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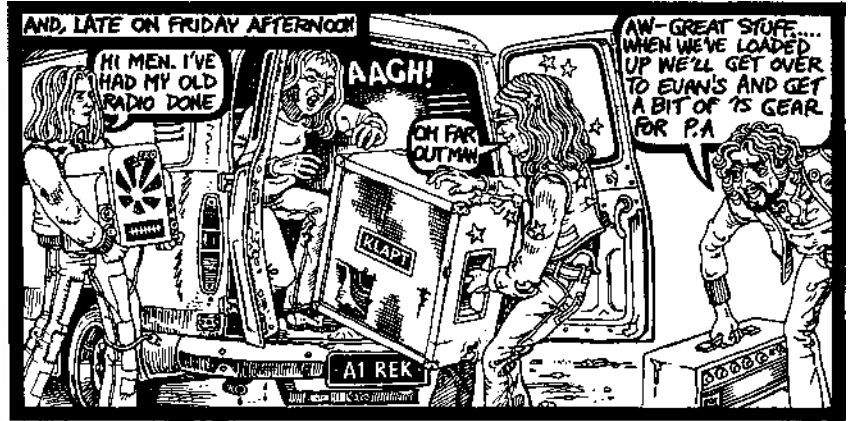
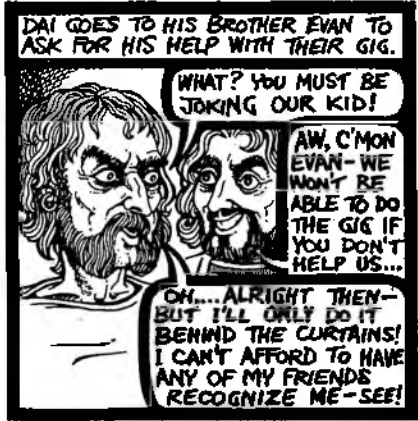
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So You Want To Be A Rock 'n Roll Star

BY DAVE BOWYER

The story so far: The band is all set for their first date at the Corn Exchange



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EDITORIAL

AS YOU will have noticed, our UK cover price has gone up to 35 pence. Like the rest of the British publishing industry we have again been stung by a vicious increase in the price of paper and as International Musician is so much bigger than other magazines, this means that the cost of producing each copy has shot up. We've said before that we would be able to hold our cover price—unfortunately we now have to alter this policy if we are to continue producing the world's best magazine for musicians regardless of the cost of laboratory tests on amps and features on our own designs, like 'Build

A Solid Guitar,' which appears in this issue.

But we are a strong magazine. Your support enables us to pioneer areas never covered before in music magazines. Into this giant issue—204 pages—we've packed more than ever before. In addition to our exclusive interviews, we're previewing the Frankfurt Music Fair in FIVE LANGUAGES, and we're running extra tests and generally enlarging our coverage of all aspects of the music industry. We know of no other form of communication for musicians that is so direct.

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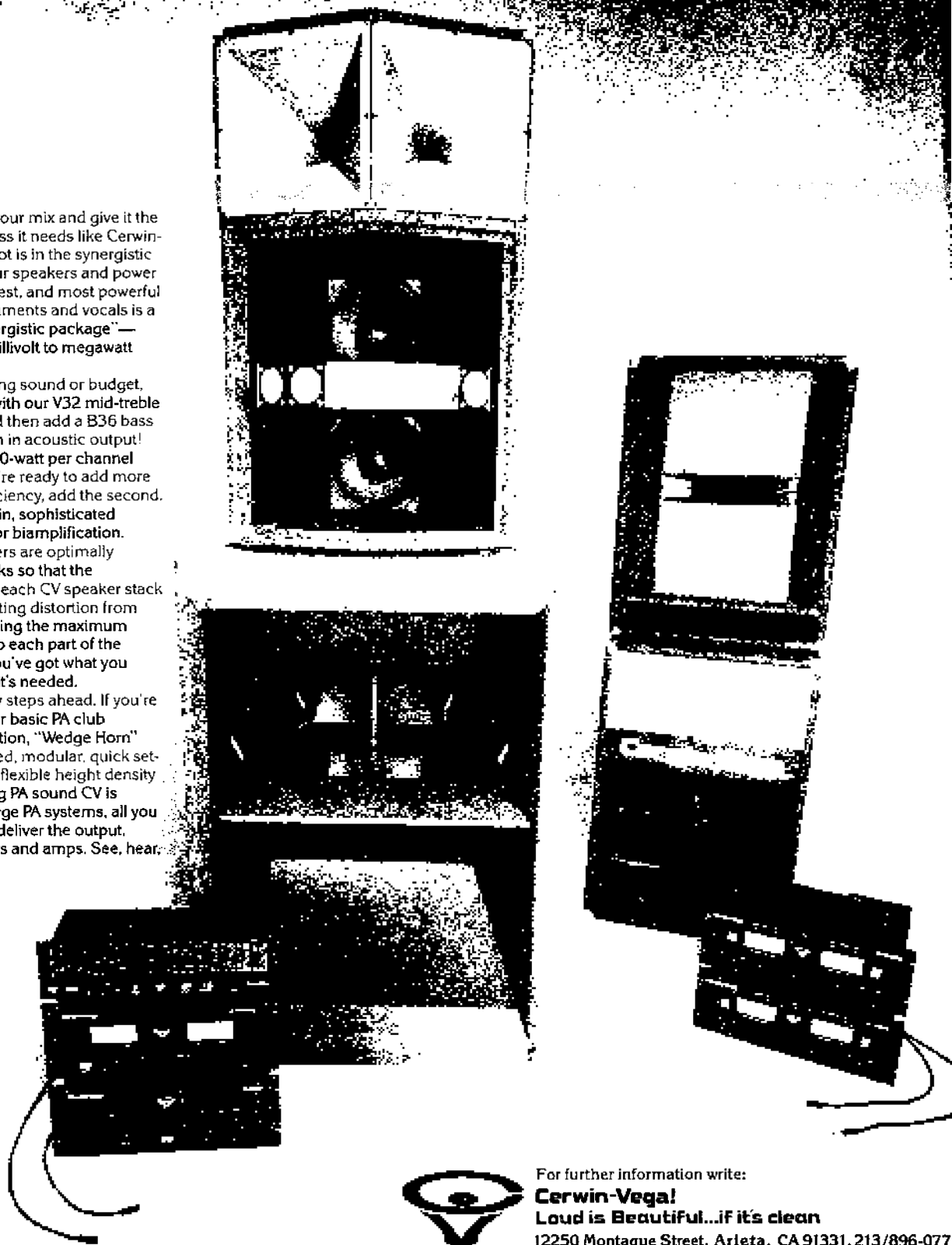
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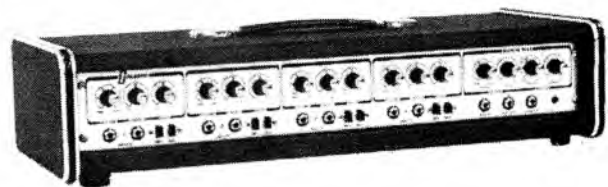
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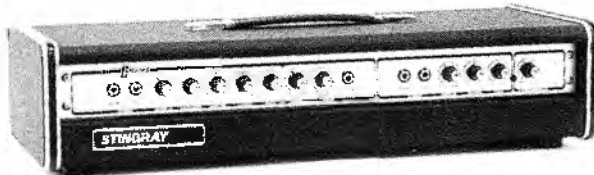
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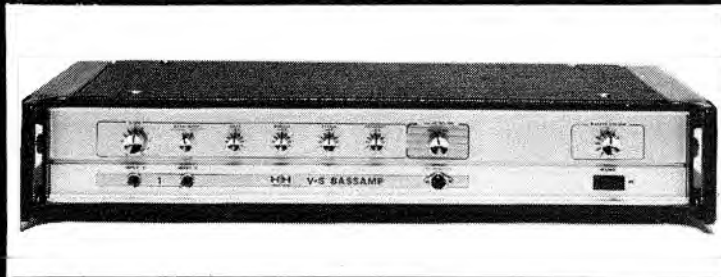
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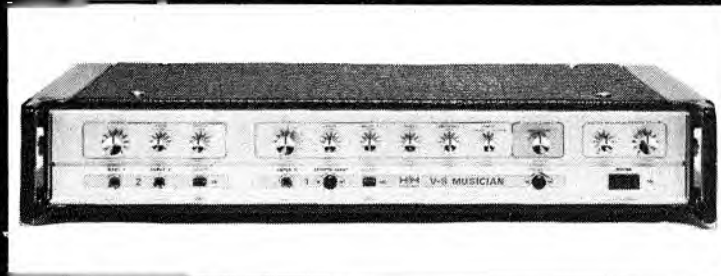
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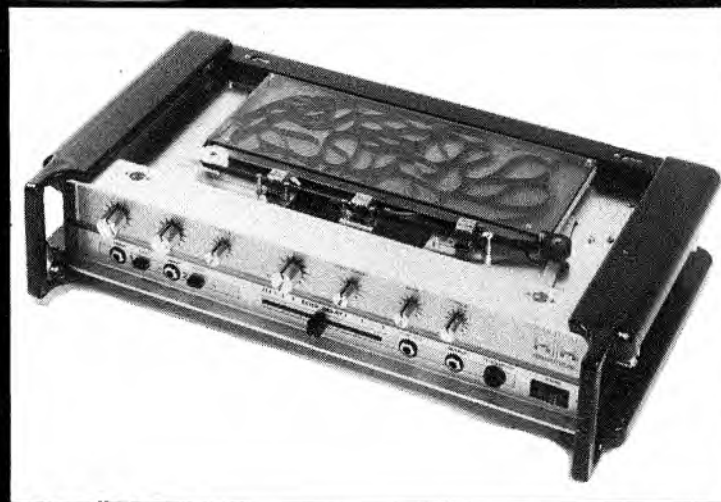
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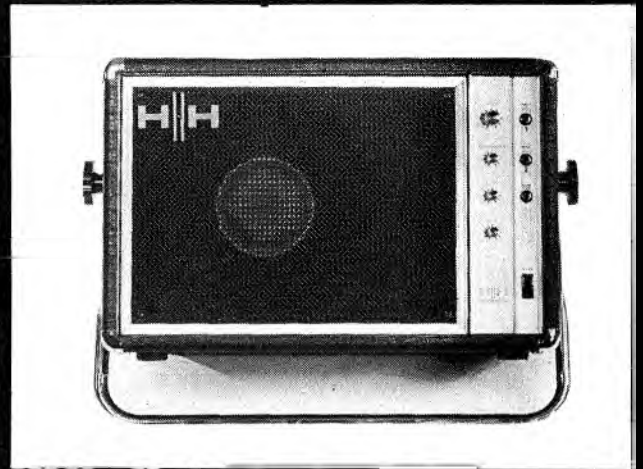
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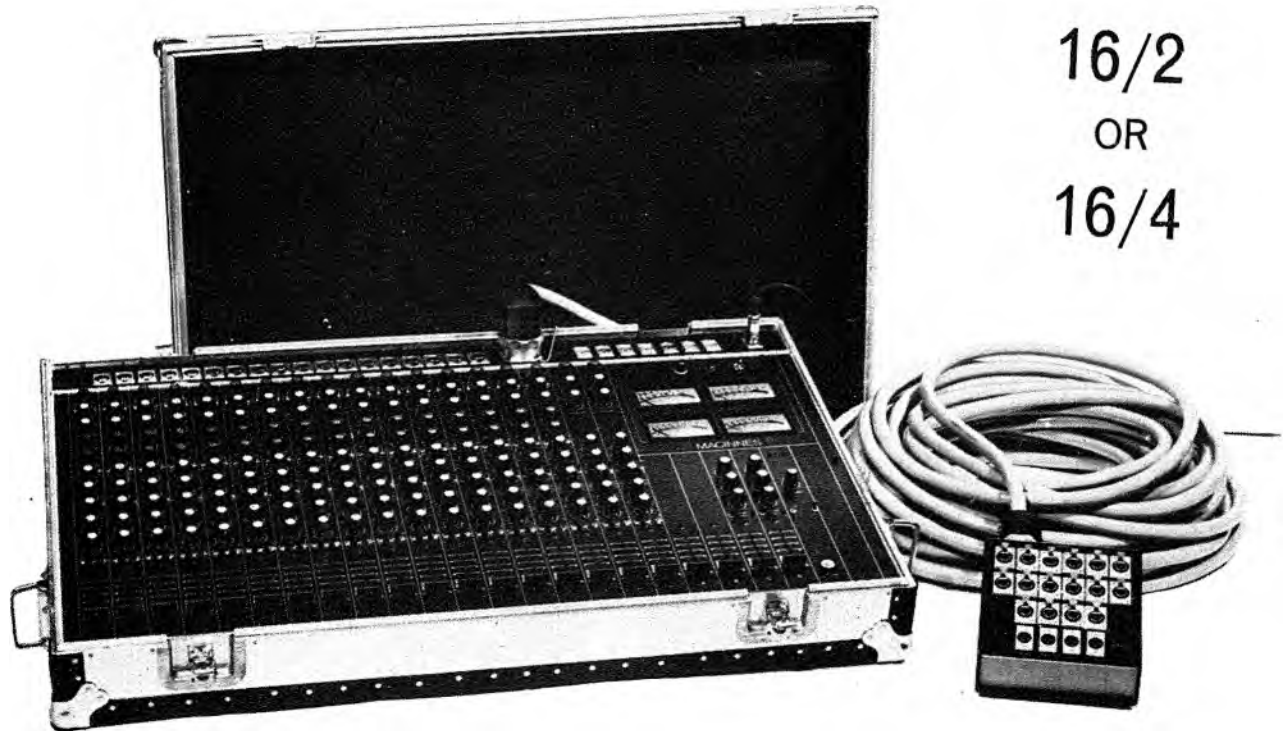


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OUTPUT IMPEDANCE: master & echo 1k Ω , Fb 20k Ω .

output level: + 6 dbm = 0 VU reading max. + 18 dbm (before overload).

for echo and foldback groups same specifications with extra overload indicators fixed at 2.8 volt

INPUT SENSIVITY: -65 dbm at 200 Ω .

INPUT OVERLOAD: + 18 dbm

(continue var. gain).

EQUALISATION: ± 15 db at 10 kHz,

± 15 db at 100 Hz

FILTERS: 0.2-0.4-0.7-1.2-3.5-7.1 kHz

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number of diodes: 48

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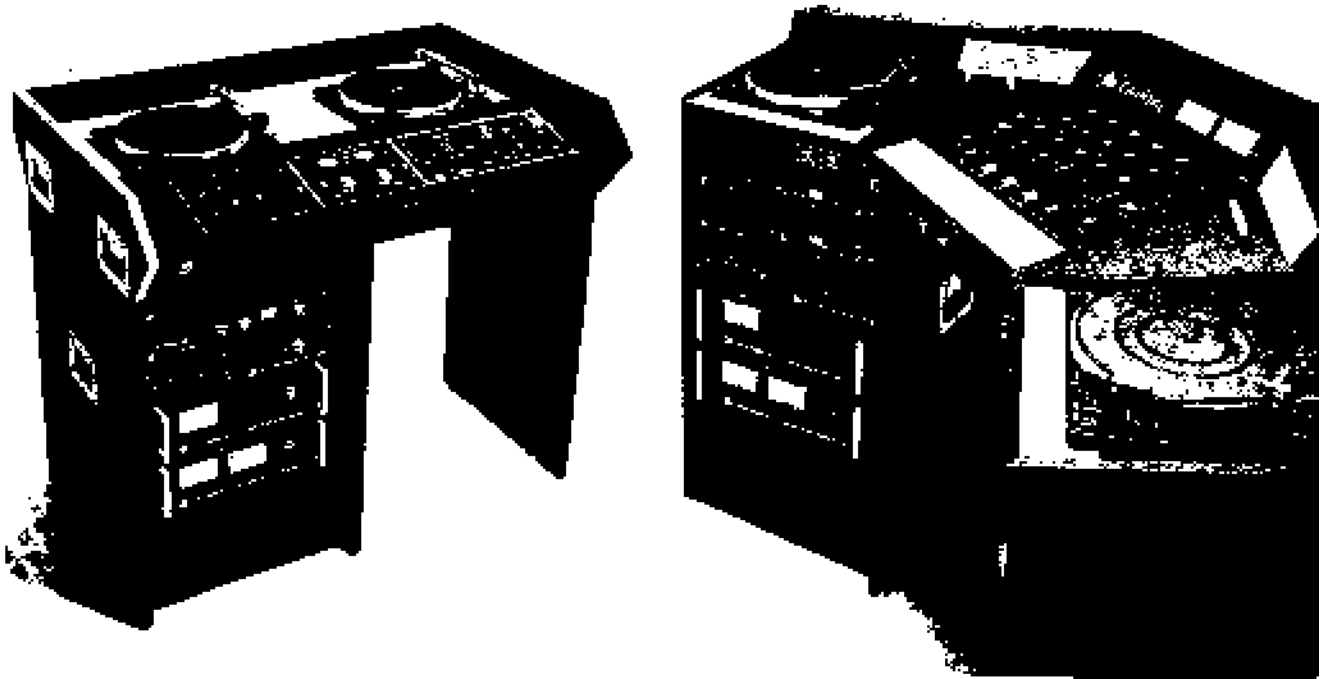
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 - b. XLR & Phone Jack Inputs can be used simultaneously
 - c. Board will accept 24 mic inputs
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3. STEREO PAN POT (Each Channel)
 - a. Use for stereo mixdown or as a separate monitor control with internal power.
4. CUT & BOOST BASS AND TREBLE CONTROLS (Each Channel)
5. REVERB/MONITOR MIX CONTROL (Each Channel)
 - a. Use as reverb intensity control or a separate monitor mix in conjunction with master monitor control and external power.
 - b. In "normal" mode, control is reverb. Simple adjustment changes its function to a monitor level control.



6. COMP-LIMIT (Each Channel)
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8. MASTER REVERB CONTROLS (Left & Right)
 - a. Slide Potentiometers
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 - b. Slide Potentiometer
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C. BACK PANEL

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2. REVERB FOOTSWITCH JACK
3. MONITOR PREAMP OUTPUT
4. SLAVE AMP OUTPUT (Each Channel)
5. 2 TAPE OUTPUTS (RCA type)
 - a. For stereo recording
6. ACCESSORY LINE OUTPUT (Each Channel)
7. ACCESSORY LINE INPUT (Each Channel)
8. UMBILICAL ACCESSORY PLATE

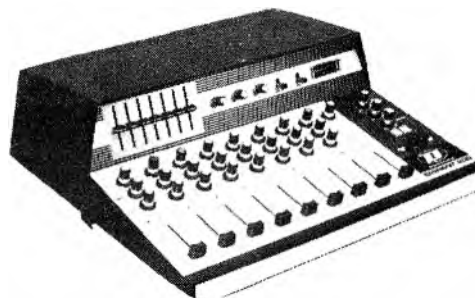
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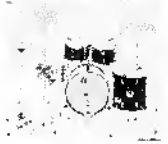
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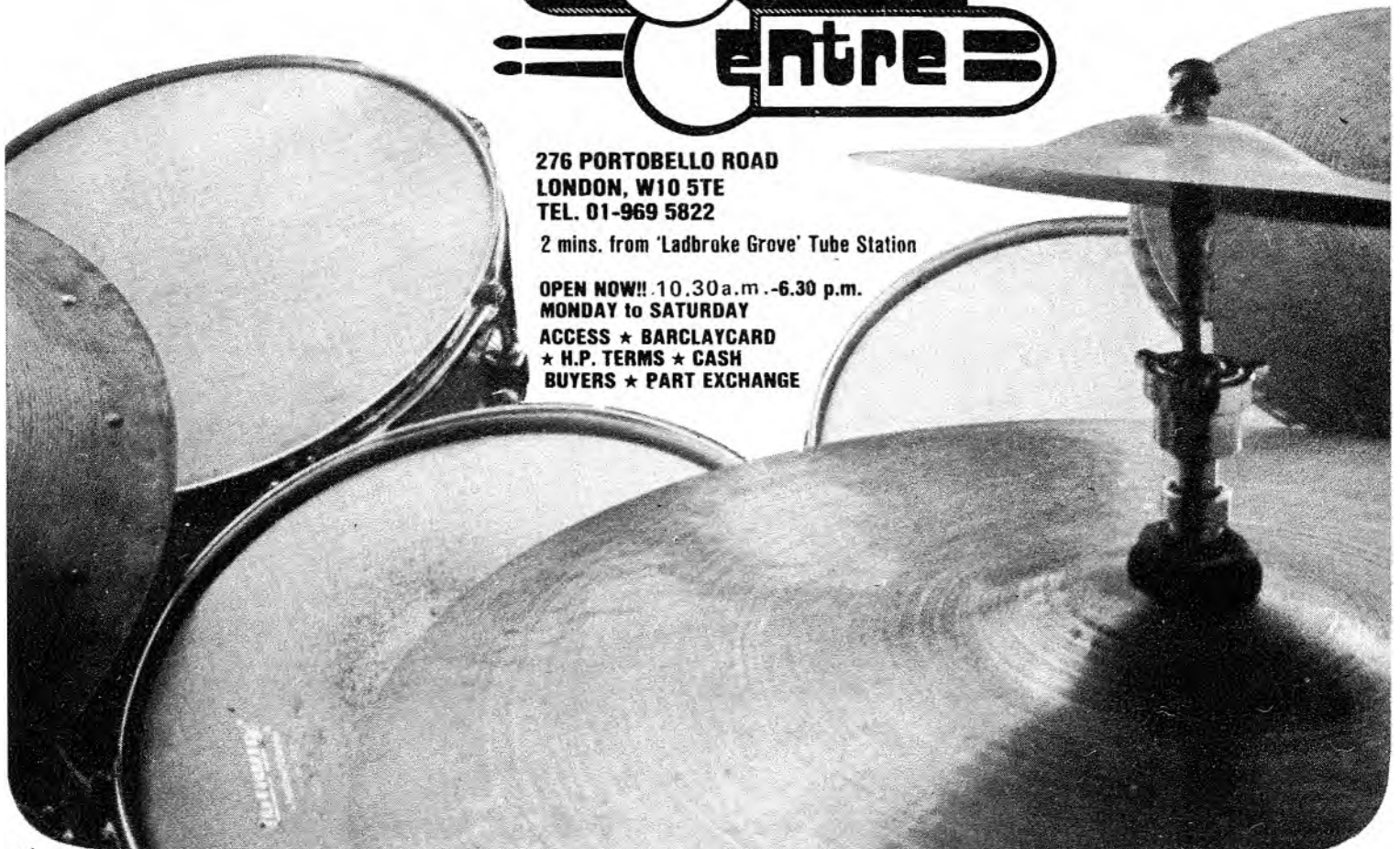
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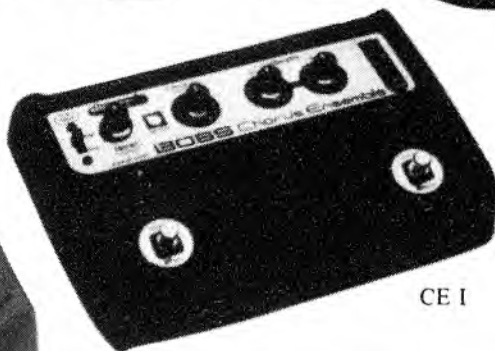


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AMPS



AP 2



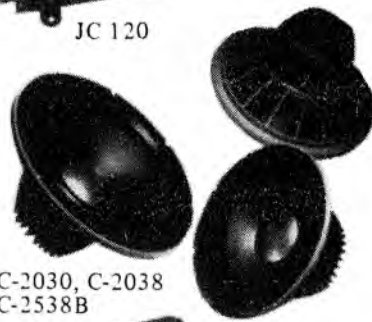
CE I



JC 120



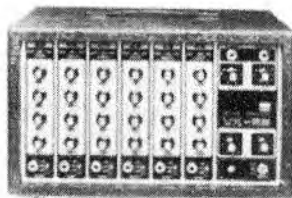
RE 201



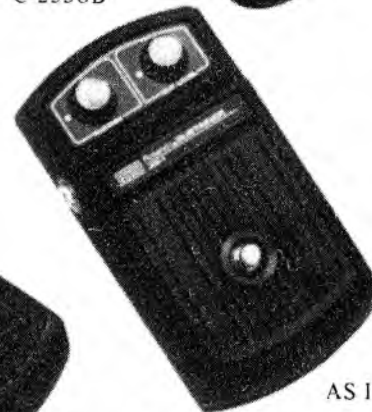
C-2030, C-2038
C-2538B



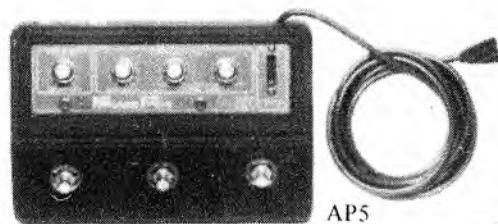
PA 60&120
+ 120S



VX 55



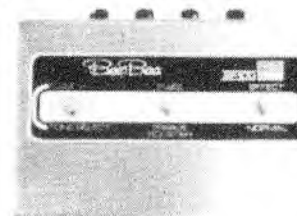
AS I



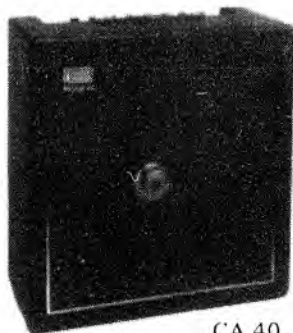
AP 5



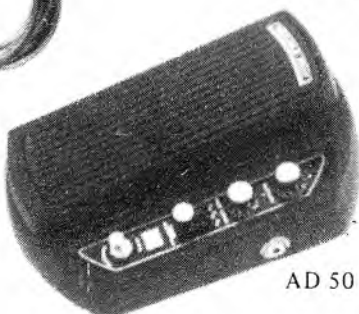
AF 60



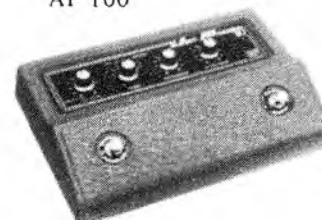
AF 100



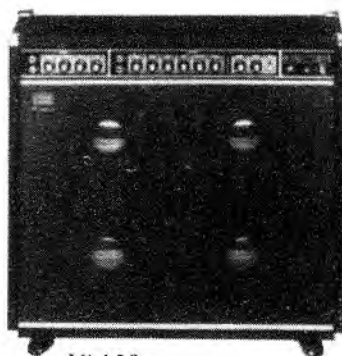
CA 40



AD 50



AP 7



JC 120

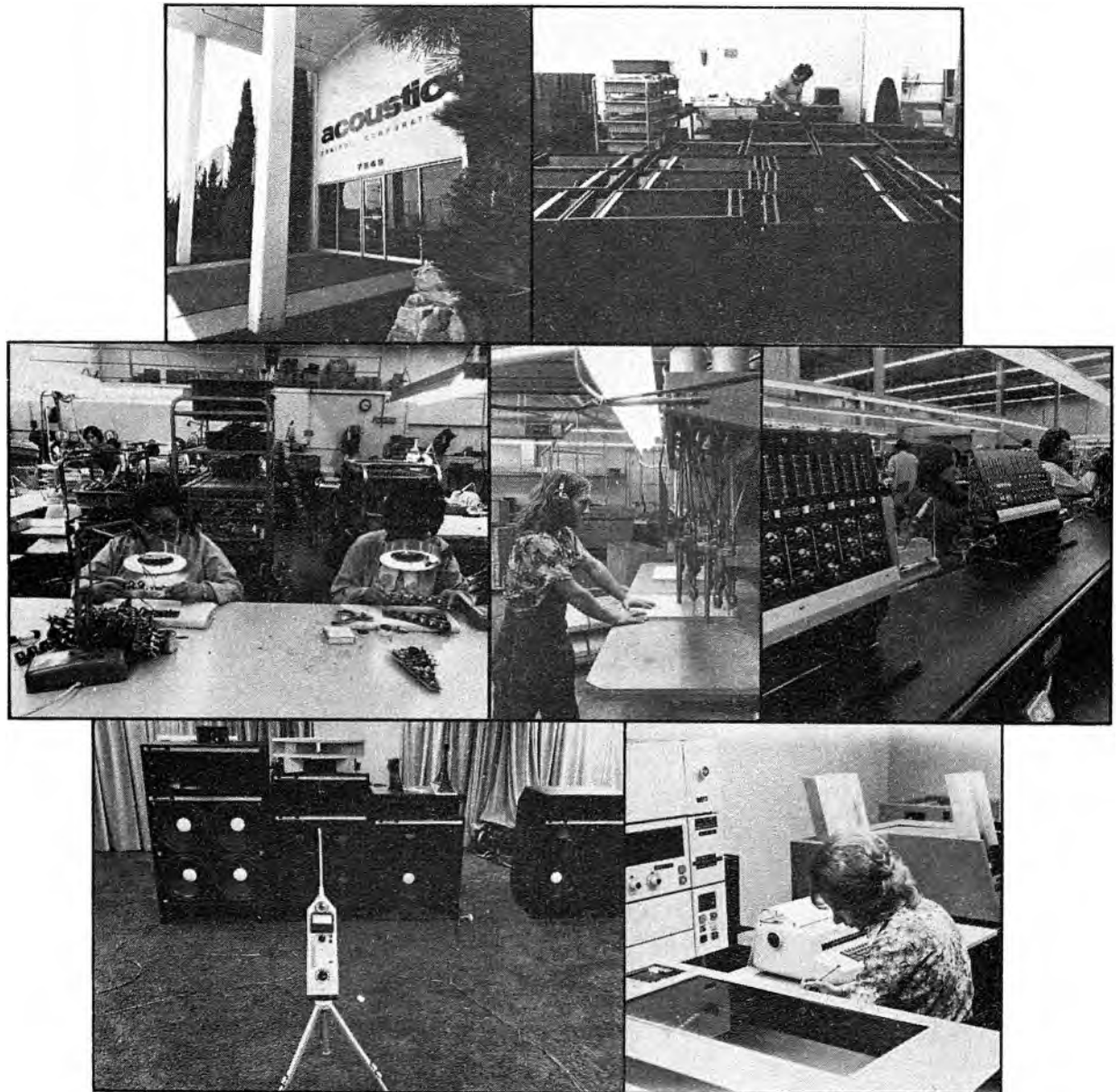


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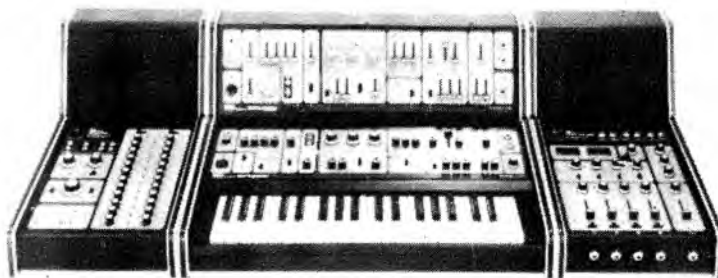
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KEYBOARDS



