time at Frankfurt.

Also on display will be the new range of durable drum beaters made by Rose-Morris and Natal percussion, including Congas, Bongos and Guiros. The world famous range of Berg Larsen saxophone and clarinet mouthpieces will also be featured.

On the stand will be Peter Clarke, Derek Baxter, Keith Drewett and a team of experts.

Rose-Morris lässt ein ganzes Schiff neuer Produkte in Frankfurt vom Stapel laufen! Sie umfassen die komplette Serie der Marshall Verstärkungsanlagen,

Natal Schlaginstrumente, Berg Larsen Klarinetten und Saxophon Mundstücke, Interlock Mikrofonständer, Shaft Drum Hardware und Rose-Morris Clansman Marschtrommeln mit einer grossen Zubehöerauswahl.

Zuzüglich der in Frankfurt erstmalig erscheinenden 2150 1x12 Röhrenkombo werden 6 ganz neue Marshall Produkte auf dem Stand gezeigt: 4145 4x10 Reverb Superkombo 100 Watt Röhre — 4150 4x10 Kompressor Basskombo 100 Watt Röhre — 2299 2x12 Reverb M.Vol. Kombo 30 Watt Transistor — 2144 2x12 Reverb M.Vol. Kombo 50 Watt Röhre — 200 Watt Reverb PA mit 100 Watt Monitor — und 2959 100 Watt Reverb Röhrenverstärkeroberstufe.

Neuentwicklungen der Clansman Trommeln betonen die Clansman varchromte Marschtrommelserie, auch zum ersten Mal in Frankfurt.

Auch zur Schau kommt die von Rose-Morris und Natal Schlaginstrumenten hergestellte neue Serie von haltbaren Paukenschlägern und umfasst Congas, Bongos und Guiros. Die weltbekannten Berg Larsen Saxophon und Klarinetten Mundstücke werden ebenfalls vorgeführt.

Auf dem Stand befinden sich Peter Clarke, Derek Baxter, Keith Drewett und andere Firmenmitglieder.

Rose-Morris lancera una multitude de produits nouveaux à Francfort. Parmi ceux-ci, figurent la gamme complète d'amplification Marshall, de percussion Natal, de becs de clarinette et de saxophone Berg Larsen, de visserie pour fûts de tambour et de supports de microphone Interlock, de tambours de défilé Clansman Rose-Morris ainsi que sa gamme complète d'accessoires pour les défilés.

En plus du combo à tubes 2150 1 x 12 présenté pour la première fois à Francfort, on pourra voir au stand six produits Marshall tout nouveaux: le tube de 100 watts Super Combo Reverb 4145 4 x 10, le tube 100 watts Bass Combo Compressor 4150 4 x 10, le transistor 30 W Reverb M. Vol Combo 2299 2 x 12, le tube de 50 watts Reverb M. Vol. Combo 2144 2 x 12, le PA Reverb (diffusion publique) 200 W avec contrôleur de 100 W et le dessus d'amplificateur à tubes Reverb 100 W 2959.

Les innovations concernant les tambours Clansman sont la gamme de tambours de défilé à liant chromé Clansman que l'on verra également pour la première fois à Francfort.

On pourra également voir au stand une gamme nouvelle de bannes de tambour durables réali-

sées par Rose-Morris et Natal percussion y compris les Congas, les Bongos et les Guiros. On verra également la gamme de renommée mondiale de becs de saxophone et clarinette Berg Larsen.

Peter Clark, Derek Baxter, Keith Drewett et une équipe d'experts seront au stand.

A Francoforte la Rose-Morris lancera una moltitudine di nuovi prodotti. Includeranno l'intera gamma di amplificazione Marshall, percussioni Natal, imboccature per sassofono e clarinetto della Berg Larsen, sostegni per microfoni Interlock e hardware per tamburi shaft, tamburi Rose-Morris Clansman per bande di marcia e la sua intera gamma di accessori per bande di marcia.

Allo stand, in aggiunta al 2150 1 x 12 Valve Combo in mostra a Francoforte per la prima volta, vi saranno sei prodotti Marshall completamente nuovi: 4145 4 x 10 Reverb Super Combo 100W Valve; 4150 4 x 10 Compressor Bass Combo 100W Valve; 2299 2 x 12 Reverb M. Vol Combo 30W Transistor; 2144 2 x 12 Reverb M. Vol Combo 50W Valve; 200W Reverb PA con 100W Monitor e 2259 100W Reverb Valve Amp Top.

I Nuovi sviluppiamenti dei tamburi Clansman mostrano la gamma di tamburi 'Chrome Bonded' (legame-cromo) per bande di marcia, anche questi visti per la prima volta a Francoforte.

In mostravi sarà anche la nuova gamma di durevoli battitori per tamburo, fabbricati dalla Rose-Morris e percussioni Natal includendo Congas, Bongos e Guiros. Verrà anche presentata la gamma, famosa in tutto il mondo, di imboccature per sassofono e clarinetto della Berg Larsen.

Allo stand vi saranno i signori Peter Clark, Derek Baxter, Keith Drewett ed una squadra di esperti.

ローズ・モリス アンド カンペニー リミテッド、32/43 ゴードン ハウス ロード、

グンテッシュ タウン

ロンドン NW5 1NE.

電話 (01) 267 5151

ローズ・モリス社は、数々の新製品をフランクフルトに発表します。これらには、マーシャル アンプリフィケーション、ネイタル 打楽器、ベルカ ラーセン クラリネット及び サクソホン マウスピース、インターロック マイクロホン スタンド、シャフト ドラム 装置、ローズ・モリス・クラシマン 行進ドラム 及び 行進用 アクセサリーなどです。

2150 1x12 バルブ コンボのほか、フランクフルトに初めて出品される 6 つの新しい マーシャル 製品は次のとおりです。4145 4x10 レバースーパーコンボ 100W バルブ、4150 4x10 コンプレッサー バス コンボ 100W バルブ、2299 2x12 リバース M. Vol. コンボ 30W トランジスター、2144 2x12 リバース M. Vol. コンボ 50W バルブ、100W モニター・付 200W リバース PA 及び 2259 100W リバース バルブ・アンプ トップ。

クラシマン ドラム の新モデルとして クラシマン クロム ボンド 行進ドラム が初めてフランクフルトに出品され、

また フルトの大家、ジェームス ゴルウェイは、有名なジェームス ゴルウェイフルトに、新たにジェームス ゴルウェイテン ホイスルのレバートナーを付加しました。これは単なるおもちゃではなく、立派な楽器といえるものです。更に、ローズ・モリスとネイタル バルブ・コンにより製作された、コンガス、ボンゴス、ギロスなどの長寿命のドラム ビーターの新モデルも出品されます。世界的に有名なベルカ ラーセンのサクソホン及びクラリネット マウスピースもごらんになれます。フランクフルトに於いて、ローズ・モリスにより展示される製品は、すべてイギリスで設計、開発、製造されたもので、世界中に販売されています。スタンドには、ビーター クラフ、デレック バルブスター、キース ドレウェット 及び 専門技師のスタッフが出るようになります。

Rosetti (EMI) Limited,
138-140 Old Street,
London EC1V 9BL.
Tel: (01)- 253 7294.

Rosetti will be exhibiting their full range of Hamma drums plus many accessories including a new kit in a new colour and a new range of Hamma parade drums. Also on show will be EMI recorders and many accessories including guitar covers, straps, plectrums, etc.

Hamma drums are now becoming one of the leading lines throughout the Common Market and to build even further on this reputation, their recently introduced new range of parade drums are of the same high quality and standard as the orchestral drums.

Representing the company on the stand will be, Michael Cowan (M.D.), Michael Hunka, Alby Paynter, Bert Taylor and European representative, Dave Barnett.

Rosetti stellt ihr komplettes Angebot an Hamma Trommeln und Zubehör aus, wobei eine neue Ausstattung in einer neuen Farbe, und eine neue Serie von Parade-trommeln hervorgehoben wird. Ebenfalls ausgestellt werden die EMI Aufnahmegeräte und Zubehörsortimente, einschliesslich Schutzhüllen für Gitarren, Riemen, Plektrons und anderes.

Hamma Trommeln werden jetzt eine der führenden Marken in der EWG, und um ihren Ruf weiter zu fördern versichert die Firma, dass ihre kürzlich neu eingeführten Parade-trommeln dieselbe hohe Qualität aufweisen als ihre Orchestertrommeln.

Auf dem Stand befinden sich Michael Cowan (M.D.), Michael Hunka, Alby Paynter, Bert Taylor und der Vertreter für Europa, Dave Barnett.

Rosetti esporrà sa gamma completa de tambours Hamma ainsi que de nombreux accessoires et notamment un nouveau kit dans un coloris nouveau et une nouvelle gamme de tambours de parade Hamma. On pourra également voir au stand des flageolets EMI et de nombreux accessoires notamment

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des housses à guitare, bandoulières, médiateurs, etc.

Les tambours Hamma sont en train de devenir l'une des meilleures gammes d'articles dans tout le Marché Commun et pour consolider encore cette réputation, la firme a lancé dernièrement une gamme nouvelle de tambours de parade qui sont, eux aussi, de qualité supérieure et constituent la norme pour les tambours d'orchestre.

La firme sera représentée au stand par Michael Cowan (M.D.), Michael Hunka, Alby Paynter, Bert Taylor et le représentant en Europe, Dave Barnett.

La Rosetti esibirà tutta la sua gamma di tamburi "Hamma", in aggiunta a tanti accessori compreso un nuovo insieme di tamburi da parata "Hamma". Vi saranno anche esibiti dei registratori EMI e tanti accessori compresi horse per chitarra, spalline, linguette, ecc., ecc.

I tamburi "Hamma" ormai stanno diventando una delle linee principali in tutto il Mercato Comune e per rinforzare ancora di più questa reputazione, alla sua nuova gamma di tamburi da parata, recentemente introdotta, è della stessa alta qualità e standard come i tamburi orchestrali.

Allo stand, per rappresentare la compagnia, vi saranno i signori Michael Cowan (M.D.), Michael Hunka, Alby Paynter, Bert Taylor ed il nostro rappresentante europeo, Dave Barnett.

ロセティ (EMI) リミテッド
138-140 オールド・ストリート
ロンドン EC1V 9BL

ロセティ社は、ハマドラムの全種類の新しいカラーの新しいセットを含む多くの付属品、それに新しいハマハールドドラムを展示します。またショーには EMI レコーダー、ギター、カバン、スラック、つまなど多くのアクセサリーも出品されます。

ハマドラムは、EEC 諸国内で広く使用されており、更に難得にこれらため最近発表された新しいハールドドラムはオーケストラドラムと同じ高品質なスタンダードに作られています。

同社のスタンドには、マイケル・コワン(社長)、マイケル・ハンカ、アルビー・ペインター、バート・テラー及びヨーロッパ駐在員のデヴィッド・バーネットがいます。

Sharma Manufacturing Co.,
1379 Lincoln Road,
Warrington, Peterborough.
Tel: (0733) 71913.

Sharma Manufacturing, Britain's foremost producer of Rotary Sound Cabinets, intend to unveil at least three new items at this year's Frankfurt Trade Fair. In addition to the very successful range of single channel cabinets Sharma have developed a series of multichannel cabinets, both for home and professional use.

On the stand will be the full complement of Sharma personnel led as usual by Keith Hitchcock. All visitors may be sure of a warm welcome.

Sharma Manufacturing, Grossbritannien's führender Hersteller von Drehtonkabinen, hat die Absicht auf der Frühlingmesse 3 neue Produkte zu enthüllen. Ausser der erfolgreichen Serie von Einkanal Kabinen, hat Sharma nun eine Anzahl von mehrkanaligen Kabinen für Berufs als auch Hausgebrauch entwickelt.

Auf dem Stand befindet sich das ganze Sharma Team, wie immer unter Leitung von Keith Hitchcock. Besucher werden herzlich willkommen geheissen.

Sharma Manufacturing, qui est le premier producteur au Royaume-Uni des coffrets sonores Rotary, a l'intention de dévoiler au moins trois nouveaux articles à la Foire Commerciale de Francfort de cette année. En plus de la gamme à grand succès des coffrets à canal simple, Sharma a mis au point une série de coffrets à canaux multiples à la fois pour les amateurs et les professionnels.

Tout le personnel de Sharma sera au stand sous la direction, comme d'habitude, de Keith Hitchcock. Tous les visiteurs peuvent être certains d'un accueil chaleureux.

La Sharma Manufacturing, la prima produttrice inglese di Armadietti Rotary Sound, intende rivelare almeno tre nuovi articoli alla Fiera commerciale di Francoforte di quest'anno. In aggiunta alla gamma di grande successo di armadietti a canale singolo, la Sharma ha sviluppato una serie di armadietti multicanali, sia per la casa che per uso professionale.

Allo stand vi sarà il complemento totale del personale della Sharma, guidato come al solito dal Sig. Keith Hitchcock. Tutti i visitatori potranno essere sicuri di ricevere una calda accoglienza.

シャーマ マニファクチャリング カンパニー
1379 リンカーン ロード、ワリントン、
ピーターボロ。

電話 (0733) 71913

シャーマ マニファクチャリングは、ロータリーサウンドキャビネットのメーカーとしてはい

ギリス最大で、今年のフランクフルトショーでは、少なくとも三つの新しい製品を発表します。非常に成功した単チャンネルキャビネットに加え、シャーマでは、家庭用及び専門家用として、多チャンネルキャビネットを開発しました。

この新しいキャビネットは、9インチのビン出力出口のある最新のオルカンヒーターフェイスを持つデザインで、この効果を出すのに一つのシャーマ心コネクターだけで必要です。したがって複雑な内部配線や外部スイッチが排除されています。フェーダー、アイフのオルガン用として、シャーマは新しい

キャビネットを展示します。これは、ユーザが、フェーダー効果を増幅し、強化できるように設計されています。スタンドには、通常キース、ベッチコックを初めとするシャーマのスタッフが待機します。すべての訪問者はあなたに歓迎されます。

Dave Simms Music Products,
Project House, 1-5 The Grove,
Ealing, London W5 5DX.
Tel: (01)-567 0757.

The company will be showing their full range of discos, sound and lighting systems, and new versions of the SIMMS JUPITER, SATURN & ATLANTIS disco consoles and mixers will be on demonstration with the range of power amplifiers and speaker systems, plus the usual wide range of effects lighting.

New at Frankfurt will be the PS 500S - Power Amplifier, a monster 500 watts per channel stereo amplifier of very high quality, but sensible price. This unit completes the range which includes the 150 mono, 300 stereo and 500 mono units. Portable stage lighting is emphasised with Sealed Beam type lamp units of 300, 500 and 1,000 watts.

Dave Simms, Jimmy St. Pier and Paul Raymond will be on the stand to demonstrate all products.

Die Firma stellt ihr gesamtes Angebot an Diskos, Ton und Beleuchtungssystemen aus. Neue Ausführungen der Simms Jupiter, Saturn und Atlantis Diskopulte und Mischer werden zusammen mit der Grossverstärkerserie und den Lautsprechersystemen, als auch einer reichhaltigen Auswahl von Effektbeleuchtungsgeräten, vorgeführt.

Zum ersten Mal in Frankfurt wird der neue PS 500S Grossverstärker gezeigt, ein Riesenstereogerät von 500 Watt pro Kanal, sehr guter Qualität, dass zu einem vernünftigen Preis angeboten wird. Diese Einheit vervollständigt die 150 Mono, 300 Stereo und 500 Monoserien.

Besonders betont werden die Bühnenbeleuchtungs-koffer geräte des Bündelstrahler Typs in Einheiten von 300, 500 und 1000 Watt.

Auf dem Stand befinden sich Dave Simms, Jimmy St. Pier und Paul Raymond.

La firme exposera sa gamme complète de systèmes Discos, Sound et Lighting (Son et Eclairage) tandis que l'on pourra assister à la démonstration des nouvelles versions des mélangeurs de sons et consoles discos SIMMS, JUPITER, SATURN et ATLANTIS avec la gamme des amplificateurs de puissance et systèmes de haut-parleurs en plus du large éventail habituel d'effets d'éclairage.

La nouveauté à Francfort sera l'amplificateur de puissance PS 500S qui est un amplificateur

stéréo monstre fournissant 500 watts par canal et qui est d'une qualité très élevée mais à un prix raisonnable.

Ce modèle complète la gamme où figurent les mono 150 et les mono 500 et stéréo 300. L'éclairage de scène portatif est mis en valeur avec les blocs optiques scellés à lampes de 300, 500 et 1000 watts.

Dave Simms, Jimmy St. Pier et Paul Raymond seront au stand pour faire la démonstration de tous les produits.

Questa compagnia esibirà la sua completa gamma di sistemi di illuminazione, sonori e discoteca e nuove versioni di console e mescolatori per discoteche, "Simms Jupiter, Saturn e Atlantis", saranno dimostrate assieme alla gamma di sistemi d'altoparlanti ed amplificatori di potenza in più la solita gamma estesa di effetti illuminativi.

La novità a Francoforte sarà l'amplificatore di potenza, PS 500 S, un colossale amplificatore stereo di 500 watt per canale, di altissima qualità ma a prezzo ragionevole. Questa unità completa la gamma, la quale include le unità Mono 150, Stereo 300 e Mono 500. L'illuminazione mobile per palcoscenico è accentuata con unità di proiettore a lampada da 300, 500 e 1,000 watt.

I signori Dave Simms, Jimmy St. Pier e Paul Raymond saranno allo stand per dimostrare i prodotti.

デイブ・シムス・ミュージック・プロダクツ、プロジェクト・ハウス、1-5 グローブ・イーリング、ロンドン W5 5DX

同社は、ディスク、音響及び照明システムの全種類を出品し、新しいタイプのシムス・ジュピター・アトランティス・ディスク・コンソール及びミキサー、電力増幅器及びスピーカーシステム、及び通常の広範囲の効果照明システムと共に実演されます。

フランクフルトでの新製品としては、PS 500S 電力増幅器があります。これは、毎チャンネル 500ワットの高性能増幅器で非常に価格が提供されます。このユニットは、150 モノ、300 ステレオ、500 モノユニットのシリーズに加えられます。

ポータブル ステージ照明は、300、500 及び 1000ワットの「ビーム」ビームタイプランプに重点がおかれています。これには、低価格の全ステール・パーカンス、中価格のステージ・アレイ・ガス及び軽量 スパニ アルミニウムの高級 スパニ ステージ・アレイ・ガスなどがあります。すべてのランプは、巻上機付の大型照明スタンドにあるユニークなプロジェクト ライト ホイストに展示されます。製品は、昨年フランクフルトで大成功をおさめた有名な LS808 ライトミキサーと使用できるようなデザインされています。

全製品の実演のため、デイブ・シムス、ジミー・セント・ピアー、ポール・レイモンドがスタンドに出ます。

Sola Sound, 20 Denmark St.,
London WC2.
Telephone 01-836 2856.

The companies of Sola Sound and Macari have exclusive UK

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distribution of Colorsound effects, Suprani Accordions, Eurotec and Orbitron.

On show this year for the first time will be the Gigster Pedal, a battery-operated, self-contained rhythm unit which plugs into most amplifiers. Also new is the Dipthong for bass guitar with three controls, developed by Colorsound. The Vocalizer goes one step beyond the voice box and produces all the vowel sounds AEIOU by merely pressing down the pedal.



On the stand will be Messrs Larry Macari, Colin Barratt and Mike Ellis.

Die beiden Firmen Sola Sound und Macari haben das britische Alleinvertriebsrecht für Colorsound Effekte, Suprani

Akkordeons, Eurotec und Orbitron.

Auf der Messe befindet sich zum ersten Mal das Gigster Pedal, eine Batterie-betriebene Rhythmuseinheit, die in fast alle Verstärker passt. Ebenfalls neu ist der von Colorsound entwickelte Dipthong für Bassgitarren mit 3 Reglern, wohingegen der Vocalizer die Vokale AEIOU erzeugt, indem man einfach das Pedal herunterdrückt.

Auf dem Stand befinden sich die Herren Larry Macari, Colin Barratt und Mike Ellis.

Les sociétés de Sola Sound et Macari assurent la diffusion en exclusivité au Royaume-Uni des effets Colorsound, des accordéons Suprani et de Eurotec et Orbitron.

On présentera cette année, pour la première fois, au Salon le Gigster Pedal, qui est une unité de rythme autonome alimentée par piles et qui se branche sur la plupart des amplificateurs. Autre nouveauté, le Dipthong pour la guitare de basse avec trois commandes et mis au point par Colorsound. Le Vocalizer fait plus que les cordes vocales et il suffit d'appuyer sur la pédale pour produire tous les sons de voyelle, AEIOU.

MM. Larry Macari, Colin Barratt et Mike Ellis seront au stand.

Le compagne della Sola Sound e Macari hanno l'esclusiva per la distribuzione in Inghilterra degli effetti Colorsound, fisarmoniche Suprani, Eurotec ed Orbitron.

Quest'anno per la prima volta verrà mostrato il "Gigster Pedal" (pedale Gigster), un'unità ritmica compatta funzionante a batteria, la quale può essere inserita nella maggior parte degli amplificatori. E anche una novità il "Dipthong" (dittongo) per chitarra-basso con tre controlli, sviluppato dalla Colorsound. Il vocalizzatore fa ancora un passo più avanti della "voice box" (scatola-voce) e produce tutti i suoni delle vocali AEIOU solamente schiacciando il pedale.

Allo stand saranno presenti i signori Larry Macari, Colin Barratt e Mike Ellis.

ソーラ サウンド、20 デンマーク ストリート、ロンドン WC2.
電話 01-836 2856

ソーラ サウンド及びマカリ社は、カラーサウンド製品、スファニ アコーデオン、ユーロテック及びオービットロンのイギリスでの独占販売権を握っています。今年のショーでは、はじめて、ほとんどのアンプにつなぐことができる、電池式、完全リズムユニット、ジグスターペダルと出品します。更に新製品としては、カラーサウンドが開発した三つのコントロールのバスギター用ディップソングがあります。ボイスボックスは、ボイスボックスの一般販売を行います。ペダルをお見せします。

AEIOUのすべての母音を出します。また同社の「趣味深」他の製品も展示されます。

スタンドには ラリー マカリ、コリン バラット及びマイク エリスがいます。

Soundout Laboratories Ltd.,
91 Ewell Rd., Surbiton,
Surrey KT6 6AH.
Tel: (01) 399 3392.

Based on the outskirts of London, Soundout Laboratories have been established for 5 years as manufacturers of PA and discotheque sound equipment which they now export to a large number of countries.

At the Fair the company will be showing their superb new range of disco consoles, amplifiers and loudspeakers, details of which will be readily available at the stand. Further additions to the Frunt range of professional band amplification equipment will also be introduced.

Dave Street will be on the stand.

Der Firmensitz von Soundout Laboratories liegt am Rande London's, wo die Firma vor 5 Jahren zur Herstellung von Beschallungs und Diskotonanlagen gegründet wurde. Ihre Produkte werden jetzt in zahlreiche Länder exportiert.

Auf der Frühlingmesse stellt Soundout eine erstklassige neue

Lew Chase

top quality guitar strings



See us at
FRANKFURT
STAND
No 50248A

EXCLUSIVE EXPORT AGENTS

Colin Barratt
8 Highfield Road, Cheadle Hulme,
Cheshire SK8 6EL, England.
Tel: 61-485 1007. Telex: 263139



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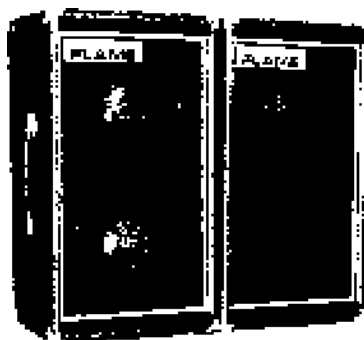
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FRANKFURT 79

Serie von Diskopulten, Verstärkern und Lautsprechern vor, über die alle Einzelheiten auf dem Stand der Firma in Erfahrung gebracht werden können. Für die Frunt Serie Verstärkungsanlagen für Berufsbands sind zusätzliche Geräte produziert worden und diese werden ebenfalls vorgeführt. Auf dem Stand befindet sich Dave Street.

Basés dans la banlieue de Londres, Soundout Laboratories sont établis depuis 5 ans en tant que fabricant d'équipement de diffusion publique et de sonorisation de discothèque qu'ils exportent maintenant à destination d'un grand nombre de pays.

A la foire, la firme exposera sa nouvelle gamme superbe de pupitres de disco, d'amplificateurs et de haut-parleurs dont on pourra obtenir tous les détails au stand. Elle présentera également des innovations dans la gamme Frunt d'équipement d'amplification pour orchestres professionnels.

Dave Street sera au stand.

Situati alla periferia di Londra, i laboratori Soundout si sono stabiliti da 5 anni come fabbricanti del PA ed attrezzature sonore per discoteche che adesso esportano in parecchi paesi.

Alla Fiera, la compagnia mostrerà la sua superba gamma di console per discoteche, amplificatori ed altoparlanti ed i suoi dettagli saranno facilmente disponibili allo stand. Verranno anche introdotte delle aggiunte alla gamma Frunt di attrezzatura d'amplificazione per bande professionali.

サウンド ラボラトリーズ リミテッド、91 イーメル ロード、ワーベリン、サリ KT6 6AH
電話 (01) 399 3392
ロンドンの郊外にあるサウンド ラボラトリーズ社は、過去5年間の間に、PA 及び ディスコ プラント 装置のメーカーとしての地位を確立し、現在多数の国に輸出しています。
ショーでは、同社は、ディスコ コンソール、アンプリファイア及びラウドスピーカーの素晴らしい新しいモデルを展示します。この詳細は、スタンドでいつでも入手できます。更に、専門家庭用の PA 装置とある フラット フラントの新しいモデルも発表されます。同社は、同社の製品が、新旧の顧客の興味を引くものと期待しています。
デモ ストリート カ スタンドに出る予定です。

Streetly Electronics Ltd.,
338 Aldridge Road, Streetly,
Sutton Coldfield, West Mid.
Tel: (021) 353 3171.

The company's comprehensive range of Novatron keyboard instruments, used by many

groups, will be on show. In addition Streetly feature a most interesting new range of products: The Soundsphere. This range of high power loudspeakers represents a new approach insofar as the spherical construction provides 360° sound dispersion together with wide frequency range, making the unit particularly suitable for difficult acoustic conditions. Its frequency range from 35 to 20KHz ensures natural music and speech quality and provides excellent coverage without the loss of high frequencies by crowd absorption. Several models are available with power handling capacities up to 350 watt RMS per unit.