SH 1000

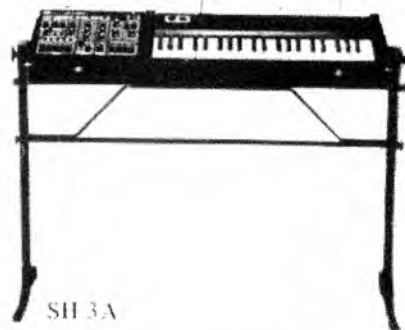


System 100

REVO Sound System
(250 & 120)



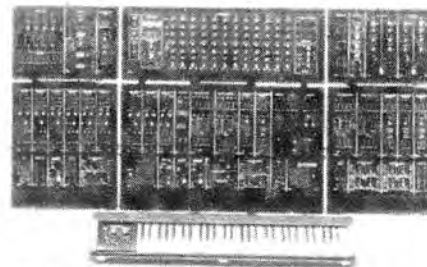
TR 66



SH 3A



SH 5



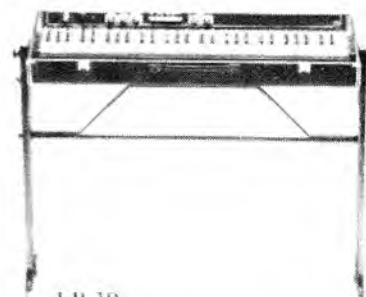
System 700



SH 2000



RS 202

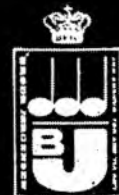


EP 30

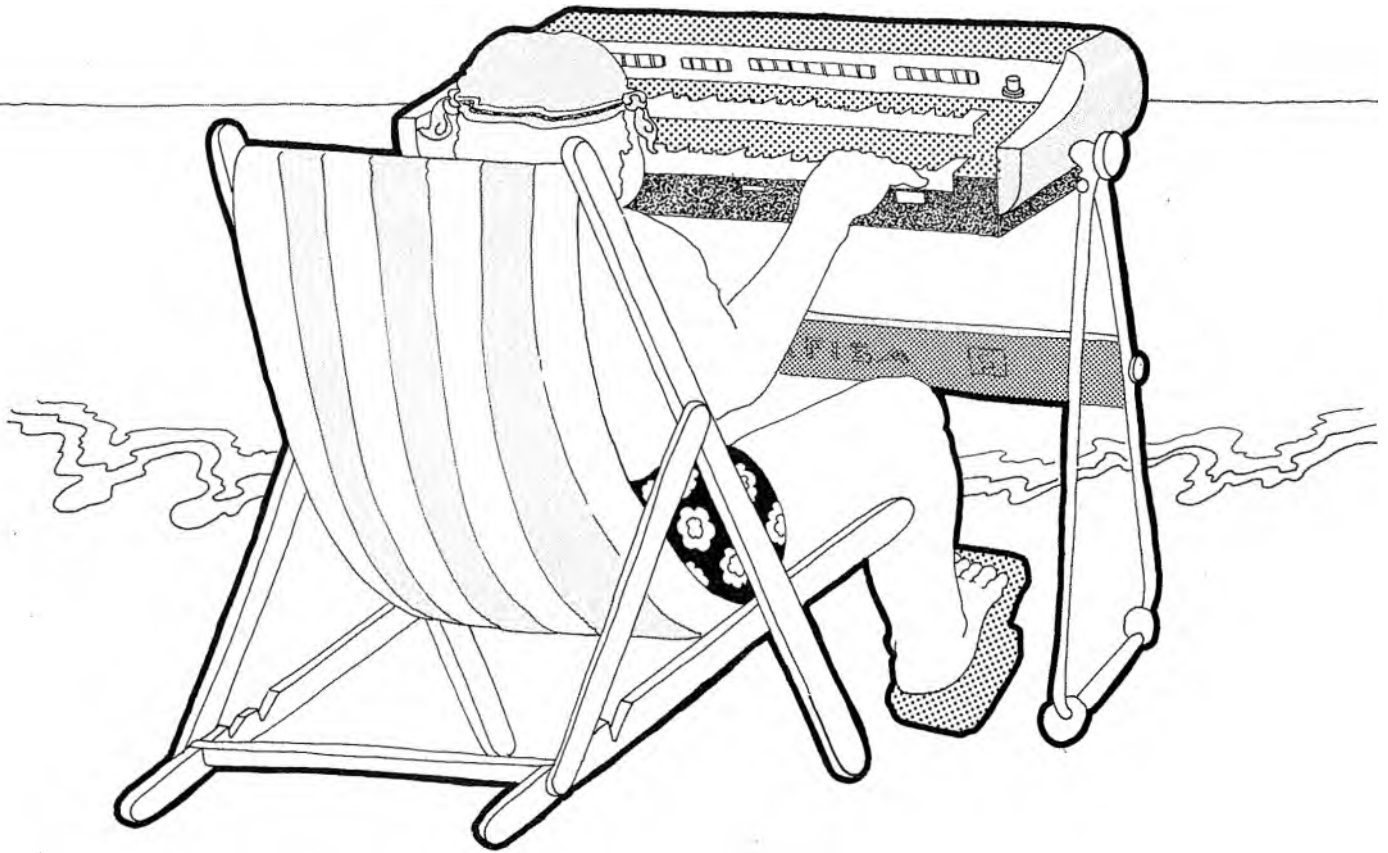


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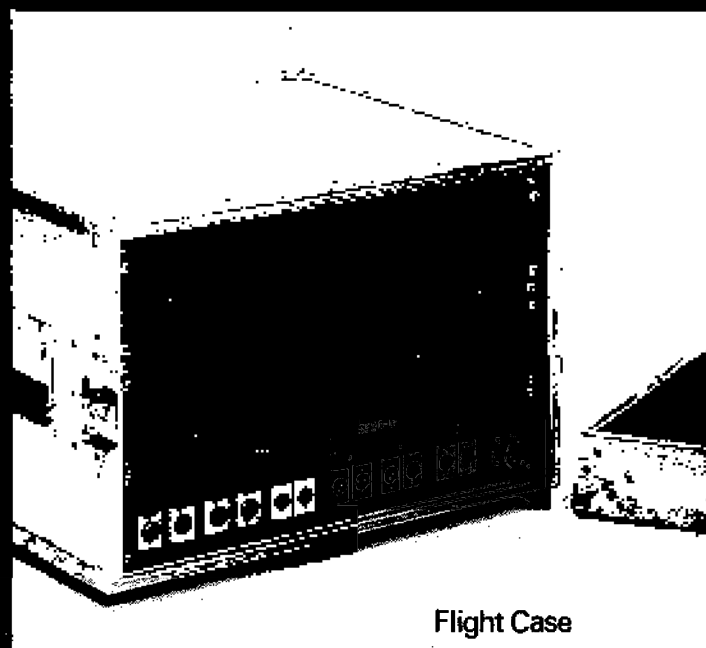
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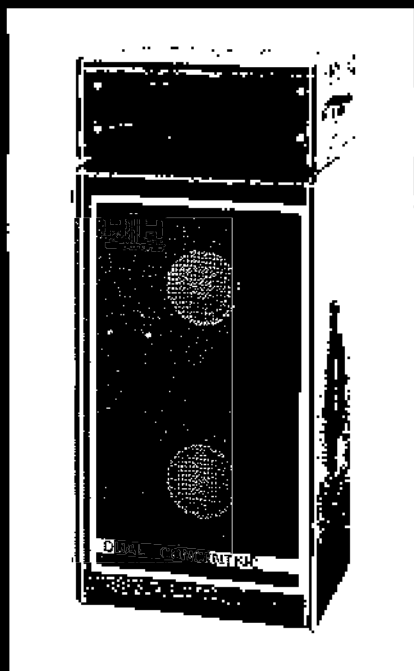


What P.A. Amplifier sells itself? - The H.H. MA100!

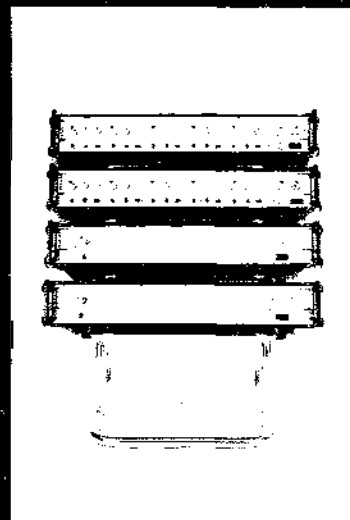
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MXR Professional Products Group



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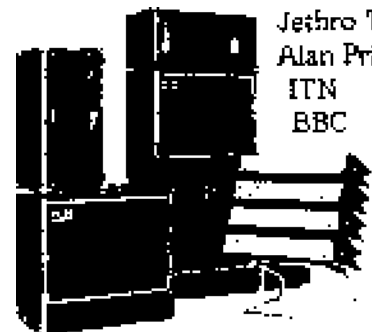
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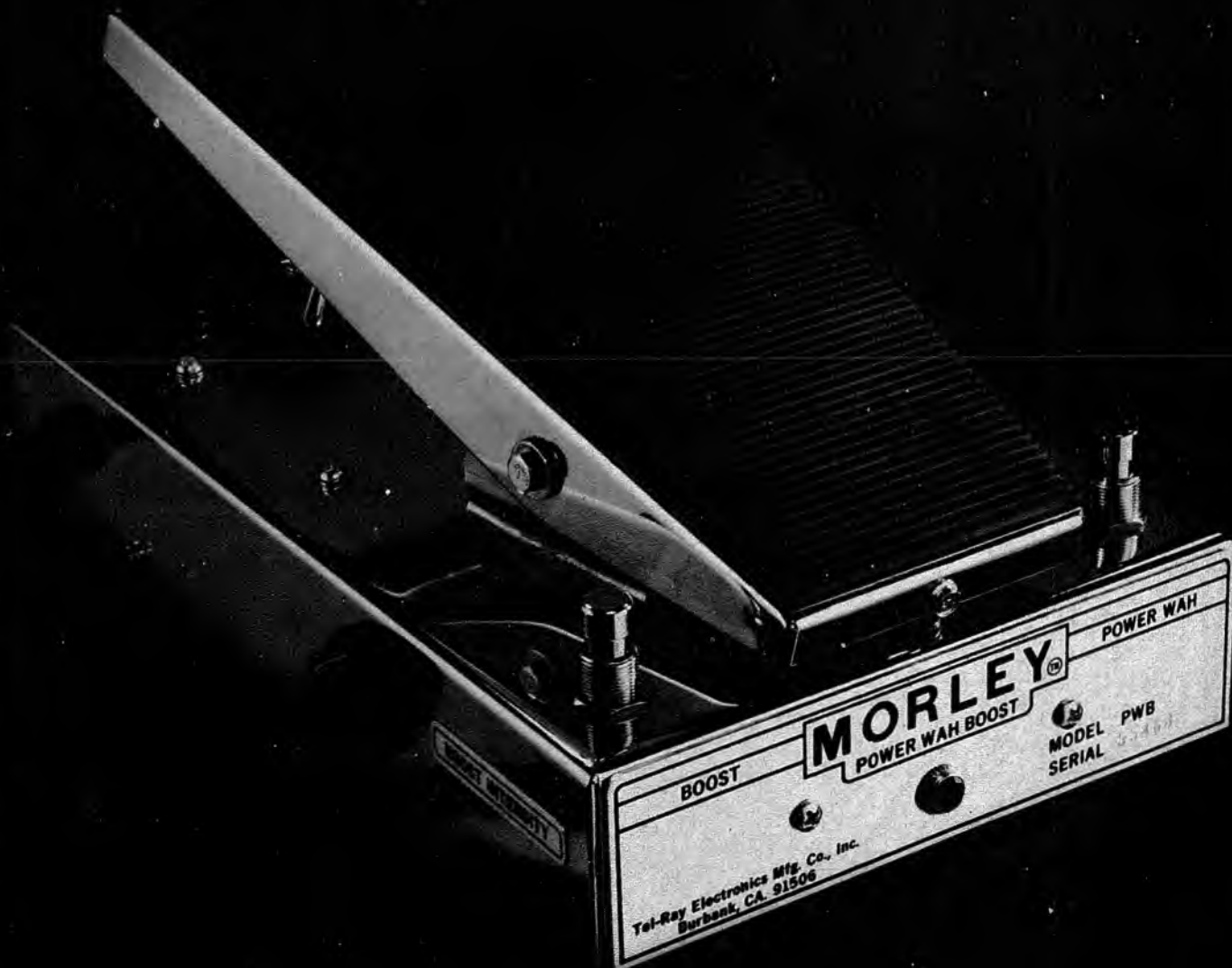


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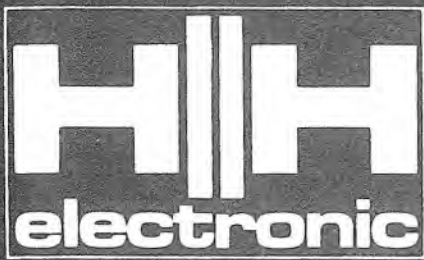


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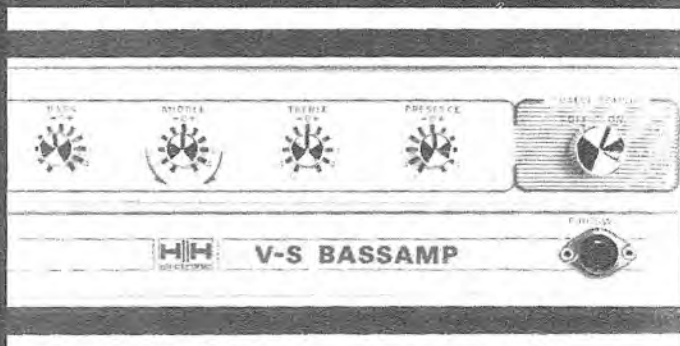
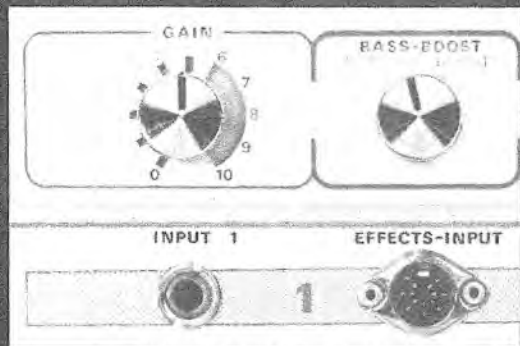
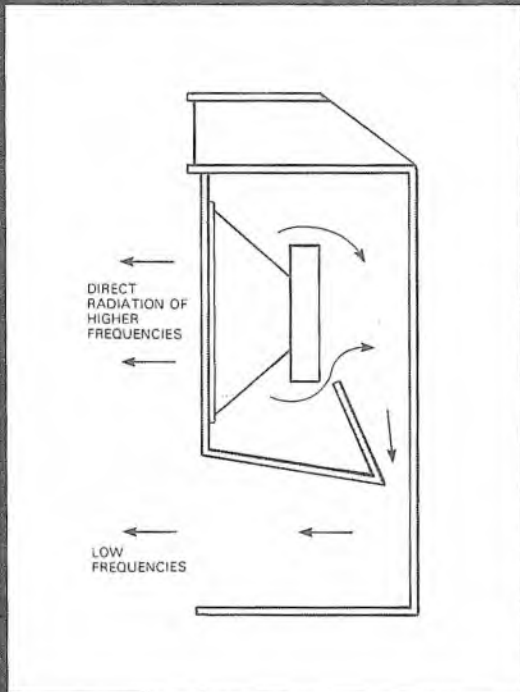
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International Musician NEWS

Emitape Scuppers Pirates

After many years of research, EMI have produced a machine designed to detect pirate tapes.

The new technique, evolved by Emitape has made it possible to modify a tape during the manufacturing process to produce a special 'watermark' — a series of bleeps — which can be detected only by a special decoding machine.

The bootlegging of tape recordings has become an increasingly sophisticated and large-scale international operation, accounting for maybe 5% of UK sales, but rising as high as 80-90% in South East Asia, where the market is worst hit by illegal recordings.

The new system means that not only can a record company check its own product against copies of the works, but members of the public who might suspect the legality of a tape, can also send in a tape to the parent company to have it checked.

The machine is already in use, and although its immediate use is for detection rather than prevention, the process will stand up in court and could lead to a diminution of the trade, which is estimated to account for around 500 million dollars worth of world trade annually. The decoder was demonstrated on the January 13 edition of 'Tomorrow's World.'

SILVER & GOLD DEVALUED

The financial qualification for obtaining a silver and a gold record in Britain has been altered by the British Phonographic Industry.

The new level, which takes inflation and its effect on the recommended retail price into account, has meant an increase of £50,000 in sales for each award. Records released after January 1, 1977, now need a minimum of £150,000 to gain a silver disc, and £300,000 to go gold.

Both these figures include all pre-recorded tapes and exclude exports. The unit sales criteria — ¼ million for a silver, ½ million for a gold, and one million for a platinum disc — remain unaltered.

M.U. Events

The Musicians Union has arranged two more lecture/demonstration evenings, and a special weekend clinic during February and March.

The evening dates are Bournemouth, Wessex Hotel on February 7, and Luton, Halfway House Hotel on March 14. Session man Rick Morecambe, and Nucleus members Geoff Castle and Roger Sutton are expected along for the Luton evening, while the Bournemouth team has not been finalised yet.

The weekend clinic takes

place at South Hill Park, Bracknell, Berkshire on the weekend of March 19-20, when it is hoped that the special guests will include Jim Sullivan, Pete Wingfield, and Derek Wadsworth, an arranger-composer whose credits include writing for Jess Roden and Kevin Coyne, MD'ing for Alan Price, and composing for 'The Man Who Fell To Earth' and the 'Space 1999' series. Details can be obtained from John Cumming at South Hill Park Arts Centre, Bracknell, Berkshire.



Royalty rates enquiry ends

Hugh Francis, QC, the chairman of a three-man tribunal, presiding over the public enquiry into mechanical royalty rates, listened to nearly 30 days' presentation of evidence in the case.

Michael Kempster, QC for the Record Royalty Revision Association, was summing up the RRRAs case when Francis questioned whether the raising of the minimum royalty rate from 0.313p to 1p would really help the writers and publishers.

He stated that if he really thought this would be of benefit to the copyright owners, he would have no hesitation in his recommendation to the Minister, but added "I am not convinced."

He reasoned that if prices went up, people would almost certainly buy less records. Kempster argued that despite a drop in sales, "history shows that it will

pick up again."

Kempster added that the 1928 rise from 6 to 6½% mechanical royalty was, in real terms, probably a decrease as the 5% rate had applied to records with only one side and, after 1928, this was increased to two sides.

Since then, albums had increased the number of tracks many times "so that the rate is constantly being broken down further." If the tribunal

recommended a higher minimum, people would always be able to produce bargain records through negotiation.

After summarising the RRRAs case, Kempster pointed out that a rise would not necessarily be carried into agreement immediately, and that it would be open to retailers to keep prices down by encroaching a little on their dealer margins. It had been said that the copyright owners should get 'just remuneration.' He concluded that the copyright owners are concerned with the vitality of the record business as much as the tribunal.

Earlier, Roger Parker, QC for the British Phonographic Industry, had made it clear that his clients' position had not shifted: the BPI remained opposed to the application for a rise in the statutory and minimum royalty rates but asked that the minimum should remain the same or else be abolished and that mechanical copyright should be lowered.

However, Parker said that if the Tribunal could find a way of giving a better rate to serious composers, while reducing that which goes to pop composers, the industry would be willing to go along with it. (The enormous difficulties of classification which that would involve were well appreciated).

Turning to the RRRAs case, Parker said that though the present rate was "derisory," it had not been in operation for many years, except in the case of low price albums containing a

large collection of songs which had already earned well. In this case, he felt that songwriters should be grateful to the record companies for creating the budget compilation, which only added to overall income.

The BPI accepted that there was a case to be made for royalties on records used for promotion or giveaways, where no sale was recorded: "We are sympathetic to the idea of a scheme to help overcome this practise."

On the major matter of the statutory rate, Parker said that although the rate had not gone up for nearly 50 years, this fact could be ignored: "There is no dispute that the effect of the rate being a percentage of the retail price is that it has already compensated copyright owners for the fall in the value of money."

He recapped on figures produced for the BPI which indicated that copyright owners' average earnings had far outstripped both the national average earnings and the retail price index. Parker pointed out that, in 1928, despite money's falling value, increased tunes per record and the fall in sheet music sales, only a modest rate rise was awarded. He added that in the end it is the artist who produces the big money.

Live Landscape

The first-ever Vitavox Live Sound Award has been won by Landscape, a London-based group. The award is an annual trophy for the best new live band in Britain. They received a pair of Vitavox Thunderbolt loud-speaker systems valued at £1,500.

The Vitavox award was launched last April, when groups were invited to submit five minutes of music taped before a live audience. The other group in the finals, Dust from Wolverhampton, also received a pair of loud-speaker systems.

The final was held at London's Speakeasy Club,

Bright future for college gigs

Bands worried about the future of gigs at colleges after the recent financial troubles experienced by the National Union of Students have no need to fret, gathering by the recent Blackpool conference of the Union in late December.

The Entertainments Department, established last May, will continue under the guidance of

Ricky Hopper thanks to the conference deciding to sell off some of its Endsleigh insurance brokerage, reportedly involving some £300,000. This will enable the Entertainments Division to continue its work, involving college promotions and negotiation of contracts, at an estimated cost of £11,000 per annum.

HOPE & ANCHOR RE-LAUNCH

Despite the departure of Fred Granger, manager of Islington's Hope & Anchor pub for a number of years, the pub will continue with its music policy under Albion management, run by John Eichler and Dai Davies.

Eichler ran the Hope as manager while Granger was tenant for three years, until the partnership split up. For the re-launch of music at the Hope, a redecoration is underway and another addition will be the sale of real ale.

Albion Management will be putting on six nights of

music per week at the Nashville Rooms, Fulham and five at both the Hope and the Red Cow, Hammersmith. Albion manages the Stranglers, and acts as agents for Frankie Miller's Full House, Meal Ticket, Burlesque, Plummet Airlines, The Vibrators and The Damned.

Bands like Dr. Feelgood, Ace, and Kokomo made early appearances at the Hope, before going on to wider acclaim, and the pub was a vital cornerstone of what became known as the 'pub rock' circuit in the London area.



Ace - regulars at the Hope & Anchor

with a panel of judges which included John Entwistle, Dave Dee, Sounds' Editor Alan Lewis, John Leckie of EMI, and Vitavox's Neil Young.

Rocket Take Off

Rocket Records and Rocket Music have moved into new premises at 4, Audley Square, London W1. The firm will continue on its old phone number, 01-499-9714.