Die Firma stellt ihr vielseitiges Programm an Novatron Keyboard-Instrumenten aus, die von vielen Gruppen verwendet werden. Zusätzlich führt Streetly eine äußerst interessante neue Produktionsserie ein: die Soundsphere. Hochleistungs-lautsprecher, die insofern eine neue Methode darstellen als die kugel-artige Konstruktion Tonstreuung von 360 Grad mit weitem Frequenzbereich ermöglicht und daher besonders für schwierige akustische Erfordernisse geeignet ist. Der Frequenzbereich von 35 bis 20 KHz stellt natürlichen Musik und Sprech-ton sicher und erzielt ausgezeichnete Reichweite ohne Verlust der Hochfrequenzen durch Störung von aussen. Mehrere dieser Modelle stehen zur Verfügung in Stärken bis zu 350 Watt Effektivwert pro Einheit.

On pourra voir au Salon la gamme complète d'instruments à clavier Novatron de la firme qui sont employés par bon nombre de groupes. Streetly présente en outre une nouvelle gamme de produits extrêmement intéressante: The Soundsphere. Cette gamme de haut-parleurs à grande puissance constitue une nouvelle démarche en ce sens que la construction sphérique assure la dispersion des sons sur 360° tandis que la plage de fréquence étendue en fait un modèle convenant particulièrement dans les endroits où les caractéristiques acoustiques sont défavorables. Sa gamme de fréquence de 35 à 20 kHz garantit la qualité naturelle de la musique et de la voix et fournit une excellente couverture sans aucune perte des hautes fréquences du fait de l'absorption par la foule. Il existe plusieurs modèles dont les capacités de puissance atteignent jusqu'à 350 watts (efficaces) par unité.

Sarà esibita la vasta gamma di strumenti a tastiera Novatron usati da tanti complessi. In aggiunta, la Streetly presenterà una nuova gamma di prodotti

interessantissimi: la Soundsphere. Questa gamma di altoparlanti ad alta potenza rappresenta un nuovo miglioramento dato che la costruzione sferica provvede una dispersione di suono di 360° assieme ad una estesa gamma di frequenze che rende l'unità particolarmente adatta per condizioni acustiche difficili. La sua gamma di frequenze da 35 a 20 KHz assicura musica e qualità vocale naturale e provvede un'udibilità eccellente senza perdita di alte frequenze dall'assorbimento di folla. Parecchi modelli sono disponibili con delle capacità di potenza fino a 350 watt RSM (valore efficace) per unità.

ストリート イレクトロニクス リミテッド、338 アルドレッジ ロード、ストリートリー、サットン コールドフィールド、ウェストミッドランズ。多くのグループに使用されている同社のノバトロン鍵盤は人気楽器から出たものです。更に期待されている新製品としてサウンドスフィアが展示されます。これは強力なラウドスピーカーで、円形構造になっているため、360度の音の分散及び広範囲の周波数範囲が特徴で、むづかしい音響条件のときでの使用に特に適しています。35-20キロヘルツの周波数により自然音楽及び話声の質が維持され、群衆吸収による高周波損失がありません。パワー取扱容量はユニット当たり350ワットRMSまでの種類のモデルがあります。
中低周波数(35-4.5キロヘルツ)は、強力ドライバーが処理し、ユニットは、音響、相対的なインピーダンス整合として動作する。特別に開発された反射器を使用して、高周波数は、質量ビームホーンが処理します。同社では、明瞭な音、パワー及び品質が向上する向上したこのサウンドスフィアユニットは、多くの従来のラウドスピーカーに比べてかわるものと期待しています。

Vitavox Ltd., Westmorland
Road, London NW9 9RJ.
Tel: (01)-204 4234.

Vitavox Ltd. will be exhibiting their exciting new pressure driver at the Frankfurt Spring Fair. Details of this unit will not be available until the opening of the Fair.

In attendance throughout the exhibition will be Neil Young, Steven Michaelis and Doug Johnstone.

Adam Hall Supplies Ltd.,
Unit 3, Carlton Court,
Grainger Road,
Southend on Sea,
Essex SS2 5BZ.
Tel: (0702) 613292.

Adam Hall, showing at Frankfurt for the first time this year, manufacture a large range of fittings for loudspeaker cabinets, P.A. cabinets and flight cases.

The range includes covering materials, speaker fret-cloths, plastic edgings and trims, flight case location and edging materials, locks, catches, hinges, handles, castors, corner protectors, ventilation grilles, rubber feet, electrical connectors, Cannon XLRs and also Celestion

speakers, for which the company act as agents.

On the stand will be Adam Hall and John Allondale.

Fletcher Coppock & Newman Ltd., Morley Road,
Tonbridge, Kent TN9 1RA.

The company will be exhibiting a UK manufactured range of products, combining quality and value. The range includes amplifiers, guitar strings and accessories — including a superb range of leather guitar straps — instrument cases and covers, rosins, marching band instruments, glockenspiels, chime bars, recorder bags, music stands, cases and paper.

In attendance will be J. Coppock and J. Weedon, the company's joint managing directors.

Fane Acoustics Ltd.,
286 Bradford Road,
Batley WF17 5PW.
Tel: (0924) 476431.

Fane Acoustics are specialist manufacturers of Chassis speakers for the music industry, and will be represented by their German Distributors FAL Orchester-elektronik Vertriebs GmbH.

On show will be the new 'Crescendo E' Series, including models with sensitivities up to 105dB and continuous power ratings of up to 300 watts. Also on display will be the recently introduced 'Classic' high quality budget range, the well established 'Specialist' range and the HF100 super sensitive high power, high frequency Drive Unit and Flared Sectoral Horn.

Elka-Orla
19, Blue Bridge Industrial
Estate, Halstead, Essex.
Tel: (07874) 5325.

The products on view from Elka will be the successful range of console organs featuring the models Artist 707 and 606, Crescendo 303, Preludio 22/L and Preludio 15. The X705 portable, well received by the professional market, is now joined by the 605, a model designed with the gigging organist in mind.

The company are hoping to show two new products, a combo speaker unit and an updated version of the Concorde 602, an organ designed specifically for accordionists. Orla will be exhibiting their products which cater for the lower priced end of the organ trade and will feature their highly competitive Prestige.

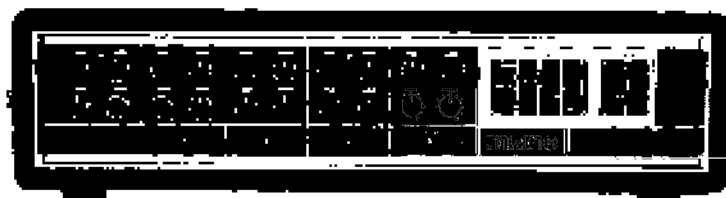
On the stand will be Messrs. Nando Fabi, Fausto Fabi and Malcolm White.

I prodotti in vista della Elka saranno quelli della gamma di

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successo di console-organi presentando i modelli Artist 700 e 606, Crescendo 303, Preludio 22/L e Preludio 15. All'X705 portatile, ben accettato dal mercato professionale, viene adesso aggiunto il 605, un modello disegnato tenendo conto degli organisti 'gig'.

La compagnia spera di mostrare due nuovi prodotti: un'unità d'altoparlante combo ed una versione aggiornata del Concorde 602, un'organo disegnato specificamente per i fisarmonicisti. L'Orla esibirà i suoi prodotti che hanno prezzi economici e presenterà il suo 'Prestige' altamente competitivo.

Allo stand vi saranno i signori Nando Fabi, Fausto Fabi e Malcolm White.

Yamaha of Japan, Kemble-Yamaha (UK), Mount Ave., Bletchley, Milton Keynes MK1 1YE. Tel: (0908) 71771.

Promising yet again to be the star stand at Frankfurt, Yamaha will present their full range of acoustic and electric guitars, amplifiers and P.A. equipment at the Frankfurt Fair.

New items this year will include two new synthesizers — C35 and CS15 which have been designed to complete the price and specification range of CS Synthesizers. The most advanced Yamaha mixer yet produced, the PM2000, is sure to be a major attraction at the Fair, with new power amps P2050 and P2201 to complement the already popular range of power amplifiers.

Further advances in drums will be displayed with the new YD 5000 Series featuring Yamaha/Remo Heads and 7000 Series Stands and fittings. Probably the greatest interest will be aroused by the CP80 electric concert grand piano, a valuable extension to the CP70B with an extra bass octave.

In attendance at the stand will be Dennis Holloway from UK agents Kemble-Yamaha, along with other directors and staff from Japan, Germany and England.

Der Yamaha Stand wird wieder Anlass geben der Star der Messe zu werden, da die Gesellschaft ihre gesamte Auswahl an akustischen und elektrischen Gitarren, Verstärkern und Beschallungssystemen in Frankfurt zur Schau stellt.

Zu den neuen Geräten gehören 2 Synthesizers- C35 und CS15, die die Preislage und die Spezifi-

kationen der CS Serie vervollständigen. Der bis heute fortschrittlichste Mischer der Yamaha Produktion ist der PM 2000, der mit Sicherheit grosse Aufmerksamkeit erregen wird. Das Modell hat neue Hochleistungsverstärker P2050 und P2201 als Ergänzung zur bestehenden und so bekannten Lautsprecherreihe.

Weitere Verbesserungen weist die neue YD5000 Trommelserie auf, die mit Yamaha/Remo Fellen versehen ist, und die Serie 7000 von Ständern und Zubehör. Das grösste Interesse wird jedoch wahrscheinlich von dem CP80 elektrischen Konzertflügel erweckt werden, ein wertvoller Zusatz zur CP70B, mit einer extra Bass Oktave.

Firmenteilnehmer an der Messe sind Dennis Holloway von der britischen Vertretung Kemble-Yamaha, und andere Direktoren und Personal aus Japan, der Bundesrepublik und England.

Promettant, une fois de plus, d'être le stand en vedette à Francfort, Yamaha présentera sa gamme complète de guitares acoustiques et électriques, d'amplificateurs et d'équipement de diffusion publique à la Foire de Francfort.

Parmi les nouveaux articles de cette année, figureront deux nouveaux synthétiseurs, C35 et CS15 qui ont été conçus pour compléter la gamme de prix et de spécifications des synthétiseurs CS. Le mélangeur de sons le plus perfectionné que Yamaha ait produit jusqu'à maintenant le PM2000, sera certainement une attraction majeure à la Foire avec de nouveaux amplificateurs de puissance P2050 et P2201 pour compléter la gamme d'amplificateurs de puissance déjà populaires.

On verra d'autres innovations dans le domaine des tambours avec la nouvelle série YD5000 comprenant les peaux de tambour Yamaha/Remo et les accessoires et supports de série 7000. Il est probable que l'on s'intéressera par-dessus tout au piano à queue de concert électrique CP80 qui prolonge utilement le CP70B avec un octave de plus dans les graves.

La permanence au stand sera assurée par Dennis Holloway de l'agence au Royaume-Uni Kemble-Yamaha en compagnie d'autres directeurs et employés du Japon, d'Allemagne et d'Angleterre.

Promettendo ancora una volta di essere lo stand di principale attrazione alla Fiera di Francoforte, la Yamaha presenterà la sua completa gamma di chitarre acustiche ed elettriche, amplificatori ed attrazzature PA.

Quest'anno tra gli articoli nuovi vi saranno due nuovi sintetizzatori — C35 e CS15, i quali sono stati disegnati per completare la gamma dei prezzi e speci-

cazioni dei sintetizzatori CS. Il più avanzato mescolatore che la Yamaha ha prodotto finora, il PM 2000, sicuramente sarà la maggiore attrazione della Fiera con nuovi amp di potenza, P 2050 e P 2201, complementando la già popolare gamma di amplificatori di potenza.

Verranno mostrati altri progressi nei tamburi con la nuova serie di YD 5000, presentando Yamaha/Remo Heads (teste Yamaha/Remo) e 7000 Series stand ed accessori. Probabilmente il maggior interesse sarà destinato dal pianoforte a coda elettrico per concerto CP80, un'estensione preziosa al CP70B con un'ottava basso in più.

Allo stand vi sarà il Sig. Dennis Holloway, agente dell'Inghilterra per la Kemble-Yamaha, assieme ad altri direttori e personale del Giappone, Germania ed Inghilterra.

日本、ヤマハ、ケンブル-ヤマハ (イギリス)、マウント アベニュー、ブレッチレー、ミルトン ケインズ MK1 1YE. 電話 (0908) 71771

今年もまた フランクフルトのスターとなるのが期待されるヤマハは、ギター、エレクトリックピアノ、P.A.装置の全部をフランクフルトフェアに出品します。

今年の新製品には、2つのシンセサイザー、C35及びCS15があり、これは価格、仕様ともにCSシンセサイザーに属するもので、ヤマハの最もすぐれたミキサー、PM2000は、今まで最大の呼び物となると思われる。更に現在人気のあるパワーアンプ、モデルへの新製品としてP2050及びP2201も期待されます。ヤマハレモヘッドの新しいYD5000シリーズ、7000シリーズスタンド及び取付具など更に改良されたドラムが展示されます。おもしろく最も興味をひくのは、CP80電気コンサートグランドピアノでしょう。これは、追加バスオクターフのあるCP70Bと更にすすめたものです。

スタンドには、イギリスの代理店であるケンブル ヤマハのデニス ホロウェイのほか、日本、ドイツ、イギリスから重複その他が出る予定です。全員が訪問者の質問によることにお答えするほか、その他何でもお話しにします。

John Hornby Skewes & Co. Ltd., Salem House, Garforth, Leeds LS25 1PX. Tel: (0532) 865381.

The "JHS" range of combination amplifiers will be the company's main attraction. There is now an addition to the range — the CD100R, 100 watt model, which, like the 30 watt model, incorporates Volume, Treble, Middle and Bass controls as well as Presence control, Distortion facility (with foot-switch control) and variable Hammond Reverberation. With 2 12" 85 Watt McKenzie speakers, the CD100R gives a powerful 100 watt RMS at a very competitive price. Accessories in their extensive range of products include piano

and accordion microphones and the ZE2 Reverberation unit, as well as a large selection of bags, straps and "JHS" Pro-Rhythm Drum Sticks.

In attendance at Frankfurt will be John H. Skewes, Kevin Fleetwood, David O'Reilly, Declan McLoughlin, David Sidebottom and Peter Jackson (Advertising Manager).

Die JHS Serie von Kombinationsverstärkern ist die Hauptattraktion der Firma. Dazu gehört jetzt zusätzlich das CD100R 100 Watt Modell, das — wie bei dem 30 Watt Modell — Lautstärke, Hochtöne, Mittel und Basskontrollen aufweist, als auch Helligkeitskontrolle, Verzerrungsmöglichkeit (Mit Fußschalter Kontrolle) und veränderlichem Hammond Reverb. Mit zwei 12" 85 Watt Mackenzie Lautsprechern gibt der CD100R einen 100 Watt Effektivwert zu einem konkurrenzfähigen Preis. Zu einer vielseitigen Auswahl an Zubehör gehören Klavier und Akkordeon Mikrofone, die ZE2 Reverb Einheit, viele Taschen, Riemen und JHS Pro-Rhythm Trommelstöcke.

Auf dem Stand befinden sich John H. Skewes, Kevin Fleetwood, David O'Reilly, Declan McLoughlin, David Sidebottom und Peter Jackson.

La gamme "JHS" d'amplificateurs mixtes sera l'attraction principale de la firme. La gamme comprend maintenant un nouveau modèle le CD100R, qui est un modèle à 100 watts avec, tout comme le modèle à 30 watts, des commandes de puissance, d'aigus, de gamme moyenne et de graves ainsi que la commande de Présence, la facilité de distortion (avec commande au moyen d'un commutateur à pédale) et la réverbération Hammond variable. Avec 2 haut-parleurs McKenzie de 85 watts et de 304,8 mm, le CD100R donne une amplification puissante de 100 watts (efficaces) à un prix très compétitif. Parmi les accessoires figurant dans la gamme extensive de produits figurent des microphones de piano et d'accordéon et l'unité de réverbération ZE2 ainsi qu'un grand choix de sacs, de bandoulières et de baguettes de tambour Pro-Rhythm "JHS".

La permanence au stand à Francfort sera assurée par John H. Skewes, Kevin Fleetwood, David O'Reilly, Declan McLoughlin, David Sidebottom et Peter Jackson (Chef de Publicité).

La gamma di amplificatori a combinazione della "JHS" sarà l'attrazione principale della compagnia. C'è una novità nella gamma — il CD 100 R, modello di 100 watt, il quale, come quello da 30 watt, incorpora comandi di volume, soprano, medio e basso

Rockex 79

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5/8a Dale End,
Birmingham B4 7LN.

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ed anche un controllo della Presenza, facilità di distorsione (con comando ad interruttore a pedale) e variabile riverberazione Hammond. Con due altoparlanti McKenzie di 12", 85 watt, il CD 100 TR da un potente RMS valore efficace) 100 watts ad un prezzo molto competitivo. Gli accessori di questa estesa gamma di prodotti includono microfoni per piano e fisarmonica e l'unità di riverberazione ZE.2, assieme ad una vasta selezione di borse, spalline, e bacchette di tamburo "Pro-Rhythm" della JHS.

A Francoforte saranno presenti i signori John H. Skewes, Kevin Fleetwood, David O'Reilly, Declan McLoughlin, David Sidebottom e Peter Jackson (direttore di pubblicità).

Flight Amplification,
158-166 Wellingsborough Rd.,
Northampton.
Tel: (0604) 34100.

This year Flight will again be exhibiting their well-known 100 watt 2x12 combo as well as the amp top with 2x12 and 4x12 speakers. The company will be high-lighting their new PA speakers which comprise a 100 watt 15" twin reflex parted enclosure with two mid-range horns and H.F. horn, and a 100 watt 2x12 enclosure with one mid-range horn plus one H.F. horn. Both these new speakers are ideally suited for discotheque use.

Flight will also be introducing the first fully flight-cased disco consoles. On demonstration at Frankfurt will be the 190 watt, RMS into 4 ohms, mono console, housing the successful Citronic 3.3 mixer and its big brother the 190 x 190 watt stereo console, utilising the outstanding Citronic 506 mixer. The company realise that the European market is fully aware of the advantages of flight-cased equipment

Doug Marriott and Mark Mackness will be on the stand.

Auf der diesjährigen Messe wird die Firma wiederum ihre bekannte 100 Watt 2x12 Kombo als auch die Verstärkeroberstufe mit 2x12 und 4x12 Lautsprechern ausstellen. Besonders betont werden die neuen PA Lautsprecher, von denen ein Modell 100 Watt 15" Doppelreflex geteilte Einfassung mit 2 Mittelbereich Trichtern und einem Hi-Fi Trichter aufweist, und das andere eine 100 Watt 2x12 Zarge mit einem Mittelbereich und einem Hi-Fi Trichter. Beide Sprecher sind besonders für Diskogebrauch geeignet.

Flight wird ebenfalls das erste

Diskopult vorstellen, das völlig mit Flugkofferausrüstung versehen ist. Vorgeführt wird in Frankfurt auch das 190 Watt Effektivwert in 4 Ohm Monopult mit dem erfolgreichen Citronic 3.3 Mischer, und dessen grossen Bruder, das 190x190 Watt Stereopult, welches den hervorragenden Citronic 506 Mischer verwendet. Die Firma ist der Meinung, dass sich der Europäische Handel der Vorteile von Flugkoffer-geschützten Geräten voll bewusst ist.

Auf dem Stand befinden sich Doug Marriott und Mark Mackness.

Many of the leading American manufacturers and distributors will be exhibiting at Frankfurt...

Accutronics (Hammond Booth), 628 North Street, Geneva, Illinois 60134.
Tel: (312) 232-2600.

The complete Accutronics reverb product line will be on show plus the new Type 9 Six Spring Reverb and Type 8 Three Spring Reverb.

Alle Reverb Produkte von Accutronics werden zur Ausstellung gebracht, und inbegriffen in dem Firmenangebot sind die sechs-fedrigen Typ 9 und dreifedrigen Typ 8 Reverbs.

Acoustic Control, 7949 Woodley Avenue, Van Nuys, California 94301.
Tel: (415) 321-3035.

Acoustic Control will be displaying their entire product range including self-contained and component guitar amplifiers plus bass amplifier systems like the 320/408 combination, as used by Jaco Pastorius. They will also be showing a complete line of PA and Hi-Fi products.

Acoustic Control bietet ihr gesamtes Programm eigener Produkte an, mit unter anderem Gitarrenverstärkern in verschiedenen Ausführungen und Bassverstärkersystemen wie die 320/408 Kombo, die von Jaco Pastorius verwendet wird. Gleichzeitig bringt die Firma ihre kompletten PA und Hi-Fi Produkte zur Ausstellung.

AKG Acoustics, 91 McGee Drive, Mahwah, New Jersey 07430.
Tel: (201) 529 3800.

This year AKG will be featuring the D2000 Performer's microphone and the standard line of microphones, headphones and photocartridges and the BX-15 portable stereo reverberation unit.

In diesem Jahr wird AKG das D2000 Performer's Mikrofon und die Normalserie ihrer Mikrofone, Kopfhörer und Film Patronen vorführen. Zusätzlich zeigt die Firma die BX-15 portable Stereo Reverb Einheit.

J.D. D'Addario & Co. Inc.
1176 Route 109, Lindenhurst, New York 11757.
Tel: (516) 957 3400.

D'Addario will be showing their regular line of strings for musical instruments including: D'Addario, phosphor bronze, acoustic strings, D'Addario classic strings, XL electric strings, half-round bass and guitar strings and will also be introducing D'Addario Pro-Arte classic strings and chrome flat-wound bass and guitar strings.

D'Addario führt ihr übliches Saitensortiment für Musikinstrumente vor, das aus D'Addario, Phosphorbronze, akustischen und klassischen Saiten, XL elektrischen Saiten und halbgeschliffenen Bass und Gitarrensaiten besteht. Die Firma stellt ferner Pro-Arte klassische und Chrom flach-geschliffene Saiten aus.

D'Angelico-D-Merle
1976 New Highway,
Farmingdale, New York
11735.

Tel: (516) 293-8733.

On show will be a full line of D'Angelico guitar, banjo, bass and mandolin strings, steel slides and capos.

Eine umfassende, firmeneigene Auswahl von Saiten für Gitarre, Banjo, Bass und Mandoline wird vorgeführt, als auch Stahlgleiter und Kapos.

BKL, 111 Green Grove Road, Neptune, New Jersey 07753.
Tel: (201) 922-8600.

Displayed at the IMS booth will be: Kramer New Generation DMZ guitars and basses. They will also be showing automated lighting systems and Malatchi and Vaccaro acoustic guitars.

Auf dem IMS Stand werden Kramer New Generation DMZ Gitarren und Basse vorzufinden sein. Die Firma zeigt ebenfalls automatische Beleuchtungssysteme und Malatchi und Vaccaro akustische Gitarren vor.

DiMarzio, 1388 Richmond Terrace, Staten Island, New York 10310.
Tel: (212) 981-9286.

The standard DiMarzio line will be on show plus new OEM series of pickups available for the first time. Also, a new line of electronics and an expansion of

their existing hardware line will be displayed.

Zuzüglich der Firma's Normalproduktenserie stellt DiMarzio ihre neuen OEM Pickups erstmalig vor. Ebenfalls gezeigt wird die neue Elektronik und Ergänzungen zu ihrer bestehenden Hardware.

Electro-Harmonix, 27 West 23rd Street, New York, 10010.

Tel: (212) 741-1770.

Electro-Harmonix will be showing their entire line of electric musical accessories for musicians and singers plus a new line of amplifiers.

Electro-Harmonix bringt ihre gesamte Auswahl an elektrischen Zubehör für Musiker und Sänger, und eine neue Verstärkerserie auf die Ausstellung.

Fretted Industries, 1415 Waukegan Road, North Brook, Illinois 60062.
Tel: (312) 498 3510.

On the FI stand will be Washburn guitars, banjos and mandolins, a new Wing series of electric guitars and Oscar Schmidt autoharps and musical instruments, as well as their regular lines of Nashville Straights and guitar strings, Fresling leather guitar straps and Satinwood polish.

Auf dem FI Stand werden Washburn Gitarren, Banjos und Mandolinen zu sehen sein, als auch eine neue Wing Serie elektrischer Gitarren, Oskar Schmidt Autoharfen und Musikinstrumente. Ebenfalls gezeigt werden die regulären Produkte der Firma, darunter Nashville Straights und Gitarrensaiten, Fretsling Lederriemen und Satinwood Putzmittel.

Guild Musical Instruments, 275 West Grand Street, Elizabeth, New Jersey 07202.
Tel: (201) 351 3002.

Guild will be showing their regular line of guitars and strings and will also be introducing a new 3 pickup solid body electric guitar.

Zuzüglich des Normalprogramms von Gitarren und Saiten wird von der Firma eine neue elektrische Festkörpergitarre mit dreifachem Pickup vorgeführt.

Hamer (USA) Inc., 544 Wood Street, Palatine, Illinois 60067.
Tel: (312) 991 7171.

On show will be Hamer Sunburst series with crown and dot inlays and the Hamer standard line.



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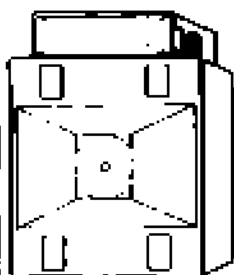
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FRANKFURT 79

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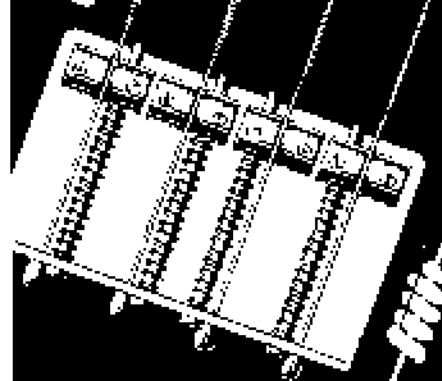
Surrounded by copies of the magazine, the full complement of company directors, Richard Desmond, Ray Hammond and Malcolm Green will be on the IM&RW stand, together with new Executive Director Alan Marcuson. This will be the company's fifth appearance at the Frankfurt show — a fact which has helped to boost European sales of the magazine. In fact, the success of IM&RW in Europe has been such that a separate German edition is to be launched later this year.