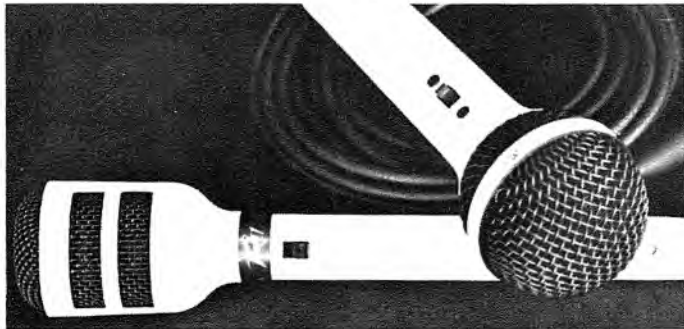
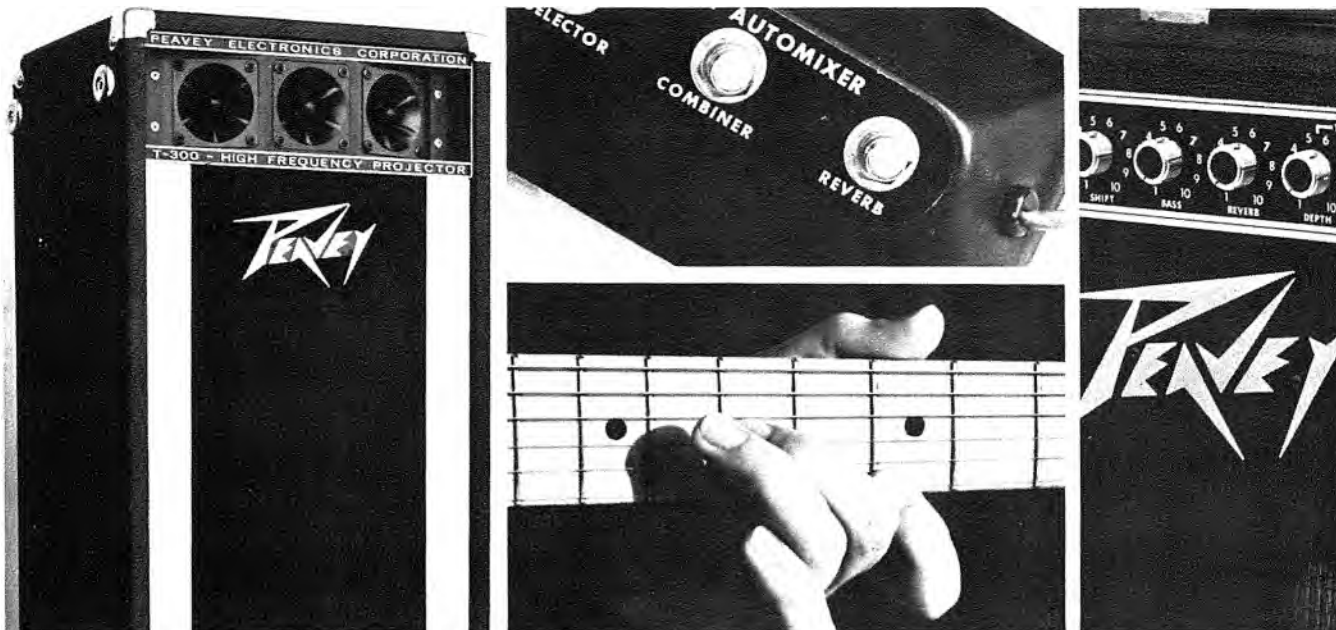
The move allows more space for both the Rocket companies, and for John Reid Enterprises, which remains at 40 South Audley St., W1. (01-491-2777). The Rocket company has a new press officer, Laura Beggs (formerly the assistant to Caroline Boucher, who has left to have a baby). Laura's new assistant is Kay Merrin, who will also assist Arthur Sheriff.

Robert Key has joined the company as international product co-ordinator responsible for liaison with licensees and the company's Los Angeles office.

Making Waves

Keith Altham's PR Company has set up a brother company under the guidance of Alan Edwards, called New Wave, which has taken on four bands; The Stranglers (now with UA), the Vibrators (who have a one-off single on Rak), Lone Star (signed to CBS) and Generation X.

Keith's organisation has been connected more with established bands including The Who, Status Quo, and Uriah Heep, and the new company has been set up with the idea of giving a similar service to rising bands.



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The Mace is offered in a single unit version with two or four 12" speakers. A "power pak" only version is also available to the guitarist who wishes to use different enclosures and speaker combinations.



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Mace "power pak"

212 Mace Single Unit

Dear Sir: In an effort to brighten up the tone of my Guild X175 Manhattan, I have recently replaced the two tone controls only with 250K log pots and higher value capacitors. Now, however, when I turn the volume down I get a slight hum from the amp. Does this mean I should replace the two volume controls to bring everything in line? The pick-ups on at present are the original chrome-type single coil. Thank you for a great magazine.
Guy Beck,
Birmingham.

Stephen Delft replies: Assuming that the humming started after the changes you made, it would seem likely that an earth has been omitted somewhere along the line, possibly to one of the metal cases on the back of the pots. This would result in the situation you now have — the guitar working but with a very low hum. Look for large pieces of metal that are unconnected; it's unlikely that the value change of the pots alone could cause the hum. If you can see no obvious disconnection, try pulling out the pots so that they're easy to see and take them to a repairman who'll check them out to see if something's wrong.

Dear Sir: I have recently bought a new Gibson Les Paul Custom with the words 'Twentieth Anniversary' engraved on one of the frets inlays. Is this edition only being produced this year for a limited period? Also other new Gibson Les Paul Customs I have seen have had different machine heads (i.e. Schaller enclosed type) instead of Klusons, different tone and volume dials, two bridge adjustment wheels instead of one and what appear to be slightly different frets. Why is there this difference between two guitars of exactly the same model.
D.P. Winslow,
London.

Stephen Delft replies: As you have seen, not every guitar bearing the same model name is necessarily exactly the same — one year's production will doubtless vary in some smaller details to the previous year's. Basically it's down to choosing the type you like best, for example I prefer the larger and heavier adjustable Gibson bridge.

Norlin replies: Every Gibson Les Paul Custom produced between March 1975 and March 1976 bore this particular 'Twentieth Anniversary' engraving as a tribute to the introduction of the Les Paul guitar twenty years previously.

Dear Sir: I have an Eko Ranger XII acoustic twelve string guitar. I find that the machine heads on my guitar tend to slip and are sometimes slack, resulting in extreme difficulty in tuning. I wonder if it is worth putting on

better quality machines, if so what do you suggest — would it be worth modifying the ones already on? May I take this opportunity in congratulating you on an excellent magazine.

S.J. Galvin,
Widley, Hants.

The first thing to do is to take off or slacken the strings entirely, and then put some Mollyslip oil on all rubbing and bearing surfaces. Then slacken the screws which hold the main gears onto the string holders and re-tighten them just fingertight. If the problem still persists after these measures, then the machines do need replacing, and whether they are worth replacing really depends on how much you like the guitar. Some cheaper Schaller single machine heads may fit the guitar, depending on the spacing between the holes.



Dear Sir: Having read many articles on Jan Akkerman of Focus and noticing Steve Rosen's fine article in last month's International Musician I thought I might take some time to pass on some information on Jan's Les Paul. In June of 1973 Paul Harner was approached by Jan, after meeting him in regards to older vintage guitars which both of them are avid collectors of, to modify his brand new Gibson Les Paul Professional. Jan drew up the specifications and the following conversions were made to the guitar: the large low impedance pick-ups and wiring, along with the microphone input on the top bout, were removed. An extremely curly maple top was overlaid on the existing solid mahogany body and sunburst to an exquisite tobacco brown.

The tune-a-matic and stop-bar tailpiece were replaced by a single wrap-around tailpiece identical to an older Les Paul Jr. Brand new Gibson Humbucking pick-ups were installed along with a three position toggle switch. We have done this for many different people, the latest being one for Dicky Betts in the Allman Bros. There are, however, several peculiarities in Jan's Les Paul that, although we did the work on, are quite inexplicable to me. First the guitar plays perfectly in tune. This is completely baffling because older Jr.'s and Specials which employ the same tailpiece are never in tune and are now being replaced by the Badass tailpiece. Secondly the guitar is one of the loudest instruments that I have heard or played. This is very unusual considering that the pick-ups are new humbuckers. I hope this answers a little more clearly some of the questions that many people had about the guitar.
Jolyon Dantzig,
Hamer Guitars,
Illinois, U.S.A.

Dear Sir: I would be interested in any info on a guitar I have been using constantly over the past fourteen years. The guitar is a Fenton-Weill RP1G model. I have been playing at bookings up and down the country for fourteen years and in that time I haven't seen any other Fenton-Weill guitars, nor has any other guitarist I have spoken to — Fenton-Weill amps, yes, but Fenton-Weill guitars, no. I got the guitar new, so surely there was more than one sold! While not in the Gibson/Fender/Gretsch league, with a little help from a treble booster I can get very Telecasterish effects from the old girl, which suits the country music that I play. The only 'ailment' about the guitar is that it needs refretting. Do you have the address of anyone in the Edinburgh/Lothians area who could do such work?

Ian Gardiner,
Midlothian, Scotland.

The guitar was made by Henry Weill, and many more of these instruments were in fact made, although most people who have them probably wouldn't part with them. As far as we know Fenton-Weill Electronics is still in business, though mainly in lighting and export services fields. Mr. Weill may well be pleased to hear of such a happy user of his guitars — you can contact him at 16 Emlyn Road, London W12. For a refret you could contact Alastair Watt at 57 Airy Hall Drive, Aberdeen, AV1 7QQ.

Dear Sir: Approximately two years ago I purchased an Antoria copy of a Fender Jazz bass and, while I have been pleased with the guitar in most respects, I have

always been aware of a lack of sustain on the fifth fret of the 3rd string. After trying many different strings to no avail, I returned the guitar from whence it came. The shop concerned could offer no solution but, as luck would have it, Antoria themselves were exhibiting to the trade not far away, and I paid them a visit. None of them present could shed any light, but they accepted that the note in question was somewhat 'dead,' and so far no one else has been able to help. The only possible reason that does come to mind is that the string in question does not pass between the two poles of the pick-up but rather passes over one hole only. Would this give rise to this effect? Another effect noticed is that notes played on the G string seem to lack the penetration of notes played on the other three. Would this be part and parcel of the previous problem. I am very reluctant to part with the guitar as in every other respect it's excellent. However, I have noticed remarks on the quality of the Di Marzio pick-ups and wonder if their bass pick-up may present a solution. On the other hand I do not wish to shell out £57 only to find the problem unsolved. I would be pleased to hear your comments and suggestions.
R.R. Cockell,
Worcester.

Stephen Delft replies: Part of the difference between basses and good basses is this question of 'dead' notes. It often occurs on the D string around the second fret, but can theoretically happen anywhere. It's caused by the body or neck resonating and interfering with the normal string vibration. This problem has plagued makers of electric basses (and indeed bass-players) for ages and very little research has been done on it. You may find the next few 'Build A Solid Guitar' articles will explain a little more about this subject — it's similar really to the production of 'wolf-tones' in violin family instruments. Unfortunately there's no easy cure — probably the only certain solution is a change in the design of the neck or the body. It's strange to note that this phenomenon can appear in some examples of a certain instrument and not in others without any clearly understood explanation of this inconsistency. There are two things which you can do which may help the problem, the first of which is to make sure that the neck is firmly attached to the body. The other is to take a piece of steel about 2" long and 1" square and clamp it temporarily to the back of the head. This may shift the resonance far enough — if it works have the piece of metal finished a little more attractively and attached more permanently.



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HOW TO SOUND (PRECISELY) LIKE DON FELDER OF THE EAGLES



Revealed by I.M.'s L.A. Correspondent Steve Rosen

Don Felder is lead guitarist (along with recently added Joe Walsh) for the California-based group The Eagles. Though he has only appeared on "One Of These Nights" and *Hotel California*, he has already demonstrated a dimensional musical personality in his acoustic/electric guitar work. Born in Florida, Don first started making music on a Silvertone adapted with a DeArmond pickup and amplified through his dad's tape recorder. "You know, anything you could plug it into," he laughs. Don formed a band called The Continentals when he was 14, and played the local teen dances and, about a year later, a then-unknown Steve Stills joined the group. He remained in the Continentals for 12 months during which time Felder was branching off into country and bluegrass music. The populace around Gainesville (his birthplace) was into country music via a folk

orientation, and he was soon listening to James Burton licks (from Elvis Presley records) as well as Doc Watson and Chet Atkins.

His guitar was too restrictive in the sense it did not have good action or sound and he soon upgraded to a Fender Musicmaster with maple neck and a tweed Champ amp. This setup satisfied him for another year until he switched to a Stratocaster and Fender Pro amplifier. Bernie Leadon (who recently left the Eagles) came to town and the two assembled a top 40 bar-band, to assure the proper image they all bought matching red Gibson 335's and Dual Showmans.

"We were the hottest thing in Florida at the time except for the Almond Joys which was the Allman Brothers. They were working at Daytona Beach and pretty much the same bar and fraternity circuit that we were."

This was in 1965 and, although the band made a reasonable living with frats and bars, they started a bluegrass band to pick up the slack during the off-nights. Don was learning this style of playing from Bernie (it is highly recognizable in Felder's playing on the *Nights* album) until Leadon joined Hearts and Flowers and moved back to San Diego. Don formed a band called Flow and, in 1970, recorded for Creed Taylor and the then-new CTI label (now an established jazz company). Felder's recollection is a sour one.

"It was a dreadful album, the whole thing was done in three days, top to bottom. He (Taylor) was used to cuttin' people like Jimmy Smith and people like that who came in with a trio or quartet, turned on the machine and let it rip for four hours and had the record. That was a total failure."

Except that the venture did allow Felder





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to experience this new jazz field. He stayed in New York for a year-and-a-half, playing at the local clubs (Village Gate for one) until becoming disillusioned with this scene and moving to Boston. Here, he attached himself to the studios and after a year of woodshedding made the prophetic move to Los Angeles.

"This whole period was just a lot of bars and frats... any kind of gig you could round up to earn a dollar and make decent music at the same time."

Upon first hitting Los Angeles, Don hitched up with David Blue who was then opening for the David Crosby/Graham Nash tour. Performing in Blue's backup band, he was asked by Crosby to play in their group (original guitarist David Linley fell ill). After returning to Los Angeles following the completion of the tour, Felder was called by Glenn Frey (Eagles songwriter and guitarist) to come and lay down a slide solo on "Good Day in Hell". Don rushed over and borrowed one of Leadon's amplifiers, a 1957 Deluxe tweed. He used his own Les Paul and following the final solo take, the passage was run through a digital delay accounting for the "weird" sound.

"I had a great time; it was a lot of fun. A couple of days later, Glenn called and asked if I wanted to join the band. I didn't even ask how much I was gonna get paid; I just said, 'Sure.'"

Through this session and those that followed, Don realized the potential of the often-ignored Fender Deluxe amps (the solo amplifier used by the band). One new feature he discovered is that by removing the power tubes in the older tweed models and replacing with 6L6's (the same tube used in the Twin Reverb), the power is almost doubled. The exact process for this is to remove the rectifier tube and made solid state. Substitute 6L6's for the 6V6's on the cathode pin 8 of the phase inverter tube through a 1k resistor and .01 capacitor to a switch to ground. Caution: the early Deluxe amps have a negative bias and must be changed to positive before attempting this procedure. This tube exchange will also work for Fender Princeton amps.

This was the exact setup used for the solo on "One Of These Nights". The amp (with new tubes) was set in a small closet-like room with very hard walls (to ensure a live sound) and the volume set at 6 (its peak point). The microphone was set four feet away from the amp and the result is a hollow, roomy distorted club sound.

Another modification was removing the baffle on a Deluxe (1954 or 1955), cutting a new 10" baffle board and putting in a similarly-size Lansing speaker. This gives a crisp Stratocaster/Telecaster sound and can be heard on parts of "After The Thrill Is Gone".

The problem came when the band hit the road and had to fill large halls with sound.

Obviously, the Deluxes wouldn't do it. Felder and band sorted through virtually every amplifier but weren't satisfied. Finally, Don ordered Alembic cabinets and pre-amps and powered these with a Crown DC 300 amplifier; in front of the Deluxe, a Shure Unisphere A was placed and this was fed through a graphic equalizer. The reason for the equalizer is so the microphone level can be balanced and then sent through the Alembic pre-amp. This unit is placed at volume 4 and, because it does contain enough variable controls (bass, middle, treble), the sound of the Fender Deluxe in the studio may be duplicated outside.

"So you have that little Deluxe sound at 300 watts. So that solved the entire stage problem; that's what I use on stage. The little tweed Deluxe with the 6L6's, and for additional stage sound I "Y" out of the top of the Deluxe and run into what I normally had which was another pre-CBS Deluxe with a 12" Vox speaker in it. So that you can get it ragged as well."

Felder has also experimented with Music Man amps for stage. One of the big concerns in using small amps live is to make the sound carry across the stage so the other members can hear it as well as the player himself. The Alembic cabinets tend to be very directional and moving four feet to either side of them reduces up to 60% of the initial output.

Another effect Don used was on "Journey Of The Soucerer" where he used a Stratocaster, Leslie, and Maestro echo-plex. The echo was set to be poly-rhythmical against the track; that is, instead of falling on every beat, it would fall on three or four beats (three against four). The effect is an enchanting one but, again, when it was simulated in concert, problems arose. Felder would set the rhythm at the exact speed of the previous night's concert except that Leadon (who began the song) would start a little slower or faster. Don would then have to make adjustments.

"So there's a lot of things you can have dead on in the studio, but when you're on the road and get into a lot of gadgets, it's real easy to limit and restrict yourself."

The Les Paul and Stratocaster Felder has been referring to are his two main instruments, the former a 1959 sunburst Deluxe and the latter, a mid-'sixties model. The Gibson is stock except for the reversal of the bass pickup; in its normal position the screws are as far up towards the fingerboard as possible but Don has taken the pickup out of its mount, reversed it, so the screws are as far back towards the middle as they can go. This gives the guitar more bit and mid-range and cuts down the "whoof" sound. The pickup covers have also been removed because he has found the magnets work hotter under this condition. His string rundown is a combination of very light tops and very heavy bottoms and include Ernie Balls .009, .011, .016, .026, .036, .046.

In assessing the situation, he found light-gauge strings on the low end produce a frail sound while medium and heavy-weight strings give a full and fat sound. He also maintains that if the G string is any lighter than an .016, the simple tension from chording could alter the pitch 1/8 or 1/16.

The Strat has had alterations; two extra toggle switches have been added which act as on-off pots for the bass and middle pickups. When these two units are on "off" position, the normal three-way switch present on all Strats functions regularly. But with these modifications, many different combinations can be used (by using first and third pickup, second and third, and so on). The tailpiece has been made stationary by loosening the strings, adjusting the bridge to its proper height, and tightening down the six Phillips head screws.

Felder does use other guitars. One is an older Telecaster (year unknown), a stock 1955 Stratocaster (re-fretted), and a backup Les Paul.

For a pick, the Floridian uses Fender heavy; recently he came across a batch of original 1965 Fender tortoise-shells he uses for acoustic. They give a clear and precise sound. Don's acoustic instruments include a Martin D-35. On stage, the acoustic is miked with a Sony condenser mike (less than an inch long) suspended within the soundbox of the guitar. There is a frequency band on the mike to cut down the low-end feedback (the biggest problem in miking non-electric) and though the Sony is low impedance and must run through a transformer to change it to high, it produced a most realistic sound. Joni Mitchell was the first to work with this setup designed by the Eagles sound company.

Felder also played a 1916 A4 mandolin he bought in Nashville. Here, too, he had a problem in cutting through all the other electric instruments and installed the Sony mike in it.

Don Felder, basically, is looking for a different sound, a different identity. Though he uses a Les Paul and Stratocaster, he does not want to be identified with the "stock" image and sound which goes with these instruments.

"It seems like the minute somebody picks up a Les Paul and puts it through a ragged amp, they're going to play a certain way. You can almost predict exactly what they're going to play. A lot of people identify the instrument with 'it should sound like this' instead of, 'Well, I play and think and want to execute these ideas this way and is this the best thing I can use to do it'. Sometimes I even feel I want to put the Les Paul in a closet and go have a guitar built or explore something else just to get out of that whole riff. Just have something weird and gonzo that nobody else has ever heard of."



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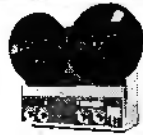
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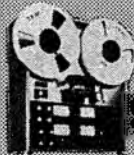
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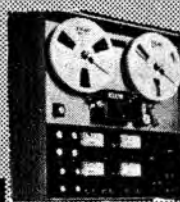
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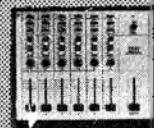
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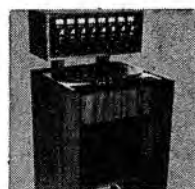
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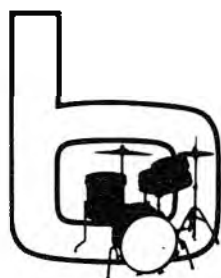
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Last month I used the word 'sustain.' This term is used by musicians in several different ways. There seems to be sustain derived from the player's technique, sustain from saturation of the pick-up and/or amplifier (more about this later), and sustain, referring to an instrument on which notes remain at a (relatively) constant level for a (relatively) long time, before they begin to die away. It is this last property, which I call 'natural' sustain, which is closely related to the design of an instrument and the materials chosen for its construction. As far as I know, there has been no published research on the sustaining properties of plucked stringed instruments with relatively flexible necks (for example — the average electric guitar), and most makers work on a mixture of precedent, and trial-and-error. Detailed research requires time and equipment, an understanding of what electric guitars are for, and the ability to ask the right questions. For example, how many physicists would comprehend the difference between a good 'vintage' electric, and its present day equivalent? I have even known serious research work carried out on a poor quality Japanese 'copy,' in order to find out the necessary properties of an electric guitar!

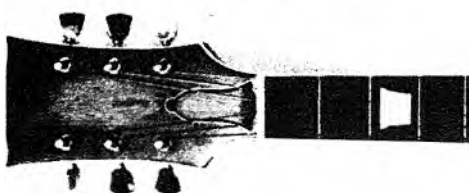
Any one of you, if you can discover the right questions to ask, could in your spare time, and with home-made test equipment, find the magic formula which will produce a really good instrument out of indifferent materials. In accordance with ancient tradition, there is a pot of gold at the end of the formula. However, while we await this discovery, it would help you to understand why some solid guitars have a better natural sustain than others.

As I mentioned last month, you can only put so much energy into a guitar string. This is stored as vibration, and as the energy leaks away, the string vibration gradually decays. The mathematics of this is quite well understood, but you will find all the usual books assume that the string is stretched between two rigid supports — and guitars are not rigid! If you could make a perfectly rigid guitar, the string vibration would eventually decay because of small losses within the string and the small amount of air vibration (sound) which a thin string can produce by itself, but these are not significant effects in a real (and slightly flexible) electric guitar. If you play a solid guitar without an amplifier, you can usually hear some sounds and feel some vibration in the

Making a solid guitar

~Part 2

By Stephen Delft M.I.M.I.T.



body and neck. These come from energy which has leaked away from the vibrating strings. It would be easy to say that the more rigid the guitar and the longer the sustain, the better the instrument: but what is better?

There is no arbitrary, 'perfect' guitar sound. If anything, our standards of excellence are based on the properties of certain vintage instruments, which were probably designed by trial-and-error until the result was musically satisfying to the maker or his advisers. We are accustomed to hearing from these old instruments (and from some of the best modern ones) the result of a string vibration which decays in a complex manner. Sometimes the sound is loud at first and then dies away quickly, sometimes there may be less 'impact' at the beginning but the sound continues longer and the decay is more gradual, and sometimes the sound may actually become louder after the start and then die away. An engineer who works with synthesizers would probably call these decay variations "Envelope Shapes." If you listen carefully, you may find that the same instrument has different qualities of sustain on different strings or in different positions.

Apart from obvious considerations such as the 'feel' of the neck and frets, and the overall tone resulting from pick-up type and position, I believe it is this aspect of Envelope Shape (the subjective quality of the instrument's sustain) which gives the best solid guitars distinctive characters, more noticeable to the player, than to the audience. However, this is really splitting hairs, because if you are playing an instrument which pleases you,

you will probably produce better music, and that will (hopefully) be appreciated by the audience.

I hope some of you, who have already made several instruments, will find this of use in making the next one better still, but giving an instrument a controlled amount of flexibility requires careful study of existing fine instruments, and a clear understanding of the vibrational properties of different woods. If you stray too far from conventions, it is easy to produce a distinctively unpleasant instrument!

If you are making your first or second electric guitar, I would suggest you make a conventional single-cutaway instrument, with a maple neck and a mahogany body about 50mm thick. (I think, generally, that I prefer to play instruments with mahogany necks, but it is very difficult to obtain American mahogany with the correct qualities, and necks made from low-grade mahogany are too easily damaged). I have also successfully used English sycamore for necks, and English lime for bodies. Some makers use maple for fingerboards, and some players demand maple fingerboards, but I think what they may want, is the lacquer which is sprayed on maple fingerboards to keep them clean: it can also be applied to rosewood fingerboards. If you can obtain well-dried rosewood or ebony for the fingerboard, it gives the truss rod something to work against, and helps to keep the neck straight.

This brings me to the subject of truss rods. I have had many requests for information on the availability and fitting of truss rods. You may be able to by-pass this problem by purchasing a neck blank or partly finished neck already fitted with a truss rod. These are usually of the type which has a steel rod working within a metal channel: the whole assembly is glued inside the neck before the fingerboard is fitted. There are several other systems in use by different guitar companies, but the one I prefer to use is just a thin steel rod, set in a deep slot in the neck (under the fingerboard) so that it ends up within about 3mm of the back of the finished neck. One end is attached in the heel of the neck, brazed onto an anchor plate of some sort, and the other end is threaded to take a tension-adjustment nut in the usual pocket in the front of the head. For really slender necks, I prefer to fit a slightly curved rod into a curved channel, so that the distance from the rod to the fingerboard varies along the neck. Gibson held the original patent on adjustable truss rods. Some of

their early necks were made with a variable depth slot for the truss rod and most of those necks are still perfect. It doesn't prove that this is the only way to make good necks, but it is certainly one way! Fortunately, if you don't use soft mahogany, and don't make ultra-slim necks, a straight truss rod will do perfectly well.

The purpose of a truss rod is to counter the forward warping of a guitar neck caused by the tension of the strings. This was originally necessary on acoustic guitars with fairly high-tension strings. The string tension (and therefore the warping) on most electric guitars is much less, but to obtain a really low action, with a conventional wooden neck, a truss rod is still advisable. If you are not a low-action fanatic, and normally use very light strings, it is perfectly possible to fill the entire truss-rod slot with a steel strip, glued in with epoxy glue. The sustain 'shape' will be a little different, and the instrument will balance 'neck-heavy,' but there should be no troubles with neck warping.

There are some problems in obtaining a piece of stable wood large enough for a guitar neck. Most makers either make the neck from three or more layers, like a sandwich, with the layers edge-on to the fingerboard, or they cut the main part of the neck out of a piece of timber about 60mm square, and add small pieces to the bottom of the heel and the sides of the head. The 'sandwich' construction (for instance from nominal 1 inch — or better 1½ inch maple boards) is more likely to be stable if your glue joints hold. Avoid a joint on the line of the truss rod. The almost-one-piece method is less work, and allows more freedom in shaping the neck, but needs more reliable wood. You should also carve such a neck in two stages:- remove most of the waste, and then leave it in a dry room for a couple of months, so that the final carving and planing can remove any small warping which may have occurred. If things go well, there will be a small supply of good European maple neck blanks but you may still need a few extra bits for adding to the heel and head. These pieces should also be maple but there is no mechanical reason why they should be a perfect match. By the way, remember that it is much easier to cut the truss rod slot before you start carving the neck. You need straight parallel sides to guide the cutter.

I now have basic plans ready for the guitar neck and the part of the body

which carries bridge, pick-ups and controls. The rest of the body can be adapted, within reason, to suit your tastes.

The first part of the plan, covering neck and truss-rod construction is reproduced, on a much smaller scale, in this month's issue. I would strongly recommend that you obtain a full-size copy, from the address listed at the end of this article. You will notice from the photograph next month, that I am making the neck from one piece of reliable timber. If you are not so fortunate, the plans include information on making a neck from about one metre of what used to be called 'nominal 6 inch by 1¼ inch' Canadian Maple boards. Maple in these dimensions is not so difficult to find, if you are fairly determined. It is usually supplied rough-sawn (sometimes very rough), and if you can arrange for the supplier to plane the saw-marks off both sides, you will save yourself a lot of work.