IM's sister publication, Home Organist and Leisure Music, will be represented by editor Phil Baldwin and advertisement manager Philip Absalom, and copies of the latest issue will be available.

Also to be found on the stand will be the April issue of the new separate USA edition of IM&RW, with US editor Bill Stephen and General Manager Julius Graifman in attendance.

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FRANKFURT 79

Gezeigt wird die Hamer Sunburst Serie mit Kronen und Punkt Furnierung, und auch das Normalprogramm der Firma.

Ibanez (Elger), PO Box 469, 1716 Winchester Road, Cornwells Heights, Pennsylvania 19020.
Tel: (215) 638-8670.

A full line of Ibanez guitars, Tama drums and the Tama Superstar Drum will be on show along with Studio Roadster Series Guitars. A special attraction will be Billy Cobham playing Tama drums, Alphonso Johnson playing Ibanez electric bass and Bobby Cochran playing electric guitar.

Das Gesamtprogramm von Ibanez Gitarren, Tama Drums und Tama Superstar Drums wird zugleich mit Studio Roadster Gitarrenserien vorgeführt. Hauptattraktionen der Darbietung sind Billy Cobham, der Tama Drums demonstriert, Alphonso Johnson am elektrischen Bass und Bobby Cochran mit der elektrischen Gitarre.

KEAS Electronics (Ross), 210 West Main Street, Chanute, Kansas 66720.
Tel: (316) 431-0400.

All current Ross products will be on display plus a new phaser, distortion compressor, stereo delay, flanger D/T combination 10-band EQ (monaural), 15-band stereo, 10-band stereo and 31-band (monaural).

Ausgestellt werden alle im Umlauf befindlichen Ross Produkte, und dazu ein neuer Phaser, Verzerrungskompressor, Stereo, Flanger/D/T Kombo 10-Bänder Equalizer (einkanalig), 15-Bänder Stereo, 10-Bänder Stereo, und 31-Bänder (einkanalig).

Ludwig Industries, 1728 North Damen Avenue, Chicago, Illinois 60647.
Tel: (312) 276-3360.

Ludwig will be introducing a new line of drumheads, separate line of heads for each type of music - Rockers heads (rock), Groovers (jazz), Striders (marching) and Ensemble (symphonic).

Abgesehen von einer allgemeinen Trommelfellserie führt Ludwig Spezialeinheiten für die verschiedenen Musikarten ein: "Rockers" für Rock - "Groovers" für Jazz - "Striders" für Marsch und "Ensemble" für Symphony.

E and O Mari, 38-01 23rd Avenue, Long Island City, New York 11105.
Tel: (212) 278 4005.

New products including a complete new line in electric, acoustic and classical guitar strings, quarter-round electric bass strings and two new sets for double bass will be on the Mari stand.

Neueinführungen auf dem Mari Stand umfassen eine komplette Serie von elektrischen, akustischen und klassischen Gitarrensaiten, viertel-rund geschliffene elektrische Basssaiten und neue Sätze für Kontrabass.

Marlboro (MICA), 1170 Eileen Way, Syosset, New York 11791.
Tel: (516) 921 9070.

A new line of Marlboro amps, sound reinforcement equipment, PA systems, microphones, disco equipment, stage lighting and various electronic accessories will be on show this year.

Marlboro bringt ein grosses Angebot neuer Produkte zur Ausstellung, inbegriffen Verstärker, Tonverstärkungsanlagen, PA Systeme, Mikrofone, Diskoeinrichtungen, Bühnenbeleuchtung und eine Auswahl von elektronischen Zubehörsachen.

C.F. Martin, Box 329, Nazareth, Pennsylvania 18064.
Tel: (215) 759-2837.

On the stand the company's new acoustic Martin Rounds strings will be on show. In addition, their new E series of solid body electric guitars and basses will be displayed, along with the new Martin M-36 acoustic guitar featuring scalloped bracing.

Auf dem Stand der Firma sind die neuen akustischen Martin Rounds Saiten zu sehen. Zum Angebot gehören auch die neuen Festkörper elektrischen Gitarren und Basse, und die ebenfalls neuen Martin M-36 akustischen Gitarren mit Schalenstützung.

Mighty Mite, PO Box 3011 4830-T Calle Alto Street, Camarillo, California 93010.
Tel: (805) 482-9815.

A new item on show from Mighty Mite this year will be the Mother-Bucker triple coil humbucking pickup. As well as pickups and brass bridges, they will also be displaying split and phase kits for Fender and Gibson guitars. A new line of guitars and guitar kits will also be on show along with their regular lines of brass replacement parts.

Ein neuer Artikel von Mighty

Mite in diesem Jahr ist der Mother-Bucker humbucking Pickup mit dreifachem Gewinde. Ausser Pickups und Messingbrücken wird die Firma auch Spalten und Phasen Kits für Fender und Gibson Gitarren vorführen, sowie eine neue Gitarrenserie und Garnituren, zuzüglich ihrer Normalprodukte von Messing Ersatzteilen.

Morley, 6855 Vineland Ave., North Hollywood, Ca. 91605.
Tel: (213) 760 3141.

Morley will be displaying their full product line including the Echo/Volume, Power Wah, Pro Phaser, Rotating Wah, Pro Panner and Pro Flanger pedals.

Die Firma stellt alle ihre Produkte aus, die Echo/Volume, Power Wah, Pro Phaser, Rotating Wah, Pro Panner und Pro Flanger Pedale umfassen.

Music Man, 1338 State College Parkway, Anaheim, California 92806.

Tel: (714) 956-9220.

The full line of Music Man guitars and amplifiers will be on show and they will be introducing the Sabre Bass.

Das Angebot von Music Man umfasst ihre Gitarren und Verstärkerserien, als auch die Neueinführung Sabre Bass.

MXR Innovations, 247 North Goodman St., Rochester, New York 14607.

Tel: (716) 442 5320.

A full line of signal processing devices for stage and studio use will be on show and MXR will be introducing a flanger/doubler to the European market.

Eine komplette Gerätserie für Bühnen und Studio Signalverfahren wird gezeigt und ferner stellt MXR einen Flanger/Doubler dem Europamarkt vor.

Ovation Instruments Inc., Blue Hills Ave. Extension, Bloomfield, Conn. 06002.
Tel: (203) 243 1711.

Ovation will be displaying their range of acoustic/electric guitars including the Electric Legend, Anniversary, Custom Legend, 12-string Custom Legend, acoustic/electric Applause and Matrix models. Electric solid bodies including the Viper III, Preacher Deluxe, Preacher Deluxe 12-string and the Magnum II bass guitar will also be on show.

Die Firma führt ihre akustisch/elektrischen Gitarrensaiten vor, darunter Electric Legend, Anniversary, Custom Legend, 12-Saiten Custom Legend, akustisch/elektrische Applause und Matrix Modelle. Elektrische Festkörper umfassen Viper III, Preacher Deluxe, Preacher Deluxe 12-saitig, und Magnum II Bass Gitarre.

Peavey Electronics, 711 A Street, Meridian, Mississippi 39301.

Peavey will be introducing a new mixer line, new package PA systems, new guitar models as well as their existing line of products.

Zuzüglich ihres Normalprogramms führt Peavey eine neue Mischerserie, neue PA System Packungen, und neue Gitarren vor.

Randall Instruments, PO Box 10936, Santa Ana, Ca. 92711.
Tel: (714) 556-1030.

This year at Frankfurt, Randall introduces three new products to signal its entry into the compact amplifier field. These are the RG-30-112, 30 watt guitar amp, the RG 60 112 60 watt guitar amp and the RB-60-115 60 watt bass amp.

In Frankfurt führt Randall dieses Jahr 3 neue Produkte ein, die den Eintritt der Firma in das Verstärkerfeld ankündigen. Es handelt sich um die RG-30-112 30 Watt und RG-360-112 60 Watt Gitarrenverstärker, und den RB-60-115 60 Watt Bassverstärker.

Remo Inc. 12804 Raymes Street, North Hollywood, California 91605.
Tel: (213) 983-2600.

Apart from their regular lines, Remo will be showing their new C.S. Pinstripe Drumhead, Rototrac modular system hardware for Rototoms and Pro-Mark drumsticks.

Ausser ihrem Normalprogramm führt Remo folgende neue Produkte vor: C.S. Pinstripe Drumhead, Rototrac Modularsystem Hardware für Rototoms und Pro-Mark Trommelstöcke.

Shure, 222 Hartrey Ave., Evanston, Illinois 60204.
Tel: (312) 866 2200.

Shure will be showing their general line of photocartridges, microphones and PA systems.

Die Firma stellt ihre übliches Programm an Filmpatronen, Mikrofonen und PA Systemen aus.

Sunn Musical Equipment, Amburn Industrial Park, Tualatin, Oregon 97062.

Sunn will show their regular products including sound reinforcement equipment and bass amps, and introduce the Alpha self-contained series and professional microphone range.

Abgesehen von ihren geläufigen Produkten, einschliesslich Tonverstärkersystemen und Bassverstärkern, wird die Firma die neue Alpha Komboserie und Mikrofone für Berufsmusiker vorstellen.

Another Case

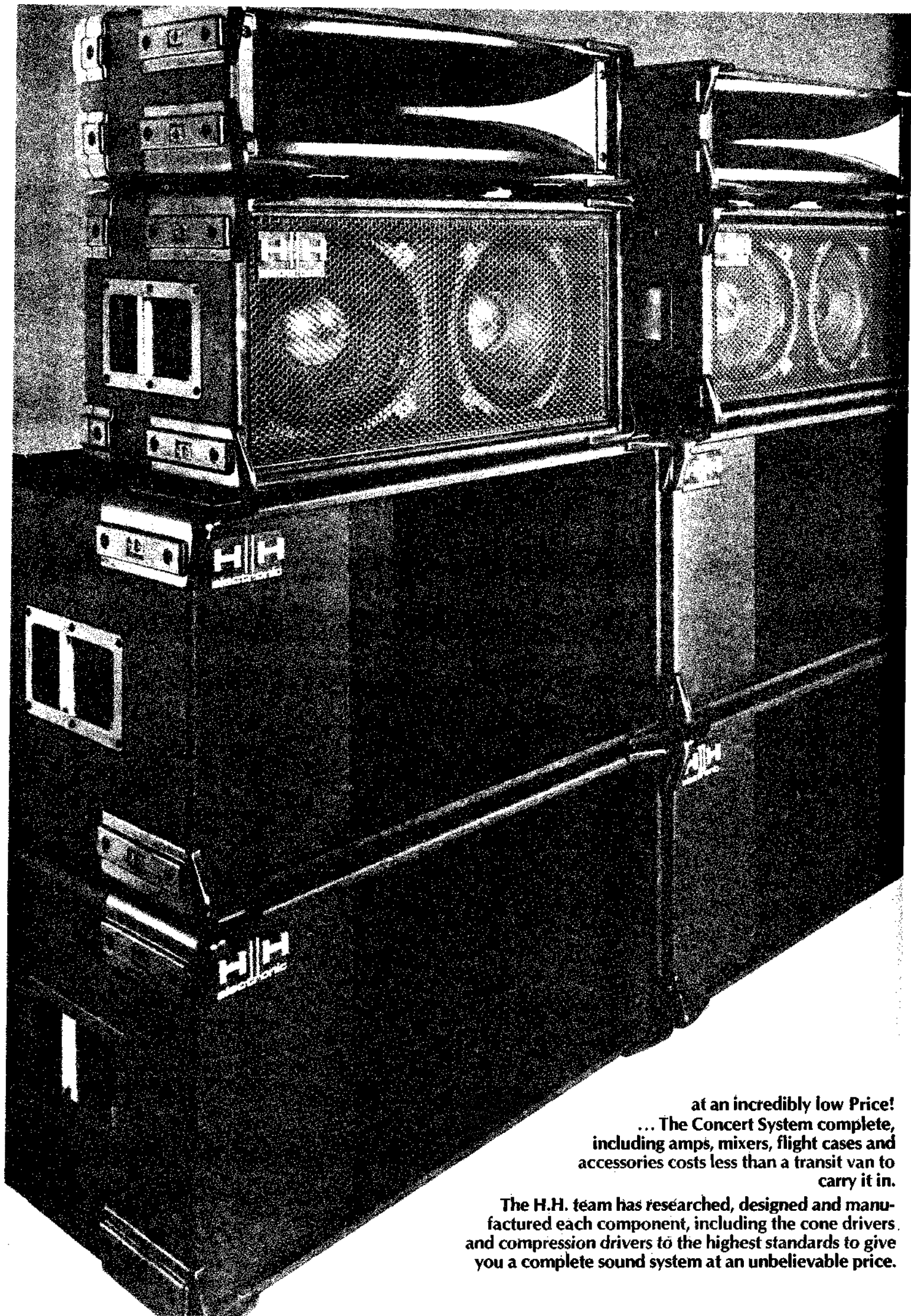
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Buying a Saxophone

What to look for and what to avoid. A personal view from IM's horn consultant, ALAN HOLMES.



Buying a saxophone is a bit like buying a car. You either have to know what to look for or you take someone along with you who is an expert. A duff sax is just as useless as a duff car: neither will work properly for you.

The first thing to consider, as with a car, is the make. The Rolls-Royce of saxophones is the Selmer, of which the Mk 6 is the standard tool of the professional. The Mk 7 does not have

the same tone and the intonation is quite different, and bearing in mind the price of a new Mk 7 the most obvious choice is a second-hand Mk 6. The majority of sax stars play the Mk 6, and most of the rest use the King Super 20 (the original underslung octave model) or the Yamaha, Buffet alto or an original Conn. The earlier Selmer models are also very good instruments and some players prefer the sound of the pre-Mk 6 Super

Action and the even earlier Balanced Action and Cigar Cutter models. Early Mk 6s start at around serial no. 50000 (1958). As a rough guide to age, serial no. 900000 appeared around 1963, 100000 1965, 200000 1972 and 300000 1979.

Don't fall for the salesman's line of "It's good enough for a beginner to learn on." Any instrument should be good enough to play well on: playing is difficult enough without being hampered by a second-rate instrument. I started on a cheap sax and had to part-exchange it after a year for an old but top-quality Conn and then part-exchange that after another year for a Mk 6, turning professional after 2½ years. I would have saved a lot of money by getting a Mk 6 in the first place, for you lose heavily when you trade in. The shop wants to sell at twice what they will offer you (if your sax is worth £100 they will offer £50) which makes it sensible to sell it privately through the *Exchange and Mart* or *Melody Maker* rather than lose so much. These papers are where you – and the dealers – will be looking for your second-hand instrument. See your bank manager about a loan; the interest rate could be much lower than any HP deal.

What do you look for when the thing is actually in your hand? Don't play it yet, even if you can, but look at the lacquer. If the instrument looks really dull and patchy, it should be the original lacquer applied by the makers. This is a good sign because in the polishing process when the instrument is re-lacquered, quite a lot of the thickness of the metal is removed by careless use of the heavy buffing wheel. After four or five re-lacquering jobs the instrument is usually too thin to play properly. You can test the thickness by squeezing gently just under the lip of the bell. A thin sax will go oval with very little pressure, but if you are still not certain look at the edges of the tone holes. The edge where the pad makes its seat should be flat. Any sharpness to the edge means that the buff has been applied too hard or too often and of course a sharp edge will quickly cut through the leather of the pad, causing a leak.

This thinning process is about the only serious fault that can ruin an instrument completely. Bent keys and minor dents, short of the tube being squashed or severely bent, can be made as good new by an experienced repair man. Sight down the length of the sax from the bottom end and check that the body is not bowed. (This can happen if the case is dropped as little as a foot.) The long rod to the top E is the give-away. If this is straight all is well, but if it's slightly curved this means the body is too,

which means all the keywork and tone holes are distorted. This can be repaired but is expensive.

Next sight down the back and check for any ripples or bumps which show that the instrument has been bent or severely damaged at some time. This should not affect the playing of it but is a means of bartering the price down, just as a car that has had a severe crash and detected as such by an expert is not worth nearly as much as one that is pristine.

Next the moment of truth – blowing it. If you haven't been playing at least two years, don't try it yourself. You won't really be able to tell whether it's you or unfamiliarity with the instrument, so you will have to take an expert along with you. It goes without saying that you will have taken along your own mouthpiece and reed – and if possible your current sax – to have some comparison of sound in the particular room where you are trying the intended purchase. When you buy privately, it's likely that the instrument will need overhauling and probably will be leaking, which means it might not play any bottom notes. But the main thing you want to hear is the tone, and this can be detected by playing on the notes which are available. Not all saxophones by the same maker are the same, particularly so far as the tone is concerned. In fact if you were to try 10 brand new ones you would find that the difference in sound between the most bright and the most mellow would be so great that they could be the products of two different makers.

Your first impression, once the sax is warmed up, is very important, for you are not likely to change your opinion of the sound by prolonged listening. You either like the tone or you don't, and if you don't, there is no more to be said.

If a sax has not been played for some years, it can often be made to work by running some water through it while holding all the pads closed until they are all wet.

The best deal when buying a second-hand sax is to get one that needs overhauling (at an accordingly low price) and then have it repadded and sprung by the best repair man you can find. Up to around 1970, Mk 6s had metal reflector disc pads but the later model Mk 6 (with "MK 6" engraved on the front of the ring where the bell joins the "U" bend, also identifiable by the G sharp key pillar being in a straight line with the bell key pillars) was fitted with nylon reflectors in the pads and is perhaps slightly mellower in tone as a result. For a bright sound the Gordon Beeson pads with metal discs are best, so specify these to the repair man.

If you want a shiny looking sax instead of the patchy, dull look, it is possible to have it relacquered without ruining it – but only with much careful work by yourself. After the instrument has been dismantled for overhaul, collect all the keys and body, bell and crook and strip the old lacquer off using paint stripper and a stiff brush – not abrasives like wire wool or emery cloth. This will take some time and should be done on a padded surface as the separate body parts are very prone to denting and your repairman has just carefully knocked all the old dents out and won't be too pleased if you put more in. After you have removed every scrap of lacquer, using wooden tooth-picks to get in the corners of keys, etc., then with plenty of soft cloth and Brasso-type metal polish make the whole thing like new by hand. This will keep you busy for some days. Ignore any scratches in the brass you may find, for the other way of ruining a sax is to have scratches removed with a file. This will make an instrument look pretty but will also weaken it very seriously.

When every key and corner of the metal is gleaming, take it all along to the lacquerer personally and on pain of death tell him to use only the very, very lightest buffing after it has been in the acetone bath to remove all the grease. You can, at this stage, have the keys silver-plated, which means that they won't suffer from the lacquer bubbling when the torch is applied to seat the pads. It also means that by using a Goddards' silver cloth the sax can be kept looking new for years.

Specify "clear" lacquer as "gold" lacquer can vary greatly in shade depending on how long it has been standing. I once had a baritone relacquered and it came out a revolting ginger shade which is not funny when you have spent a week polishing and have to start all over again.

Providing that you have found a top repair man, for between £60 and £100 you will have a sax that looks new, and more importantly, plays much better than when it was new. Ask for the action not to be set too close as this leads to lack of volume and a stuffy sound prone to flatness. It will open up after it has been played a bit and the cork flattens slightly. If it is too open you will get lots of volume but be prone to sharpness. The tension of the springs is another matter of preference but it makes hard work of rapid playing if the keys are too heavy to press down. Ideally, the springs should be adjusted so that they are just strong enough to return the key smartly after releasing it with bouncing when they reach the fully open position.

Should you be confronted with a shiny sax in supposedly "good playing order", check the body and tone holes for excessive buffing. Play it, of course, but even if it works perfectly, look carefully at the pads, particularly the upper ones, to see that they are not split or cut where they seat. Also check all the main action (the ones with the pearl buttons) to see if they will slide up and down on their rods, particularly the G sharp as eventually this will cause leaking. Again, not a really bad fault but one which is fairly expensive to put right without a complete overhaul.

I have not wasted space by describing all the faults that can be built into a sax by the cheaper makers of new instruments. It is far simpler to ignore these. Get either a good second-hand Mk 6 or if you can afford new prices, a new Yamaha. The Yamaha is the best new soprano in the world and their baritone is preferred to the Selmer by many leading players. The new revised alto is again a world leader and a new revised tenor is on the way. The one disadvantage of buying a Yamaha is that whereas you can always sell a Selmer for roughly what you paid for it, the resale values of used Yamaha saxes are lower than they should be, owing to some doubts concerning their long-term durability. However, they are an excellent, and with the exception of the tenor, a superior alternative to the Selmer when new. The older Kings and Conn's can be rather fragile and because of their age are often too thin. But they are excellent instruments if you find one in good enough condition. The Buffet and Leblanc are excellent altos and the Buecher 400 is a nice tenor with a fat sound.

Don't buy a silver-plated sax. These are intended for military band use and the plating affects the tone, giving a rather muffled sort of sound. The resale values are also very low even though, when new, they are more expensive than a lacquered instrument. Be especially wary of old silver-plated saxes, no matter how cheap, as they are very likely to be high pitched and impossible to tune.

The best advice I can give is: if you are already playing a cheap make instrument – get rid of it as soon as you can. You just won't get the combination of professional sound and excellent tuning that good playing demands, except from a Selmer, Yamaha, King or other top quality make. You'll pay more, but it will be worth it.

Alan Holmes is a top British session reedman, whose playing experience ranges from the Kinks to Duane Eddy's touring band. He also leads his own jazz-rock group.

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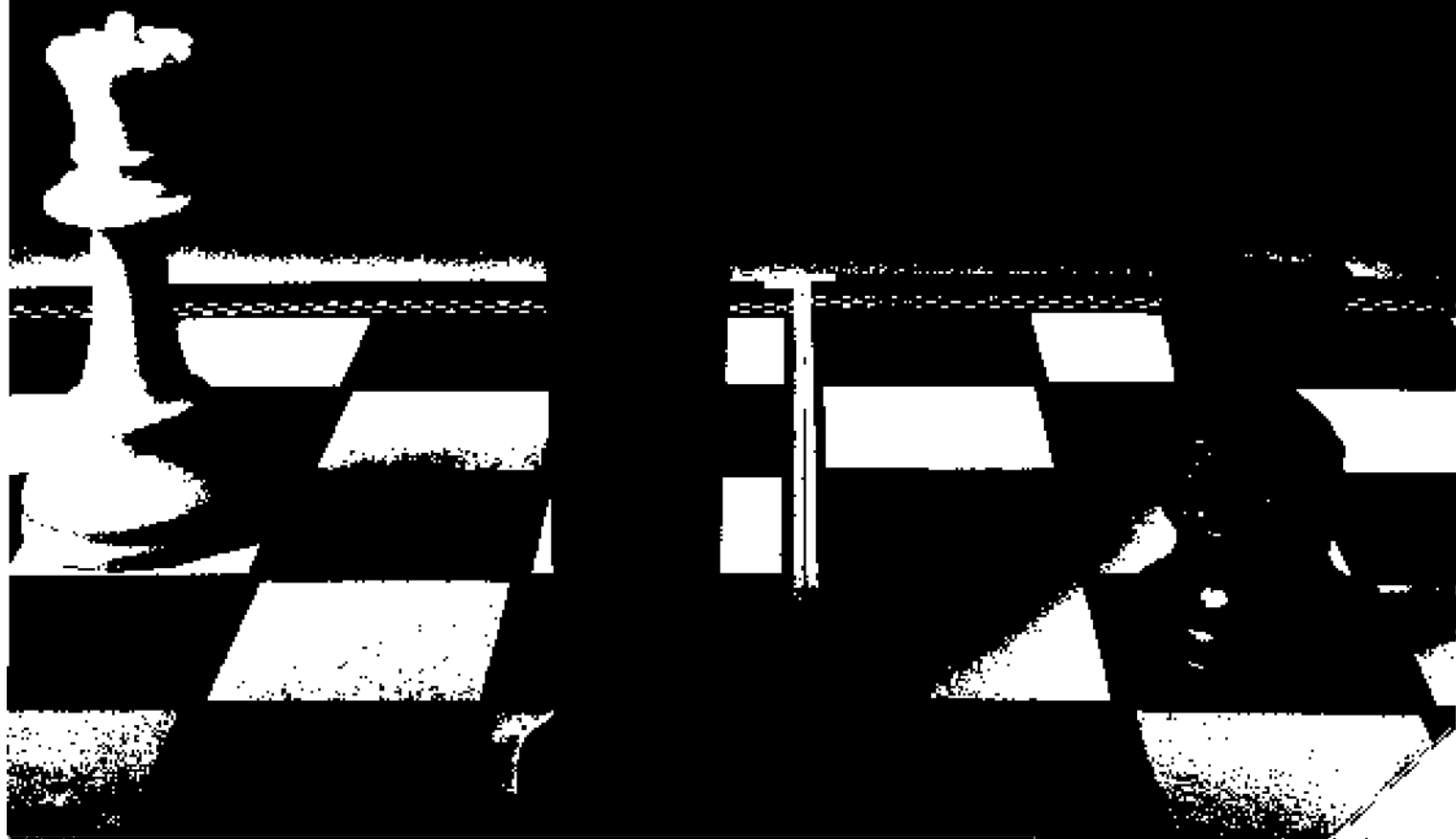
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Since creating the very first effects pedal fifteen years ago — The Tone-Bender, COLORSOUND have constantly developed and improved their range of effects. For this year's trade fair, four new units are being introduced. Each one has been designed with the help of top professional musicians.

ELECTRO ECHO

A pedal echo device using bucket brigade delay line. Delay time is variable from short to reverb time, it has various repeats and effects obtainable, Slapback, ADT, Reverb, and Tubular resonance sounds.

VOCALIZER

This is the unit that simply 'speaks for itself' the Vocalizer goes one step beyond the voice box. By merely pressing down the pedal it produces all the vowel sounds A.E.I.O.U. The resonance control enables the player to get a totally different set of vowel sounds and so opens up a new world of effects.

GIGSTER

The Gigster pedal is a self contained rhythm unit — battery operated, it just plugs into most amplifiers. Up to ten different rhythms are available, including Bossa-Nova, Bossa-Rock, Swing, Waltz-Rock. Sound effects include Bass Drum, Snare Drum, Cymbals, Bongo and Claves.

DIPTHONG

A new sound for Bass Guitar. The device is triggered by signal from the Bass or Guitar. It has three controls: Over driver, Speed Depth, Filter Bias. Vowel sounds based on E-OO-AR can be produced in varying degrees.