If you make a laminated neck, you will need plenty of clamps to hold the pieces together while the glue sets, and you may find it easier to make only one glue joint at first, and to add the other side-piece the following day. Gluing three pieces of wood at once can be a slippery business. There are many woodworking glues in common use which are not really suitable for making a stable guitar neck. I have found four successful glues for this job, and they all have disadvantages. In order of my preference, they are:

(1) 'Beetle' gap-filling resin adhesive. This is a thick paste, smelling of marzipan, which is mixed with a liquid hardener. Its main disadvantage is that it seems only to be obtainable in something like 10 pound tins, and it has a limited shelf life. (2) Prepared Guitarmakers' or Cabinet makers' Hide glue. This is a traditional animal glue, supplied in jelly form, but it has been modified so that it remains liquid for a longer time, in normal use. However, the problem remains, to a lesser extent, that the glue must be heated in a water bath to make it liquid, and applied hot, preferably to pre-warmed wood. If it cools enough to become a jelly again, before the joint is lined up and all the clamps are tightened, the joint will appear sound, but will break easily at some later time. In normal winter room temperatures (say below 23 degrees centigrade), it is impractical to use this sort of glue on large or complicated joints, unless you work, as I do, under a Silica Bar radiator or something similar.

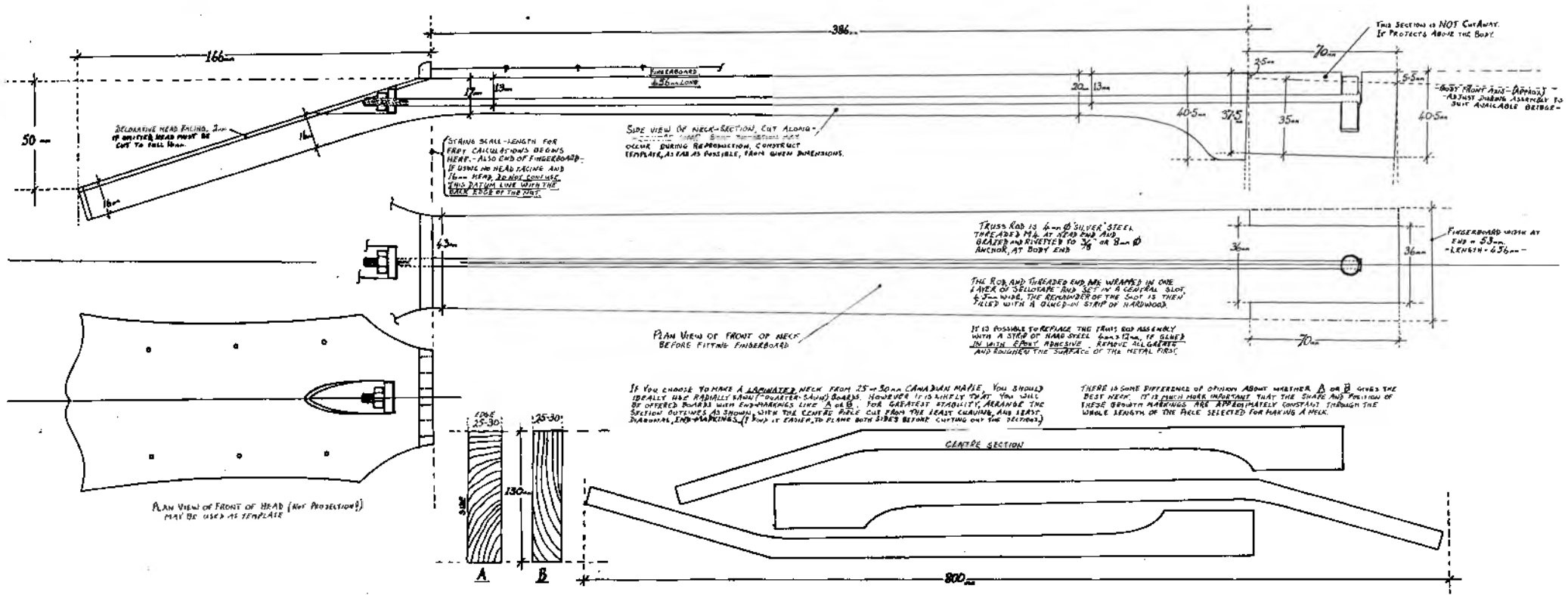
This pre-heats the wood for an hour or so, and keeps me warm while I am working. In spite of the problems, I prefer to use this type of glue for most of the joints in instruments I make, and for some repairs. Once you get everything warm, it is quick, clean, and often gives stronger joints than technically 'better' adhesives. You can estimate the available assembly time, by putting a drop of glue on the joint and timing it, until it gels. For a longer assembly time, raise wood and air temperature or add 10% hot water to the glue, if it has become too thick.

Animal glue is softened by high humidity, particularly when combined with high temperatures, and readers in tropical countries might prefer to use glues based on Resorcinol or Phenol-Formaldehyde. I have not found this sensitivity to be any problem in temperate countries.

(3) 'Dunlop' slow setting epoxy adhesive. This requires about two weeks curing time in a warm room, before it is safe to put any stress on the assembled neck, and it needs perfectly clean wood surfaces. Even a trace of packing grease from the sole of a new plane can make the joint useless.

(4) Yellow Aliphatic Resin glues, such as Zigbond or Titebond. These are both American imports, and they do not seem to be widely distributed. This may, in part, be due to the fact that most of the major English glue 'brands' already have similar (white) resin glues amongst their products. Unfortunately, for guitar-making, 'similar' is not near enough. The American products are based on a different family of resins, and have much better long-term stability under stress. These yellow aliphatic glues are very convenient. They are used straight from the bottle, in almost any temperature, and allow a reasonable assembly time, which can be extended, where a weaker joint is unimportant, by adding 10% water. Their disadvantages are high cost and poor availability. I also have some reservations about the use of even the American type resin glues for high stress joints, which must keep an accurate alignment, particularly in hot climates or central heating. Joints made with these adhesives are 'water-resistant' but can sometimes be opened with a knife and boiling water. (There is an English glue called Titebond: I do not know whether it is the same material).

Next month I shall deal with making the truss-rod, cutting its slot in the neck, and shaping the neck and fingerboard.



This guitar design is based on a working string length (scale length) of 24.5 inches/622.32mm. If you intend to buy a finished or partly-shaped neck and/or fingerboard, check that it fits the dimensions on the plan, or be prepared to modify the body joint and position of the bridge, to suit your neck. Neither I, nor the magazine can undertake to provide advice, or modified plans, to suit different necks or fingerboards.

For full-scale plan, send postal order or cheque for £1.50 (payable to Cover Publications Ltd.) to:

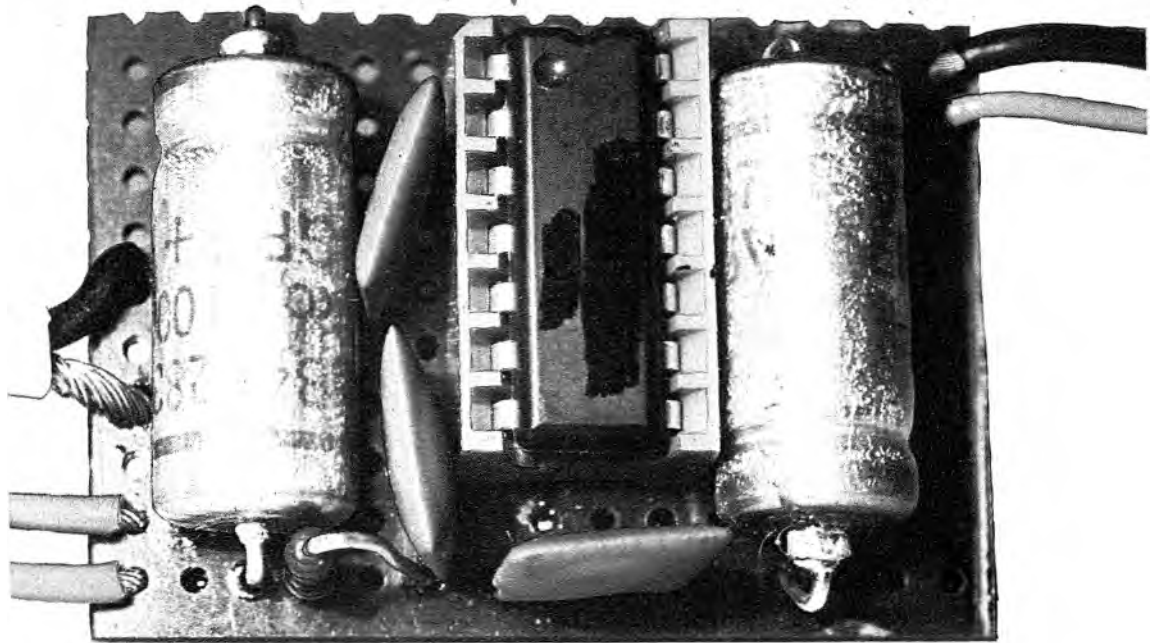
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A Very Small Guitar Amp

By Stephen Delft

You may have seen mention of a 'pocket' guitar amp at the end of last month's guitar-making article. This description arose from a slight misunderstanding: it was intended to be a tune-up amp, small enough to fit in the accessories 'pocket' of a guitar case. However the final circuit board is so tiny, that it would be quite possible to make the complete amp small enough to fit in a coat or jacket pocket — if you can find a small enough loudspeaker. I shall try to work out something along these lines by next month.

The layout shown, is based on a small piece of Vero-board, and the compact com-

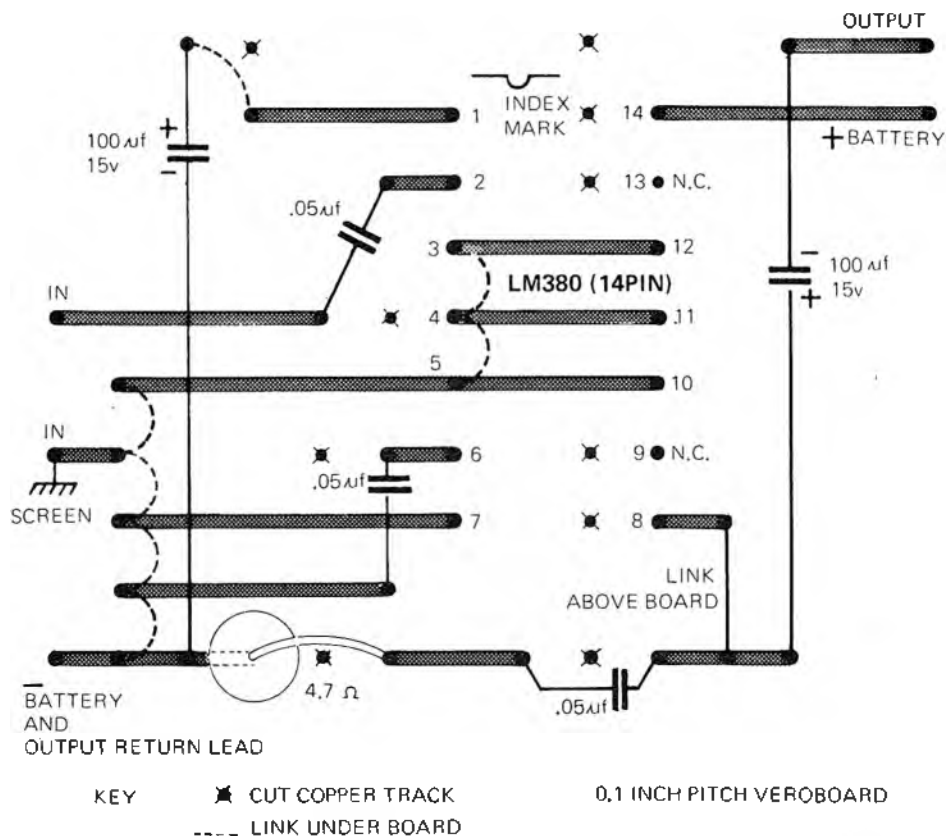


ponent layout may be a little confusing for beginners. There should be a suitable printed circuit board available (from Davian Electronics, P.O. Box 38, Oldham, Lancs), which will make assembly easier. Although the LM380 integrated circuit is rated to give an output of 2 watts, guitarists tend to push small amplifiers to their limits, and it is advisable to have some method of cooling the I.C. I took a full-depth brass 4BA nut, cleaned and tinned the

sides and one end, and quickly soldered it between the six central linked pins of the I.C. on the copper side of the board. As long as the nut projects further than any solder blobs on the back of the board, this captive nut can be used for mounting the entire circuit on the inside of a metal box or control panel. A minimum area of about 25 sq. cm. should be quite sufficient. The nut and its mounting place on the box or panel should be flat, and free

from burrs. If you have Silicone Heat-sink compound, put a blob between the nut and the box or panel, otherwise use Silicone grease, or Petroleum Jelly. The length of the mounting screw should be filed down, until it projects through the panel by between half and two-thirds of the depth of the captive nut. If you use a countersunk screw, make this check *after* the countersink is cut in the outside of the box or panel. The two 100 uF capacitors

VEROBOARD LAYOUT FOR 2-WATT GUITAR AMP (COMPONENT SIDE)

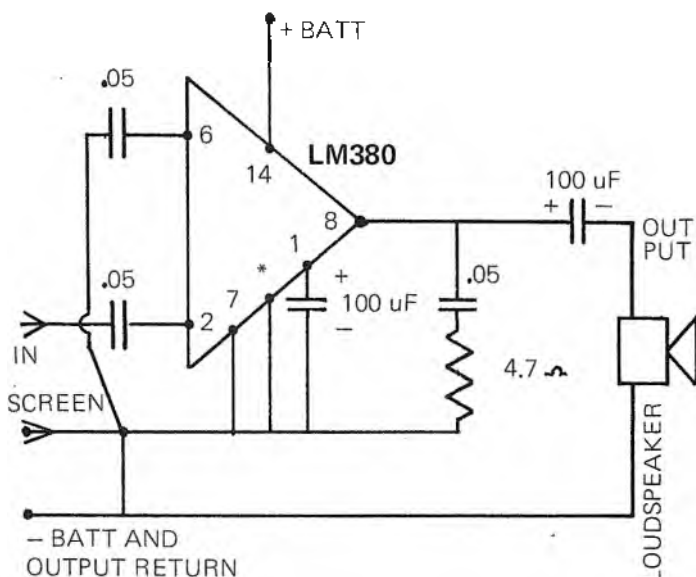
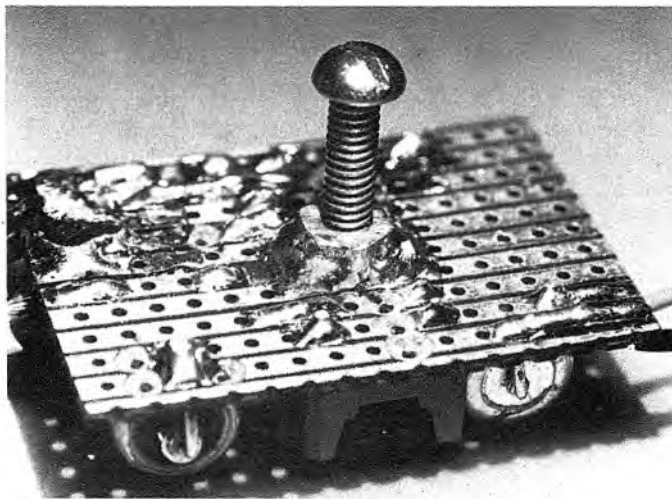


are of normal size, and the resistor could be any small ¼ watt type, but you may have to search around to find 0.05 caps. small enough. I used sub-miniature Plate Ceramics from R.S. and the value was listed as 47,000 pF. 100 V.d.c. You should be able to buy the same ones by post, from Doram. A sneaky way to provide a heat sink for the circuit, is to turn a bit of 4BA rod into the captive nut, and mount the circuit with a second nut through a small hole in the loudspeaker chassis. This one is for experts only; or at your own risk. If there is a chance of solder blobs touching the mounting panel, file down the largest ones, carefully remove any burrs which you may have produced, and cut a

protective washer from a postcard. This washer should have a clearance hole for the 4BA nut, and *must not be trapped* between nut and panel during assembly.

The loudness of a small amp depends very much on the efficiency of the loudspeaker, and this is not necessarily related to the size of the magnet! The prototype was designed around a small Phillips speaker of about 5" diameter, which could easily be mounted in the lid of an 'unshaped' electric guitar case.

Next month, I shall give some sketches and ideas on possible applications for this little amp, and hopefully, a distributor for the recommended loudspeaker.

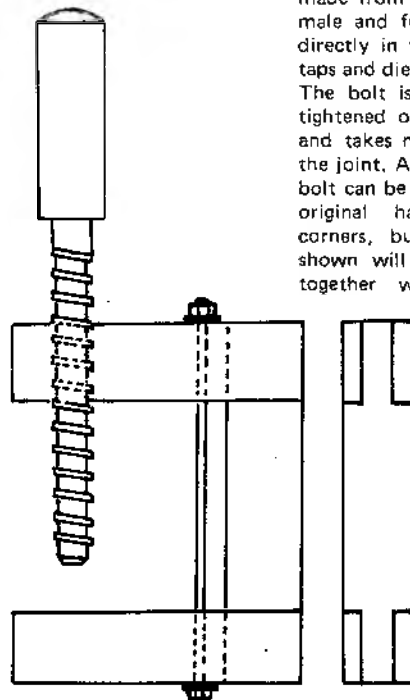


* PINS 3,4,5,10,11,12.

Small Things

by Stephen Delft

Here is a small sketch of a woodworkers' clamp which some of you may find useful. I have not seen any in England, and this pattern of clamp seems to have fallen into disuse in Holland, where I saw an antique example in the flea-market. I later found another smaller one in a friend's workshop, and decided to make some replicas. The proportions shown work for almost any size of clamp. Except for the steel bolt, the entire clamp can be made from kiln-dried beech. The male and female threads are cut directly in the wood, and special taps and dies are available for this. The bolt is the clever bit. It is tightened on the finished clamp, and takes most of the strain off the joint. As the wood wears, the bolt can be tightened a little. The original has complex mitred corners, but the simple joints shown will be sufficient, if put together with Cascamite glue.



Many effects pedals, which are supplied with a PP3. battery, will work more reliably with a Duracell MN1604. It costs more, but lasts longer, and is unlikely to leak acid into your Phaser if you do run it flat.

Looking into my Piezoelectric Crystal Ball for 1977, I see loudspeaker units for guitar and P.A. use from the giant Phillips organisation. Could be a big success or could be a non-starter. Anyway, keep an open mind.

Most people would associate Craftsman Woodworkers with a stinking glue-pot. In fact, animal glue only smells bad if it is allowed to go rotten. Ideally, it should be made up freshly every day; at worst, every week. In practice, it is very difficult to prevent old residues from re-infecting the new glue. You can keep the glue sweet for longer if you put a small clove of garlic in it. "Prepared" Animal glue usually contains preservative, but it is still worth adding garlic, as it tends to improve adhesion. Garlic really is amazing stuff. It is one of the few food preservatives which seems to have no doubts hanging over it, and it is an effective cure for mild gastric infections.

Viele Leute assoziieren Tischler, Gitarr- und Violinbauer usw. mit einem stinkenden Leimtopf. Eigentlich riecht der Leim gar nicht schlecht und stinkt nur wenn man ihn verderben lässt. Am besten sollte man den Leim täglich frisch machen, oder zum mindesten wochentlich. Da aber doch manchmal der neue Leim von dem alten infiziert wird, kann man ihn durch die Beisetzung von einem Stückchen Knoblauch frisch und rein erhalten. Ausserdem ist Knoblauch auch sehr gut gegen Darm- und Mageninfektionen.

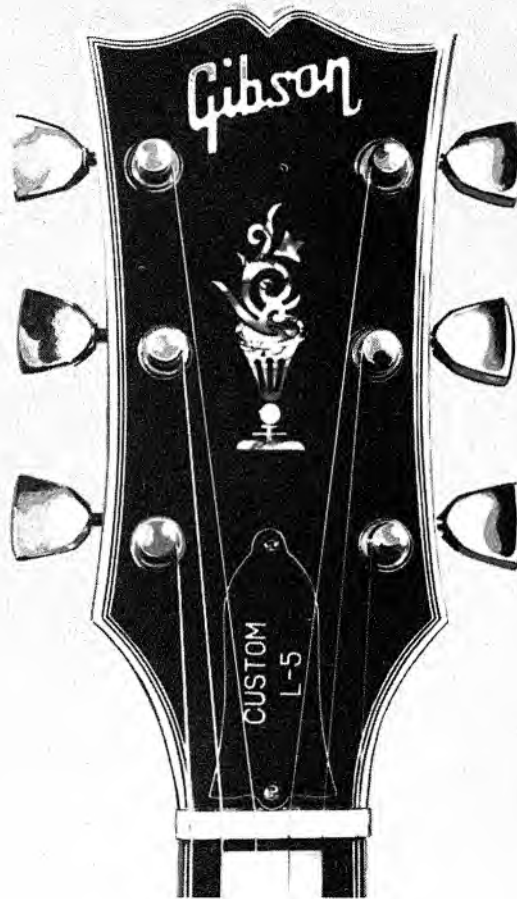
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TEST ON *Music Man 210-65 Combo*

DATE *January 1977*

PRICE *£399.37 Ex VAT*

TEST BY *Mark A. Sawicki M.Sc. (Eng) Assoc. M.I.E.E*

INTRODUCTION

Leo Fender's Music Man amplification and guitars were first brought over from the United States in 1975 by Strings & Things Ltd. of Lancing. The products created tremendous interest throughout the music trade in Britain and we believe that our first bench test and review of a Music Man amplifier has been eagerly awaited.

The Music Man 65 series offers amplifier tops (models 65 and 65 Reverb), combination amplifiers (112-65, 115-65, 210-65, 212-65 and 410-65) and a special bass reflex cabinet — the 115RH-65. All of the 65 series amplifiers have been designed to deliver approximately 65 watts RMS power into 4 and 8 ohm loads.

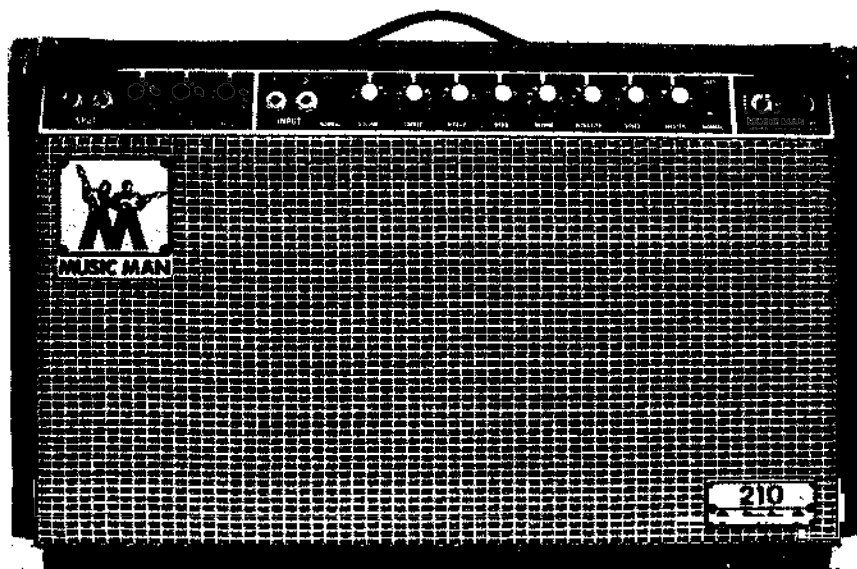
The design concept of the 210-65 is interesting and different to the majority of amplifiers on the market today as the unit combines active pre-amplifier circuitry (tone control stages) incorporating an advanced IC "op-amp" type LM 307H with a valve driver and power stage, which incorporates 12AX7 or ECC83 in the driver stage and two 6CA77 or EL34's in the output power stage.

CONSTRUCTION

The 210-65 is one of the most impressively built and smartly finished amplifiers that we have tested and must rank as very professional as the word professional is used to describe most consumer grade equipment in this day and age. Although conservative in design to a degree, the use of black vinyl covering, chromed steel corner caps and silver grill cloth is tastefully combined and gives the impression that a great deal of time was spent on getting the overall appearance right.

The unit has two input channels with two input jack sockets, a volume control and treble and bass controls on each channel. Channel Two has extra facilities — a bright switch, and mid-range control as well as effects controls for the reverb and tremelo incorporated in the amplifier. A footswitch is supplied for remote control of the reverb and tremelo which is included in the price of the amplifier.

There are some extra controls on the right hand side of the control panel marked "Deep," "Master Gain" and a power reduction switch, all of which operate on both channels.



The amplifier panel has a standard 2A/250V.. 'Slo-Blo' fuse protection system, reverb/tremelo footswitch sockets and two speaker sockets wired in series. A speaker impedance selector switch allows for 4 or 8 ohm operation. When using both speaker sockets i.e. either the built in speakers and one external speaker or two external speakers, use the 8 ohm position for best overall performance. A special stand-by switch provided removes the high voltage from the power stage pentodes which enables you to silence the amplifier without adjusting the volume control.

The basic cabinet work is exemplary and quite the best that we have ever seen. Pondersosa Pine $\frac{3}{4}$ " thick is used throughout with corner joints dovetailed and glued. A triple laminate baffle board made from Douglas Fir houses the two heavy duty 10" speakers, and no expense has been spared in the mechanical construction. With normal use the cabinet section should last a lifetime. The whole unit measures 15" x 24 $\frac{1}{2}$ " x 10 $\frac{1}{2}$ " overall and weighs 53lbs.

The two heavy duty 10" speaker units provided have 2" aluminium voice coils and Alnico magnets and give a very

impressive and full sound.

The electronic components in the amplifier section are housed in a double-plated 18 gauge steel chassis. The small components in the pre-amplifier stage are located on a high quality fibreglass PCB. The integrated circuits plug into holders which allows for easy replacement if required. The majority of electronic components are well above trade standard and all the controls are wired to the circuit board for easy servicing. The upper part of the chassis contains the power supply and valves which are electromagnetically screened from the top of the cabinet for noise-free operation. From the schematic diagram supplied with the amplifier we noticed that the components were very conservatively rated and that replacement components were easily obtainable from the U.K.

The reverberation effect is produced by a spring system housed in the bottom of the speaker cabinet and is controlled either by the rotary control on the amplifier control panel or by the footswitch (back panel). We found the effect varied with different tone settings and volume levels but a setting of 4 at average to high

volume levels gave a good reverb sound.

The tremelo speed and intensity controls are self-explanatory to a degree although there is an extra and interesting effect which can be derived from the intensity control. When the intensity control is turned from 0 to 5, modulation varies from zero to 100%. Turning past the setting five, a second modulation pulse is added giving a "doppler" effect like that of a rotating speaker system.

CONCLUSION

Hybrid amplifier design is one that many manufacturers would prefer to stay away from due to the technical problems

involved as well as design philosophy. In the case of the 210-65, it works beautifully both electrically and, most important of all, sound-wise. The tonal sounds are both wide-ranging and rich in harmonics, a direct result of the valve power-stage.

The test amplifier was an off-the-shelf demonstration model from the Top Gear shop and had not been especially selected for the review. During the tests, the ECC83 driver valve's heater packed up which is an uncommon fault to say the least, and we replaced the valve with a standard ECC83 bought from a local radio shop. We noticed a deterioration in the noise level and distortion figures after

fitting this valve and realised that the manufacturer is using top grade or selected valves. Users beware — on replacing valves, try to obtain top grade valves from the distributors or their respective agents; do not be tempted to use the first valve you can lay your hands on. Get a good quality valve and you will get the best from the amplifier.

The 210-65 is superbly built and exquisitely finished, albeit a little expensive by British standards. If you want the best, you have to pay for it. The amplifier comes complete with effects footswitch but does not include castors and waterproof cover, which are optional extras.