FLANGER

The unit features automatic double tracking and all the usual flanging sounds, but with superb quality. With a total of four controls regulating speed, depth, sweep filter quality and ADT, the possibilities of this new unit are virtually limitless.

V.C.F. UNIT

This voltage control filter is triggered by the signal from the Guitar, the harder you play the more effect. A variety of interesting sounds include a staccato, a wah wah type and a funky 'Shaft' tone.

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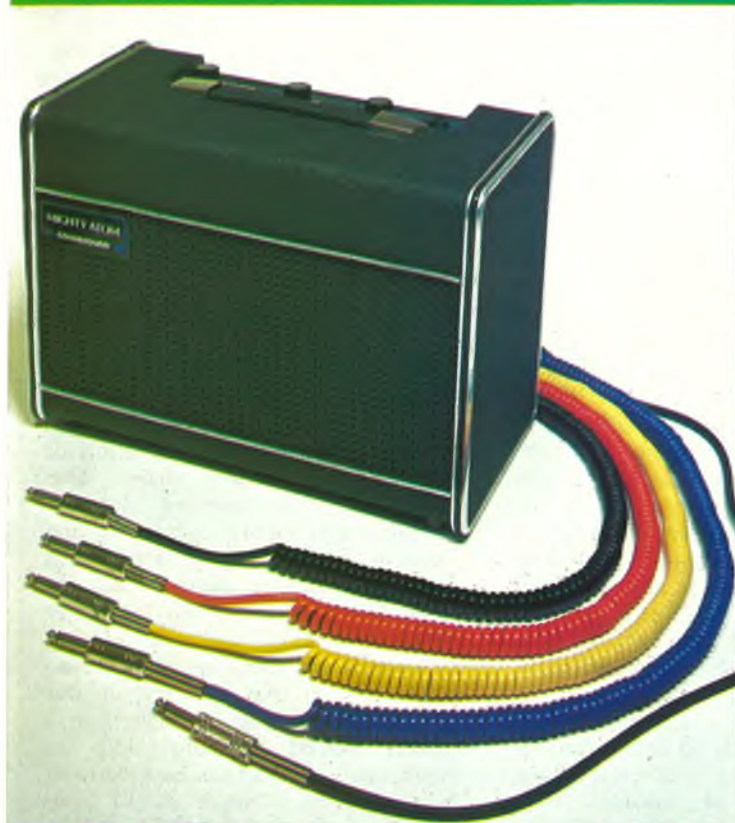
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The original wah-wah sound now with up-dated circuitry

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A giant sized version of the regular Colorsound Wah Wah which incorporates the exclusive actuator system and a full frequency Wah Wah circuit.

UPA WAH SWELL

New circuitry incorporating a double 'pot' to give an improved wah and swell combination.

SWELL PEDAL

A foot operated volume control for guitar or keyboard

WAH SWELL

A very popular unit for guitar and bass guitar giving a wide range of volume control from pp. to ff. A push switch activates the Wah Wah full frequency circuit.

OVERDRIVER

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A Jumbo size pedal combination of Wah Wah Fuzz and Volume. Each effect can be produced separately or in a combination of sounds. One of the new effects is Fuzz-Swell.

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SUPA TONE BENDER

A new 'Jumbo' size unit with improved fuzz circuit, producing longer fuzz sustain designed with the approval of such famous guitarists as Jeff Beck and Jimmy Page.

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Taking Care of Business

Sooner or later, most musicians find themselves entering into a legal agreement and usually this means signing a contract. All too often, musicians realise too late that they have made a mistake: they've signed a contract that was not in their best interests, or perhaps they've simply signed something they didn't fully understand. The obvious answer is always to show your contract to a solicitor before signing, preferably one with some experience in this area.

To find out just what is involved in the legal side of the music biz, I sent ALAN HOLMES to talk to a top London solicitor, who explained in detail what you are letting yourself in for. There are four main areas where a musician enters legal agreements: recording publishing, management and agency. This month, our legal eagle describes the ins and outs of a recording deal. But first, Alan asked him to explain exactly what a contract is...

There are three basic elements to a valid contract. Firstly, the parties must intend to enter into legal relations with each other. Secondly, there must be an agreement – that means there is a promise which has been offered and that offer has been accepted by the other party. Thirdly, there must be consideration – that means that in return for one party doing something, the other party agrees to pay him money or to do something for him in return. That's it basically.

It means that if an artist is talking to a guy who says he will become his manager, and they sit down and discuss the basic terms of the management, what percentage the manager will take, what he will do for the artist and so on, the artist can find himself having made an agreement, possibly without having realised that he's done it – although he must intend somewhere to enter into an agreement with the man. It can't just be a general chat, there's got to be an intention to contract. But a contract can equally be oral as in writing, and except for certain very specific areas which don't need to concern us here, an oral contract is just as valid under English law as an agreement in writing.

How does anyone prove an oral contract?

The proof is obviously much more difficult than the proof of a written agreement. The usual way of proving an oral contract is that people have acted as a result of it and done things pursuant to it, which they wouldn't have done had there not been an agreement. It's really a question of evidence and, if there were no witnesses present, which of the two parties is believed. But the party who is seeking to enforce the contract – probably the manager in a situation like this – is the one who's going to have the burden of proof on him. He must prove to the

court's satisfaction, beyond reasonable doubt, that a contract existed, so he's got the harder task. As a general comment, it's totally unsafe to make an oral contract. If you intend to abide by it, you should always ensure that a contract is put into writing.

Any form in writing is good enough if it shows there is a contract. It can be a few notes on the back of an envelope, but of course it should be signed by the two contracting parties to show that they've agreed to those terms.

And dated of course?

It doesn't have to be dated, but it ought to be. Otherwise, one element has to be proved which isn't in writing. But beyond that it can be in any form at all. It can be 45 pages long, closely typed, or it can be a few notes on the back of an envelope in pencil. That's just as good from the point of view of the law.

It's possible that a contract is entered into, even a written contract, pursuant to some sort of promise which is made by one party to the other, which is then not embodied in the contract. For example, a manager may tell an artist that if he signs up with him he will give him a new car. The contract itself, the written contract, may not say that but if the artist can show that as far as he was concerned that was a material matter which induced him to enter into the contract, and that if it hadn't been offered to him he wouldn't have entered into the contract with the manager, then if the manager fails to provide that car, this would give the artist the right either to damages as a result of the loss he suffered or alternatively, in some situations, it entitles him to get out of the agreement totally.

In this case, the burden of proof would lie on the artist to show that an inducement had been offered and if it's not in writing it may be hard for him to prove this – unless there was a witness present or somebody who could testify to the fact that the offer was made. It isn't safe to rely on inducements, oral inducements.

In a written contract the only safe method in this case is to ensure that whatever the manager has promised is actually written down and put in the contract. So if he does offer a car to an artist it should have been specifically stated in the written document that a car will be provided and then there can't be any dispute as to whether or not that offer was made.

So as a general rule, everything should be in writing.

Everything should be in writing, so then everybody knows where they stand and don't have to start proving oral agreements or oral promises.

The basic question to ask when entering into a contract is: what is the

other party to that contract going to do for you? What obligations are there on the other party to pay monies or perform services for you?

The recording contract is likely to be the artist's largest provider of income. Clearly the first thing you look at with a recording company, having of course established that this is the company you want to be with, is what money they're going to pay you. The money's usually broken down into two headings, royalties on record sales and advances – which really means advance payment of those royalties. An advance is usually said to be "recoupable" but not "returnable". That means that the record company can recover it out of royalties which it will otherwise pay you, but it isn't a debt which you have to repay to the record company in any event.

The royalty in the UK these days is almost invariably based on the retail sale price of records and is a percentage of that price after the deduction of VAT and a packaging charge. This charge is usually specified, certainly by the major record companies, and varies between 5% for records and as much as 25% for cassettes. But the different companies, even the major ones, have very different package deductions and there seems to be no uniformity in the industry in this connection. If you are signing to a smaller record company, like an independent who is then licensed to or distributed by a major record company, then the packaging charges that that company make will usually be geared to the charges it suffers at the hands of its licensee or its distributor. In other words, it will be geared to the prices of the major record company.

A possible trick for a small company is to try to charge a higher packaging charge to the artist than it actually suffers at the hands of its distributor or licensee. That's wrong, bad practice, and an artist should try to ensure that that doesn't happen. The only packaging charge the artist suffers should be the same as the independent record company suffers.

The rate of royalty again has an enormous variation. It varies according to the company that you sign to and what sort of artist you are, how established you are. It can vary from as low as 4% or 5% of the retail price to as high as 15% or 16%, or in the case of very successful artists, even higher than that. This really is purely a question of negotiation and there are no guidelines other than what the company has done in the past or what the artist has received in the past. The artist really has to go in and get as high a royalty as possible.

It's also important to ensure that, assuming the contract is for a fairly long period, or potentially for a fairly long period, the royalty rate goes up in respect of records recorded during

Contracts

the later years of the contract. It's normal in a recording contract for the option to extend the agreement beyond the initial period, and for that option to be only exercisable by the record company. In other words, the artist has no say in it. The record company will sit down at the end of the initial period, which is usually one or two years, will look at what's happened and decide whether or not it wants to go on with this artist. If it decides to go on with the artist, then clearly the artist must have proved something, that they were either successful or potentially successful, in which case the record company should pay a higher royalty.

The other thing to watch on

perform generally and to take care of all the other expenses that a band has. When thinking about advances it's very important, before you even discuss it, to actually work out on a piece of paper what your overheads are, what your expenses are, to see whether there are any other sources of financing these overheads and expenses. On the whole, a record company prefers the artist to justify why advances are necessary, rather than merely to hear that I want £20,000 and that's my price. If it can be justified, on the whole it's easier to get more money out of a record company by way of advances because there's a more logical basis for it. But this apart, it is meant to provide money for the artist to live

band, the sort of money they're offering is not enough. It does count a little, however, when arriving at advances and it is a good argument in that context that more money is needed because there are more people, but it has a limited use.

To go back to recording contracts, in a normal sort of deal, when an artist signs directly to a record company, the company will usually agree to pay the recording costs that are incurred but will seek to recoup those from the royalties of the artist. For example, let's assume that the recording cost of an album is, say, £15,000, the retail price of that album is about £4.50, and the artist is receiving a royalty of 10% on 100% of the retail sale price. We first take the retail sale price of £4.50, deduct the VAT element - 36p at present - which leaves £4.14. We then take off the packaging charge of, say, 10% for a single cover album, which is another 41p. You're actually left with a price of £3.73 on which the 10% royalty will be paid. If the company has spent £15,000 on recording costs, as it's recouping that against the artist's royalty it will have to sell approximately 40,500 albums before the recording costs will have been recouped. Only then will the artist start to receive royalties from sales over and above that figure. Then assuming that the artist has received an advance of, say, £10,000 when he signed the contract or when he made the record, which again will be recouped by the company from the artist's royalty, then a further 27,000-odd albums are going to have to be sold before that £10,000 has been recouped. So assuming all those facts, an artist will not actually start to receive royalties until nearly 70,000 albums have been sold - and 70,000 is a lot of albums in this country.

A 10% royalty is really quite a good royalty and if one is a relatively new artist and getting a lower royalty, and perhaps the recording costs are higher than £15,000, the record company is going to have to sell considerably more than 70,000 albums, assuming the £10,000 advance, before the artist starts to earn money by way of royalties, especially if he's really only popular in one country like the UK. If he becomes popular in the States, where the market is seven or eight times as big as in the UK, then clearly he's going to earn a lot of money much more easily, as a result of the much larger record buying market in that country. If he's popular throughout the world then he should have no problems at all in making a lot of money.

The next point to look at in a contract is for what territory the company is acquiring rights to sell

DO YOU UNDERSTAND WHAT YOU'RE SIGNING?

royalties is that there used to be the invariable practice in this country, and indeed in America, to pay not on the whole retail price but on 90% of the retail price. I've never seen a satisfactory justification of this basis. Record companies used to argue that it was 90% rather than 100% of the retail price to allow for breakages, defective records and returned records - but this is nonsense because the record company will only pay you on records which are sold, paid for and not returned.

I'm glad to say that nowadays it's becoming more and more common for an artist to receive his royalty on 100% of the retail price and this is a practice which should be encouraged. If an artist is offered a royalty on a 90% base he should ask very specifically why and try to argue that it should be on 100%. Of course the record company may say, well, I'll pay you on 100% but I'll reduce the royalty rate, so the net result is the same. This is something else which comes into the negotiations.

Advances have to be looked at in two areas. First, they may relate to the recording costs which will be incurred in recording an artist. This is more common under a production deal, where the production company produces a master recording and then leases it or assigns it to a record company, having already paid the recording costs. Normally in those circumstances the advance that the production company receives from the record company will be inclusive of the recording costs. Normally, under a direct artist signing, the advances are meant to provide money in the pocket of the artist to enable him to live and very often to enable him to equip himself or his band, to tour and

and how much you get depends on the standard of living to which you think you're entitled - and to which the record company thinks you're entitled. For established artists very large sums of money are paid by way of advance. It's not always an advantage to have huge advances paid up front because it can cause tax problems for an artist to receive a large sum of money in one year, although accountants have devised ways of having this spread over a number of years.

The advance is purely a matter for negotiation and really depends on how much the record company wants that particular artist and, from the artist's point of view, whether there are other companies interested in him - whether he can play one company off against another in the hope of achieving more money for himself. The other thing that one must look at carefully in the area of royalties and advances is the number of people who constitute "the artist" in each particular case. If you're an individual, a solo performer, then clearly everything you get is yours and doesn't have to be split with anybody else. If you happen to be a band of nine members, then while a 10% royalty may seem extremely good, each individual in the band is in fact going to be receiving just over 1%. Equally, the advance received has got to be divided nine ways, as opposed to all going into the pocket of one person.

On the whole, record companies don't distinguish that much between individual solo artists, small bands and big bands. As far as they're concerned, all they get at the end of the day is a record which sells for the same price, whether there are nine performers on it or one. And they're not usually terribly impressed by the argument that there are so many people in the

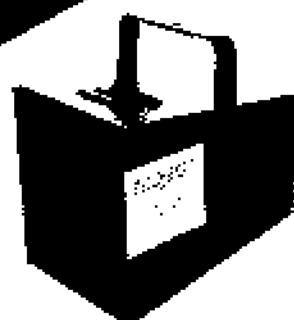
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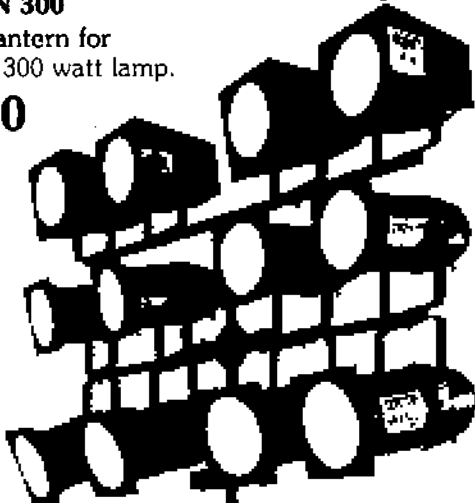
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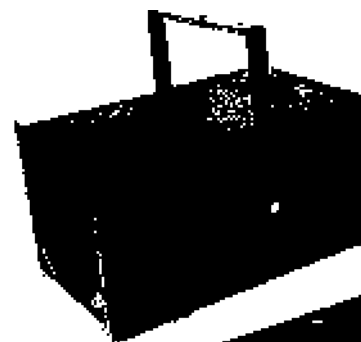
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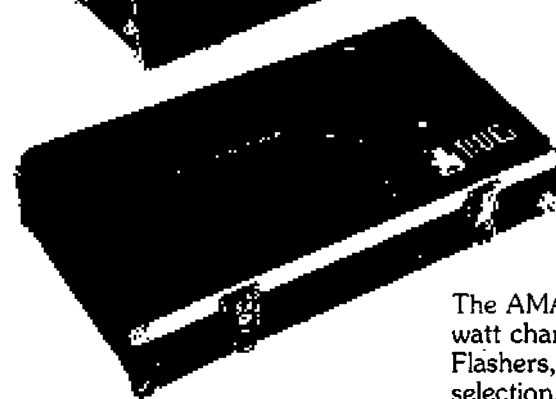
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Taking Care of Business

records. Most companies will start off by saying they must have a deal for the whole world. The effect of this is that you sign your agreement with an English record company. If it's one of the majors, it will have its own outlets in the other major territories of the world and therefore the normal procedure is for it to send to its other offices throughout the world a copy of your album once you've made it in the UK. That other office, say in America, has not paid a penny for that product, it has a lot of product arriving every day at its office and it's a matter of luck whether it decides to get behind your product and lease it, promote it and generally support you as an artist. Therefore, one should do what one can to avoid that.

The first and obvious way of doing it is not to sign a contract for the world but to sign a contract for as narrow a territory as you can get away with. This leaves you free to sign a contract with another company in the other territories, territory by territory if possible, so that in each territory you've got a company which must believe in you because it wants to do a deal with you. This applies to the major companies. Where you deal with a small independent company it will probably have licensed its product on a territory-by-territory basis and perversely you may be at an advantage in those circumstances because when the product arrives at each licensee, the licensee has probably paid in advance for the UK independent record company and therefore has more interest in selling its records. But there are exceptions to both of these situations and there are no hard and fast rules. It can equally happen, of course, that the local office of a major company is delirious about your product and gets behind it even though it hasn't cost them anything.

The ideal situation is for an artist to do, say, three or four contracts which together cover the world. Perhaps a separate contract for the States and Canada with an American company. Perhaps a separate contract for Japan which is these days regarded as the second major market in the world after the United States. Perhaps a contract for the UK, certain minor parts of Europe, with Australia and New Zealand either falling under the UK contract or under the Japanese contract, depending on which company you sign to and what operation they have in that territory. And perhaps a fourth contract with a German or Dutch company covering Germany, Holland, France, Belgium and the other more major European territories. Again, there are no hard and fast rules and there are many exceptions to this.

The next thing an artist is concerned with is what amount of product (a) he has to record in any year or in

any period under the contract and (b) the company has to agree to record and presumably therefore pay for in any period of the agreement. The minimum recording obligation should always be an obligation not only on the artist but on both the artist and the company. It ought to extend to enough tracks to embody at least an album a year. This isn't always the case, because there are certain artists who are obviously single-orientated, for whom a recording commitment for one album is superfluous both for the man and the company. But on the whole they're fairly rare because most artists seem to want an album and that's where major money is going to be made. If there is a single success, an album, even a not very good album, will often sell quite a lot of copies on the strength of it. Therefore an artist who regards himself as a single artist shouldn't disregard recording albums as well because he could make money out of it.

Linked to the recording commitment is a release commitment. If there is no release commitment in a contract, arguably the recording company can record the artist and receive the master recording and then put it on the shelf and not release it. Of course, the record company will make no money back this way – but neither will the artist. There is therefore an incentive for the record company to release it and most record companies will always agree to a release commitment in the principal territory. So if you sign a recording agreement with a London-based record company, it will usually agree to a release commitment within a certain number of months after recording, within the UK. It's harder to persuade record companies to agree to release commitments in other territories of the world. Again this very much depends on what that company's own arrangements are for release of its product in those territories.

But what exactly is meant by release? It's a word which has a host of meanings and is very subjective. The technical meaning, I suppose, is that the record is put in the company's catalogue for the territory concerned and a few copies are pressed up to show it's available. Clearly if a record isn't promoted, isn't advertised, isn't plugged on radio, then nobody is going to know of its existence. It is rare to obtain a release commitment from a record company other than in the widest, woolliest terms that they will endeavour to promote and exploit a record to its best advantage.

There are two schools of thought as to whether or not it is advisable to ask for a specific promotion budget for a particular artist, record by

record. Some people think that if there is a figure in a contract, that the company has to spend, say, £20,000 in a particular territory promoting a particular record, then the company will at least ensure it buys some newspaper advertising, possibly some radio spots, etc. However, the other view is that by having a specific figure in a contract, very often the recording company will treat that as its maximum obligation as well as its minimum obligation and won't go beyond it, whereas in the normal course of events it might have spent considerably more than £20,000 promoting a particular record. Equally, of course, if there is no specific budget in a contract then the company is not obliged to spend anything unless it has one of these vague woolly "best endeavour" clauses, in which case it will have to do something but nothing very specific.

It varies from company to company as to whether or not one ought to ask for a promotion commitment. There are certain companies with whom one learns from experience it is better to put a figure in the contract if the company will agree to it (which they will not always do). So at least you have this guarantee of promotion. There are other companies – again one learns from experience – with whom it's better not to, because on the whole they are good companies who will get behind artists they believe in and will spend that and a lot more money besides in promoting the artist and his records.

One other area concerning money is whether there is to be an independent producer for an artist and, if so, who pays for him. In other words, whether that producer's royalty comes out of and is deducted from the artist's royalty or whether the company pays for this producer in addition to the artist. Again, this is purely a question of negotiation but it is something that should be specified and made clear right at the beginning so that the artist is aware of what his real royalty is. For example, if the artist is getting a royalty of 10% but the producer's royalty has to come out of this, he may well only end up with 6% or 7% because producers these days quite commonly are charging 3% or 4% royalty for producing. Usually, the lower the artist's royalty, the more likely it is the company will pay for the producer itself and not charge the artist for it. The higher the artist's royalty, the more likely it is that the company will expect the artist to pay for the producer. But it's something that should be very clearly specified at the beginning so that everybody knows exactly where they stand.

The question of who the producer

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Taking Care of Business

is is again something which ought to be specified. Hopefully, it will be something which is not contentious and which the record company and the artist will agree together. But a recording company can say that the artist designates the producer or, equally, that the company designates the producer. It really doesn't matter which it says, provided that the other party has a right to approve reasonably who the producer is. The same point also applies to what material is recorded by an artist. Most artists feel that the record company should have very little say in what material they record, because they have their own material and they know what material is best for them. At the same time, the record company is obviously going to want quite a large say in what material is recorded because it wants to achieve an album which it believes is commercially viable and which it will be able to sell. The same balance applies. In this particular case, I think it is important that it should be the artist who specifies what songs he is going to record, but it's not unreasonable for the record company to have some right of approval.

The next thing is the term of the agreement. As I said before, it's normal for the initial term of the agreement to be one or two years, and thereafter for the record company to have a certain number of options to extend the agreement, usually by yearly periods. It's unusual to find a record company who will agree to a recording term of in total, including all the option periods, less than three years. It can take some time to "break" an artist, and the company doesn't want to find that just as it's broken an artist its record contract comes to an end and the artist is then free to negotiate much better terms with somebody else, or to hold the record company to ransom for a new deal. A record contract really should not go beyond five years in total, including all the option periods, for that is a very long time in an artist's life. An artist ought to be in a position every so often to re-appraise his life and to have the choice as to whether or not he wants to go on with a particular company.

A point which is becoming more important these days is whether or not the artist is granting to the record company audio-visual rights, as well as merely sound rights in his recordings. Most record companies will try to obtain the audio-visual rights. They vary enormously on the basis on which they're prepared to pay for them should an audio-visual record be released. Nobody knows yet how the audio-visual and indeed the video disc market is going to work, so it's important to try to keep audio-visual separate

from the sound recordings contract. Ideally, the recording costs of making the audio-visual record should not be cross-collateralised with the recording costs of your sound records. Otherwise, you could find you sell an awful lot of sound records but all that money is spent by the recording company in making a video disc which costs untold tens of thousands of pounds and you the artist end up paying for all this.

It is best to try to keep audio-visual rights out of the contract — although there is no harm in giving the recording company either a first option on them on specified terms or a right to match anybody else's offer that may be made to the artist. If they have to go into the contract, it's very important to try to keep them totally separate, effectively what amounts on two separate contracts for two separate areas of activities, neither of which affects the other.

A few more general points on recording contracts to look out for. First of all whether you get the same royalty rate outside the principal territories of the UK as you do in the UK. Very often companies will seek to pay you a lower royalty rate in other territories throughout the world; in some cases this is justified and in some cases it is not, but it's something that must be watched. Some companies still put a clause in their contracts which happily says that the artist will receive one-half of the royalties in all territories throughout the world other than the UK. Unless you're very desperate for a deal, this should never be accepted because there is no justification for it. You should also watch what royalty rate is paid on tapes. Some companies try to pay half rate on tapes and again there is no justification for that any more. There was once but there is no longer any justification for having any different basis for tapes.

The control or approval of such things as artwork and publicity material is something that should be watched out for. The artist ought to have some say in the sleeve of a record, which photographs are used the way in which they are used, that sort of thing.

There will also be a re-recording restriction in a recording contract — that means that the artist will be prevented from re-recording the same material for anybody else for a certain number of years, either after the recording of the record, or its release, or after the end of the term of the contract. The artist should watch that this period runs from a very specific date: if it runs from the date of release

it is possible the record may never be released and consequently the artist on the face of it will be barred forever from re-recording a particular song, although this may be unenforceable at law. Beyond that the trend in this country has been to make these periods longer and longer; the record company feels the need to protect its catalogue. In other words, it does not want to see an artist come out of contract and go to a new company and re-record the same song. There is clearly a very good justification for this, but the trend these days has been towards 10- and even 15-year recording restrictions, which I feel is too long. The norm used to be five years from recording which I always felt was long enough, or possibly three years from the end of the term of the contract whichever of those two periods is longer. But this does vary enormously company by company and it is the major companies who are these days insisting on the longer re-recording restrictions.

The artist must make sure that there is provision in the agreement for him to receive regular accounts and to be paid any monies that are due to him under these accounts.

You have a right to check the royalty statements?

And you have a right of audit over the company. In fact, you will always have this at law, although you may have to go to court to enforce the right. But it should be specified in the contract that the artist has a right to audit, say, once a year or twice a year. Companies do try to put a provision in their contract which says that if no objection is raised to an accounting statement within a certain period, very often even a year or two years, then the artist is debarred from objecting to that statement. This period really should be as long as possible because the shorter it is, the more often the artist is going to have to audit the company to make sure the statements are right. If possible, this statement should go totally to the recording contract because there is a statute of limitations in this country which means that you can't object after six years except in certain specific circumstances. I really see no justification for having a period shorter than that, although the recording companies will say that they want to be able to destroy their records after a certain period and not have enormous volumes of computer print-outs sitting on their shelves for years. But one can usually achieve a fair balance and perhaps three years is a fair period.