PERFORMANCE

	RESULT	TEST CONDITION	COMMENT
Specific Power o/p (Watts) R.M.S.	35.402W. 75.255W. 23.805W. 60.5W.	@ LO. — power switch Ref. 4.0 ohms; 1KHz. @ HI. — power switch at onset of clipping. @ LO. — power switch Ref. 8.0 ohms, 1KHz. @ HI. — power switch at onset of clipping.	The low power setting is expressly for playing with distortion. Plenty of power from this small amplifier, result of high anodes voltage at 725 V DC . . . very good. The low power switch setting produces a more pleasing distortion with better Sustain, as the o/p tubes (EL 34's) are also driven into distortion.
Total Harmonic Distortion (%) T.H.D.	2.29% 0.52% 0.417% 0.32% 0.33%	@ 75.W.r.m.s. @ 55.W.r.m.s. Into 4 ohms. @ 35.W.r.m.s. at 1 KHz. @ 15.W.r.m.s. @ 5.W.r.m.s.	Mainly second harmonic. Satisfactory
Typical Sensitivity for 75 W.R.M.S. output signal	HI: 6.5 mV. LO: 13.5 mV. HI: 8.5 mV. LO: 18.2 mV.	Ip1. channel A Ref. 1KHz. into 4 ohms. Ip2. channel A Tone controls set for the best square wave response. Ip1. channel B Ref. 1KHz. into 4 ohms. Ip2. channel B Tone controls set for the best square wave response, tremelo/reverb —OFF "BRIGHT" switch in "NORMAL" position. "DEEP" switch in "NORMAL" position.	Quite high sensitivity which is more than enough for guitar amplifier applications HI - sensitivity jacks in both A and B channels will accommodate even 0.5V.r.m.s. input signal voltage. High level of "flexibility."
Signal/Noise Ratio	Better than 70.80dB.	All tone controls — mid position. Measured at 1KHz. into 4 ohms. All effects control pots/switches — OFF	Very good for "valve" output stage.
Tone Controls Range Channel "A"	17.67dB. 18.17dB.	Treble at 10KHz. Into 4 ohms. Bass at 50Hz. load	Good
Channel "B"	20.91dB. 22.85dB. 8.87dB.	Treble at 10KHz. "Bright" switch in Bass at 50Hz. "Normal" position Middle at 620Hz. "Deep" switch in "Normal" position.	Very good The mid-range control actually controls the effectiveness of the bass/treble control. When more bass/treble is desired reduce the middle control towards "zero" and raise the volume control to restore the same over all level.
Tremelo/Reverb Effects	Wide range of interesting sound available.		Very good
Capacitive Load Test	Very good	2 uF — capacitor and 4 ohms load	O.K.
Short Circuit Test	1 minute short circuit		No ill effects, however EL 34's anodes heat up quickly.

Why do Genesis and the Elton John Band play Premier? Ask 'Booby' and Andy!



BOBBY: Phil Collins, drummer with Genesis and Brand X



ANDY: Andy Mackrill, Percussionist with Genesis and Brand X

'BOOBY'

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ANDY MACKRILL

"Phil's hooked on work. When he's not recording with Genesis or Brand-X, he's on the road. And I'll get the boot if his Premier equipment can't keep up with him! Actually, I don't have too many problems, despite the workload and the inevitable knocks. Premier make their instruments really strong—and they've got a genuine worldwide service.

Phil's always trying new sounds—and he likes the way his Premier percussion responds to different techniques. He often says he'll do anything for a change except get rid of his Premier! At the moment, we use tubular bells, vibes, glockenspiel and concert tom-toms with a 717 outfit.

This year, we've got another world tour. I only hope I survive it as well as the Premier equipment!"

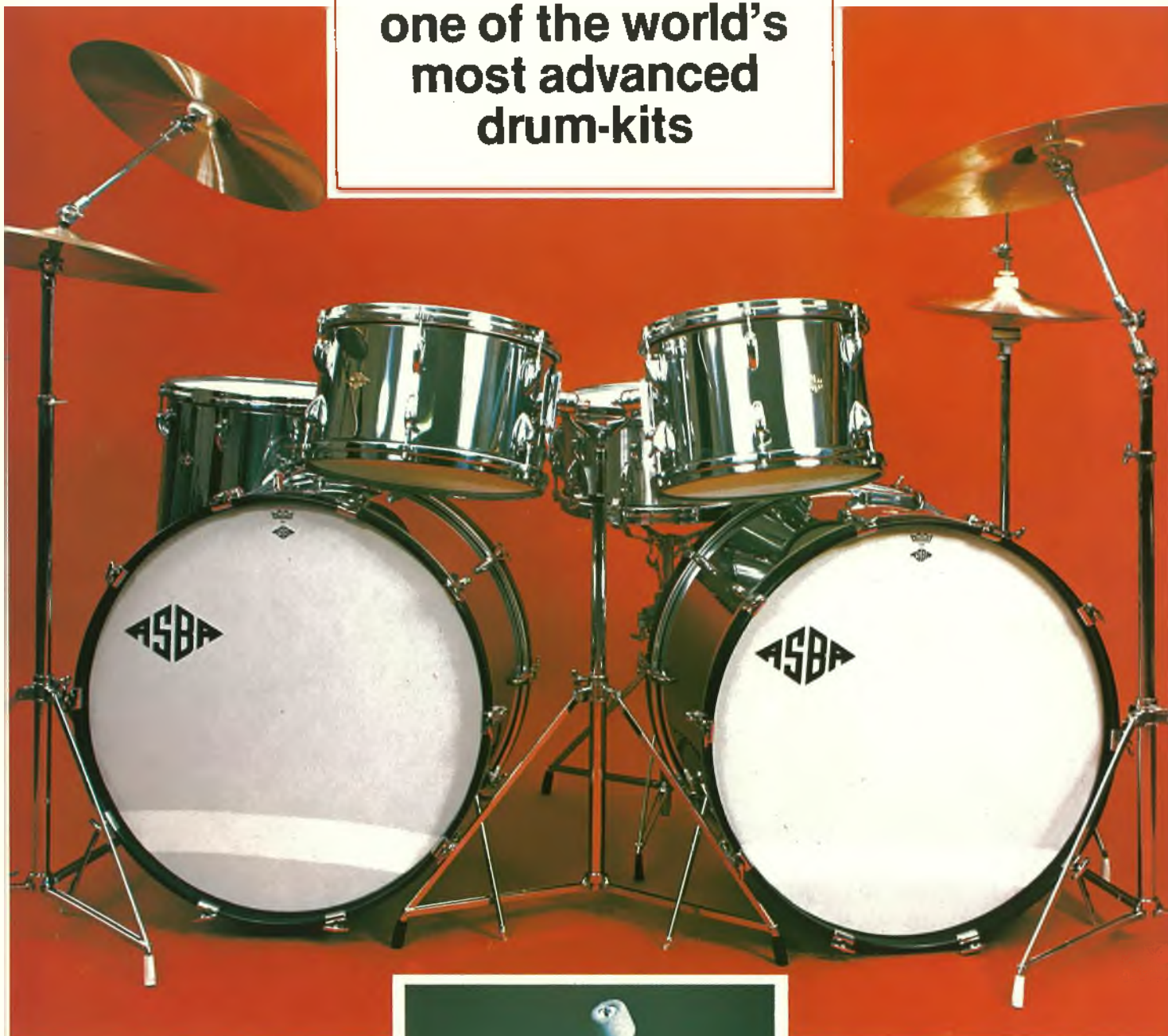
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These are the drums drummers talk about

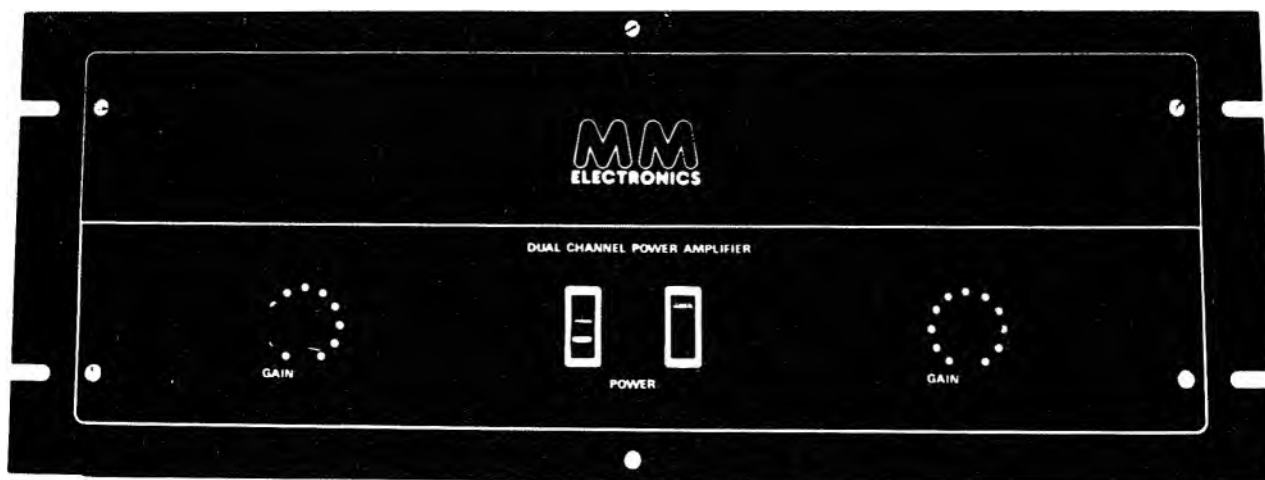
Soundcheck Soundcheck

TEST ON *M.M. Electronics AP360 Dual Power Slave Amp*

DATE *January 1977*

PRICE *£180 Ex VAT*

TEST BY *Mark A. Sawicki (Env) Assoc. M.I.E.E.*



INTRODUCTION

MM Electronics of Royston sprung up in Cambridge only a couple of years ago and, in quite a short time, established themselves in world markets with their excellent range of sound mixing consoles. Their preoccupation with value for money products and high engineering specifications has made them one of the leaders in the public address mixer field. Recently MM came onto the market with the AP360 which is a high power dual channel amplifier with an extremely high specification.

The AP360 is a robust, all-purpose power amplifier and is sensibly uncomplicated in design. All the components are standard and come from reputable manufacturers such as RCA and Texas and users throughout the world should have no difficulty in finding spares if required.

CONSTRUCTION

MM's object in designing the AP360 was to produce an amplifier with more than 200w. r.m.s. per channel in a familiar design and logically thought-out package. The transistor biasing arrangement would have to give good results with standard components in the circuit, as no 'select on test' components or setting up adjustments were to be used.

We would like to say that the idea of

using fairly inexpensive components without a preselect procedure to obtain a full professional spec is worth patenting, since special components themselves are not expensive but are just difficult to get hold of. So the AP360 is really the kind of amp built to get full benefit in the widest sense from economic factors.

The amplifier is fully protected against high inductive/capacitive loads, open/short circuit conditions, and faulty servicing (accidental application of reverse voltage and the like). The front panel is rather 'spartan' with On/Off power illuminated switches and channel gain controls; however it is smart albeit simple in form. The electronic circuit orthodox and, on the whole, easy for servicing. The input stage employs a pair of BFR 39 transistors in a differential type configuration. Then come four BC184's, and 2N 3440's, two 2N 5415 and one BC 214 transistor. The power stage has four 2N 6254 S output devices per channel which are the only specially selected devices. But even here, ordinary replacement is no problem as the 2N 3773 (the manufacturer's recommended type) is a selection of the same device anyway.

The mechanical construction of the AP360 consists of a central chassis

measuring 174 x 230 x 430mm, built of 16 SWG steel which supports both power supplies, the 2 channel PCBs and a 10 SWG aluminium front plate and heat-sinks for the power transistors on the rear side. This type of construction guarantees great rigidity and strength and affords easy access for servicing purposes. The PCB's and cable forms are all very neatly made and laid out.

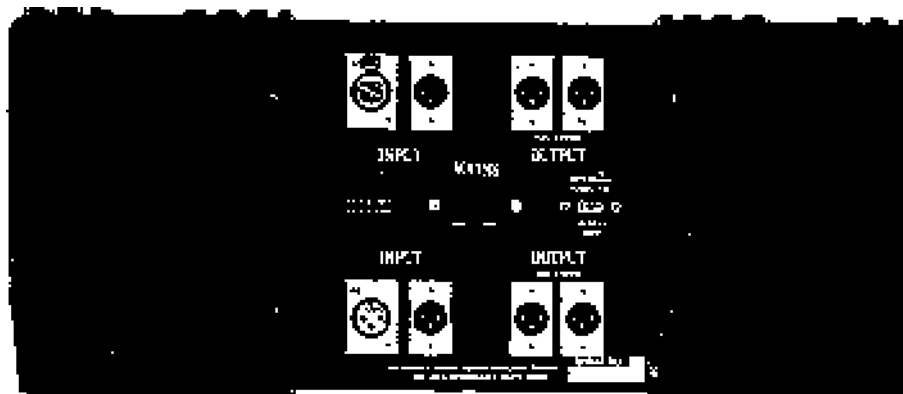
The rear panel locates both channel input/output sockets (XLR Cannon), earthed type mains socket, 2 fuse sockets for 5A. A/S (110v) and 3A. A/S (220v) respectively. All power transistors from the rear panel side are protected by safe Jeremyn black nylon cups, and all rear panel functions are communicatively marked in contrast white lettering. Both channel inputs have a double male/female Cannon facility and both sockets are wired parallel to each other. Apart from the external 3A. A/S. A/S fuses, power lines 4A slow blow fuses are fitted internally. These rarely blow, and if this should happen, take the amplifier to a qualified service man.

The MM AP360 is designed specifically for professional PA systems and the 'GPO' 19" Rack style was chosen for convenience in mobile work and for studio application. Alternative connectors (jacks, binding terminals) are available

from the manufacturers housed in a flight case racking system. The amplifier is supplied with a mains lead and comes with a 12 month warranty.

CONCLUSION

The MM Power Slave AP360 is an excellent amplifier, good value for money and an example of good design with high technical parameters at an economic price. The standard of engineering is much above trade level, and the quality of soldering, wiring and mechanical assembly is high. We thought that the addition of two VU meters or LED indicators would be worth while even though the price of the unit would be affected. MM advised however, that this will be a feature of the AP360 MKII model.



PERFORMANCE

	RESULT	TEST CONDITION	COMMENT
Specific Power O/P (Watt RMS) One Channel Only	240.25 W.r.m.s.	@ onset of clipping into 4 ohms	Slightly higher power levels than manufacturer specification figures. Manufacturer claimed output power is: 235 W.r.m.s. into 4 ohms. at 140 W.r.m.s. into 8 ohms dummy 80 W.r.m.s. into 16 ohms load N.B. For sustained operation into 4 ohms it is recommended that forced cooling be used.
	140.28 W.r.m.s.	@ onset of clipping into 8 ohms Ref.	
	106.66 W.r.m.s.	@ onset of clipping into 16 ohms 1KHz.	
Total Harmonic Distortion THD (%)	0.080%	@ 140.0 W.r.m.s.	Very good; and if crossover distortion tuned out - 0.01% and better. Ref. 30 V. r.m.s. at 8 ohms. Amp on my test was equipped with set of four RCA 2N 6254 o/p devices per channel.
	0.04%	@ 100.0 W.r.m.s. at 8.ohms.	
	0.04%	@ 70.0 W.r.m.s.	
	0.035%	@ 40.0 W.r.m.s. ref. 1KHz.	
	0.04%	@ 20.0 W.r.m.s.	
	0.075%	@ 5.0 W.r.m.s.	
Frequency Response	-- 2.8dB.	@ 7Hz 30KHz. Ref. 10W.r.m.s. output	Better than standard DIN - HI - FI range
	-- 1.0dB.	@ 11Hz -- 20KHz. signal into 8 ohms load.	
Hum And Noise Level	Better than	Below 140 W.r.m.s. 10Hz - 20KHz., and typical figure is -- 108.0dB.	Good. However, can be improved by some simple screening hardware This is because the amplifier input socket is fairly close to the other channel's transformer. We are devising a simple screening plate to improve this.
	- 105dB.		
Cross Talk	- 82.0dB.	@ 10KHz; below 140 W.r.m.s; typically - 98dB. with the second channel being driven to the rated o/p signal level.	Good
System Gain	28.5dB.	@ 1KHz. into 8 ohms load.	Satisfactory
Damping Factor	Greater than 200.0	@ 100Hz. into 8 ohms load.	Very good; governed by output inductor.
DC. Offset	Less than 60 mV.	Without pre-selection at input devices.	
Capacitive Load Test	OK	2 μ F capacitor/250v working voltage into 8 ohms. load.	No ill effects
Short Circuit Test	1 min.		

Guitarcheck Guitarcheck

Stephen Delft M.I.M.I.T.

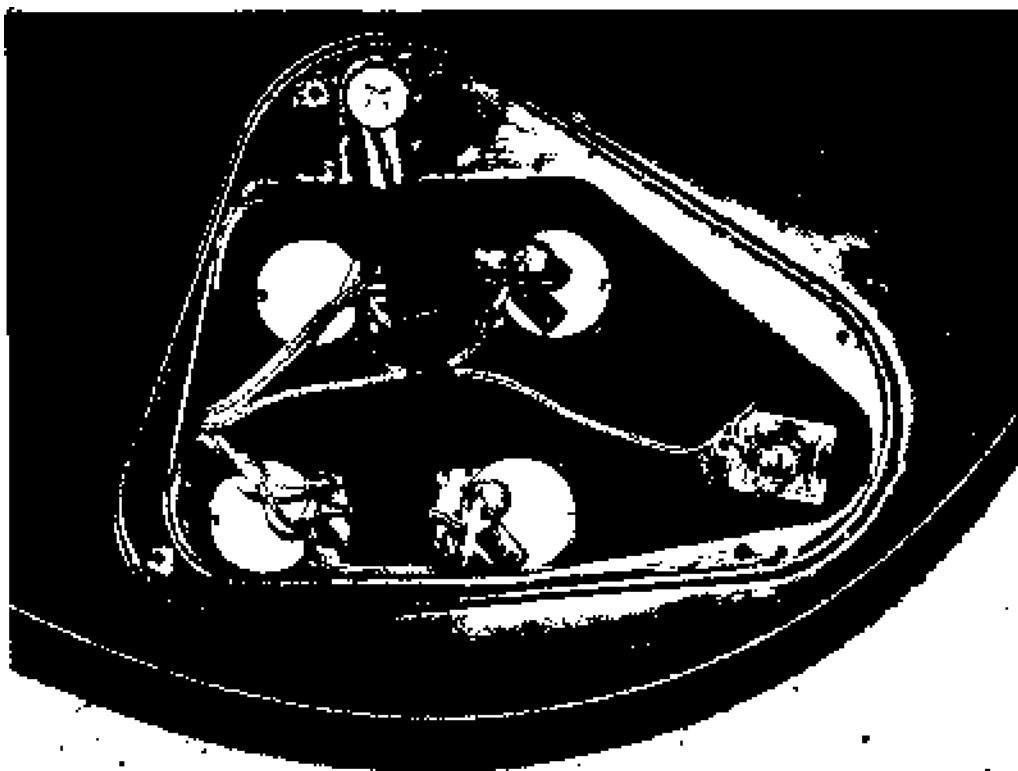
**Yamaha SG. 1500 Solid
Guitar and Case. Price
£391.11 ex VAT.**

There is really not much to say about this. The last Yamaha solid I reviewed was a fine piece of guitar making and nicely decorated: this one is not inlaid round the edges with Abalone, but is an equally good instrument. It has a differently shaped neck, and a slightly wider fingerboard in response to public demand, and, while I prefer the looks of the earlier 'Pearl and Mahogany' SG 175, I find the SG 1500 rather more pleasing to play. Some guitar makers are beginning to offer certain models with wider fingerboards, and a lot of players seem to like them, myself included. I have always felt that there was a demand for high quality guitars with slightly wider necks but, except for a few small companies, it seems we have had to wait for the Japanese companies to start producing them.

Not only the neck has changed: the pick-ups are greatly improved on earlier models and it seems that the company is moving towards a distinctive 'Yamaha Sound.' It is not unusual for guitar companies to produce instruments with a distinctive and recognisable tone, but this sometimes gives the instrument such a marked character that it becomes less versatile. The 'Yamaha' sound is only slightly removed from the accepted 'humbucker' tone and I find it equally acceptable and equally versatile. However, your own choice of amplification will have a considerable effect and, ideally, such a guitar should be tried with your own equipment under stage and/or studio conditions.

I am not too happy about the ends of the frets. I find there is a tendency for the top string to slide off the fret end and catch on the edge binding of the fingerboard. This may not be the same on other samples and is easily checked. The problem is a marginal one, and on my sample a light re-shaping of the frets would cure it. The neck is almost perfectly straight, well designed, and sufficiently rigid. I do not like the inlays in the head, which present too large an area of un-featured white pearl. If the pearl was more silvery or more coloured, the effect would be more in keeping with the rest of the instrument. Also I find that the machine heads, while feeling nice in use, are a little





Gibson EB1 'Violin' Bass

I must unfortunately tell you that I am not reviewing a limited re-issue of this historic instrument. The bass in the photograph, is a genuine old EB1 on which I did some repairs last year. However, it is nice from time to time to review the sort of vintage instruments which we would all like to own - if we could find one and if we could afford it!

Unless this instrument has had the pick-up cover replaced, it is not likely to be from the first production (in 1953) and I think the wood is too old for one of the early '60's re-issues, so I suppose that places it in the middle-to-late 50's. It has at some time been refinished "Natural" (there are traces of red lacquer at the end of the fingerboard) and there are (repaired) screw holes in the front of the body, probably from a hand rest. Also, at some time, the screws holding on the Banjo-type machines appear to have given up and they have been replaced with small bolts and eight nuts let into the front of the head. Apart from this, and a few missing dots in the fingerboard edge, the instrument seems to be complete and original. It has the original light tan case, with a very long pocket to hold the collapsible end-pin. This accessory end-pin looks like a black plastic bicycle pump, screws into the body in place of the end button, and extends downwards to the floor so that the instrument can be played like a double bass. (see photo). This concept seems almost an anachronism when one

considers that 1953 also saw the introduction of the 'Fretless Wonder' Les Paul.

The instrument and its fittings are as simple and practical as the Les Paul Junior. The only decoration is the viol-like shape of the body, and a small pearl 'Gibson' inlaid in the head. There are no bindings anywhere, and the scratchplate and pick-up cover are plain black plastic.

Neck and body are American Mahogany, the head facing is black lacquer and the fingerboard is Brazil Rosewood. The bridge is a slightly smaller and lighter version of the one used on later EB series basses: a flat plate, with two hooks for the mounting screws, and a raised diagonal hump in the centre, on which the strings rest. There are four notches for the string ends, and two small

imprecise and there is not always a clear relationship between movement of the button and movement of the string roller.

The fingerboard is smooth ebony, and it makes a nice change to see a fine guitar with only small pearl dots as position markers. The string supports at each edge are particularly good. The nut is well adjusted and made from good ivory, while the tail-piece is the conventional 'hook-on' type, and very solid. The bridge allows for individual string adjustments, and its construction and assembly show an exceptional understanding of which tolerances are important and which are not. By a clever piece of lateral thinking, all the string support inserts fit firmly on the body of the bridge without rattles or string buzzes, and normal amounts of wear are unlikely to loosen them. (If this is not a deliberate piece of design, I would suggest that Yamaha study it carefully, and make it deliberate on future instruments.)

The body is unusually thick and is made from an assembly of blocks of African Mahogany, around a central maple strip. On this instrument and on the SG 2000, the maple strip appears to continue up the neck. However, on the less expensive 1500, the neck is actually a separate component, glued to the body in the usual way. The SG 2000 also has gold-plated fittings and some other trimmings, but the basic

difference in neck construction between the two models does not seem to be of great importance to tone production or sustain. The most obvious difference is that the integral neck construction allows the neck and heel to be less bulky near to the body joint and gives slightly better access to the highest frets. The neck joint used in the 1500 is well designed and fitted, and should be perfectly satisfactory.

The lacquer finish looks beautiful but appears to be rather sensitive to small dents, producing an opaque blister. It appears to be some sort of polyester lacquer, which can give a very hard wearing gloss but may peel off the base coat if dented. The SG 175 did not appear to suffer from this problem, and I think the finish on the 1500 (and presumably also the 2000) should be made more durable.

The instrument is supplied in a good hard-shell case, which is as strong as recently made American cases. It has a soft 'teddy bear' lining, and good clasps with no sharp edges.

Overall, this is a well made instrument, with good balance if you play standing. I find it a little less comfortable when sitting down, but I have not really had time to become used to the instrument's shape. The sound is a little brighter and more 'punchy' than average, though it can also be set to be very mellow, and the

balance between different strings is adequate, even without adjusting the pick-ups. For sustain, particularly on the B and G strings, it is amongst the best: on the top string, sustain is not quite so good, and the tone seems a little brighter than on the other strings.

I find the neck and fingerboard particularly comfortable, and all the knobs and fittings feel right, with no sharp corners. The internal wiring is a perfect example of how to get everything just right, without wasting time. (It doesn't really take any longer to do a neat and reliable wiring job, if you think about it first).

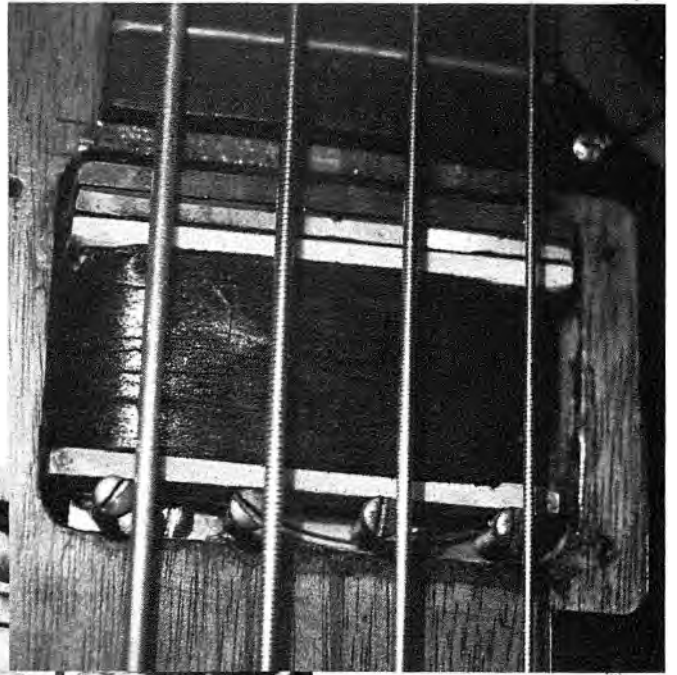
The most appropriate comment came from a friend, after he had played the review sample. It was not spoken in a form suitable for publication here but could be roughly translated as follows. "They have got it right this time. This has got to be better than anything you can buy from some of the major American companies." There are some excellent exceptions but, on average, I am inclined to agree.

Scale length: 630mm (*this is fairly short and makes string bending easier*).
String spacing at bridge: 52mm
String spacing at nut: 37mm
Fingerboard width at nut: 43mm. Action as supplied: 1.5mm (treble) 2mm (bass).
Lowest possible action under standard conditions: 1.3mm (treble 1.7mm (bass)).

screws working against the mounting screws to adjust the bridge position and string length, for octave correction.