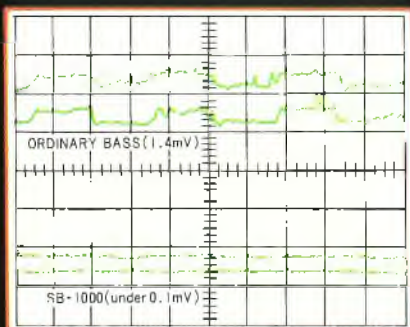
We are grateful to John Cohen, a solicitor who specialises in music and entertainment law in London, for his help with this article.

Next month: Agency, management and publishing contracts and the vital "Get Out" clauses.

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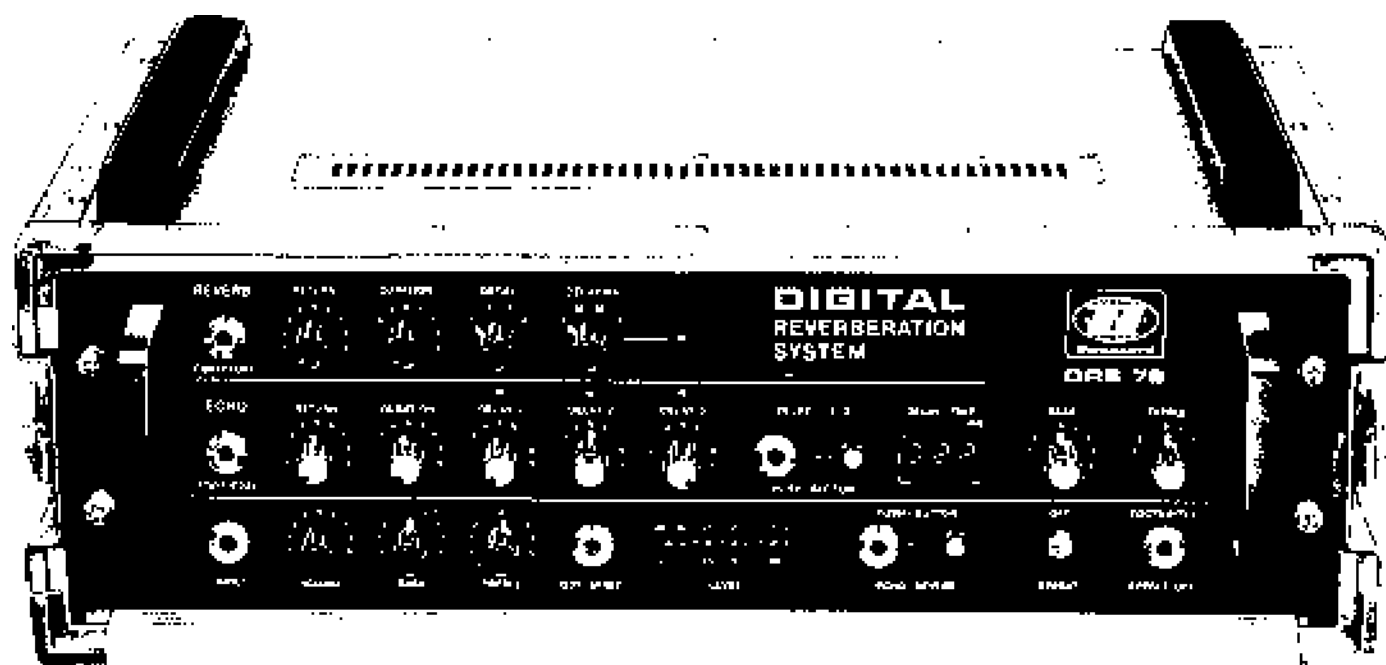
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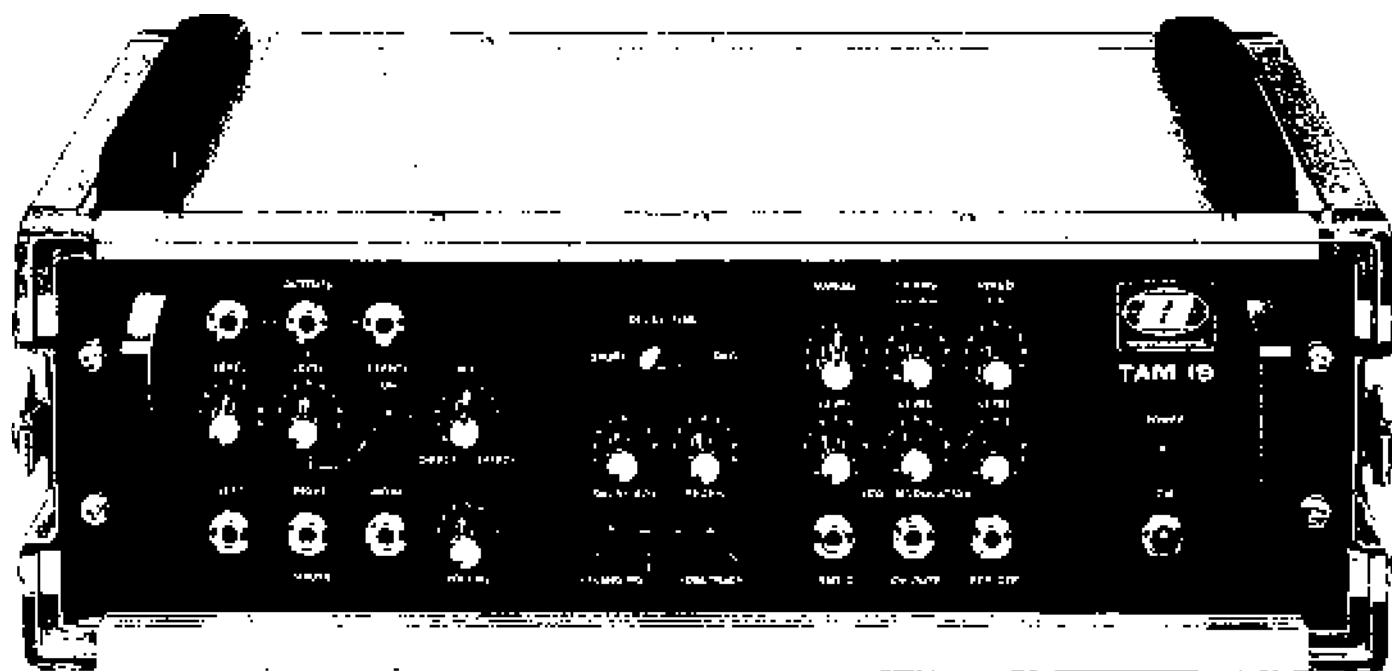
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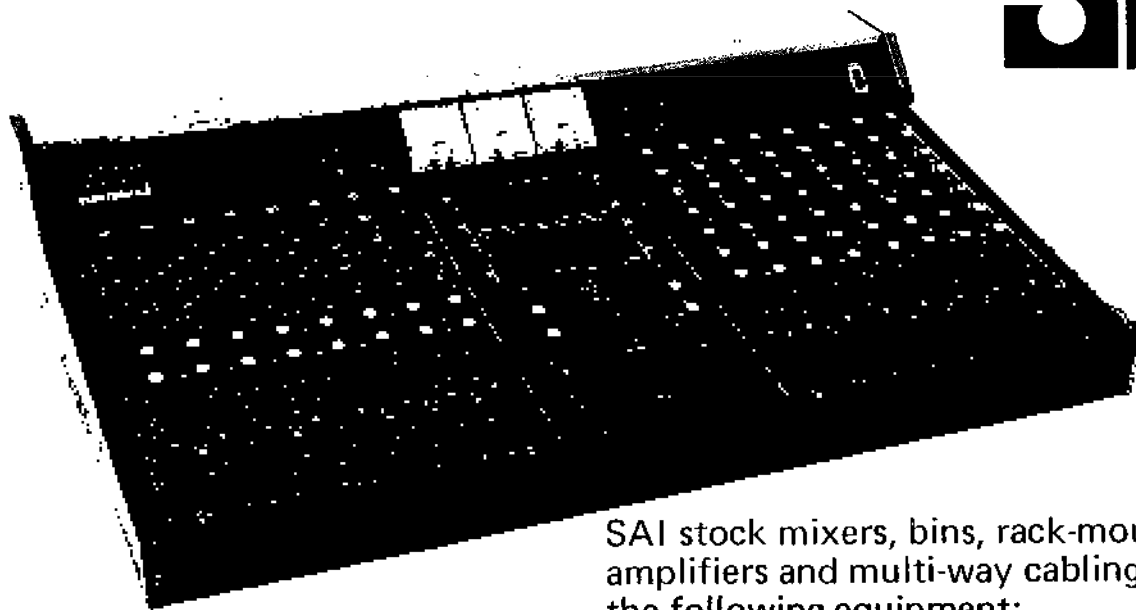
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Ernst Zacharias

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From the middle Sixties, the sound of Hohner Pianets and Clavinets has been as popular as any in rock, but for many people the company's name will always be synonymous with their famous harmonicas.

Harmonicas is really where the Hohner story begins over a century ago in the small German town of Trossingen. Mathias Hohner was the first person to introduce machinery for the construction of the instruments which up until then had been made by local people in their homes. Incidentally, the harmonica was originally invented as a tuning device for the piano.

The company flourished and became the world's leading manufacturer of harmonicas and accordions. But they were ever alert to changing musical tastes and new developments within the industry. The story of their electronic keyboards really begins with one man — Ernst Zacharias.

Ernst, a designer, engineer and musician, joined the company in 1954 and set about putting his technical know-how to work. With his interest in classical music, he became pre-occupied in producing electronic versions of early keyboard instruments. One of his first inventions, which was marketed by Hohner in the Sixties, was an electronic reed piano — the Pianet. This instrument gave keyboard players something other than an organ

David Lawrenson meets the man who invented the Pianet and the Clavinet

to play on stage and at last enabled them to compete for solos with guitarists. Although Ernst did not design the instrument specifically for rock music, it became a widely-used and important instrument.

Ernst's next development was a real milestone for keyboard instruments and players. The Hohner Clavinet, which appeared in the late Sixties, was his version of an amplified clavichord and once again, although it wasn't specifically designed for the rock market, its success in this field was incredible.

The Clavinet has been used by just about every top keyboard player in the business including Keith Emerson, Chick Corea, Patrick Moraz, Herbie Hancock and Rick Wakeman, while its presence on countless records was instantly recognisable. As a funk/rock instrument it reigned supreme.

Both the Pianet and the Clavinet have played significant roles in the history of electronic keyboards because they gave keyboard players different sounds to work with and thus prepared the way for synthesizers. Both instruments have undergone many improvements since they were first introduced, and today Ernst continues his pioneering work in this and other areas. At the Hohner factory in Trossingen, these new developments carry on side

by side with the production of the traditional Hohner harmonicas and accordions.

The process involved in making even the simplest harmonica is quite staggering. By comparison, the manufacture of electronic keyboards seems almost straightforward! Even with improved machines and technology (utilising Hohner-made computers) the personal touch is very much in evidence throughout the factory. The company's policy seems to be one of quality over quantity; they do not flood the market with a host of products but prefer to devote the time and effort in producing a few which are invariably the best in the field. A recent example can be seen in the new Hohner Duo keyboard which incorporates the Pianet and the Clavinet. Although comparatively new, it has already excited Chick Corea, and Stevie Wonder is apparently anxious to get hold of one.

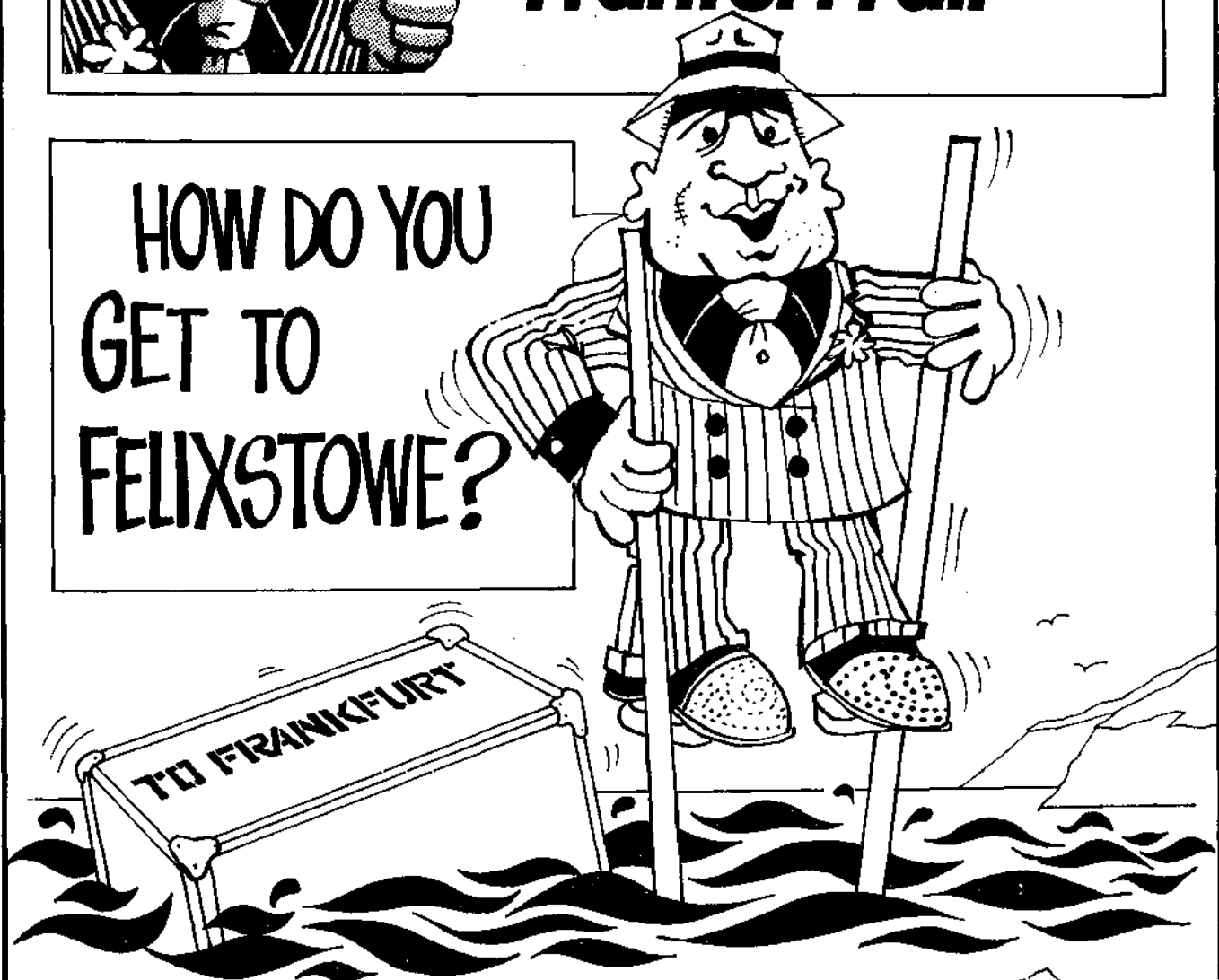
The very latest product which is causing much excitement at the Hohner plant is their new string machine, due to be unveiled at the Frankfurt trade show. This keyboard employs the highly developed string section from the Hohner home organ, and comes in the usual compact and accessible Hohner design.

Every keyboard is extensively tested before it leaves the factory in Germany, and again by Hohner in London before the instruments go out to UK dealers. So all along the line the Hohner theme is one of striving for quality, from the people who make the harmonicas to the inventions of Ernst Zacharias.



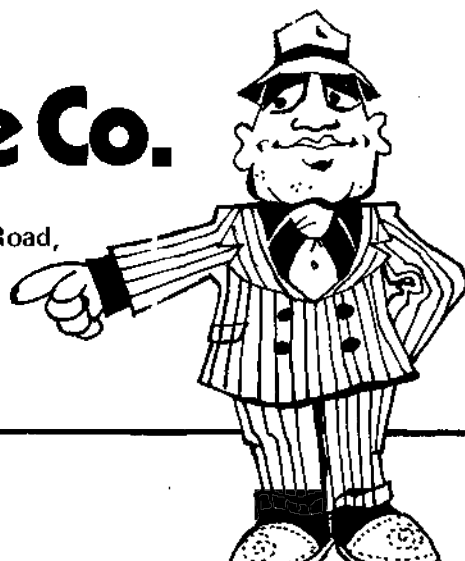
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on the first 24 notes (C - B) with Mode
(Sustain/Percussive) - Footages
(16' - 8' - 4') - Decay - Range - Resonance
and Volume controls.

Modulation: Vibrato Depth - Tremolo Depth
Vibrato and Tremolo Speed controls
Pitch Bending, which gives the player
a frequency transposition of 1/2 tone
up or down.
Weight: 25 Kg. (55 Lb.)
Dimension: cm 87x44x25 (38" x 17" x 7")



organizer T2

2 x 61 keyboards
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4 Organ Presets
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(which add 2 different key-click sounds)
Percussion Decay and Volume controls
Sustain - Auto Sustain -
Sustain Length control
Lower Manual: 9 Flute Harmonics
drawbars + 4 Organ Presets

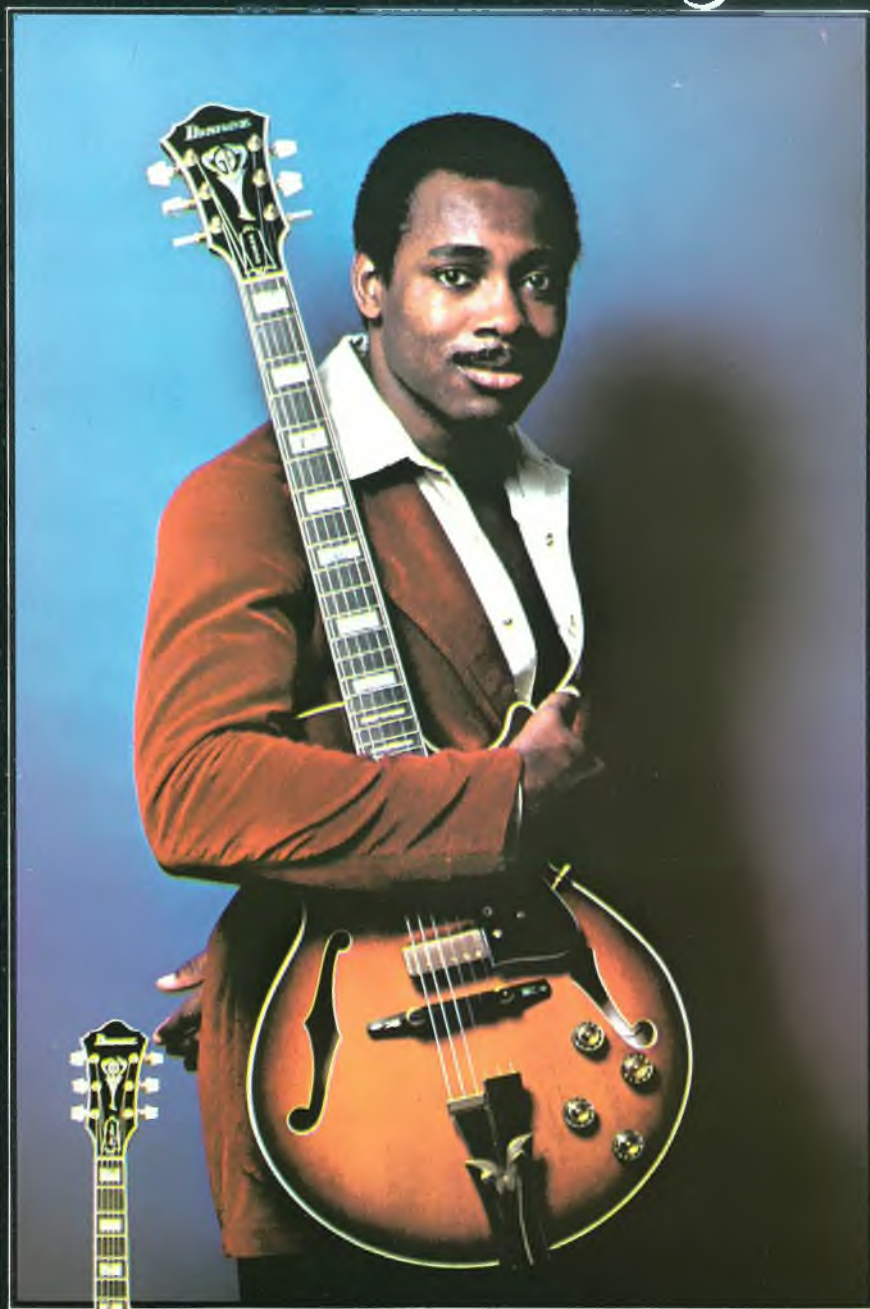
Synthesizer Bass Section, operating
on the first 24 notes of Lower Manual
with Mode (Sustain/Percussive) -
Footages (16' - 8' - 4') - Decay - Range
Resonance and Volume controls.
Modulation: Vibrato Depth - Tremolo
Depth - Vibrato and Tremolo Speed control
Pitch Bending, which gives the player
a frequency transposition of 1/2 tone
up or down

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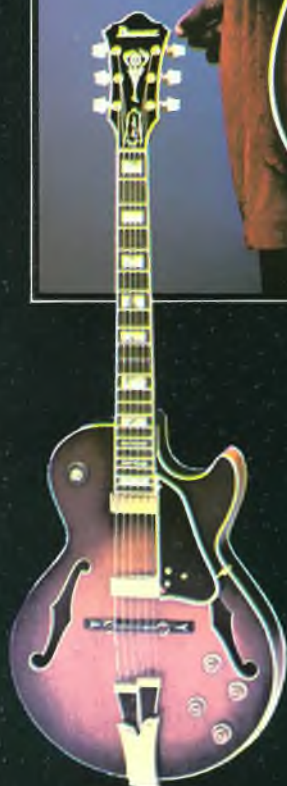
Here are George's own words:

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Dealer of the Month

Rose-Morris, London W1



Not too long ago, West End music shops had an unfortunate image of glossy showrooms with sharp-suited, smooth talking salesmen. However, with stiff competition from out of town shops, the atmosphere in most London stores is a lot more relaxed these days, with the accent on group gear as opposed to pianos, organs and French horns. This is something that pleases Graham Osborne, manager of the Rose-Morris shop in Shaftesbury Avenue. The shop has been there for over a decade and was originally envisaged as a showroom for Rose-Morris products. Over the years, the situation changed and the shop now stocks most brand names in instruments and equipment. There are five departments at the shop, each with its own specialist. The ground floor has a large selection of guitars, amplification and accessories, with a keyboard department at the rear. One flight up, there's percussion, acoustic guitars and brass.

Graham explains the policy: "The way we try to work it is to build up a close contact between the guy in each department and his own customers. So when a customer comes in, he expects to see the guy he knows and who knows about whatever that particular instrument is. In that way, we get across the 'small shop within a shop' idea. People come to the drum department, for instance, and they probably, don't even come to 'Rose-Morris' as such — they come to see the guy in the drum department."



The staff at the shop are all musicians themselves, each with a specialist knowledge of their own instruments. Bob Mallet looks after the brass and woodwind, George Thorne is the guitar man, assistant manager John Gold is the man for amplification, Bernard Jones takes care of keyboard business and Mike Good is in charge of drums and percussion.

As Graham admits, the shop is not the cheapest in town — like many others, they can't compete with the cut-price specialists — but they more than make up for it with their service. Obviously, they make good use of

Rose-Morris' own service department at their head office but the shop also has its own full-time guitar repairer in Andy Mazurkeiwicz.

"Andy came through the London College of Furniture course and he's an excellent repairer. We do a lot of repairs, modifications or even custom-building in some cases. It's a large and important part of our business."

An innovative feature of the shop is that everything is set up, ready to play and compare. All the keyboard instruments go through three mixers so any or all of them can be operational within seconds.

"It's so simple yet so convenient all round. With the MXR range, for instance, we have a board with every MXR pedal mounted on it and it's plugged directly into one amplifier so all you have to do is plug your guitar into whatever pedal you want to try and it automatically takes it through to the amp. So it's possible to compare 10 pedals in 30 seconds. It's also got a headphone facility so anyone who wants to try something out 'in private' can plug the cans in."

"With Marshall gear, we have all the amps racked and they go through a comparator so, by plugging in your guitar and then just moving your jackplug down a line of sockets, you can hear what each amplifier sounds like with any combination of cabinets. The idea is that it's good for us because it saves us messing around with loads of different leads and it's good for the customer because he can hear the difference between things really easily. And they don't feel they're hassling you if they want to try an amp with six different speaker cabinets. That's one of the things we recognise — if someone is going to pay £500 for a stack, they want to be damn sure they're getting what they want, so we try and make it as easy as we can for them to hear it."

This healthy concern for the customer is something Graham feels very strongly about and is the reason why the shop's philosophy is geared that way.

"The thing is that if we tried to compete with the cut-price shops, we wouldn't be able to give the service we do. It can be difficult getting the point across to people sometimes. If you're talking about a difference of £50 on a guitar or something, a lot of people don't go for it. But if they have trouble with it after they've bought it, then they appreciate why. They might not always believe us at the time when we tell them we will look after them if they have any problems, but if they do have any problems, they're always pleased that they spent a few pounds more to get looked after."