The pick-up appears to be the ancestor of the later EB pick-ups, but it has a single horizontal coil with magnet(s) one side, and pole screws at the other side. These screws, therefore, appear close to the edge of the pick-up cover. On later instruments, the coil was split in two, with magnets both ends, and the screws in the centre. In other ways, the pick-up construction is remarkably similar to that in

more recent units. The tone of later EB series pick-ups is renowned for being bass heavy. They have got nothing on this one! It must be the most bassy pick-up ever produced. Any attempt to reproduce the natural tone of this instrument at high volume is likely to destroy your speakers. However, the instrument does sound remarkably like a plucked double bass. From the shape of the body, I would guess this was Gibson's intention at the time. Times have changed, and so has the tone expected from a bass guitar.



My standard cure for bass heavy EBO's is a Davian Over-riding unit, which plugs between guitar and amp, and trims just the right amount off the bass end. It also works like a charm on the EB1. The instrument still sounds round and bassy, but it no longer destroys speakers!

It is interesting to note that, after 20 years, the neck is still almost perfectly straight. This is helped by the width and thickness of the neck, which is rather bulky by modern standards. What is interesting, is that this thick neck is, for me, one of the fastest and most comfortable bass necks I can remember. I found myself playing things I had never played before and greatly enjoying it. That is a sure sign of a good instrument.

It is not likely that you would be able to find such a bass for sale in this country, and it must be admitted that not everyone finds the body shape comfortable, but I have made some plans and photographs of this instrument, and could make another, if anyone really wants one and is prepared to wait a bit.

May it remain playable for another 20 years.

Scale length: 775mm/30½ inch
String spacing at bridge: 50mm
String spacing at nut: 35mm
Neck width at nut: 43mm
Action as received: G 2.2mm
D 2.3mm
A 2.4mm
E 2.2mm

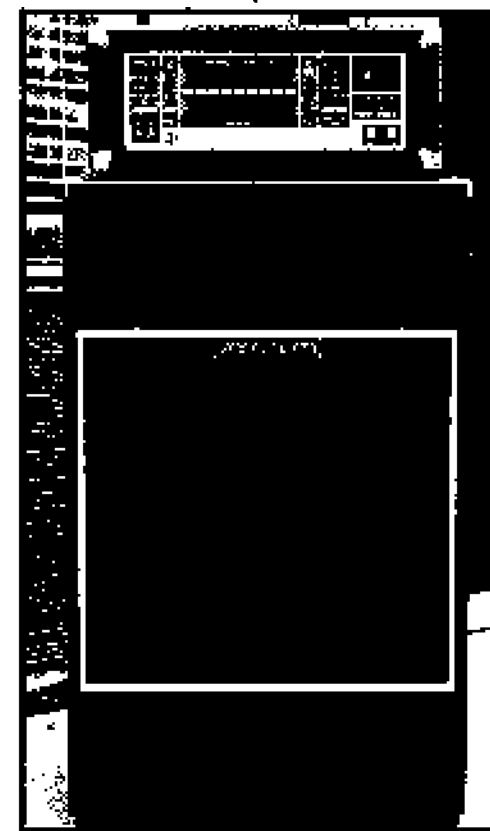
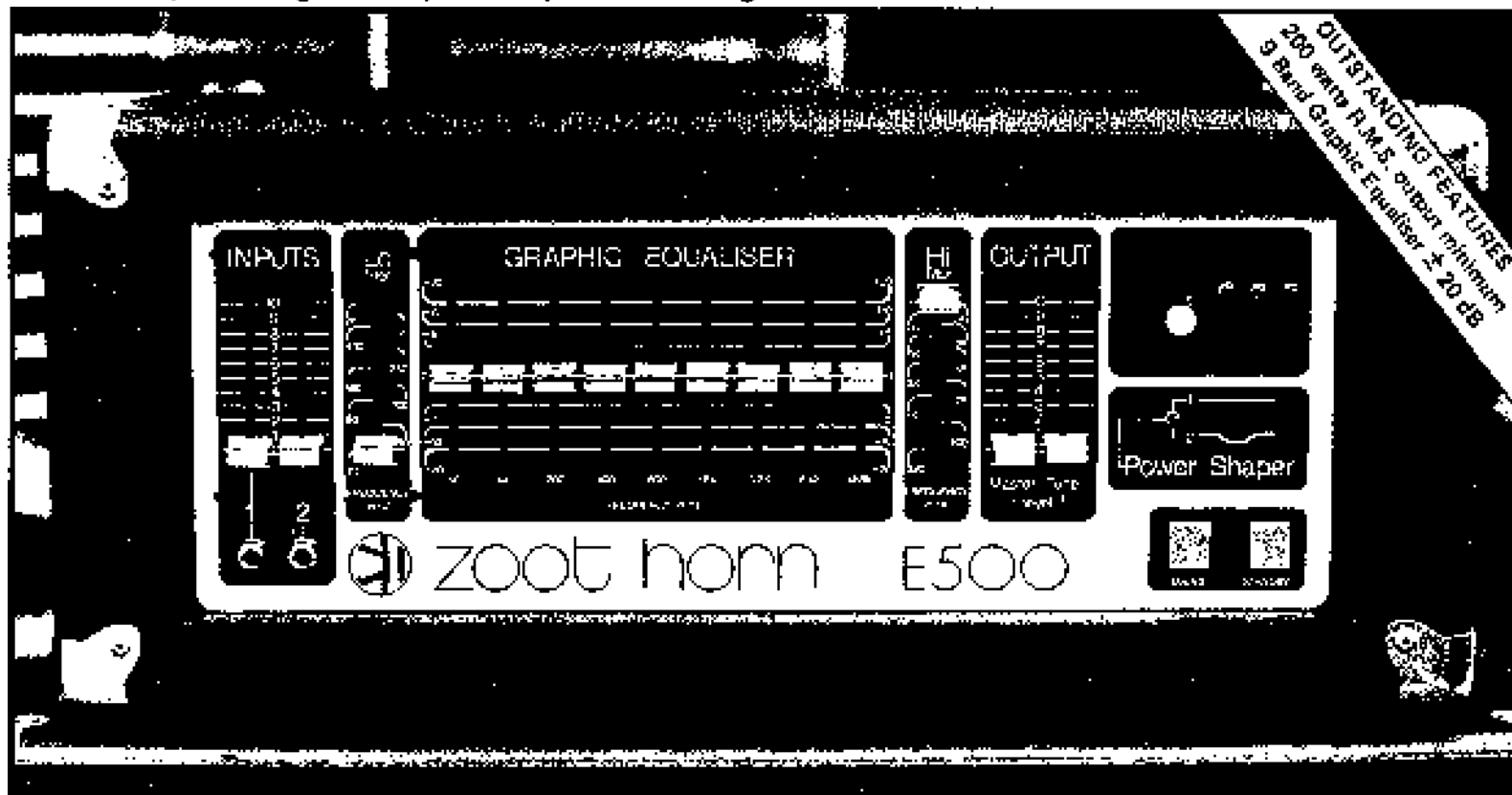
The G, D and A strings are set to their lowest sensible action on this instrument. The bottom E is a little too low, but no individual adjustment is possible.

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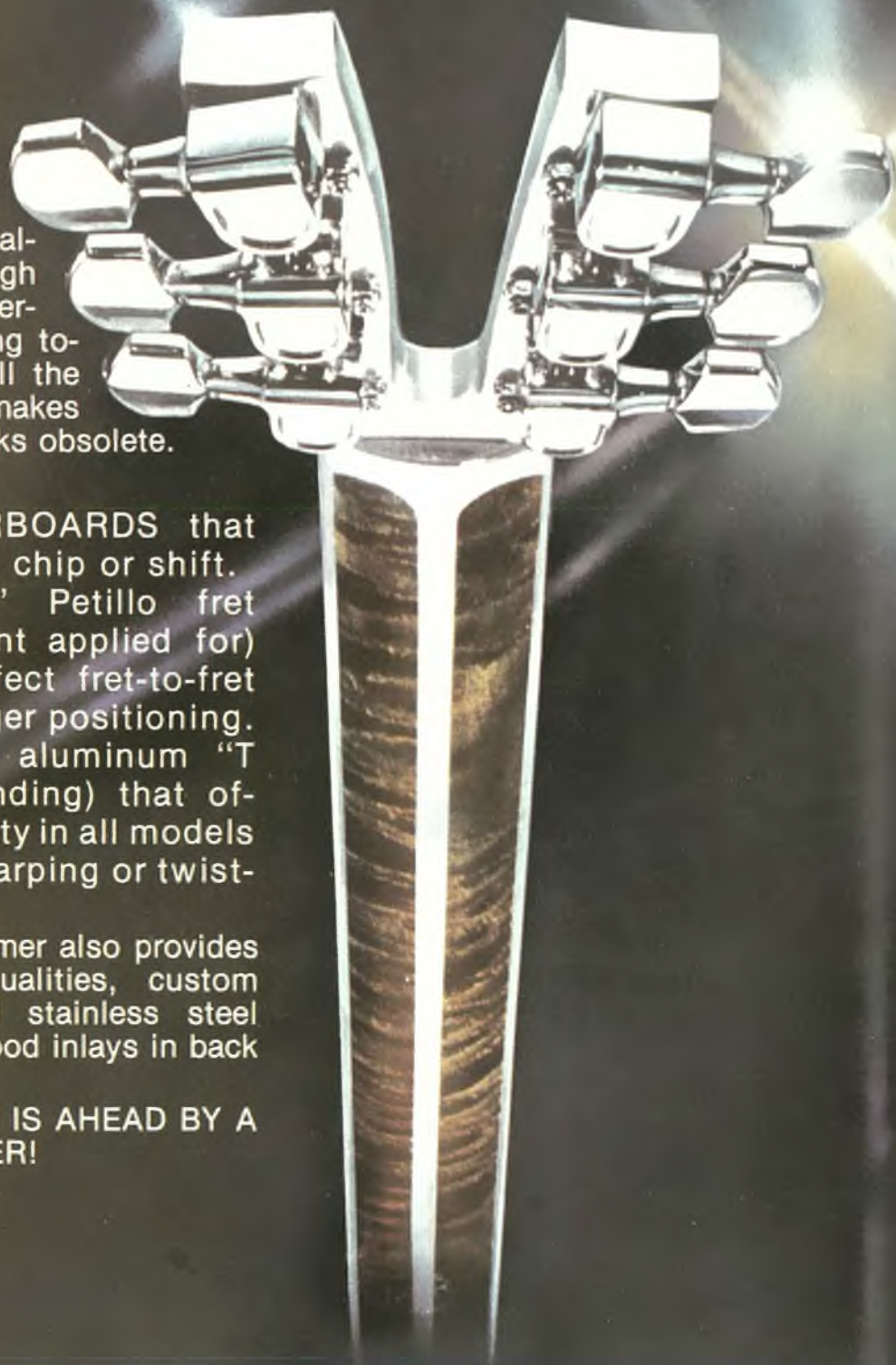
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Drumcheck Drumcheck

TEST ON *Sonor XK927*

DATE *January 1977*

PRICE *Not finalised at press time. Estimated around £850*

TEST BY *Bob Henrit*



Sonor drums are made in Euwe, West Germany, and last year the company celebrated their 100th year as percussion manufacturers. Their product, needless to say, reflects this longevity and is extremely solidly built in the old style, but with ever-changing updates and innovations to its fixtures and fittings.

This company started life in Britain as something of a poor relation to the other West German set, Trixon, built in Hamburg. With the demise of Trixon (as far as Britain is concerned) they have gained themselves the deserved reputation of the biggest and best of the European manufacturers, not to mention

having a good slice of the American market. Sonor's president, Horst Link, is very go-ahead and listens seriously to every suggestion (practicable or otherwise) from any of his respected endorsees around the world. Their stand at the Frankfurt show is normally by far the largest, percussion-wise, with all sorts of innovations to their drums as well as their very large range of Karl Orff percussion instruments. I'm sure this month's test set will have a conspicuous place at this month's Frankfurt trade show.

This seven-drum set has 13" x 9", 14" x 10", 15" x 12" and 16" x 14" single-headed toms with an 18" x 18" double-headed

floor tom-tom. It has a 22" bass drum and a 5 3/4" snare drum, and comes with one conventional cymbal stand, one boom stand, a hi-hat with two adjustable compression springs and a single expansion spring bass pedal with an industrial fibre strap—and of course a basket-type snare drum stand.

The shells of the drums are of 9-ply German Beechwood construction with 45 degree edge cutaways and a minute sound-enhancing bearing edge. The concert tom-toms and the bass drum have Remo C.S. heads while the floor tom and snare drum have white-coated Ambassadors.

Bass Drum

The bass drum had 20 nut-boxes, cast 'T'-shaped tensioners and claws. The rims were extruded metal and the spurs were Sonor's, by now, well-known and respected triangular models with their optional adjustable rubber or metal tip at the apex and the whole unit held in a block by its shortest side. This adjustable block has a square-shaped hole to retain the round spur more securely. It is not necessary to remove the spurs from the drum to pack it away. The bass drum has felt strip dampers fitted back and front. The sound was very strong and the potential was there, with a little experimentation, for a good warm sound with penetration.

Snare Drum

The one supplied with XK927 is a 5¼" x 14" metal shell job with ten tensioners per head locating into ten "waisted" nut boxes with a collet insert at each end. The snare drum too has triple flange hoops and a substantial internal damper. The 22-stand snares are attached to their strainer with cord and an unusual snare strainer with tension sensibly adjustable at both the snare and the butt side. This helps to ensure even "throw off" and tension when in the "on" position. (As a matter of fact, this goes part way to curing annoying sympathetic snare buzz when the tom-toms are struck.) The on/off movement is a new style of vertical cam action. The one piece shell with its convex centre bead for strength has its snare "touch" area extending gently from about 4" or so on each side of the butt and strainer and roughly ½" deep. The drum is edged with 45 degree inverse flanges and is very well finished off inside.

This 5¼" drum had a bright, snappy sound which was somehow too responsive—at least as far as heavy playing would be concerned. It didn't have depth or conviction although this doesn't in any way denigrate it as a drum. In some ways it's probably too good a drum for what I would want to use it for. Of course, you might possibly have a particular adaptation or use for the drum—say as a jazz or dance band drum—which would suit it down to the ground.

The 6½" shell drum fitted my brief much more—I found it had a deeper, more authoritative and somehow much more modern sound which was much more compatible to the throaty sound of the rest of the set. This drum is ostensibly exactly the same as its thinner counterpart but with the realistic extra of knurled locking nuts for each of its twenty slot-headed tension screws. There's only a difference of about eight pounds between the two drums.

Toms Toms

All the single-headed drums had a nice honest ring to them with perhaps a little edge provided by the C.S. heads. The 18" floor tom with its ordinary Ambassadors, was not quite so plastic-sounding, with more of a "zonky" traditional sound. I think a C.S. head fitted to the batter would make it sound more like the other drums—better still, remove the bottom head completely. As I've said before, I feel that in a normal drum kit format (as opposed to a show kit type set-up) the drums should either all be single-headed or vice versa. Mind you, the facility is, of course, there to make the floor-standing drum single-headed.

Each drum has triple flange hoops which are selected at random after their chroming process and deliberately distorted to see if the chrome cracks. If it does, some German artisan will be in "warm wasser".

The 13" drum has six tensioners, the 14", 15" and 16" all have eight. All of the nutboxes have their springs padded with foam plastic to stop them ringing. None of the open-ended drums have dampers, which I think is something of an oversight from a recording point of view. The floor tom-tom, with its three legs with spur-type block holders and substantial interval under batter head operating damper, had something I had never seen before: nine tensioners and nut boxes per head (I was so surprised by this that I had to count them three times). The actual legs are the ubiquitous "bent" type with a 30 degree bend at their bottom which then takes the foot out parallel to the drum shell. Strangely these were the only feet on all the stands which didn't have the benefit of their famous screw-adjustable and lockable rubber/metal spiked extremities. I can't understand this omission since I have always been plagued with creeping floor tom-toms and would welcome any attachment which would cure the malaise.

Accessories

The tripod-based snare drum stand has a smallish diameter centre tube (by modern standards) but substantially thicker legs filled with the aforementioned LROMT feet. The basket-type holding mechanism at the top has an innovation. Besides the normal gripping tension in the centre and underneath the basket actuated by a large knurled thumb screw, there is a lever-operated quick-release mechanism which works on a cam and makes snare drum removal blindingly fast. The height adjustment is held with a 'T' bolt shaped like a bass drum tensioner, and the playing angle is extremely well-held with two substantial 'L' screws, one at the pivot point and one just below. (There's even another bass-drum-type tensioner bolt which locks the tripod legs in the out position.) The whole thing works perfectly.

As I said earlier, two cymbal stands came with the set—both exactly the same except, on one of them, the boom stand fitting replaces the normal tilter. This is a useful attachment which can be bought from Sonor and fits all their newer cymbal stands.

The cymbal stands have amazingly wide-spreading and substantial double "skinned" legs again with the LROMT feet. The leg spread is adjustable and lockable with a bass drum tensioner-type 'T' screw, as is the cymbal height at two positions. There's a stop at the bottom of the largest tube to prevent the legs from sliding off and a very substantial cast tilter fixed to the top. This ratchet tilter is removable and has two thick ½" felts on it and, a very thoughtful innovation—a knurled locking screw below the wingnut, which would definitely ensure long life for your cymbals. The boom stand arm has two tilters—one fitted at its bottom where it locates to the top rod of the stand, and one at its top. In between, these two telescopic tubes are inserted into one another so that you can effectively extend your boom from about 12 to 24 inches. This stand, although it didn't have a counterweight, seemed to work very well, and was reasonably stable. I couldn't make it fall over but I did manage to make the cymbal wobble. By the way, you could (if you wanted to) mount your cymbal below the tilter in a hanging position which could prove useful in some applications. Don't ask me why, but it looked amazing. The cymbal stand bottom is used for the base of the double stand for the 15" and 16" tom-toms and is eminently stable in this configuration.

Sonor's hi-hat has tripod legs with two compression springs—one mounted outside the down tube and adjustable. The stand has the facility on it whereby it is possible to completely deactivate one spring and just work on the other. The idea is, of course, that you get more strength from two springs and the mechanism will take heavier playing. There's a rubberised two-piece foot plate with a substantial, adjustable bottom cymbal cup and a hefty turned top cymbal clutch with a large height adjustment screw. The top rod is made from something I first saw in America—a hexagonal (instead of cylindrical) rod which is much better and effectively stops the clutch from slipping round in use.

The double tom-tom holder is basically the one which Sonor started out with fifteen years ago. Basically, it's a cast ratchet tilter which holds the angle adjustment and is attached to a splined tube at each end, which locates into female carriers fixed to the bass drum and tom-tom shells. These carriers are very well constructed with a cast tube-retainer behind them (inside the drum) which keeps it steady for 5" or so instead of the normal inch or so stability which most holders of this type give. The height adjustment of the unit itself is held by a large 'T' bolt like the bass drum tensioners. The two top ratchet arms—left and right—locate into a pair of blocks fixed first to a plate and then to the top of the down tube. These arms can be adjusted near to or away from the player in a horizontal arc held fast by two screws. The whole thing looks sturdy and works admirably.

The bass drum pedal has its two-piece footplate rubberised (like the hi-hats) and clamps to the drum from a convenient position half-way up the left hand side of the cast frame. There are two adjustable sprung, but bluntish, spurs and a strong-looking industrial fibre strap which fits around a pivot bar on the footplate and then comes back to be joined to itself by a nut and bolt. This exercise eliminates the wear at the strap contact-point, which is where most straps break. The other end goes round a very large circular boss, fitted to the cam bar which serves to de-gear the action and makes for a slightly longer strap than normal. The beater position, relative to the drum's head, is adjustable on a 'splined' ratchet. The pedal's single expansion spring has a sensible locking nut. The pedal has twin needle bearings—one in each post—and should, providing nothing untoward happens to the cast frame, last for a long, long time. Although I fear, if you were to use the pear-shaped wooden beater supplied, your bass drum heads would certainly not last for as long. Mind you, Sonor makes all sorts of different beaters so you should be able to specify. It's a very smooth pedal indeed.

The appearance of the drums was really super. Their metallic silver finish was near perfect (as were their seven other wood shell finishes) and their newish badge with its 1875-1975 inscription was very nicely understated.

As far as this magazine is concerned, this is Sonor revisited, but because I was in America when the original drum check was published last January, this is my first critical look at them, and very impressed I was. One thing I've noticed in the past couple of years is the number of respected American drummers being turned on to Sonor—Bernard Purdie to name but a few. Our own increasingly cosmopolitan John Marshall has just switched to Sonor too, which for my money is one hell of an advertisement for them.



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TEST ON *Yamaha BK20C*

DATE *January 1977*

PRICE *£1466.67 Ex VAT*

TEST BY *Rod Argent.*



To visit the Kemble Yamaha keyboard factory in Milton Keynes is to see why the adjective 'Japanese' has acquired such an astonishing reversal of meaning over the last decade or so. Not so very long ago, Japanese products were regarded as derivative, not too well put together and generally the province of the cheaper end of the market. A few short years have wrought such a change of image that Japanese technology is now synonymous with excellence, both in the standards of its construction and in the creativity of its approach.

Anyone who still has doubts would do well to spend 30 minutes in the Kemble-Yamaha showroom in the company of Len Rowle, the chief keyboard demonstrator. Kemble took up the Yamaha franchise only eight years ago, when the range of products was fairly modest. Now, of course, it is extensive, and is crowned by the superb, hand built

G.X.I. polyphonic synthesizer, which faces you as you walk through the door of the showroom. This is the beauty that Stevie Wonder used throughout 'Songs In The Key Of Life' and called his 'Dream Machines' on the cover of the album! Of course, at £40,000, this is not a machine that many will get to own, but owners of any of the Yamaha range of keyboards must benefit from the knowledge and techniques that the researchers inevitably evolve during the development of such a superlative instrument. Certainly the latest addition (that I know of) to the Yamaha range, (which is unfortunately not yet available in the U.K.), is the most realistically sounding electronic imitation of a grand piano that I've yet heard. In the hands of Herbie Hancock at his concert at the New Vic last year; it sounded tremendous, and made me want to get my hands on one immediately.

I think that much of the success of companies like Yamaha lies in the level of energy and involvement that they are prepared to commit to their chosen field. For instance, there is an operation in Japan called the Yamaha Music Foundation, which is set up totally separate from the commercial operation, and is dedicated to teaching music of all types. Such an operation is now getting under way in the U.K. and Len Rowle, who is involved in the enterprise, has obvious enthusiasm for it; for contributing something to music instead of just taking money from selling organs. At first sight, this may not seem to have much bearing on the quality of specific instruments, but one is reassured that people who show care and involvement on one plane are likely to lavish that little bit of extra attention to detail which lifts a middle of the range instrument clear of its competitors.

The BK20, for example, is in many ways the sort of model which, aimed basically towards the home, has many competitors today. Although features vary from organ to organ — and the BK20 has some very attractive features — there is a certain amount of common ground, in the installation of automatic rhythm and accompaniment units, for instance. If I was about to buy such an instrument, the attitude and pedigree of a firm would weigh heavily with me for it is often the unseen factors, such as reliability of components, which prove the difference as time goes on.

The organ made a good initial impression from the moment it (together with its built-in rotary speaker) was turned on. The rotation of the speaker, which obviously is mechanical, made no noise at all that I could detect. The rotary speaker idea, which was pioneered by Leslie, is just about the most effective single accessory than can come with an

organ, and this one is particularly effective in that you have variable control of the rotation speed by means of a simple control on the front of the organ — this in addition to the usual chorus and fast tremelo fixed settings. Another useful effect incorporated into the instrument is the 'Flute Split,' which is not a Japanese ice lolly but an effect whereby the flutes alone are put through the tremelo and the rest of the organ can provide a contrasting 'straight' sound as a background. The player may also choose whether neither, either or both manuals are routed through the rotary speaker.

Actually the 'overall effects' department is one in which the organ scores well. The organ is stereo (split channel) which in this case means there is a separate amp for the flutes, one for the brass and string sections and one for the rhythm unit. I set the percussion at 2-2/3' and 4', and variable in length (enabling you to achieve what used to be fondly known as the 'Jimmy Smith' sound) and the preset tones (Accordion, Piano, Hawaiian Guitar and Banjo — plus three organ combinations) come 'straight through.' This stereo device, which seems to be increasingly incorporated into keyboard instruments, is extremely effective both for contrasting specific tones against each other and for generally obtaining a 'wide' sound. The preset sounds are good.

While I'm on the subject of sounds and tones, it might be interesting to relate something about the evolution of the BK20's sound. It is, apparently, the first Yamaha organ that has made concessions to Western preferences in the matter of tone production. Strange though it might seem the West provides only 6% of Yamaha's market and it would seem that, notwithstanding the dominance of Western music in the East, oriental ears are still conditioned differently to ours, and generally prefer a cleaner, thinner sound. Yamaha's brief on the BK20 was to retain that brilliance of tone while also providing the thicker, more 'syrupey' flute tones demanded by the Western organists. Although I think that my preference might well lie towards the Japanese ideal, I have to admit that Yamaha have done a good job in covering both areas; the organ has a rich sound without being muddy, and yet can also produce the more transparent tones which the previous Yamaha models obviously favoured. The manuals, by the way, are both 44-note, and the pedal-board consists of one octave; C to C. The sound of the pedal is particularly good for an instrument of this type, being voiced towards a church organ sound, although you can also obtain a 'walking' bass guitar effect quite easily with the aid of the pedal sustain control.

The Manuals

The upper manual is controlled by nine ton levers covering the 16', 8', 4' and 2-2/3' registrations, and the tonal areas marked by flute, trombone, brass, oboe and strings. The tone levers are infinitely variable but click into any of three positions if required to aid memory of a particular combination. There is a good wah-wah lever, which is particularly effective on brass sounds. Sustain and reverb are included in both manuals and a 'repeat speed' facility (on the upper manual only) allows for a mandolin effect. Other useful effects, applying to both manuals, are a glide control, which you can bring into operation by means of a footswitch. Vibrato is also particularly useful and is variable both in speed and intensity. The lower manual has fine tone levers; flute (8' 4'), horn (8') and cello (8' and 4').

Autorhythm and Fun Blocks

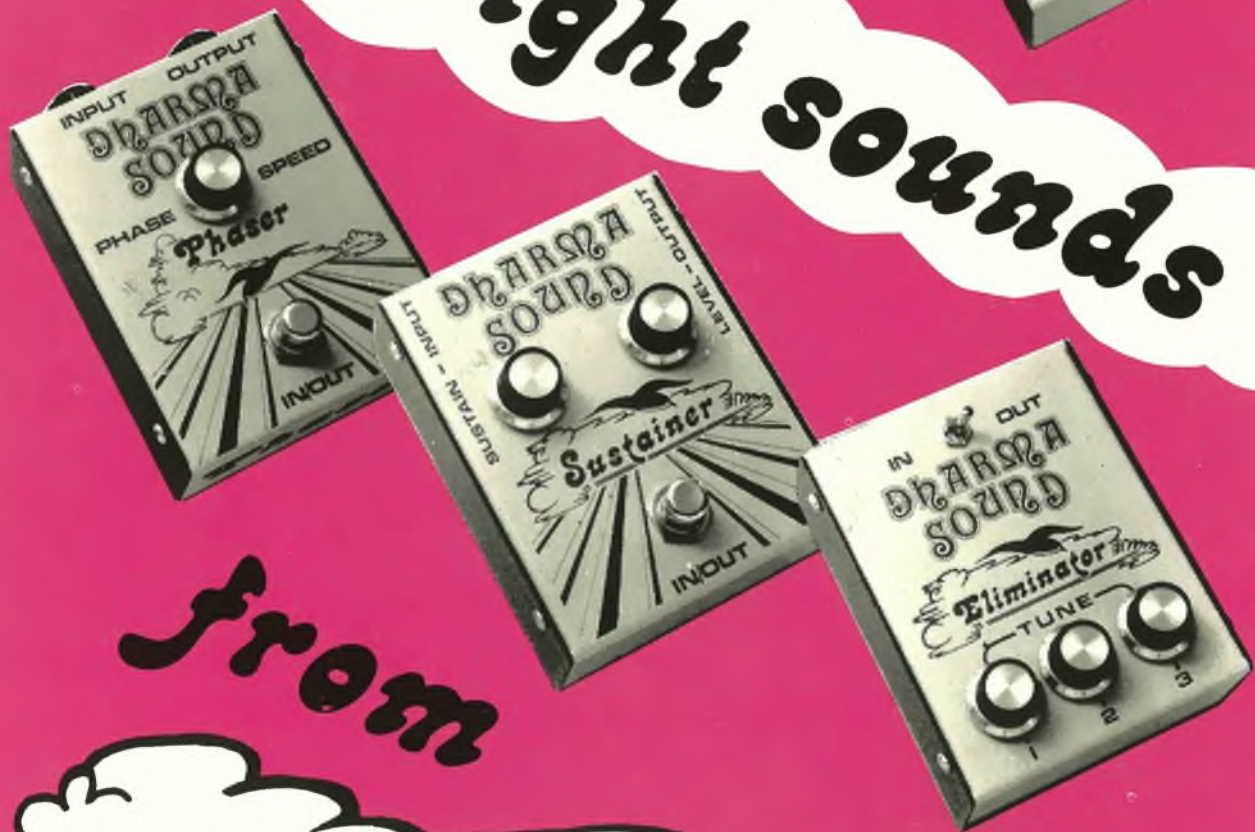
The Autorhythm unit is reasonably comprehensive and consists of eight basic rhythms plus eight slightly more complex variations. Adjustments can be made to both the tempo and tone of the rhythms. The unit is made to function with the 'Fun Blocks' system which is, in fact, an automatic bass and chord accompaniment. The only drawback is that the system only works with simple triadic chords — anything else produces wrong bass notes. However, as the system is largely intended for the beginner, this would not seem to be too much of a problem. Actually, the system is quite sophisticated, as the choice of three bass variations is always present, and the chord may be altered to a seventh or minor seventh by a touch of the bass pedal. A further modification is present in the form of a 'constant' button which frees the rhythm unit from the accompaniment system, allowing both to be played independently. The stereo capacity of the organ may also be used whereby a major chord and vamp is created on some voices and sustain on others, which would be routed through a different channel.

Conclusion

The BK20 is a mid-priced instrument which has been aimed at the professional, but also designed to appeal to the rest of his family. I think it is successful in its aim — if you take away the gimmickery, the sound is still satisfying and the features, such as the rotary speaker and the stereo capacity of the instrument, are truly musical and very effective. The organ is attractively finished and feels and acts like it's beautifully made. In an area in which there is a fair bit of competition, it would seem to have something distinctive to offer.



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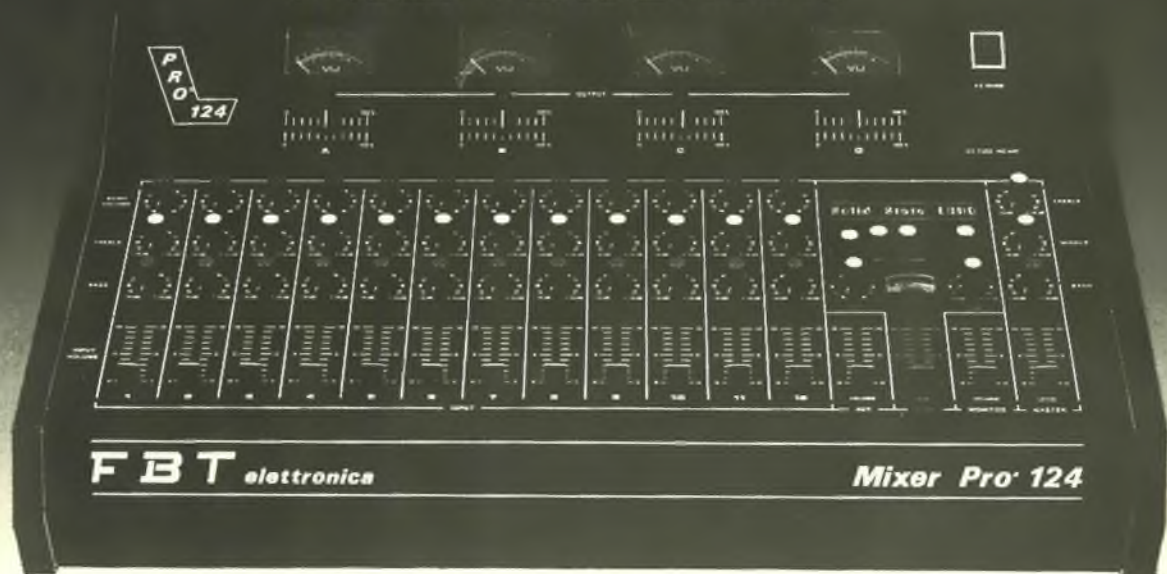


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TEST ON *The Ludwig/Musser Vibraphone Range*

DATE *January 1977*

PRICE *See Text*

TEST BY *Bill Le Sage*

Musser have been making quality percussion instruments for a number of years now and included in their range are three different models of vibraphone. They are *The Century*, *The Pro* and *The One Nighter*. Firstly let us take all three generally. The tone bars are all of high quality alloy which hold their tuning to a far greater degree of anything that I have heard before, and the pulsator shaft (on which the discs in the resonators revolve) is self-aligning. The resonators themselves are also of heavy-gauge high quality material with the front set being arched.

The motor and pulleys are enclosed, the motor being quiet and of the induction capacitor type that does away with the old carbon brush method which, in the past, has proved to be both noisy and sometimes unreliable. This is very essential when one is recording as it eliminates noise and interference. It is fitted with a capacitor rheostat to change the speed of the motor giving you the widest possible range of vibrato that I have encountered on any other instrument. This motor is a 115 volt 60 cycle A.C. type, rubber-mounted for noise level and has the transformer for 240-250 volts situated at the other end of the instrument and wired so that you could unplug it and use on a 110-115 volt circuit. Ideal for working in Europe.

The frames are of wood, with square heavy duty aluminium tube legs and cross pieces, and the damper bar pedals are situated central under each instrument. The damper tension is adjustable by a large nut at the spot where it connects, by means of an adjustable rod to the footpedal. All three models are three-octave i.e. F3-F6 (that is F below middle C to F three octaves up). They all stand on easy-run castors with the addition of a brake or castor lock on two of them. This is very handy for sloping stands. I had one run away from me and fall into the orchestra pit in a theatre a few years ago.

The tonal and duration quality is excellent and it is not surprising that Gary Burton and Lionel Hampton have been using them for some time now. I personally have been in possession of the Pro model for ten years and it has never let me down either with tuning or the motor which seems to go on for ever.

Now let's break down each model into it's own specification. The Century has built-in solid end pieces in black, covered in a scuff-resistant material and is very attractive with its harp-shaped pedal design and its gold anodized resonators and tone bars. The notes vary in size from 2¼" x 1½" at the bottom to 1½" x ½" at the top. It is 57" long, 33½" in height, 29½" - 14½" wide and weighs 140 lbs.

The Pro model is a wooden frame with legs as I mentioned before, the latter being finished in a durable black crackle coating. The tone bars and resonators are finished in a soft silver colour. The notes are of the same size as the Century model, and the other specifications are 56" long, 33¼" high 30" - 15" wide and it



weighs 95½ lbs.

The One Nighter is exactly the same as The Pro with the exception of the tone bars which are of equal width throughout the three octaves being 1½" x ½". It is 47" long, 34¼" high, 29¾" - 13" wide and weighs 78¼ lbs.

Both the Pro and the One Nighter are easy to assemble and dismantle making them ideal for gigs and one night stands. And now for the prices. The Century £1,990. The Pro £1,610. The One Nighter £1,420. These prices are quoted at time of going to press. All models come without cases which can be purchased as an extra. The cost may come as a shock, but then an instrument that with proper care will last a lifetime must be an investment, and you do not get a Bentley for the price of a Mini

these days.

Musser also market a gadget called the Ampli-vibe-pick-up which consists of two electronic pick-up bars which, when fastened under the tone bars and then plugged into a suitable amplifier, turns the instrument into an electronic vibe which could be great for group work and would enable the player to use all the electronic gadgets such as fuzz, wah-wah, phasers and octave splitters for different sounds and effects. But at £495 (and remember you will have to acquire an amplifier in addition) I think it is a bit pricey. Rose-Morris market the Ludwig/Musser range of instruments in this country and assure me that they carry all the normal spares, and are prepared to fly in any special replacements if required.



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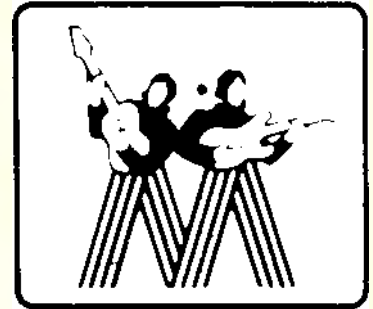
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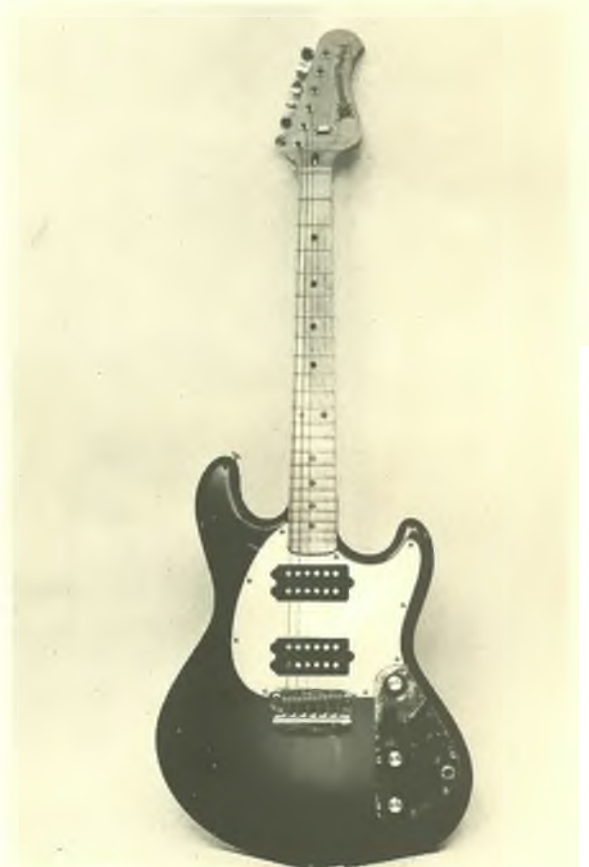
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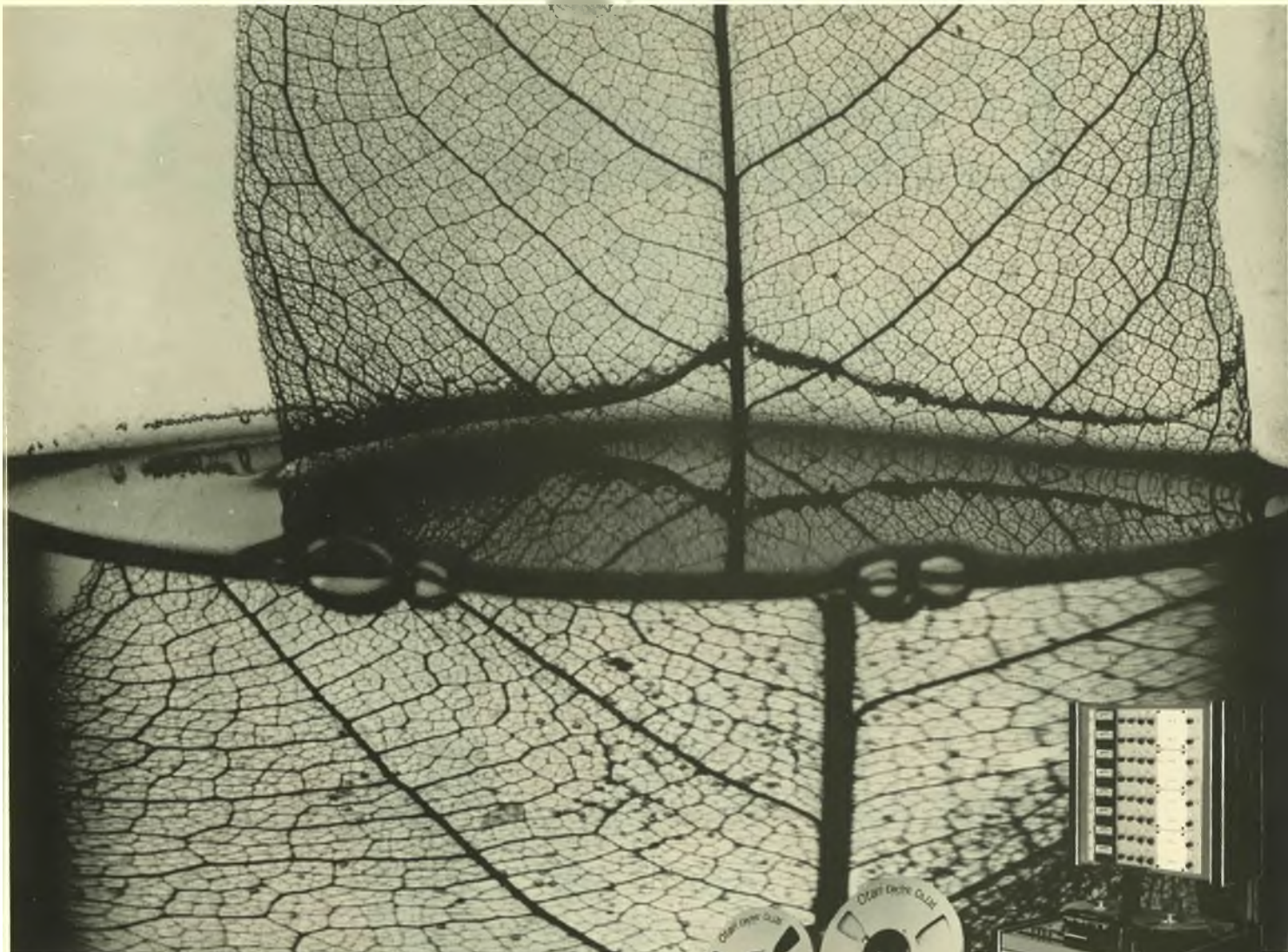
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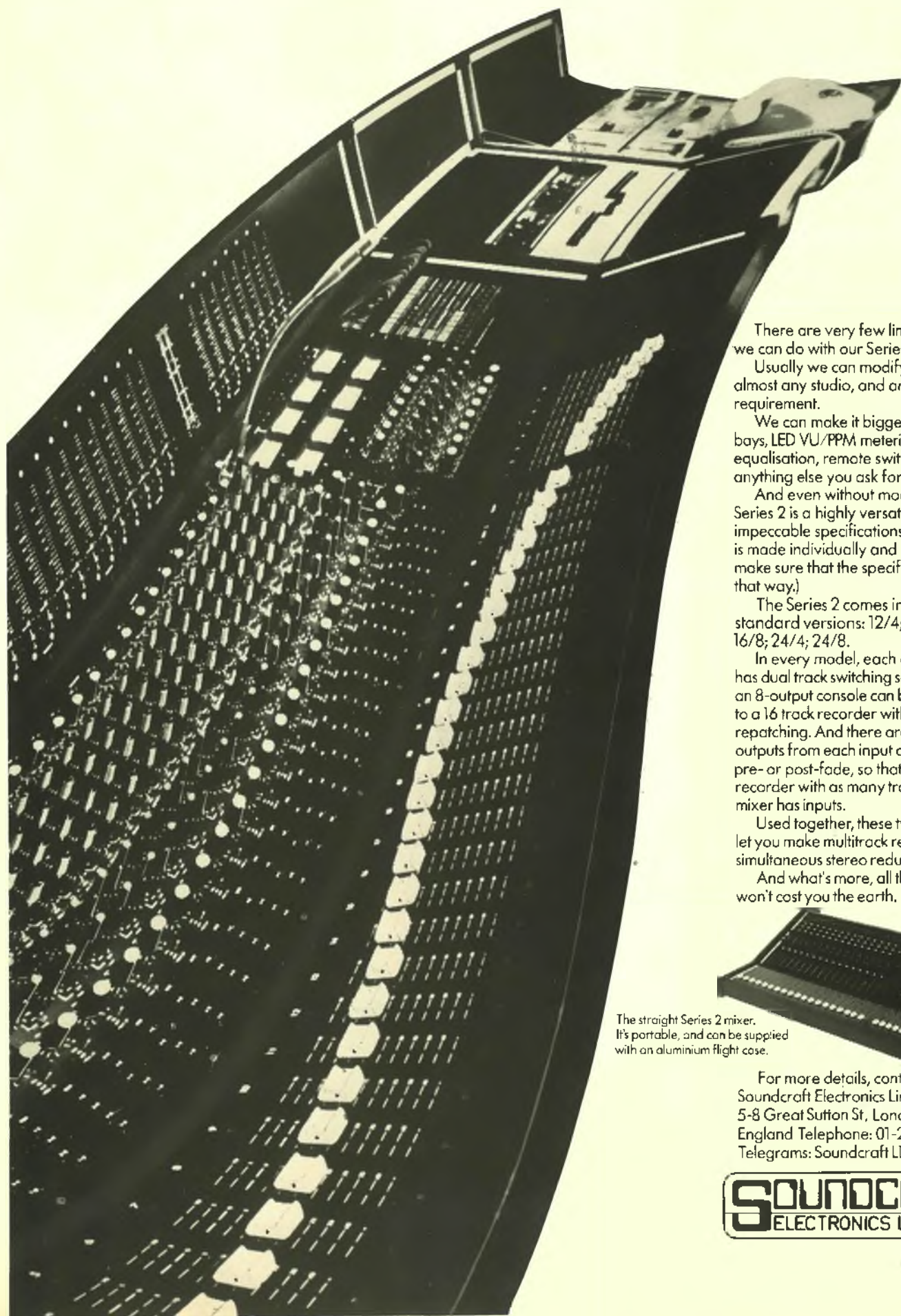


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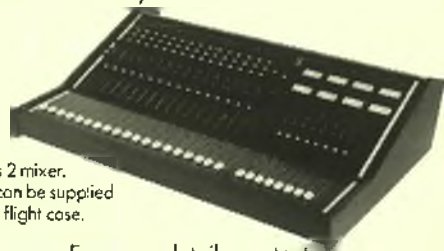
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Billy Preston's house lies on a secluded hilltop in Topanga Canyon, a quiet suburb where one is as likely to see horses as he is cars. It is here that the 27-year old musician creates his music, a type of keyboard magic which has made believers of such artists as the Beatles, the Rolling Stones, Carole King, Sly Stone, Barbra Streisand, and many others. Preston's workshop is a homebuilt studio which houses more keyboards than most music stores, as well as Billy's vast amounts of playback equipment. But no one can tell the story like the man himself and here then is a glimpse at one of the premier keyboardmen alive.

You started playing piano at a very early age?

Yeah, I started playing when I was 3 and I've been playing ever since. My mother plays and my oldest sister plays; it's a musical family. I inherited it from them - it was a gift from God.

Did you ever have any lessons?

Yeah, I had lessons in school, music classes. But I never really pursued taking lessons. Most of mine was from ear. It was easy for me. In fact one time I had a teacher and he had two pianos in the room and he would play the piece I was supposed to learn and I would listen and play it right back just by listening to it. So I sort of cheated in that way.

Were you involved in high school bands and this sort of thing?

Oh yeah, I had bands in school. I was in all the talent shows. I had a group in school called Billy Preston and the Billettes; it was like Ray Charles and the Raylettes and we did nothing but Ray Charles songs. Ray Charles was my idol mainly because his music was gospel and I was raised in the church and it was familiar to me.

You played organ in church?

Yeah! And piano, and tambourine, drums, bass guitar, played all that stuff.

When do you think you first really developed as a keyboardist? When you realised the potential of the instrument?

When I joined the Union (laughs). No, I just knew that piano and organ was my instrument; as soon as I could really realize what I was doing I knew it was my instrument. I started with one finger and then two and then three ...

Who else were you listening to besides Ray Charles?

James Cleveland and the Caravans, the Davis Sisters ... these were professional gospel singers which had fantastic keyboard players and were fantastic singers. And I studied them.

So gospel has been the biggest influence on your playing?

Yeah, it's been my foundation. It's the feeling and spirit of gospel that I like, it touches you. That spark that makes you tap your feet when you don't want to.



PRESTON

-POLYPHONY
PERSONIFIED

By Steve Rosen



When did you first start doing sessions?

I started doing sessions when I was 9 or 10. And the first session I did was with a gospel group, Alex Bradford. And then I did some other sessions when I was about 15, 16, with Sam Cooke, people like that. I was playing organ and piano on these sessions.

What kind of demands are made on you as a session man opposed to going in the studio and recording your own album?

It's that inevitable question, man. I'm just a musician, a servant of God. I don't think I'm any better or any bigger than anyone else. I mean I want to play with other people — that's my career, too. If I want to be alone, I can be alone. But I don't want to be alone. I like playing with people. I think it's better playing with somebody else than playing by yourself. You get stale that way. Of course it's a different approach: different songs, different moods, different setup. But it's all music and being able to adjust to whatever kind of format you're working with. To me that's musicianship. I'm more concerned with being a good musician than being a star.

What about being on stage as opposed to being in the studio?

Well, that's two different trips, but I really like being in the studio. Mainly because I'm here at my studio at home and it gives me a chance to be home and I find that I write and I feel better about the songs when it's at home somehow. It's more of a personal feeling.

Could you describe all the different keyboards you use?

No, I can't but I'll try. Yamaha organ, Univox compact piano, Unicord, Moog synthesizer, polymoog, Hammond B3, string synthesizer, clavinet, Fender Rhodes — whatever they make I'll use. Most of the keyboards are stock though I've had some work done on some of them, the Univox compact piano has been modified so I can wear it around my neck.

What types of pedals do you use?

Wah-wah, Super Phaser, bass pedals on the organ; all kinds of touch-sensitive pedals to sustain chords and everything. A beeper pedal where you can play a run slow and it'll re-record and you can hit the pedal and it'll play back.

When did you first start using an ARP?

Well, I first got turned on to it when I was doing "Space Race" (from his third album, *Everybody Likes Some Kind of Music*), I'd heard of one before but I could never afford it. So I've been gradually getting into synthesizers and then a couple of years ago I met Malcolm Cecil and Robert Margoulef and they really turned me on to synthesizers (they created the heralded *Tonto's Expanding Headband* album and were pioneers in the use of the instrument). They led me to the instrument and let me play around with it and we came up with a lot of different things. I mean I couldn't imagine it could get voices and all that stuff. I think that the dream of a keyboard player is when you play piano you get limited to that sound but you're hearing everything. And to be able to play those sounds on a keyboard is really a dream.

How is your approach to synthesizer the same or different than say, Stevie Wonder's?

He's Stevie and I'm me, that's the difference. I mean it's the same instrument it's just how you use it. Everybody has a different touch, everybody uses different colors. And that's what makes the instrument good; even though you can tell what kind of instrument it is, they're using it in different ways. I don't try and copy anyone. I use it as an effect or an expression. I might trigger it on and trigger it off. I like to play around with the stops while I'm playing. There are certain stops I use at the beginning of a song but during the song I'll change it, and I don't have time to stop and say, "Well, this is the third drawbar..." I just pull it out. If I don't like it I'll stick it right in. That's how I work, by feeling. If I like it I'll let it play a bit, if I don't I'll just try something else. And that keeps it exciting to me instead of just setting one stop and playing the whole song with that sound.

What makes up a Billy Preston solo?

Umm, I don't know. I never can play what's next for me. God does that. I didn't know what's comin' that's passed. I like 7th chords and flatted 7th chords, the Ray Charles chord. And I like harmonics and things like that.

Do you think singing has shaped your playing?

I think it has because it brings in different kinds of playing, you can play solo instrument and accompaniment instrument and singing helps me to be lay back a bit.

Is the drummer you work with important?

Yeah, drummers really do a lot for you. And I've experienced a lot of good drummers who really play with the keyboard player. Olly Brown was one (played with Stevie Wonder).

What about someone like Charlie Watts?

Charlie Watts is cool, he's a fine man. As a drummer I don't know (laughs). No, but he knows it, he's a fine rock and roll drummer, he can really pound it out. And that's what you need sometimes. He's a rock and roll drummer and he's a good one.

What kind of amplifiers do you use?

I don't even know, they're in the process of being changed and fixed up because they've been out on the road. But I've been using Ampeg with JBL's. Most of the amps are boosted; like the Leslies usually have 250 watts and they now carry 400 watts and I use two.

Do you compose on synthesizer?

Well, any instrument I play I sort of compose on. I'll create a thing for that instrument and the sound creates itself. So it's not so much me saying this is going to be an ARP solo or an ARP song but you definitely get ideas from playing different instruments.

Do you think you ever get carried away with the sound of an instrument and neglect the actual playing?

No, I don't think you can have one without the other. You've got to be playing it to be carried away first of all. I mean you can get excited over the noise of it but these instruments have to be played. They have great sounds but if they're not played right, it's just noise. They can work for you if you know how to use them.



The polymoog is a relatively new instrument (developed by Norlin; one was given to Billy in order to obtain his judgement of the instrument).

I love it. I really do. With this you don't have to have so many other keyboards. It's just like a Hammond, it has so many different sounds. The other keyboards are sort of limited to their sort of style and sound. But with this one you can get harpsichord, clavinet, organ, and not only that it's a synthesizer but you can play as many notes as you want. That's the greatest thing; plus you can split the keyboard and make a sound on the bass end and another sound on the top end. And there's no patch cords, it's just the flick of a switch.

So we can expect a lot more instrumental pieces from you?

Yeah, oh yeah, because I haven't been doing a lot of instrumental things. But I will. I don't do anything special though; but I do pray first. My band, everything, before we go on stage, we pray because we don't know what's going to happen. Get electrocuted out there - I get shocked a lot on stage and nobody sees it. I'll jerk and I'll look around to see if anybody notices that I was damn near dead and all of a sudden everybody starts jerking.

Do you ever play the wrong notes on stage?

Oh yeah. I've fallen off the stage. I've tripped over amps; we were using smoke for a while and I tripped and it looked as if it was planned because it looked like I was coming out of the smoke. And I fell off the Stones stage in Boston on to the floor below, on my back. And I didn't get a chance to tell 'em, "Hey, man, just take me on out," they picked me up and put me back on stage. I had to finish the show, sitting at an angle.