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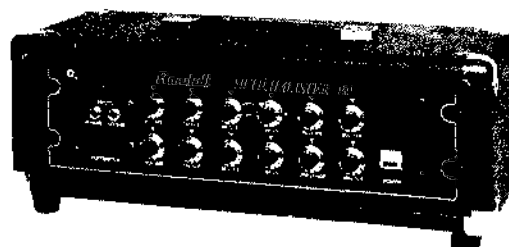
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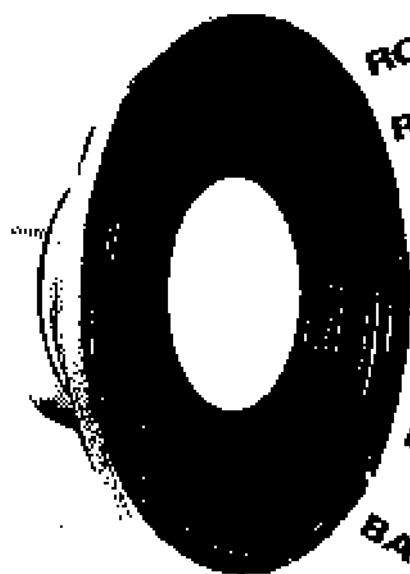


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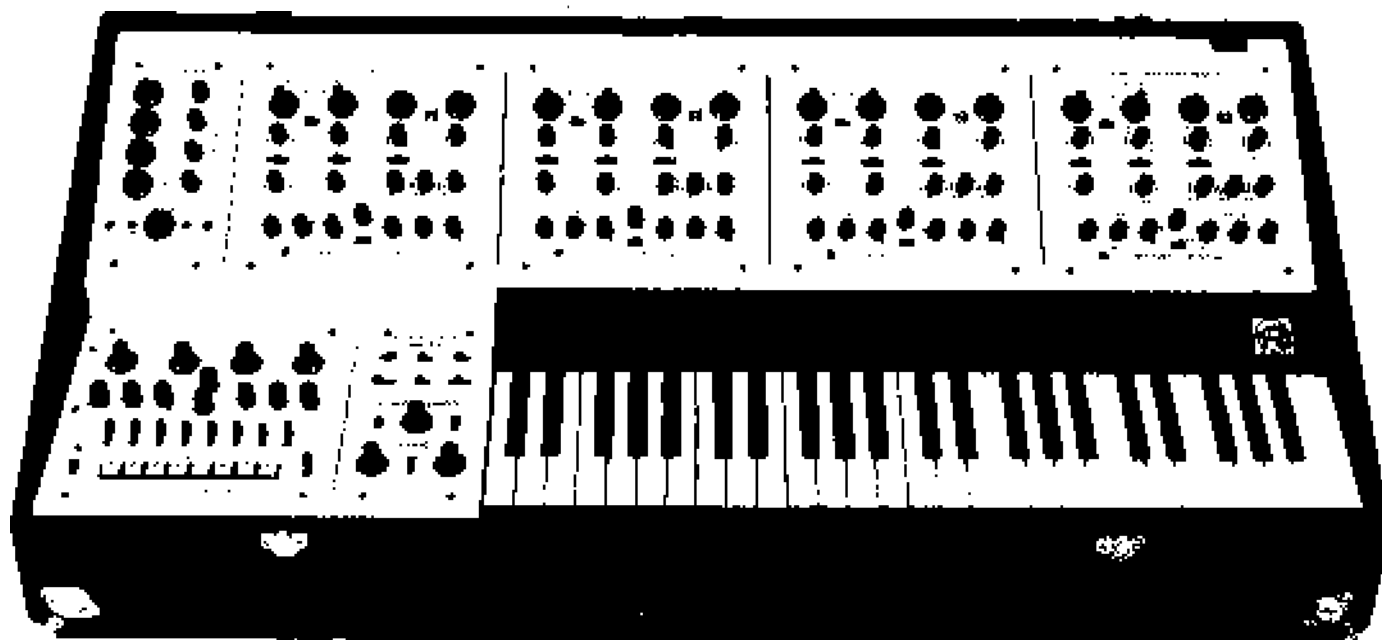
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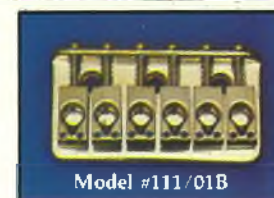
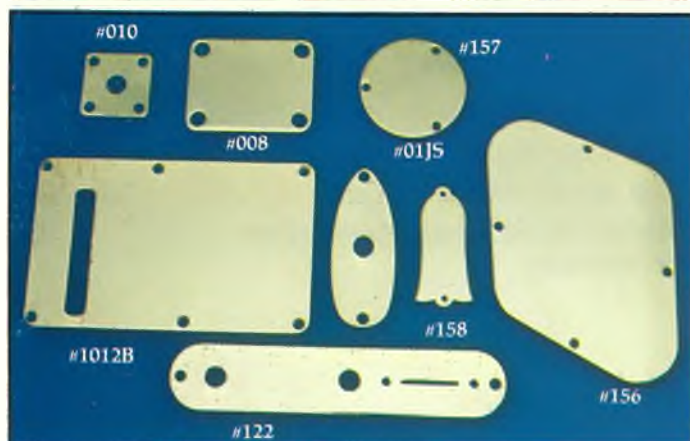
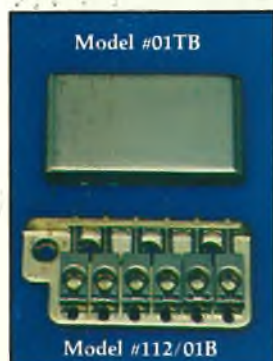
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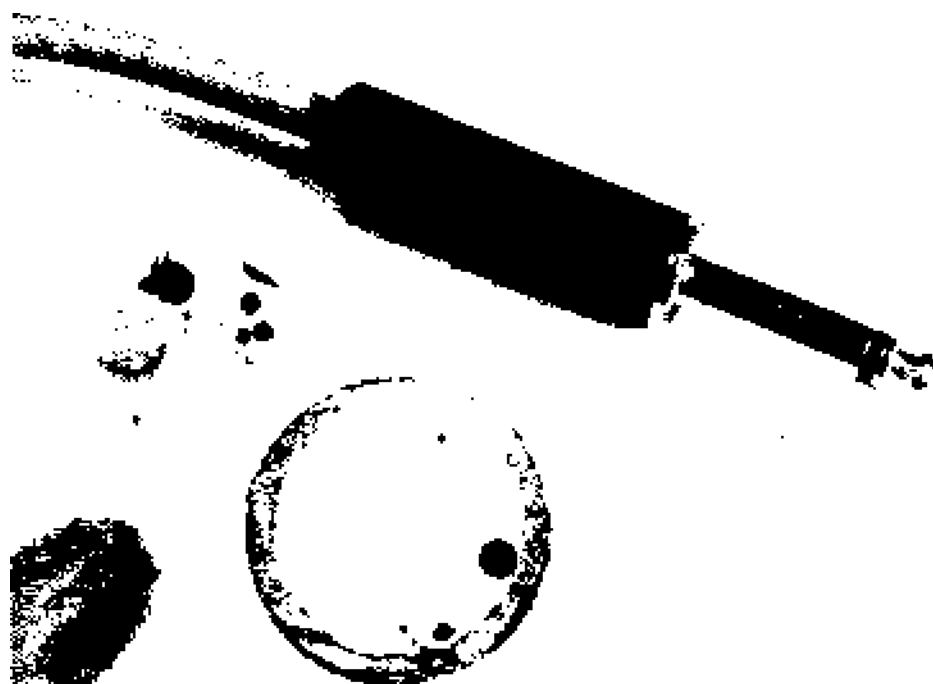
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Few loudspeakers arrive fresh on the market, out-perform their own specifications and lead the way in the highly competitive field of speaker design. The ATC speaker is one of those few.

The Acoustic Transducer Company of London has made a powerful impact on the users of high performance sound equipment, the variety of applications ATC speakers are suited for and the manufacturer's faith in their product has made them turn up everywhere. Skilled design and massive construction are the first visual indications that ATC speakers have the ruggedness to perform in any professional application — within their frequency limits. A heavy-cast six-spoke frame capable of supporting a weight of many tons is coupled to the magnet structure by both bolts and epoxy resins, assuring absolute rigidity. The magnet is huge by competitive standards and the gap length is large to accommodate radical cone movements in low frequency work. The cone itself and its surround show ATC's great developments in speaker technology.

Heat dissipation has always been a problem with high performance speakers and ATC have used a combination of new alloys and adhesives, with hand craftsmanship, to overcome this. The voice coil is wound on a special high temperature bobbin using epoxy resins similar to those used in automotive brake pads; the whole assembly is cured at 170°C. The edge-wound voice coil allows a narrow air gap that improves heat transfer to the magnet. Bass

models use a special aluminium bobbin for maximum heat transfer. The rear housing is thermally coupled to the magnet and has heat dissipating fins — all metal parts are anodized black for heat shedding.

Each model in the PA-75 speaker series has a specially designed cone and peculiar fibre and resin content. It is selected to provide optimum frequency response and minimum distortion for the specific job for which the driver is intended. New resins have been developed for the ATC cones and on the standard models the titanium alloy dust cap is thermally bonded to the voice coil, providing extended and smoother high end response. Where the voice coil terminates and is subject to strong flexing, it is treated with a second compound to prevent fatigue. The drivers come packaged with hardware for both front and rear mounting. They are fully tested at power levels above their rated frequency range, because of these demanding tests ATC offer a six year warranty covering both parts and labour.



ATC speakers: 12 inch PA75/314, 15 inch PA100/375, provides a more extended frequency response, especially in the low end but with a 2dB sacrifice in efficiency. The Standard LS can be used for vocals, midrange in large PAs, guitar and keyboard amplification and stage monitoring systems. The Bass LC model is specifically designed for bass reproduction in two or three-way systems. It has a viscous-impregnated linen surround and specially treated paper dust cap. A long-throw voice coil allows maximum cone movement at low frequency, without any deterioration in transient response. This speaker is best used for bass amplifiers, organ and synthesizers and concert PAs in vented or horn-loaded enclosures.

Mick Johnson says...

"The loudspeaker is probably the single most important link in the chain when it comes to the 'colour' of your sound. Over the last few years we've been knocked out with the way ATC speakers perform and we're delighted to be able to recommend them very highly for several different applications. ATC are a British company manufacturing a product capable of rivaling anything built overseas.

As well as sounding great they're extremely robust and this has been proved by the many hire companies who now insist on using only ATC.

As for ASS horns, well, they don't ring for a start. It is an extremely generous mix of ingredients in their glass fibre compound and they prefer to mount drivers on plates, the best way as far as I'm concerned. There is a metal inset at the driver/horn join to counter phase and distortion problems. The best thing about these horns, for big PAs, is their weight — or lack of it.

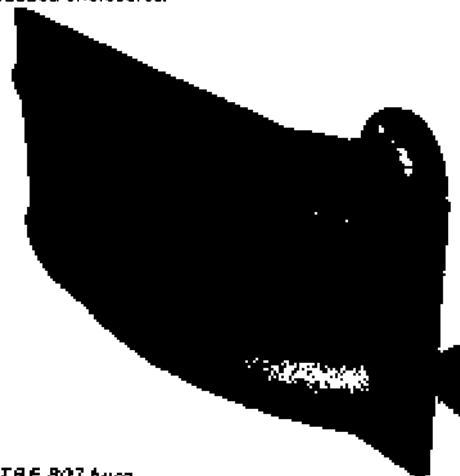
What can I say about these fantastic new Renkus drivers, they'll turn the market upside down at their going price. Edge-wound voice coils, ceramic magnets, easily replaceable diaphragm, all these factors should help them take over. They're so good, I hope they do".



ATC 12 inch PA75/314

The PA 75 series of ATC speakers has a wide range of uses, from studio monitoring to concert sound reinforcement. The Standard model has a light cone, metal dust cap and PVC impregnated paper surround. It is the most efficient speaker of the series and has a characteristic rise in response through the mid-range. This slight brightness makes the Standard model ideal for guitar and keyboard amplification, stage monitoring and midrange use in PA systems.

The Standard LS is a very similar unit but for the use of viscous-impregnated linen surround and a heavier cone formula. It



ASS TRF 803 Horn

CHOICE

they must be ATC



ASS: Horns of note

ASS radial horns, although newcomers to the horn market, are already renowned for their high performance. Mick Johnson supplies a variety of these horns but they all display the same characteristics. The horns are made from a fibreglass derivative which has proven to be extremely non-resonant. The fibreglass materials used have made it possible to produce horns with a flare rate best able to give smooth response through a dispersion of 100 degrees in the horizontal plane and 50 degrees in the vertical plane. The "peaky" response generally associated with horns has been eliminated making these units ideal for mid and high frequency reproduction in both low and high-powered PA systems.

There are three different models of ASS horns, according to size. The TRF 570 is 570mm wide and weighs 1.8kg. Its lower cut-off frequency is 600Hz and it comes in three different versions, the 570/S with 1 1/4 inch threaded throat, the 570/I with one inch throat for plate mounting drivers and the 570/2 with two inch throat for plate mounting drivers. The TRF 803 has much the same frequency response as the 570 and comes in only one version with a two inch throat for

plate mounting drivers. Mick Johnson provides adaptors for 1 1/4 inch screw or plate mounting, at extra cost. The TRF 420 model horn comes only with 3/4 inch or one inch throats for plate mounting drivers.

Mick Johnson Music is proud to announce the latest acquisition to their roster of high performance audio components, the Renkus compression drivers. These drivers have been manufactured to fit any sort of horn and offer exceptional high performance at a remarkable price. No compromises have been made in the design and construction of these units and they are sure to compete strongly with other compression drivers, especially those that employ edge-wound voice coils.

The Renkus drivers are manufactured in the US where no corners have been cut to produce this outstanding audio unit. The key to its low cost but high rating is the use of ceramic magnets. The voice coil is edge-wound and aluminium and the design of the driver allows the diaphragm to be replaced on-site in a matter of minutes, it is totally self-centring and uses no adhesives. All the Renkus drivers come with plate mounting facility.

ne inch PA75/234.

The Studio bass speaker is designed for low frequency use in studio monitors. It has a very flexible butyl rubber surround, an extra long throw voice coil and specially treated cone. It provides unsurpassed deep bass response. It can be used to 25Hz in a properly designed enclosure but due to its low electrical efficiency and high compliance it is not recommended for PA use.

Mick Johnson Music now supplies three different sizes of ATC speakers, a nine inch model in the PA 75 range and a 12 inch model in the same range. A new model, a 15 inch bass model called the PA 100, is now available.



ASS TRF 803, 570, 420 and 420/S horns

MIXING CONSOLES...F

Studio Master

Mixer designers today think in obvious terms of the tasks faced by engineers ten years ago. Until recently a mixer was designed for use in a studio, in controlled acoustic conditions. Today a mixer is likely to be used anywhere from an outdoor concert to a swimming baths hall. Against this background it will be realised that today's mixer must be a very flexible animal indeed and Studio Master, of North Hall, Bedfordshire have developed a range of mixers far more sophisticated in their adaptability than even the biggest mixers of a decade ago.

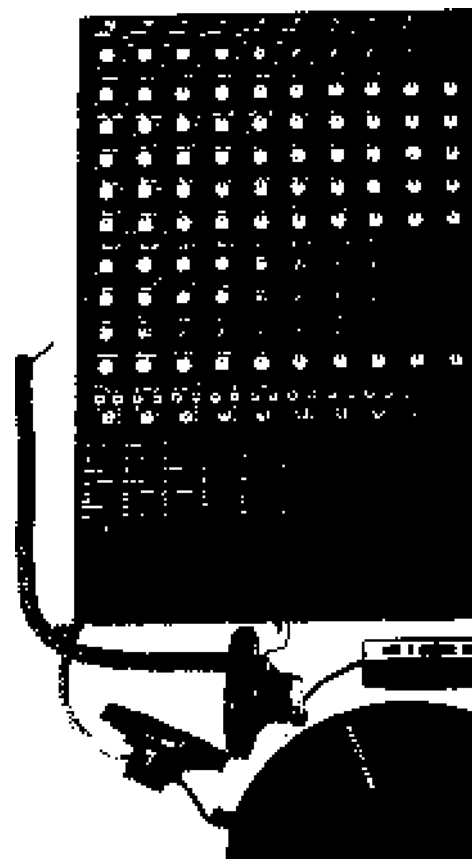
The 16-4 mixer was specifically designed to be teamed with one of the many professional standard four-track tape recorders that still are the tool of home engineers and demo makers. Like the other Studio Master mixers, the 12-2b and the 24-2b mixers and the RSD desks. The 16-4 mixer is of semi modular construction, allowing groups of channels to be added with minimum fuss. The 16 accepts either balanced or unbalanced inputs ranging from -60dBm to +15dBm with input impedance greater than 5K ohms - but is best used with low impedance, 200 ohm microphones.

Once the signal is in the mixer, via balanced cannon sockets or the optional 25 way multicore cable, it travels through a 30db pad switch which can be used to cut unusually high inputs,

then through a gain control that lights an LED 4dB below the clipping point. The equalisation on Studio Master input channels is one of their best features - 16db of treble boost or cut shelving at 10KHz, ± 16 db mid frequency control from 400Hz-8KHz, ± 16 db bass frequency control from 300Hz to 30Hz. Both mid and bass equaliser bands have individual frequency controls.

There are separate level controls for sends to foldback (pre-fade) and two echo sends (post-fade). These can be routed to the four output channels by two, two-way routing switches, logically positioned below the post-fade echo sends and panpot. A PFM button allows the engineer to listen to and meter the signal in the channel without affecting the operation of the mixer. All these controls are colour-coded for simplicity of operation - red for gain, grey/black for EQ, blue for echo, green for foldback and yellow for pan.

The four output channels, which can be selected by each input channel's routing, are the four sends to the tape recorder. Each channel has its own fader and a line amplifier with 10dB gain feeding the line out sockets. A switch selects record or remix function, send to monitor, send to foldback, or pan to monitor over the speaker mix. The channels can be



Studio Master 16-4 mixer

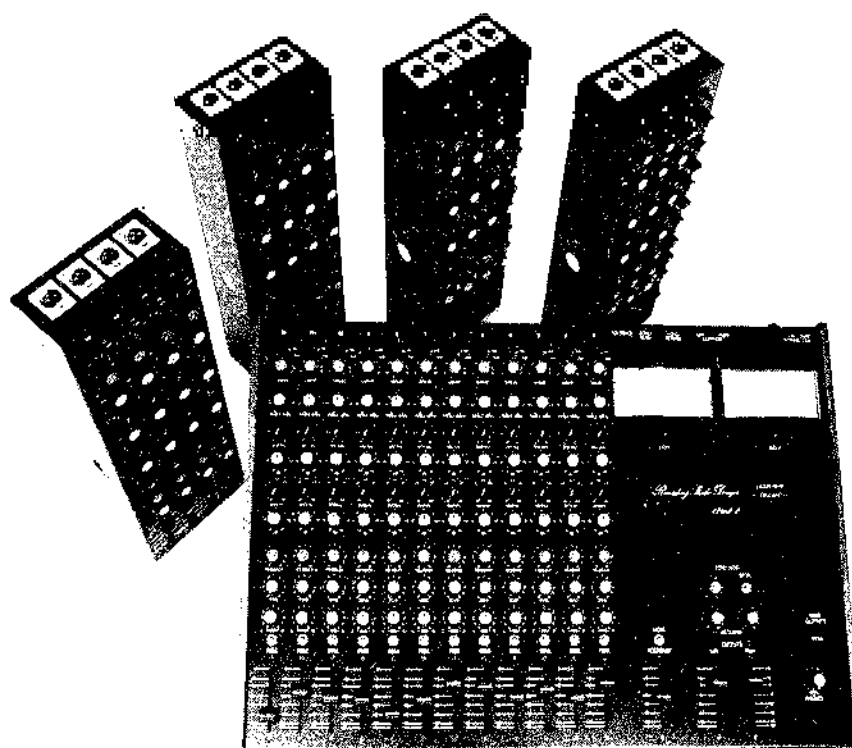
selected to monitor either the group line out or the playback returns at the line in sockets. This allows the speaker mix and the foldback mix to be taken from either tracks being recorded or tracks previously recorded. Level in individual channels can be checked when the speakers are fed via the PFM switch when the reading comes up on meter four.

The foldback send can drive either an external amp or ten pairs of 600 ohm headphones, the monitor send will drive an external amp or one pair of headphones. This desk will record, as described or remix with the line inputs going into channels 1-4. Outputs 1 and 2 carry the remix to the two separate outputs from which a final stereo mix can be recorded.

The same precision engineering can be done not only in the studio or at home - where the 16-4 really excels - but also at a live gig where acoustic unknowns can be "mixed around" and stage sound can be mixed to come through a PA system as you would put it on tape. The ideal equipment for this task is the Studio Master 12-2 mixing console.

Unlike the 16-4, with its remix facility on four outputs, the Studio Master 12-2 is specifically designed for road work. What these mixers share are the same exacting standards of design and manufacture.

Cannon-type connectors or an optional multicore feeds this mixer, ideally with balanced



Recording Studio Design 12-2 mixer

recording or the road

make records

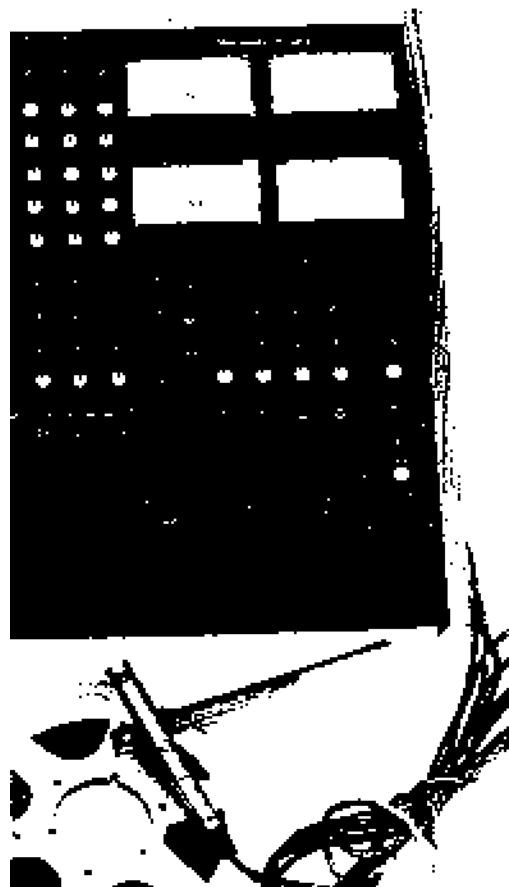
Heavyweight Canary

Canary is a name turning up with increasing frequency under sound engineers' desk lamps. Canary manufacture a wide range of mixing consoles at their south-west London factory, some designed for versatility and compactness, others are built exactly to their owners' specifications. Canary now make a ten channel sub-mixer that can be plugged into either a 16-2 or 10-2 Canary mixer to extend these models up to 26 channels.

The 16-2 mixing console pictured below carries all the features that sound engineers require. The 16-2 has transformer-balanced inputs, an independent gain control and three band equalisation. There is a separate foldback

channel, AFL button and pan switch and the 16-2 uses Penny and Giles faders. Both output channels have three band equalisation to give the sound engineer complete control over output as well as input signals. Canary also make a 12-2 mixer that, because of its size and versatility, may soon become a standard piece of on-the-road equipment.

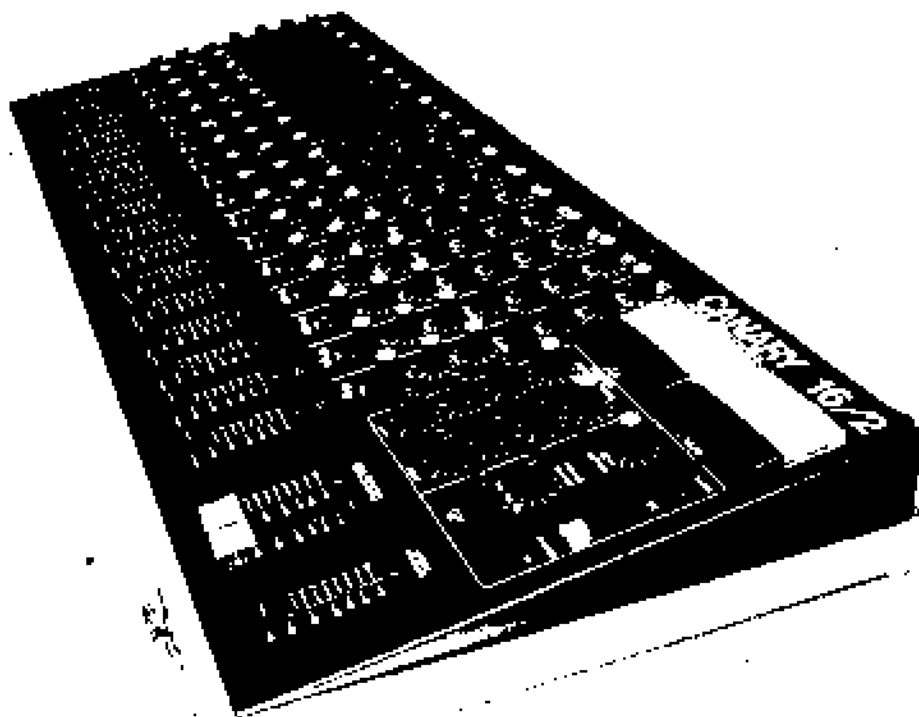
Canary are not the sort of sound equipment manufacturers to rest on their laurels. Their latest releases are a series of rack mounted accessories, including two and three-way cross-over networks. They also make an ADT flanger that is compatible with any other mixing or sound reinforcement equipment.



line, low impedance microphone signals. A pad switch can cut unusually high inputs by 30dB and the gain control gives optimum signal noise ratio; it can be linked to the meters through the PFM button for zero modulation. Three way equalisation is made pin-point accurate by separate cut-boost and frequency control switches for bass and mid ranges, while the treble can be cut or boosted 16dB at 10KHz with a shelving response.

The echo sends provide two separate mono mixes for external effects treatment; these sends are post-fade while the foldback send is pre-fade and thus unaffected by the channel faders. A panpot allows positioning of an instrument or voice in the stereo spectrum, a PFM button for zero Vu modulation. Three-way foldback master output is equalised the same as the input channels and echo can be added to the monitoring sound. The main output channels have full EQ allowing fine control over the PA sound, without reworking individual channel EQ.

All of these features packed into a robust yet attractive console can provide a band with a separated, controlled sound that would please the most discerning ears. Coupled with RSD power amplifiers and either three or five way crossovers, the sound mix that arrives at the speakers is as clean as it could possibly be.



Canary 16-2 mixing console

... "It's true to say that the wrong sound engineer can ruin a good band. It's also true to say that the wrong desk can make even a good engineer ruin a band. There are an awful lot of "messy" desks on the market and in selecting Studiomaster and Canary we've tried to offer only the models we know will perform well under a wide variety of conditions. Particularly important is the standard of construction. Any desk intended for road use has to be able to withstand abuse and both these ranges have

shown themselves capable time and time again.

The 16-4 Studiomaster desk is particularly useful. It's designed especially to mate with four track tape machines and if you've ever had that hankering to record "live" this is the one for you. They have made themselves famous by manufacturing beautifully made mixers, the modular system they now employ allows incredible versatility.

POWER AMPS Do hard work

You can bank on Turner

Manufacturers of high performance audio components often stake out a small area of the market and strive to produce equipment with unbeatable specifications. A handful prosper and build reputations with ultra-dependable components — Turner is one of them.

Turner began building high power stereo amplifiers eight years ago, as soon as the reputation of their A series studio monitor amps spread, engineers all over the UK scrambled for them. During that eight years of continual design and manufacturing refinement, a new series of no-compromise power amps emerged and has since nearly taken over the rough and tumble world of concert PA amplification — these are the Turner B series amps, the B302 and B502.

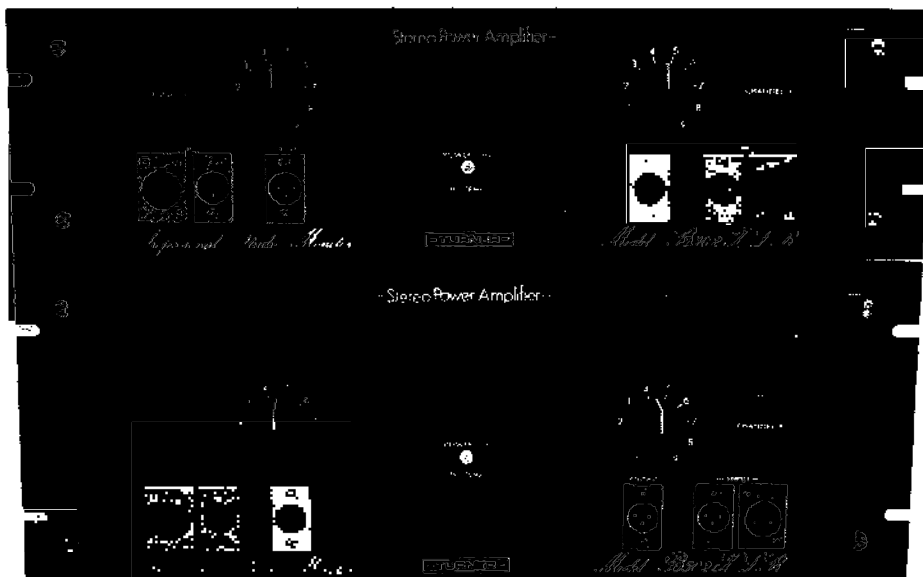
A very large proportion of sound reinforcement hire companies in the UK use Turner power amps, enough to convince anyone that they are considered hard working, no-nonsense units that can be relied upon to deliver the watts in the worst of conditions. Their very high standard of reliability and economy makes them sound engineers' first choice for both studio and PA applications.

The direct coupled circuitry, designed and developed by Turner, uses 30 discrete transistors, 16 diodes, 2 zeners and bridge rectifier in a design that has virtually unmeasurable distortion, wide response and high stability. The input stages comprise of low noise differential transistors of dual construction to provide low DC drift over a wide range of temperatures. Constant current sinks are used in all input stages to prevent chain destruction. The stage following input provides ultra-linear drive to a pair of complementary pre-drivers which are in turn coupled to a pair of high powered complementary drivers, series-connected Turner power transistors are used for the final output.

The output stage of these amps is quasi-symmetrical — the driver output stages are independent of the bias circuit — making the output stage not temperature-tolerance critical. The power progression of the triple output stage has eliminated the chain destruction of driver and output transistors that occurs in double output designs and minimised the low impedance loading effects on the output, which would otherwise come back to the input stages and increase distortion.

....."If hire companies and studios use Turner amps to the extent that they do — well, what better recommendation could a power amp have? The Turner B series partly inherited it's reputation from the A series amps. In eight years of manufacture they widely impressed buyers on the pro market and the B series puts their sort of specs within everyone's reach.

RSD amps speak for themselves, if you'll pardon me but Canary amps perform so well for the price they deserve all the praise I can give them. When it comes down to it, flat response and low distortion are what a good amp is all about".



Turner B302 B502 power amps

The main chassis is thermally connected to a heatsink system, allowing high frequency overloads and steady state conditions without overheating. If overheating does occur, thermal cutouts remove power from the amp until the temperature comes down to a safe level. The heavy duty mains transformer is of unique Turner design, a high current bridge rectifier and high capacity electrolytics allow considerable energy storage in the amp's circuitry, ensuring a wide power bandwidth and distortion free transient response.

Both the Turner B302 and B502 can be ordered with additional XLR sockets on the front panel to provide convenient patching of

input signals from one amp to another. The B302 is recommended for studio monitors rated at 50-100 watts at 8 ohms, the XLR version for driving mid range, compression drivers and tweeters of PA systems, as well as stage monitors. The B502 is best used with monitors rated 100-200 watts and the XLR for bass and mid range PA speakers.

The circuitry of these amps is on a plug-in glass fibre board and the power output transistors are easily accessible, normally the replacement of these components is all that is required for a full repair. Turner service their own amps and main agents carry spares and comprehensive repair procedures.

RSD: Not just a pretty face



Canary 400 watt stereo amp

Want power amplifiers built for the road? See RSD. In this highly competitive area of sound reinforcement RSD have both the specs and the looks to sway the most fussy of tour bosses. The RSD 800B Stereo Power Amplifier is one of those units that looks out of place anywhere else but stage-side. This amp will deliver 220 watts per channel into an 8 ohm resistance, it has an excellent signal to noise ratio, crosstalk is better than 60dB below 200 watts into 8 ohms. The 800B has cutout switches for short circuits and overheating, the latter operated thermally. However, a 250 volt cooling fan makes an overheated RSD amp a

rare commodity.

All fuses are fitted via the front panel for easy access, a mono/stereo switch allows parallel inputs to be used and the mains input is a cannon type connector.

Canary, apart from building mixers, also boast a solid performer in the power amplifier field. Their 400 watt Stereo power amp is also completely short and open circuit protected. These amps can be used to run any frequency group, they are separated completely so one side can run high frequency and the other bass. There is no chance of damage to high frequency speakers or distortion to overall PA sound.

BUGS, HORNS & DRIVERS

Ashworth: the best bug

The players of acoustic instruments, especially acoustic guitars, have always had to surmount enormous problems to correctly amplify their instruments. It is now well recognised that transducers are the best way to avoid the many problems of microphones, particularly on stage.

The leader in this field is Ashworth, who introduced the AJ20 series in 1976, for the first time combining accurate frequency response with an output level sufficient for most normal amplifiers, precluding the use of pre-amplification. Now, with the new AJ21 series of professional transducers, Ashworth have developed a device with exceptionally wide frequency response, comparable with the best microphones.

The AJ21 transducers are remarkably versatile, though mostly used for guitar amplification they can be used successfully with percussion, harmonicas, concertinas, bells and some reed instruments. They are extremely convenient, small in size and can be applied anywhere with double-sided adhesive material. They will plug straight into any input impedance greater than 200 ohms, and their clean frequency response delays acoustic feedback at high volume. Lead noise is very low and output is high, a limiting resistor prevents possible overload of high impedance amps. Ashworth Transducers are distributed exclusively by Mick Johnson Music.



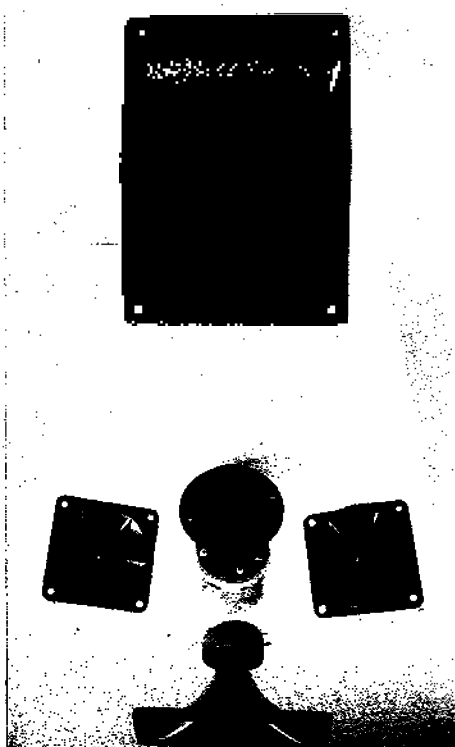
Ashworth AJ21 Transducer

popular screw-on compression drivers on the audio market. The TW 101 has a very solid construction that excludes all resonances and coupled with an RCF horn and acoustic lens, is a very powerful and accurate high frequency unit. The TW 200 lens is a very useful unit for dispersing high frequency signals, the transverse plane of listening is considerably amplified.

Another big selling RCF unit is the L15-P06 bass driver. This speaker has a power handling capacity of 150 watts at 8 ohms impedance, with a frequency response of 25Hz to 3000Hz. The bass driver's frame is solid aluminium and the magnet, an Alnico V.

of the major combo and cabinet manufacturers. Linen surrounds are available for 12", 15" and 18" models to provide lower bass resonance without loss of durability. High power Fane speakers are also available with tweeter cones to provide improved mid and treble response. Fane 10", 12", 15" and 18" speakers have an added option of metal centre domes to add brightness and attack to mid and upper frequencies. They are especially recommended for guitar. Plastic edge treatment for self-surround cones and high input power voice coils are some of the other Fane options.

RCF, the major Italian manufacturer of audio components, make one of the most



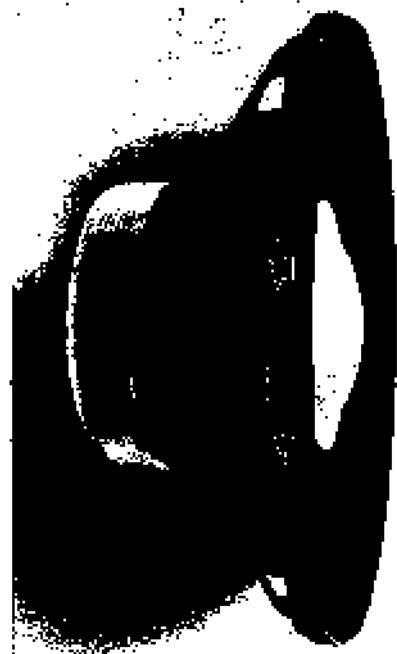
Piezo and RCF horns

Piezo

Possibly the most economic of all high frequency horn units available today are the mighty Piezo electric horns. These tiny, lightweight units handle enormous amounts of voltage and because they employ a crystalline structure to produce a mechanical displacement, there is no need for crossover units. Piezo horns are rated on voltage and not wattage because they present a reactive loading to the driving amplifier. The inherent characteristics of the crystal structure take the place of crossovers. They can be connected directly across your existing speaker system, providing the output of your amplifier is within the rating of the Piezos.

Fane

Another economical but high rating performer on the speaker scene is Fane. They supply a wide range of speakers used by most



Fane 12" speaker

Also from Mick Johnson

The people at
Mick Johnson
Music

Mick's Mike Stands

Mick Johnson Music has its own manufacturing wing too! The sturdy and sparkling microphone stands that you see pictured are all available exclusively through Mick Johnson Music in Putney. A deluxe and standard upright stand both share smooth, easy action and a solid base that would test Roger Daltrey's stand-swinging muscles. A deluxe and standard boom model are also available, for that hard-to-get-at cymbal or keyboardist's larynx. A deluxe table stand for all you aspiring MD's has a heavy base that is felt-covered to protect desk tops. Two versions of our popular drum stool are pictured as well — they provide a

seat as secure as any throne!

Delft care

What workshop manual would be complete without its own secret formula? In this case it isn't ours but that of renowned luthier and guitar neck straightener, Stephen Delft, in short, his special brew of guitar polish, Delft's recipe is not for publication but rest assured this polish will make a battered axe shine like its former glory; it is especially good for natural finishes.



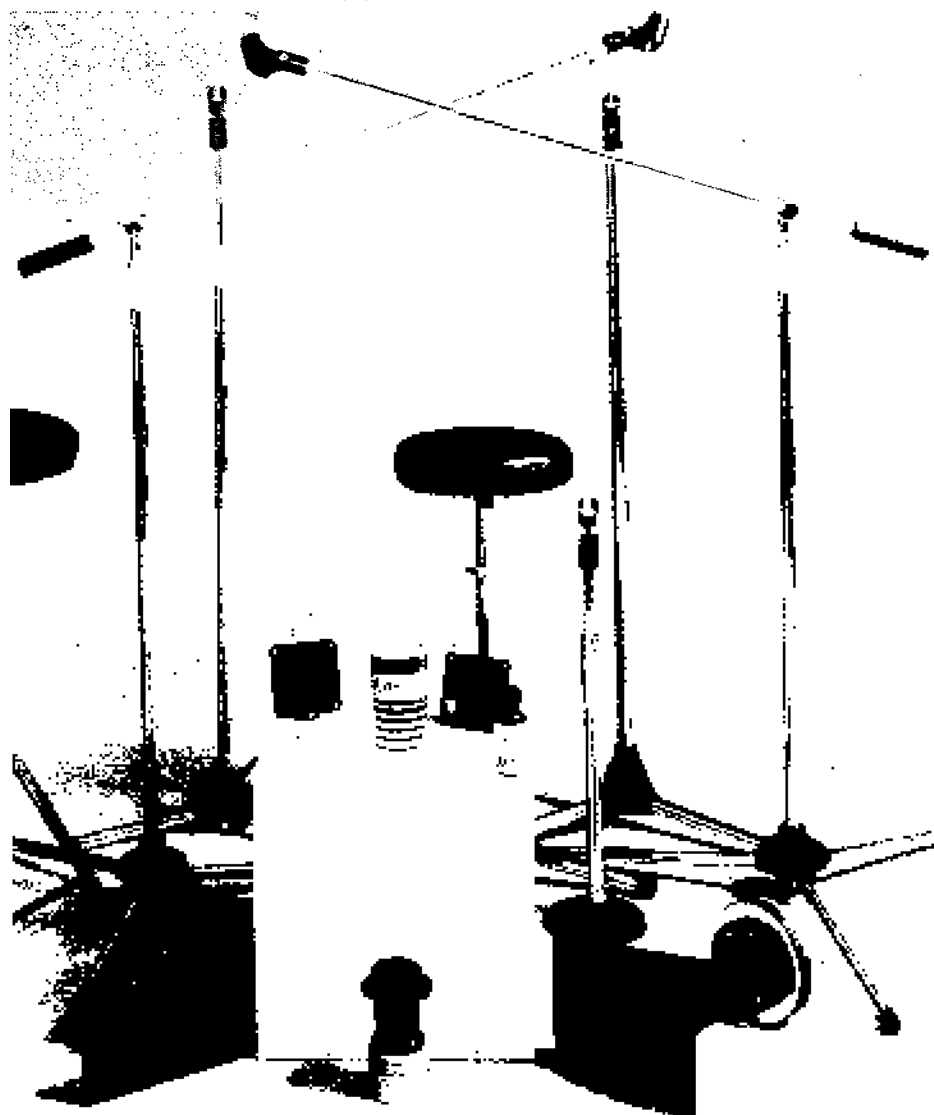
Mick Johnson is an ex-professional musician. He started getting into the music industry when his band couldn't get the equipment they needed and the thing has snowballed from there. Today he spends most of his time making sure that the products distributed by Mick Johnson Music are good enough for him to put his name to.



Cliff Lake is Mick's right hand man and he's responsible for sales and marketing of Mick Johnson Music Products worldwide. Cliff's a guitarist and like Mick it was a disillusionment with traditional music industry sources that led him into the business. He's been with the organisation since last year.



Nina Martyn looks after all the aggro at Mick Johnson Music. She is responsible for things like Credit Control and general accounts handling and she's been with the company since the beginning. She's very involved in music and this eases the burden of responsibility that goes with her job.



Drum stools upright, boom and table mike stands

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Mick
Johnson
Music

Market Report



Gibson

Despite all the new electric guitars which have appeared on the scene since Gibson first started production, their name remains a hallowed one among musicians.

It is not merely the fact that the wide range of instruments to suit the needs of all guitarists. From the legendary Les Paul through to the superb Flying Vs and Explorers, not forgetting their line of acoustic instruments, the Gibson style and class has ruled supreme.

But the company have not been content to trade on past glories, and keep pace with modern technology with developments such as the RD series. Gibson have also spared a thought for the guitarist who dreams of

owning one of their instruments but could never afford it. In the Paul they have produced a guitar which has all the Gibson company was one of the first to make electric guitars which accounts for their success. It is a matter of quality. When you buy a Gibson you know you are buying superb craftsmanship and a lifetime of technical expertise.

A further secret of their success has been the company's ability to develop a pedigree, but at a price to suit just about every pocket.

With instruments such as these, the Gibson name is destined to shine brightly in the guitar "Hall of Fame" for many years to come.

Market Report

Dealer list

1. Dave Lee, Tower Music, 46-48 Topping Street, Blackpool
2. Peter, Music Stores, 18 Launce Street, Blackpool
3. Ray Vallon, Mellors, 196 West Street, Boston
4. Barry Crossland, Kitchens, 33 Peel Street, Barnsley, Yorks
5. Tom Ryan, The Sound Centre, 98-100 Clay Lane, Stoke, Coventry
6. Rod Millgate, Mean Machine, 70 Bondgate, Darlington
7. John Gothard, JSG Music, 108B Main Street, Bingley
8. John, Music Ground, Station Road, Stainforth, Doncaster
9. Mr Dias, JP Dias Ltd., 149-153 Botchergate, Carlisle
10. Peter, Andertons, 5 Stokefield, Guildford
11. Nigel, Modern Music, Catsie Street, Dudley
12. Tim, Tim Gentle Music, 14-20 London Road, Ipswich
13. David Gregory, Jones & Crossland Ltd., 6 Smallbrook Ringway, Birmingham
14. Mr Thomas, Yardleys Ltd., 89A Snow Hill, Birmingham
15. John Howarth, Harker & Howarth, 27-32 Churchgate, Blackpool
16. Paul Gamble, Abbey Music, 5-6 Market Place, Burton-on-Trent
17. Barbara, Coventry Music Centre, 2 Whitefriars Street, Coventry
18. Graham, Rock Shop, 201 Stourbridge Road, Holly Hall, Dudley
19. Bob, Bob Hall, 218 Durham Road, Gateshead
20. Kathy, Kingfisher Music, 20 Kings Road, Fleet
21. Mr Wakeley, Hereford Sound Centre, 7 Bridge Street, Hereford
22. Mr Cornell, JP Cornell, 31 Spring Bank, Hull
23. Bob, Pied Piper Music, 1/2 Market Place, Redditch
24. Mr Wilkinson, Pied Piper Music, 19 Peckingham Street, Halesowne
25. Peter, Albert Balaam Music Centre, 69 St Matthew's Street, Ipswich
26. Neil Nicholson, Strings Musical Inst., 164 St Clair Street, Kirkcaldy
27. Graham Pell, Sound Pad, 64 London Road, Leicester
28. Bernard Michaelson, Frank Heszy Ltd., 62 Stanley Street, Liverpool
29. Ed Jones, Chappell, 50 New Bond Street, London W1
30. Mick, North London Group Gear, 809-811 Tottenham High Road, London
31. Mr Hoida, Malvern Music, 19 Abbey Street, Malvern
32. Mr Gun, South Eastern Entertainments, 375 Lewisham High Street, London SE13
33. Paul, Barratts, 8A Oxford Street, Manchester
34. Geoff Muir, Muir Music, 289 Chester Road, Manchester
35. Phil, Carlsbro Sound Centre, 182-184 Chesterfield Road North, Mancfield
36. John Logan, Session Music (Sports & Music), 73-75 Broughshane Street, Ballymena
37. Robin Shannon, Session Music, 81-93 York Street, Belfast
38. Ian, Rock City, Cloth Market, Newcastle-upon-Tyne
39. Phil, Guitar Centre, 3 Melville Street, Isle of Wight
40. John Grindle, Centre Sound, 5 Albert Street, Rugby
41. Stuart, Varsity Music, 6 Nicholson Street, Edinburgh
42. Dave, Sudbury Music Centre, North Street, Sudbury
43. Joe Finestone, McCormacks (Music) Ltd., 33 Bath Street, Glasgow
44. George Gibson, Grant Music, 53 Home Street, Edinburgh

What is Gibson's chief selling point?

1. There are many but most of all the quality and the resale value
2. The established name
3. They're the guitars that most professional musicians want
4. The sound quality
5. I'd say the quality and the name
6. The name at the top of the headstock
7. The name, definitely
8. The name, the charisma

9. The overall quality
10. Charisma
11. The name they've made for themselves
12. The quality of the guitars and their distinctive sound
13. The quality really
14. The sound, the action on the neck and the finish
15. The Gibson is the best guitar money can buy
16. The unique Gibson sound
17. The tone of the guitars
18. Consistent high quality plus design
19. The quality of the tone and Gibson's reliability
20. The prestige
21. The action on the guitars
22. The quality materials they use, the wood, etc.
23. The quality associated to the name
24. Sound-wise and finish-wise they stand as the best
25. The name they've made for themselves
26. They're the best guitars
27. No, really they've got such a name!
28. The quality control, the perfection of the guitars
29. The name
30. The reputed name
31. Just the name
32. The name
33. Probably the construction which is better than ever
34. Mainly quality built-up over the years consequently giving Gibson a strong reputation
35. The superb quality of craftsmanship. A real guitar
36. The quality and the sound
37. The unique very good Gibson sound
38. The reputation of the guitars
39. Just Gibson, the name
40. They are very well made accurate guitars
41. The reputation, a guitar-buyer would first ask to see a Gibson
42. The name and the finish of the models
43. The name and the sound of the guitars
44. The performance of the guitars

Which is the best-selling Gibson solid?

1. The Les Paul Custom
2. The Les Paul Customs
3. They all do well but not in our shop
4. The Les Pauls
5. The Les Paul Custom or Deluxe, take your pick
6. The Les Paul Deluxe
7. The Les Paul Deluxe
8. There are two: the Les Paul Deluxe and the Custom
9. The Les Paul Custom
10. The Les Paul Custom and Deluxe
11. The Les Paul Custom
12. The Les Paul series
13. We find that the Les Paul Deluxe is the best-seller
14. The Les Paul range
15. The Les Paul range
16. The Les Paul Standard
17. We find that the Les Pauls do very well
18. The Paul and the Les Paul Standard
19. The Les Paul range.
20. The Les Paul series.
21. The Les Pauls
22. We hardly sell any because of the London rip-off boys
23. The Les Paul series
24. The Les Pauls
25. The SG Standard
26. The Les Pauls
27. The Les Pauls
28. The Les Paul Deluxe
29. The Les Paul Custom
30. The Les Pauls in general
31. The Paul because of its price at the moment

32. The Les Pauls are the best-sellers
33. Over the past 12 months, the SG Standard is the best seller
34. The Les Paul series
35. The Les Paul Custom
36. The Les Paul range, especially the Custom and the Deluxe
37. The Les Paul Deluxe
38. The Les Paul Custom
39. It has to be the Les Pauls
40. The Les Paul Custom
41. The Les Paul Deluxe
42. The Les Paul Custom
43. The Les Paul Custom and Deluxe
44. The Les Paul Custom

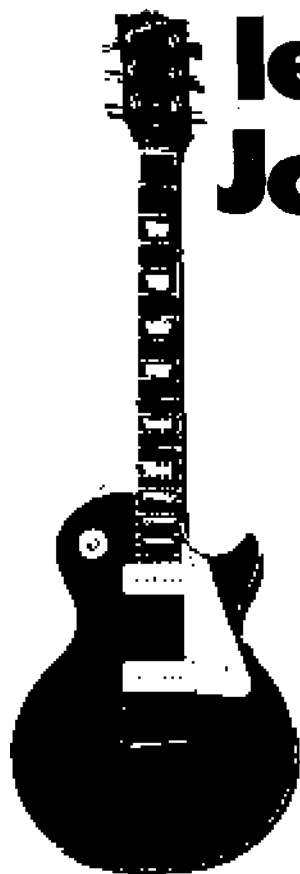
What, if any, is the commonest criticism of Gibsons?

1. The only criticism in our view is the fact that they are not well set up when they reach our shop
2. They are very expensive
3. As they are so expensive people will go to London and buy them at discount prices that little shops like us cannot do. We sell mostly copies — Gibson are destroying their name
4. The price, at the moment
5. It costs us time and money to set them up and the clients argue about the price, with reason
6. The price and finish
7. Apart from the price they are never really well set-up when reaching our shop
8. They are not set-up at all when reaching us
9. They are good guitars but very pricey
10. Inconsistent quality control
11. They have a wide-neck
12. The price, from the customers' point of view as well as ours
13. Everybody complains about the price
14. Well, nowadays people moan that the new Gibsons are not as good as the old ones
15. There's only one, the price
16. Their cost
17. The gold-plating tends to wear off
18. The price, but there again you get what you pay for
19. Their high cost
20. They go through periods of erratic quality controls and at other times they're good
21. The paint work finish is too soft
22. Gibson are too pricey
23. I can't really think of any, not nowadays
24. I can't think of any
25. They're over-priced
26. The price is the only criticism
27. Don't get me wrong, I like Gibsons but in today's market they are over-priced
28. There isn't any
29. The Les Pauls will go on forever but the newer Gibson models are not quite as advanced as their Japanese competitors
30. We haven't any
31. The price you have to pay for that name
32. The gold plate
33. The sole criticism is that their price is too high
34. The high-cost is the main criticism
35. The price, although the Paul is cheaper
36. Probably the only criticism is of their cost
37. Gibson owners are happy guitarists. These guitars are expensive but good value for money
38. I don't want to put Gibson down but I'd say the adjustments
39. The price
40. I can't think of how anyone could criticise them
41. There's not a great deal of criticism although the setting-up demand a lot of work
42. None really . . . Perhaps they are a bit heavy
43. None really, apart from the price
44. People only criticise the price

What sort of after-sales service can you offer customers?

1. If there is a major problem we send the Gibson straight back to be replaced; otherwise we service them on the premises within 24 hours
2. Norlin offer a superb service, if there is the need they will replace the guitar without any problem. I do most repairs, though
3. We do minor repairs and have never had to contact Norlin
4. We have our own workshop and do all the repairs ourselves
5. The usual settling-in adjustments, guarantee plus Norlin for spares. They are reasonably adequate
6. The guitars are replaced free of charge by Norlin if necessary — we have our own workshop
7. We offer a first-class service
8. We can offer same-day repairs but through Norlin a repair would take 3 weeks and be expensive
9. We can do all repairs if Norlin supply the parts
10. We offer a 100% shop service — as far as Norlin is concerned it could be better
11. We offer a comprehensive system
12. We repair just about everything ourselves; if needed, though, Norlin will offer a fast and efficient service
13. First class
14. If a guitar needs mending, we'll get it done
15. We give a good after sales service and usually do our own repairs
16. We have our own workshop which so far has dealt with any problem with the Gibsons
17. The service is very good from Norlin and we do electrical repairs ourselves
18. Norlin are the best and we can do most electrical and body repairs
19. A full service, and free — Gibsons are guaranteed for life with me, as long as the client owns the guitar
20. Generally good, from Norlin
21. Once properly set-up the guitars need no service for a long time — Norlin are very good
22. We can repair just about anything and if we do need to contact Norlin, their service presents no problems whatsoever
23. If there is a problem the guitar is automatically replaced
24. Norlin are just up the road so there's no problem
25. Norlin are first class, the service is excellent
26. Norlin offer a good after-sales service
27. We offer a two year unconditional guarantee and, if contacted, Norlin are very helpful
28. We deal with just about everything in the store
29. We are fully equipped to deal with most problems — so far we haven't had to contact Norlin
30. The usual. Norlin are good with Gibson, I can't say the same about other products, though
31. We have our own craftsmen and Norlin's service is good
32. Norlin are excellent for spares and we have our own repair shop
33. We've no problems although a new bridge for a rare model might take up to six months to arrive
34. For the past 18 months now Norlin have been great. They actually listen to you
35. Over the years we've only had to use Norlin once and we got a first class treatment from them
36. We have never encountered any problems with Norlin — they offer fine service
37. A first class service is given both by our own repairer as well as by Norlin
38. Norlin are very good and we offer a 100% service
39. With Norlin's good back-up service the customer will get an excellent treatment
40. Apart from giving a year's guarantee we can also fix about anything on the premises
41. A really good service, Norlin will help in any way, sometimes in most incredible circumstances
42. Norlin gives us a good service so we give a good service
43. Due to Norlin's excellent backing-up service we can offer a very good deal to the customer

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EBONY DELUXE £498 INC. VAT
MAPLE TOP STANDARD £597 INC. VAT
LES PAUL '55 £503 INC. VAT
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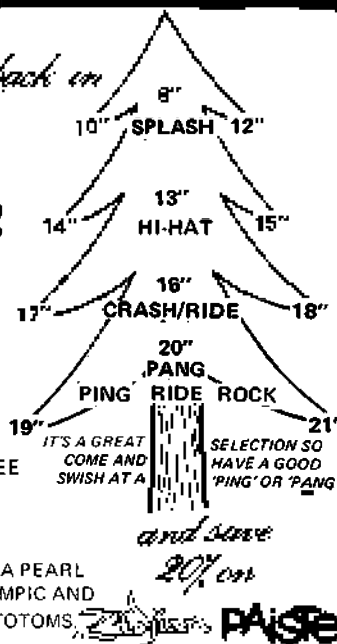
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Trade News



Tom Jennings

Tom Jennings, founder of the company responsible for producing Vox amplifiers, died over the Christmas holiday. He was 60.

Regarded by many as the father of British amplification, Tom entered the music business in the early Fifties distributing piano accordions. He started to produce Sixties.

The Beatles used Vox amps exclusively and at one time the brand had a virtual monopoly on a booming market hungry for amplifiers. A keyboard player himself, Tom was also responsible for the whole concept of the portable electronic organ. He designed the Vox Continental — the world's first portable electronic organ — and this instrument was featured on countless hits between 1964 and 1970. It's still contributing today with Elvis Costello's recent *Radio* single featuring the instrument heavily.

Despite being a significant innovator in the musical equipment field, Tom suffered several business setbacks during the Sixties following the sale of the Vox line to larger groups unable, or unwilling, to develop it properly. Despite these problems, the Vox AC30 remains a classic guitar amplifier with a unique sound that is still much in demand. The amps are distributed in Britain and Germany by CBS/Arbiter Ltd and, with artists such as Brian May using six on stage,

the future seems good for the original British "twin".

In his last few years Tom Jennings acted as a consultant to various parent companies handling the Vox line although he was in semi retirement from 1976. He leaves a wife, two daughters and a son.

Tributes to Tom Jennings poured in following the news of his death. Here are just a few of them:

Rory Gallagher: "I used the AC30 between 1963 and 1973 and have still got an original which I use in the studio to get specific sounds for album recordings. Although I felt it was never developed to its full potential, it was one of the finest amplifiers ever produced."

Tony Hicks: "I'm very sad to learn of Tom's death. His Vox AC30 was one of the mainstays of the Sixties and it's a shame that Vox isn't being developed at the moment to the extent that it deserves to be."

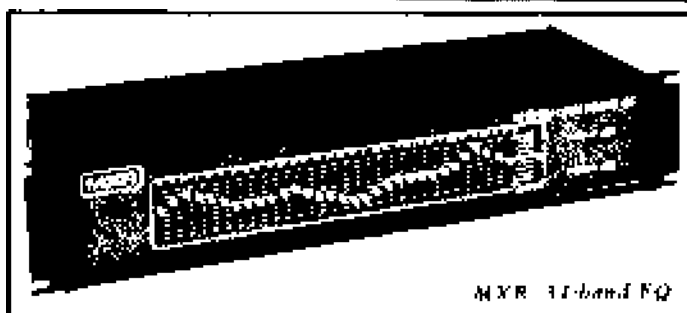
Andy Bown: "The first good amp I ever owned was a Vox AC30 and I'm still using them."

Reg Clarke CBS/Arbiter: "I started my career in the music business some 25 years ago with Tom. Looking back to see the contribution he made, I think through the era of skiffle into rock, Tom Jennings was one of the few people to have the foresight to see what the kids needed. For that angle, he made as big a contribution as the artists themselves. Without him, it wouldn't have happened."

Dave Roberts (Norlin): "His contribution to the industry in terms of the amplification business and the portable organ business was enormous. He started it all, bearing in mind that without Tom, we wouldn't have heard the Shadows or the Beatles. A giant in the industry. I'll always be grateful to Tom since it was he who started me in the music business with Vox 18 years ago."

James How: "His contribution to the British rock scene will always be remembered."

Larry Macari: "We've lost one of the most inventive minds in the music industry and he'll be sorely missed."



SES take MXR

Studio Equipment Services, one of the leading studio equipment suppliers, are to become the main stockist for MXR products in the UK. The company recently concluded an agreement with Atlantex Music Ltd, importers of MXR products, and will be demonstrating the new units in their four- and eight-track set-ups.

Ian Downs of SES said: "When we were first approached by Bob Wilson of Atlantex Music, we were slightly dubious of the amazing specifications and prices, but after 10 minutes of testing the units in our workshop we realised how technically superior the MXR units were compared to other units in the same price bracket."

SES design, supply, install, service and maintain two, four and eight track studios and will supply anything from an XLR to a complete studio package. They have also taken into stock the complete range of NEAL Audio Visual and Studio cassette recorders, as well as Sescam who manufacture DI boxes, distribution boxes, splitters, etc. SES are based at The Shop, Oxgate Farm, Coles Green Road, London NW2.

More synth concerts

The London Synthesiser Centre reports that they are holding a new series of promotional synthesiser concerts over the next few months. LSC boss Amrik Luther told IM that he was delighted with the first series. "No-one had ever offered musicians the chance to spend an evening listening to a range of synths before. It proved highly satisfactory and we intend to extend this type of operation."

Evenings sponsored by Moog and Yamaha have already been arranged starting this month (February) and announcements will be made in the press regarding the full schedule.

We apologise

We would like to apologise for any misunderstanding which may have occurred in January's *Dealer of the Month* feature on Rock City of Newcastle, in which

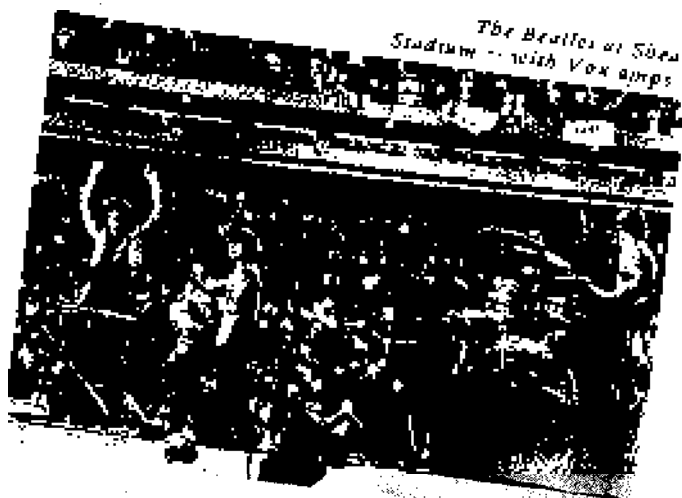
comments attributed to shop owner, Bill White, concerning Gibson and Fender guitars were misinterpreted. We are assured that Bill stocks large quantities of both products and has great faith in the quality of these instruments. We are sorry for any inconvenience caused to all concerned.

Sound by J & C

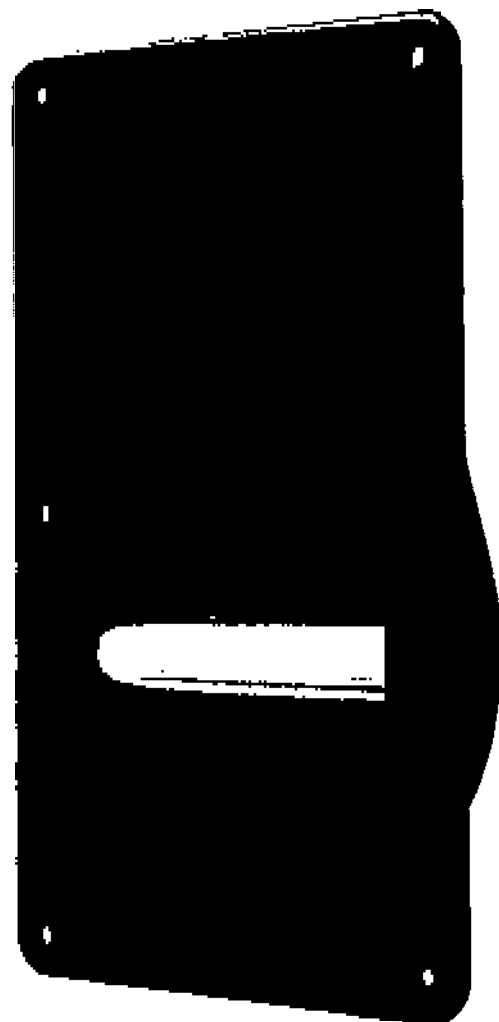
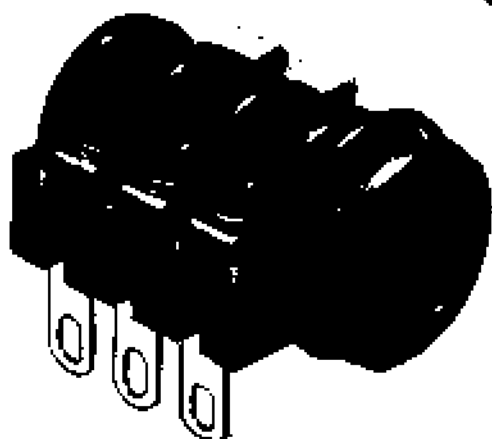
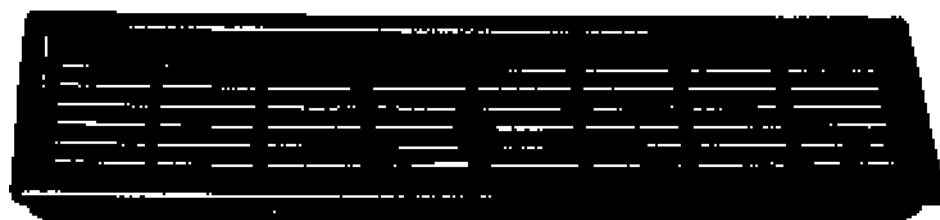
From the wilds of Yorkshire had come word that great things were happening on the loudspeaker front. So armed with a sound level meter, I made my way one cold, foggy day in December to a hotel in Ilkley. I found a road crew busying themselves at an impressive looking PA rig and, due to the hotel heating system having failed, a group of grey-faced individuals shivering in overcoats, huddled together over pints of particularly cold beer, with expressions of great satisfaction on their faces as the system was powered up to the strains of Beethoven's seventh Symphony.

"What do you think?" asked Tony Crooks — joint managing director of J & C Sound Systems, indicating the loudspeaker stacks at the front of the room. I must admit that I am accustomed to listening to Beethoven either in the concert hall or from a respectable hi-fi system, and to be honest, I was not at all impressed — and said so. I asked why it was considered necessary to use classical music to test a PA rig, when the system is never likely to be used for this purpose — why not some reggae or rock? The tape was wound on, a more suitable track located and I must admit, the system suddenly came to life and gave quite a reasonable account of itself. I measured a comfortable sound pressure level of about 103dB(A) at the back of the hall from a single stack, before stress became audible within the system. Definition and projection were not at all bad.

The stack in question consisted of three standard cabinets from J & C's newly developed product range. The system concept has been cleverly thought out: you start by buying the middle cabinet and use this as a self-contained full-range system until you've saved the bread to acquire the bottom section. With



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the addition of this bass section, your first cabinet becomes the mid-range part of the system, and handles frequencies from about 300Hz upwards. Later still, you can add the tweeter box to extend the upper response and add projection. Active crossover is recommended between the bass and mid-range cabinets, but crossover between the 15" unit and horn of the mid-range/full range cabinet is passive, and of course the top section, being piezo, requires no crossover as such.

The basic cabinet, the one that is suitable for use on its own, consists of a frontal horn reflex enclosure accommodating a McKenzie 15" unit, a Grove-power horn and an RCF TW101 driver. Even the directors of the company were unsure as to exactly which McKenzie 15" unit was fitted, but it certainly seemed to perform well. This cabinet has the catalogue number 4PX115H. Interpreted, this means a four-ported enclosure, fitted with one 15" unit and a horn. The bass cabinet, designated 4PX115, is a replica of the 4PX115H, but without the horn. The high frequency section consists of a six Motorola piezo horns and is numbered HFUT600 (presumably, high frequency unit, with six horns). The prices charged for the three cabinets are very competitive indeed — especially considering the performance of the system — the 4PX115H cabinet is £293.76, the 4PX115 £179.70, and the H HFUT600 £142.29 (all prices inclusive of VAT).

Just for the record, the rig employed to power the demonstrating rig I heard was provided by John Hay and John Sessions of Acme PA Hire of Otley, West Yorkshire, and consisted of a Kelsey Acoustics desk, Pro-Audio crossover, and two Amcron DC300A power amps. The signal source was tape, replayed on a Revon A77.

To my ears, the overall sound quality, although good by general comparison, and excellent value at the prices, was somewhat on the harsh side — especially in the middle register. This is probably due to the use of low-cost drive units and the lack of sophisticated crossover components.

A smaller, compact cabinet was also demonstrated, the 4PX112H. This is a four-ported enclosure fitted with a single 12" drive unit and a horn. The actual components fitted are a McKenzie 12/80 GP unit, an RCF 2010 horn and an RCF TW50 drive unit. The overall response of this system was again, quite good, but somewhat peaky and coloured in the middle register. The recommended retail price of this is just £146.86 including VAT, and at this price, it is good value indeed.

All the J & C cabinets are nicely finished in black leather-cloth, with steel corners and plastic recessed handles, and would seem to be of substantial construction. Both Tony Crooks and Steve Jones — the other joint M.D. — are skilled cabinet makers and take a good deal of pride in the quality of the cabinets manufactured.

Ken Dibble

Dynacord show

A special show is to be held in London to unveil the full range of Dynacord equipment for 1979. The exhibition, organised by Beyer Dynamic, distributors of Dynacord in the UK, will be open to invited music dealers and other interested parties.

The show will be spread over two days at the Connaught Rooms in Great Queen Street, WC2, on February 7th and 8th. Stan Duer, managing director of Beyer Dynamic, explains that the object of the exhibition is to acquaint the music dealers with what Dynacord are doing in the UK market and giving them the opportunity to see their full range of products.

The latest sound equipment range will include a new digital reverb system and a Time Axis Manipulation unit in addition to their comprehensive lines of PA amplifiers and speakers. A musician will also be on hand to test the equipment in a live situation.

The show opens at 2pm on Wednesday, February 7th and goes through until 8pm and begins at 10am the following day through until 6pm.

More for hire

In last month's story on the Hire Business, we inadvertently omitted a handful of companies so, with our usual thoroughness, we will now rectify the situation.

Announcement Public Address Hire, "Dartview", Aish Lane, Stoke Gabriel, near Totnes, Devon. Telephone (080428) 278.

Announcement operate in the South West and supply systems up to 3,000 watts using components by JBL, Electrovoice, ATC, Gauss, MM, HH, Shure, AKG, etc. A typical system for up and coming bands would be their 1,600 watt rig, driven by 2,000 watts of tri-amplification with 600 watts of foldback. Complete with an experienced two-man crew, the rig would cost \$50, plus mileage, per night. Their rigs have been used by many bands including The Police, Spinners, Black Slate, UK Subs, Guys and Dolls, Cortinas, Chelsea and Patrik Fitzgerald.

Bred PA Hire, 38 Hamlet Road, Chelmsford. Telephone (0245) 65796.

Bred have worked with many local bands in the South East and

have a 1,300 watt system comprising an MM Super 16 mixer, two Vitavox/Piezo horn units, two ATC midrange cabs and two JBL bass bins. This is powered by MM and HH power amps together with an MM 3-way electronic crossover. Extras like AKG and Shure mikes, HH Multi-Echo, stands, leads, etc all come inclusive. Prices vary on location but, locally, they would charge around \$15 per hour including fuel. They also have facilities for taping gigs through the desk and the person to contact is Mary Myers.

ML Executives, Shepperton Studio Centre, Squires Bridge Road, Shepperton, Middx. Telephone: (09328) 66021. Telex THEWHO 925079.

We published details of the ML Executives operation last month but, owing to lack of space, omitted them from the Instrument Hire section. In fact, ML have one of the largest range of instruments for hire in the UK. The much sought-after Mesa Boogie amps are available, as are amps by Marshall, Vox, Peavey, Acoustic, Sunn, Hiwatt, Ampeg, Fender and Music Man. All the big names in keyboards from a Hammond B3 to an EMS Vocoder. Almost anything in the effects line, guitars, percussion, tape machines etc can also be hired. Of particular interest is the fact that the company can also hire rarities like a '62 Strat, a '66 Fender 12-string, a '66 Firebird 12, an early Sixties Jazz Bass plus vintage Fender amps that most guitarists would drool over. They have supplied an endless list of bands and recording studios. The man to contact is Alan Smith. Apologies also for the wrong telephone number published last month.

The PA Company, 7/9 Market Road, London N7. Telephone (01) 607 0087/8.

Again, for reasons of space, we only mentioned The PA Company in passing but they are a well-respected organisation who can offer rigs of up to 5,000 watts. They are also possibly the only country in the UK to be able to offer a complete Yamaha System. The rig comprises PM1000 16 and 24-channel mixers, S6115H bass bins, H6115H horns, S4115H cabs, A4115H units plus S2115H wedges. The rig is powered by Yamaha P2200 and P2100 power amps and the company also sell the same range of equipment. They don't deal solely with Yamaha, however. Rigs are available with components by JBL and Soundcraft for smaller systems. The PA Company can also arrange backline amplification, lighting, crews and transport and have worked, with many top acts including Bert Jansch, Sore Throat, The Brakes, Crawler and Grand Hotel. Contact Ralph Harrison.

SSE PA Hire, rear of 128 Hartley Road, Radford, Notts. Telephone (0602) 73306.

This is the hire side of Sigma Sound Enterprises, who are also a manufacturing and retail company. They can hire systems of up to 40K of power. These rigs comprise JBL and ATC systems with Amec 24 and 32 consoles (outfront) and Amec 24/8 and 16/6 monitor desks. Amplification is by Turner, RSD and Uni-Sync. Road crews and transport are available and SSE also operate a leasing system. In the last, customers have included Darts, Buzzcocks, the Yachts, Extras and the Slits. Prices are negotiable but an average hire of a 4K rig with 2K foldback would cost around \$750 per week, or a larger 10K rig with 5K foldback plus crew and "extras" would work out at about \$2,500 per week. Contact John Penn.

E-Zee Hire, 7/9 Market Road, London N7. Telephone (01) 609 0246.

Due to lack of space last month, we only mentioned E-Zee Hire in passing. The fact is that E-Zee are one of the biggest, if not the biggest, instrument hire company in England. They have been operating for over six years and can supply anything in the way of instruments or backline equipment. They specialise in Acoustic and Ampeg amplification but also have every other brand name under their roof. The same applies to guitars and everything else musical. Their North London premises are enormous and also include three 40' x 40' rehearsal studios, which are completely soundproofed. There aren't many top name acts who haven't made use of E-Zee's facilities. David Essex, Ian Dury, Frank Zappa, Led Zeppelin and Elkie Brooks are all regular customers. Crew and transport are also available and there are full-time engineers who are qualified to repair anything. Contact Pat or Mac.

Wing Hire, Tweedy Road, Bromley, Kent. Telephone (01) 464 9216.

Wing Hire is an extension of the well-known Wing Music shop and, until recently, they were specialising in smaller systems for local bands. They have expanded over the years and can now hire out systems of around 3K consisting of JBL, Gauss and Vitavox components, HH and Yamaha power amps and consoles by Kelsey, MM and HH. Some backline equipment, including HH, Fender, Acoustic and is also available. On the larger rigs, prices are negotiable and probably very competitive as, with the smaller systems, a 100 watt PA would only cost \$8.50 per night. Road crew and transport can also be arranged. Contact Dave, Mark or Barry.

CBS/Arbiter: expanding in Enfield

Last summer, CBS/Arbiter moved their centre of operations from Shoeburyness, Essex, to Enfield, Middlesex. In the ensuing six months, they have both simplified and improved their sales, service and despatch facilities. From Enfield, they now service the whole of the British Isles and Germany.

Martin Fredman, UK Sales Director, says: "In terms of accessibility and smoothness of operation, the whole thing has improved 100 per cent. The Vox factory is still at the Shoeburyness premises and we've gained a lot more space and made the whole operation so much easier.

"The warehousing, in general, has been considerably enlarged and everything is now laid out in areas." So, for instance, keyboards are stocked in one area of the warehouse, with its own service area – the same for amplifiers, guitars and percussion. Again, with the extra amount of space, we've got a larger and more simplified despatch system so it's been improved all round. This way, we make sure dealers get what they want, when they want it – and everything can be checked on the premises before it goes out."

The new Enfield premises cover over 30,000 square feet with over 60

employees. The accounts, sales, main warehouse, material control and shipping departments are all under one roof and so the whole of England can be covered in just four days.

"We pay a lot of attention to giving the dealers and customers a much better and faster service," continued Martin. "Apart from the stock, we hold £50,000-worth of spares here, so we can handle any repairs for any of our products if the dealers can't do it themselves.

"We've recently set up a network of dealers all over the country who carry spares over and above the normal quota. They're called Spares Centres and, apart from handling customers' requirements, they can also service other dealers."

This deal specification is carried through to also include the Paiste cymbal range. CBS/Arbiter's Mark Goodwin is instrumental in setting up Paiste Sound Centres, a new marketing approach to selling the Paiste line. These dealers settle on a stock agreement where they carry a full range of Paiste cymbals and can also get the full backup from CBS/Arbiter.

"The Centres have been in operation for only a couple of months but we've found them to be amazingly

successful," said Martin. "They're very much today's cymbal and very much in demand so we want to ensure that, this way, consumers are able to get the full range of Paiste – not just the 2002 cymbals but the 405s, 505s and even gongs.

"The whole idea behind the new scheme is to consolidate what we've got – a nice, clean operation."



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The Re-an story begins in 1959 and is closely linked with that of another great British music institution, the Vox amplifier. Leslie Weatherley founded the company in Dartford, Kent, supplying components for the radio industry. Sales manager, John Jewsbury explains: "It all really started in those early days with Vox. The company supplied the fittings for their cabinets and amplifiers and as they grew with Beatlemania, so we in turn grew.

"We also used to supply Burns, and would have Hank Marvin coming round talking about special bits for his Burns. Eventually we looked for other outlets." The company now manufactures over 70 different components and can provide everything from the control knob on a mixing desk to fabric for speakers, and supply direct to all the big equipment manufacturers.

John joined the company two and a half years ago specifically to introduce a new service into the company. They realised that musicians were turning up who wanted spares, but there was no-one catering for them. John established a separate division for the spares business under the name Rhino and set about building up a network of outlets.

You can now go into over 300 shops in the UK and choose from more than 50 items, which include guitar pots, bridges, leads and just about any piece of equipment hardware. The company have now brought in Robin Maskell and Ian Barnes, both formerly with Strings and Things, to deal with the distribution of Rhino products to the dealers.

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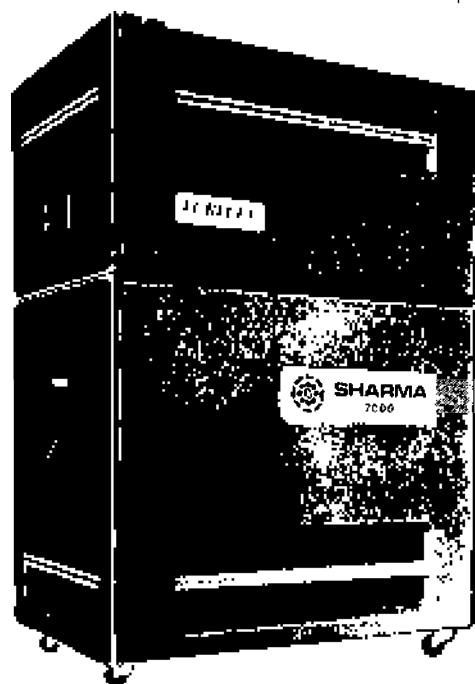
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p/d	per day
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Sl	Number of Studios
CP	Copying
tba	to be advised
Ka	Keyboards available
R-C	Reel to Cassette
Mix	Mixing Facilities
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Dc	Disc Cutting
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d-t	Disc to tape
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CM	Channel Mixer
CTM	Concert Tour Management
PA	Public Address
ST	Storage
R	Repairs

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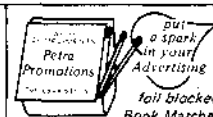
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