PRESTON

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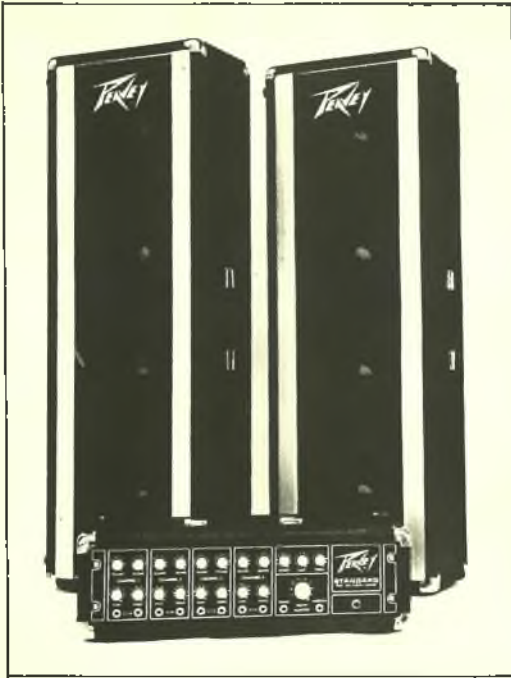


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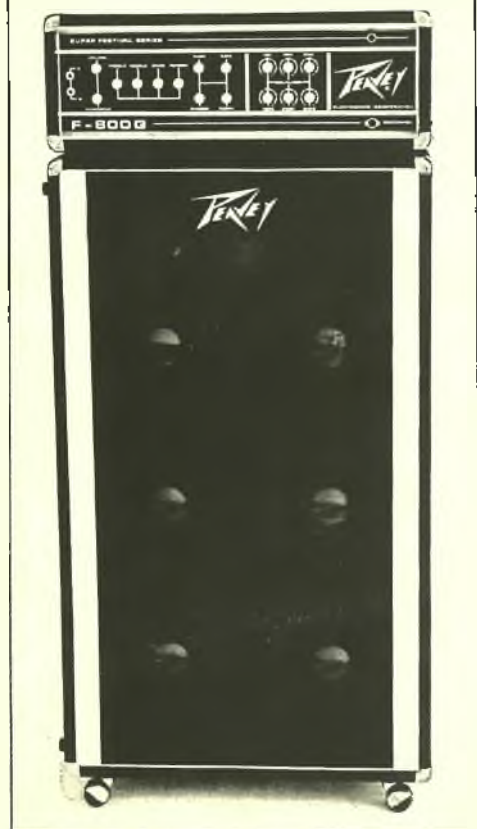
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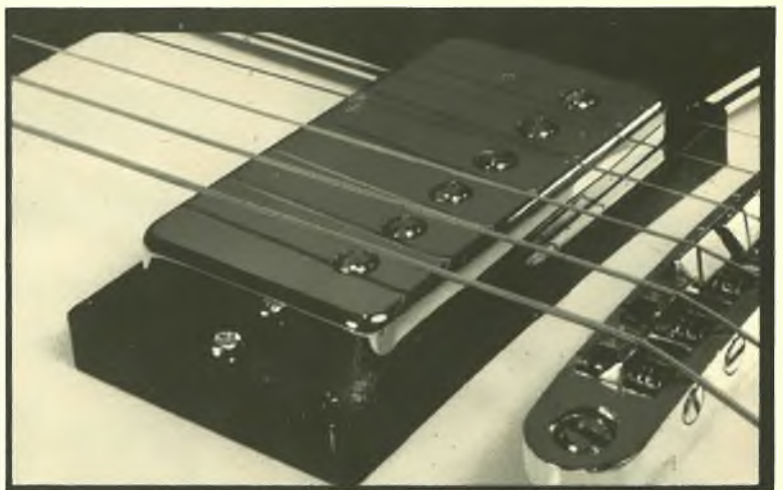
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Jon Hiseman: (Colosseum II)

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THREE C451 with CK 1S capsules for my seven gongs.”



HISEMAN

by Tony Bacon

The name of Jon Hiseman nearly always comes up whenever drummers talk about their influences, and it's not surprising considering how long Hiseman's been playing interesting and accessible music.

He first came to the attention of the record-listening public through his playing with the original Colosseum, the line-up of which included Tony Reeves on bass and reedman Dick Heckstall-Smith. After four reasonable albums, and various changes of personnel Hiseman split the band to form Tempest with bassist Mark Clarke, who had replaced Reeves after the 1969 album "Valentyne Suite".

After the demise of Tempest Colosseum II was formed.

Colosseum II so far has proved to be a very satisfying band for Jon, and I.M. caught up with him half-way through a successful German tour to chat about current Colosseum II occurrences.



Could you tell me what the line-up of the band is at the moment?

Well, we've got Gary Moore on guitar, Don Airey playing keyboards and John Mole on bass.

What particular instruments do they all play?

Gary mainly uses a 1958 Les Paul and a new Strat. Don has a variety of keyboards — ARP Odyssey, a Solina, a mini-moog, Hammond organ, Fender Rhodes suitcase piano and Hohner Clavinet amongst others, and John Mole is playing a Fender Jazz bass-guitar.

What's happening with the band at the moment?

We've finished recording our second LP and it should be released between mid-March and the beginning of April. Then we set off on a fourteen-country European tour for about three months, which takes us through to the next album.

Where did you record the new album, and do you have a title for it yet?

There's no actual title set yet. We worked at Morgan's Number One studio and that was absolutely fantastic. We've decided to set up a deal with Morgan as we got on so well — basically we went in there and cut the album! There's a bit of keyboard overdubbing because obviously that requires it, you can't expect Don to have more than two hands on any one given track! But all the solos are live. I've been into this business before of laying down thousands of tracks — we now want to go into the studio and put down something a bit more exciting and immediate, which we've done with this new one.

What sort of music are you playing now?

Well, on this new album that we're talking about, there's only one vocal track, it's mainly all instrumental stuff — that's the sort of music we're playing. The situation with record companies has been a bit strange in the past, but at the moment I don't know quite which label it's gonna come out on in Britain. Anybody that does take it in the end, at least we know they're going to be into what we're doing.

Gary will be re-joining Thin Lizzy for a while, won't he?

Yeah, that suits us both fine really, it's ideal because we haven't had a lot of time

off the road just recently. He'll be back with us on the 1st of April, and in the meantime he should have a great time in the States. Lizzy are getting bigger there just now.

What drums are you playing now?

I've still got the original Rogers kit which I bought back in 1972, and I've been working with CBS/Arbiter on their Autotune drums. They've had this business of small tom-toms and one bass drum size for some time, but really I need a bigger set-up — there's no way I can make do with the small drum sizes. With these Autotune kits, it's the first time that a drummer has been able to take liberties with the tuning of the kit. One tends to tune a drum-kit intuitively rather than to any set rules — but then who's to say what's right and what's wrong? You get drummers writing into rock papers and asking how does so-and-so get his fantastic sound, but that might not be right for your particular kit, it might not be *possible* for your kit. I mean you can be tuning a drum up and be putting say three turns on each lug, but as you go round the drum the whole thing's sounding out of tune as you do it. With these Autotune kits, I learnt more in three days at the Frankfurt Fair last year than I've learnt for years about tuning drums, the whole question of the bottom head in a drum becomes much more apparent. Also the Rogers Stands are rather good, most stands are made to the point now where they don't get a lot better, they're just different. The pedals too are great, the Supreme Hi-hat, for example, I'm very happy to go on using. What I'm really waiting for is the extension of the range of drum sizes available. By the time of this year's Frankfurt Fair, I'll have my large-size drum kit available and it'll be good to use those. There should be seven tom-tom sizes available at that time; the 8", a 10", a 12", 13", 14", 15" and 16" — plus a 14"x10" and 15"x12" type. There'll also be two snare sizes available; the 14"x5" and the deeper 14"x6½". There's only one size of bass drum available, the 22", but all in all the availability of a greater range of sizes of drum should give an enormous boost to the Autotune drum situation.

You see this as an important development

for drummers?

Well, I don't think it's such a good idea for a drummer just to go out and buy a normal drum-kit these days. I mean there's no way that a small-size drum kit could compete with Gary's guitar playing! By the time I get my large-size kit, I should be using six to eight tom-toms, two bass-drums, seven Paiste gongs and all the rest of the business. I shall probably be using some single-headed tom-toms in addition to the double-headed varieties.

You've been quite closely associated with the introduction of the Autotune kits, what do you think the major problems involved with this development have been?

Well, the main thing has been that we haven't been able to refer to other kits! We've had to do it from scratch. I mean I've gone out on the road with a kit to Scandinavia and had to ship it back with various changes. This has been done, and then I've got it back when I'm in, say, Holland. Then I've done a couple of gigs with it and found something else that's not quite right. So that's been shipped back, and then the modified version will come back to, oh . . . Austria. So gradually we've ironed out the problems. The kits going out now shouldn't give a lot of trouble. Naturally there still are one or two problems, but the company are working all the time to get it right.

What of the future for Colosseum?

We're going to be out of the country for some time, but in the coming year we hope to only be on the road for about six months, compared to about eleven months spent on the road last year. We're going to be concentrating on albums; not months and months in the studio like a lot of bands, but a fair time for preparing material and then getting it down with the minimum of overdubs. Back to mono almost!

The band's mainly instrumental at the moment. Will this be a long-term policy?

Well, there's only one real vocal number on the new album, but a lot of the melodies are stronger than many songs that you'll hear. For the future, who knows? What I do want to do is remain as flexible as possible.

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MXR Digital Delay. Retail Price £1055.80 plus VAT.

Now as you probably know there is digital delay and digital delay. In the last year or so, several well-known equipment makers have launched solid-state echo units onto the market claiming that the advent of solid state echo is a major break away from the problems of old fashioned tape echo. To some extent that is true but tape echo units can only give a comparatively short sustain and, other than giving repeat echo, their uses are limited. If you want reverb that's reliable, one of these units at around £200 would be just right.

But if you want something more advanced, what's the alternative? Most readers will probably be aware of the Eventide digital delay, a unit costing a great deal of money, but nonetheless important to be almost standard equipment in every professional recording studio. Now there's another unit joined this "fully digital delay" league — the MXR.

The price of this unit, no matter where you are in the

world, is considerably less than any other unit offering similar functions. One particular advantage is that the degree of delay available can be chosen by the customer and, depending on how many memory boards are purchased, thus the length of the delay. Even after buying the basic unit with just one memory board (as our review sample was supplied) it's still possible for users to buy extra memory boards and add them themselves. (In the UK, all servicing is undertaken by Rose-Morris & Co. Ltd.).

So what does the MXR DD do? It takes any signal feed in via a jack socket and delays it from .31 milli-seconds to 160 milli-seconds. That means that you can add just the tiniest hint of delay which you won't really be able to distinguish from the original signal — other than that it makes the sound fuller or you can have any delay version. This is the basic function and this is the sort of effect you might expect from any self respecting echo unit (perhaps without the ten pre-set degrees of variation and the rotary + 2 and x 2 infinite control).

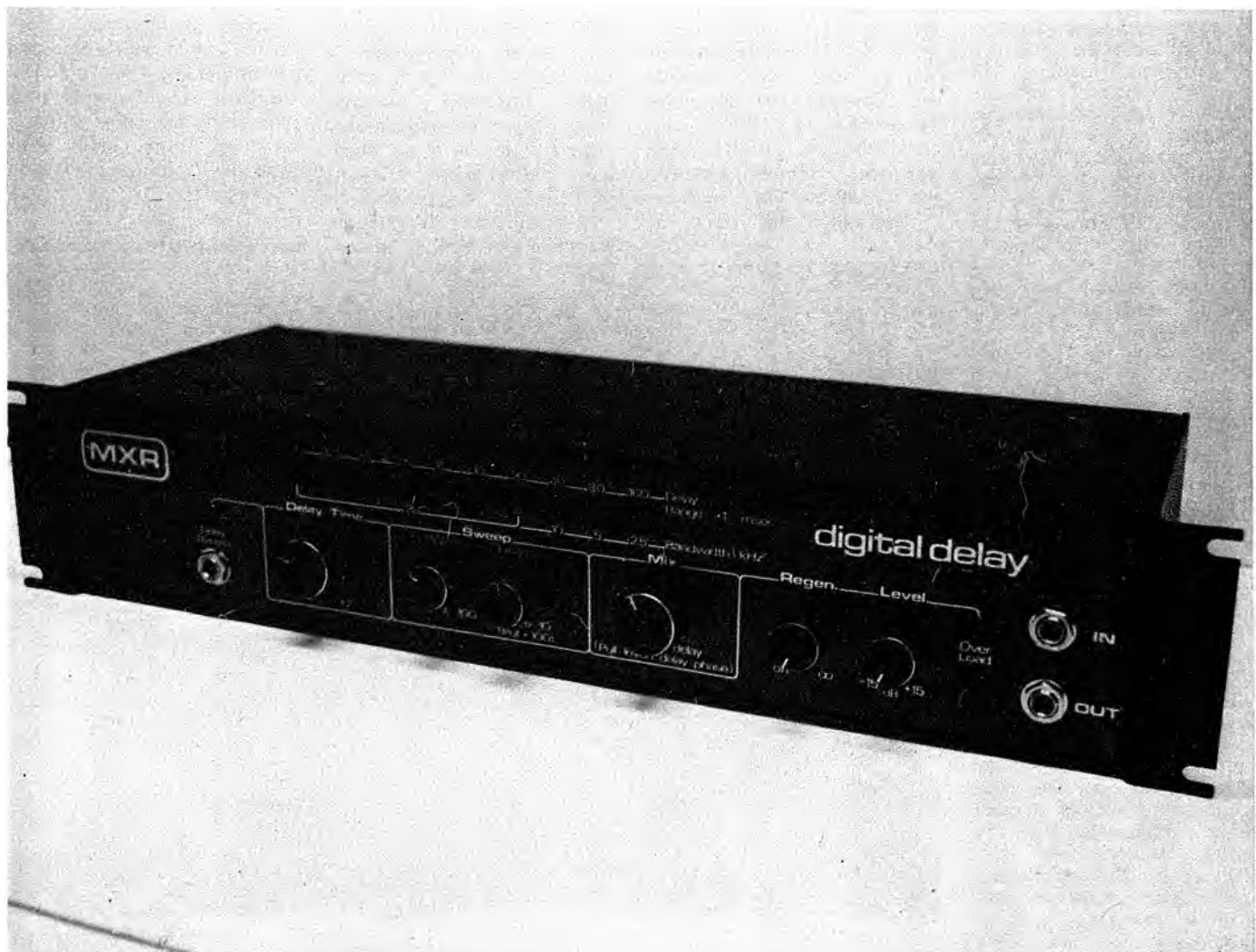
Now comes the clever bit. Having created a delay it's possible to judge the degree of mix between the original signal and the delay. At one extreme the original signal remains dry, at the other you can't hear the original — only the delayed signal (very disconcerting — the same as listening on "tape" when recording). In the middle you can have any balance between the two you like, rather like using an echo send and return circuit on a mixing desk. Having mixed the delay and the original it is then possible to invert the phase of the delayed signal — with the right programme material some really amazing sounds can be obtained.

Because you're processing the signal electronically, it's possible to govern the band width over which the delay is operating (indeed the various delay times operate over specific band widths) and using the "Sweep" controls, it's possible to vary the frequencies on which the delay is operating. It's impossible to describe the sounds obtainable, you'll just have to try one out.

Having delayed the original signal, there's then a

section which allows you to regenerate the original electronically. This means that the originally delayed signal is re-introduced into the delay sequence in an endless loop and, by this method, you can get the unit to play with itself (if you get my meaning!) 15dB either way is available in regeneration and (usefully) an overload LED is fitted to warn about distortion creeping in.

The unit operates quietly once switched on, but the actual on/off switch was probably the worst feature of the unit. It seems totally unisolated and there's a really loud "bang" every time the contacts open or close — if used in a PA application, it could easily result in drivers suffering. I would have liked to see separate gain controls for the delay level and the original signal level and I would also like to have seen an overall level control. Perhaps some input sensitivity selection could also be usefully incorporated. The unit's well finished and is standard rack mounting, and will undoubtedly be very successful in both recording and performing situations. R.H.



Korg Polyphonic Ensemble Synthesizer.
Price £803.56 (ex. VAT)

There are two main criteria used for judging items of this sort: one, how much is it?; two, what are other similar units like?. The answer to the first is obvious but one has to then go on to assess value for money, the second is easily answered — very little is available.

Polyphonic synthesizers have been trumpeted about for a considerable time and obviously the synthesizer has been awaiting the advent of polyphony for a considerable time, indeed there are those who say that the instrument cannot come of age until full polyphony is available. Considering the price, Korg have done amazingly well to produce the first "packaged" polyphonic synthesizer.

There are several limitations with the instrument, but many keyboard players would probably feel that the advantages outweigh the disadvantages. In order to be positive, let's examine the advantages first.

The most obvious is that it's truly polyphonic, just like any organ or electric piano. This means that an impecunious keyboard player could go on stage with just this keyboard alone — the "voices" would certainly make this possible. Another advantage is that it's a very easy instrument to play because of the clear pre-sets and the minimum of shaping controls. The sounds of the pre-sets range from good to average with three being extremely useful for rock playing and four being slightly less so.

The player has the choice of one of seven pre-set sounds; strings, reed/wind, brass, percussion electric, percussion middle, percussion alto and percussion treble or he can switch to the "control" button and select his own envelope shape with whatever degrees of attack, sustain and decay he chooses. An important part of the instrument are two "Traveller" controls. These are actually lo and hi pass filters ganged to two linear faders and because they're cross-coupled, the degree of equalisation presented can alter a pre-set or controlled tone a great deal. The usual synthesizer controls such as vibrato, pitch bend, glide and tuning control are also included on this instrument.

The disadvantages are that, in order to present a polyphonic package, Korg have

been forced to limit the variety of sounds available. This is principally a pre-set synthesizer, but in most respects polyphony outweighs this problem and I would suspect that many musicians would consider this a far more useful musical tool than a "solo" instrument.

The pre-set voices I particularly liked were reed/wind and percussion electric — with a little care the last could be made to sound very much like a Rhodes piano — and I was less fond of brass and strings. The vibrato on offer has great depth available if required and the speed is almost infinitely controllable.

The interests of economy have dictated that the top casing of the synthesizer be made in ABS plastic and criticisms could be made about the cosmetics of the instrument, but functionally it worked extremely well.
R.H.

Korg 900 PS Electronic Synthesizer.
Price £489.35 (ex. VAT)

This keyboard, like most of the newer synths, takes a little while to get used to, but once the player has got over the initial hurdles it's a real joy to use — once you've come to the conclusion that you do only have two hands and work out that the combinations of these are nowhere near infinite, then you can actually use the instrument and use it well.

Basically the unit is designed for single note

melody playing, i.e. it's monophonic like the great majority of synthesizers currently available, and the controls are there to help you modify, alter and bend the shape of the sound that you want to get from the keyboard. Most players that are progressing from, say, just electric piano will probably take some time to change their playing style to allow for the different kind of touch sensitivity, 'action' if you like, that this kind of machine requires. You've got to get used to 'visualising' a sound that you want and going through a routine that you know will eventually give the required sound, or at least something very near it. This way you'll build up a stock of settings that will gradually become natural to you, as natural as turning a treble control on an amp and getting a treble boost in the resulting sound.

The keyboard boasts two ranges of pre-set stops controlling the overall colour of the sound, nine 'percussive' and fifteen 'voices'. In the centre of these is a 'keyhold' switch which seems to have the same general effect as a sustain control, and to the right of this batch are six other stop-like controls. Firstly, two yellow-coloured controls marked 'scale noise' and 'white noise' allowing you to filter in these sounds, and then three 'harmonics' switches which work in con-

junction with controls in the section to the left of the actual keyboard. Lastly, on the far right of the upper control section is a red stop for switching between attack/sustain and control, plus the power on/off switch. The heart of this synth's effects is the control section to the left of the keyboard, and these are colour-coded to cross reference interacting controls with each other, a very useful feature. The controls here include overall volume, attack and sustain, vibrato, octave selector, 16', 8', 4' and 2' harmonic control sliders working in conjunction with the previously mentioned harmonics stops, a pitch bend control and the well known 'portamento' synthesizer effect enabling the player to sweep rapidly (variably) between any two notes selected on the keyboard.

Other useful smaller considerations are the inclusion of a headphone output socket, and a pitch control to allow tuning to other keyboards and/or the rest of the band. As usual with an instrument of this nature you really need to try it out for yourself, so if you're a keyboard player who's thinking of branching out into the world of pre-set synths, or a rich rock-star who wants a new toy, go and pester your local dealer until he lets you try one. T.B.



Korg Polyphonic Ensemble

Korg 900PS synthesizer



**WEM Watkins Copicat—
Super I.C. Model.
Price £77.50 (excl. VAT)**

Tape echo is currently receiving plenty of competition from units utilising electronically-produced echo, and the more up-market 'digital' effects, but units like the well-known Copicat still command a good deal of respect amongst musicians, plenty of whom have used Copicats for many, many

years.

Here we have the fairly recently introduced Super IC Model, and the main difference between it and previous versions of the Copicat is that, on this model, there is a Sound-on-Sound facility, enabling the erase circuit to be cut out — the user can then build up layer upon layer of sound onto the tape which is then fed through whatever amp is being used. Although this is, in theory,

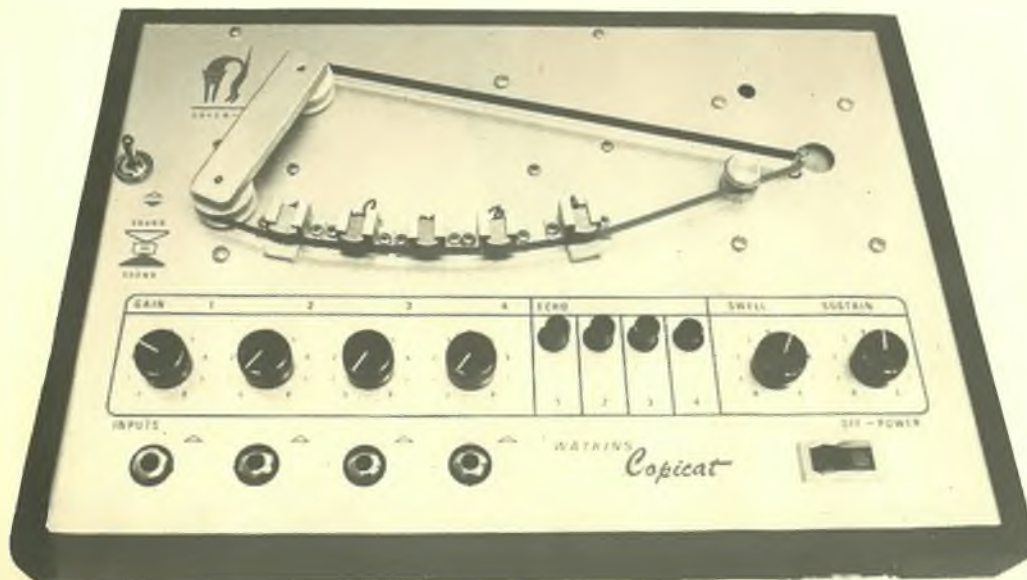
quite an intriguing idea, the facility didn't seem to be too effective when we tested the unit. Towards the top left hand of the unit is situated the Sound-on-Sound on/off switch. When this is activated a loud click occurs which is transferred onto the tape, and thereby repeated at intervals by the very process that has just been brought into action. As well as this interference, you also get a slightly quieter click as the join in the tape

loop passes over the first head. So this Sound-on-Sound technique doesn't appear to be all that successful an innovation.

The actual echo part of the unit consists of four preset buttons for varying amounts and types of echo/repeat. Then there are two rotary controls to the right of these pre-sets: 'Swell' and 'Sustain'. 'Swell' increases the volume of echo, using the word volume in terms of loudness and amount of echo. The 'Sustain' control is really what it says, and can be used quite effectively to control the amount of reverberation employed at any one time.

The unit has four inputs, and also includes foot-switch control facilities, and an echo 'break-in' socket. This is designed to be used in conjunction with mixers and amplifiers that have echo send and return facilities — when the 'break-in' socket is used, the gain control for input 4 becomes the echo-send master control.

To conclude, the I.C. Copicat is still a useful gadget, especially when used for echo on vocals, or for repeat effects on guitar, but the Sound-on-Sound facility seems a little dubious and clumsy in operation. T.B.



AT LAST THE ULTIMATE DRUM STORE



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They came from far and wide to pay homage to a man who is said to be one of the world's greatest living drummers - William "Sonny" Greer. The original percussionist with the Duke Ellington Band has reached the height of his professional career by being presented with 1976 Annual Gene Krupa Award.

The Award Reads: Professional Percussion Center Presents the Annual GENE KRUPA AWARD to William "Sonny" Greer, Sunday, November 7th 1976 for your many contributions to the world of Drumming. This award was created by Frank Ippolito, the owner of the Professional Percussion Center at 832 8th Avenue, New York City (see February 1976 issue International Musician and Recording World: "Bob Henrit on 8th Ave.")

The original idea for the Annual Gene Krupa Award developed right after the Professional Percussion Center presented Gene Krupa with a plaque in 1973 at the Newport Jazz Festival in Central Park, New York City in recognition of his contributions and abilities as a leading percussionist. This award was presented to Gene Krupa "for his inspiration and dedication to his chosen profession." Krupa was one of the first Jazz drummers to become a solo artist on that instrument.

While Gene Krupa was still alive, Frank Ippolito asked his permission to present the award in Krupa's name every year to someone who had made a noteworthy contribution to the field of Percussion. Gene Krupa was greatly touched by this and gladly allowed his name to be used. Krupa passed away on October 18, 1974, a year after he received his plaque. By this time the Award was a recognition that would be signed and approved by the Great Names in the Music Field. In 1974, the Award went to Zutty Singleton. 1975 saw the award going to Roy C. Knapp (who was Gene Krupa's teacher) and now in 1976 to William "Sonny" Greer.

Drum Sunday is an annual event sponsored by Sam Ullano, publisher of Drum World, a quarterly newspaper based in New York City. This year's event was held in the Grand Ballroom at the Hotel Diplomat in New York City.

It was a full day's event with the doors opening at 10.30 a.m. and featured a drum fair until 5 p.m. During the Fair, visitors had the opportunity of trying out all the gear that had been put out on the ballroom floor by various manufacturers. The Fair broke for dinner between 5 p.m. and 7 p.m. and at 7.30 p.m. there was a drum clinic and concert. It was at the concert that the Gene Krupa Award was co-presented by "Jazz Daddy, Mr. Drums" Jo Jones and Frank Ippolito to "Sonny" Greer.

Jo Jones, in the history of Jazz is one of the most outstanding drummers, full of sensitivity and style. He has completed a most unusual album which is based on the art of playing drums. An art in which he has complete mastery. This is not just a "how to play" work, but is a culmination of "an example of the art" as performed by a master.

One of the features of the concert was a performance of a Drum Suite played by Freddie Waits. The Drum Suite was dedicated to Sonny Greer and was entitled "For Those Who Made It Possible For Us Today." Webster defines a Suite as "a modern instrumental composition, free as to the character and numbers of its movement".

"Freddie Waits' Suite was a most provocative musical composition, using the drums as a vehicle for a musical interpretation that was a treat to listen to. The suite was very organized, pleasant listening. It was not just a drum solo. It was very musical, one of the most musical pieces on the drums that we have heard. It contained strong hints of African, Latin, Military and Jazz overtones. During the pauses in his playing one could hear a pin drop in the ballroom that had close to 1,000 in the audience.

Freddie Waits' credentials are most impressive having played with the legendary "Ellington" Big Band that toured Europe and Africa. He was also the accompanist of the world renowned First Lady of Music, Ella Fitzgerald, when she toured the States, and almost every European country including Austria, Holland, Belgium, Switzerland, England, Italy, Denmark, Sweden, France, Yugoslavia, Czechoslovakia, Hungary, East and West Germany. The evening's entertainment was topped off by the performance of the Big Band sounds of the John Saracco 18-piece band.

John Saracco is a full time Scholarship Student at the Manhattan School of Music in New York City. Although a student, John is truly a professional in his own right. He was

one of the youngest members of Local 802 A.F. of M. Musicians Union, having joined at the age of 12 and has been an active drummer since that time. This band has been together for a year and was started as a rehearsal band because the young musicians wanted to gain experience in dance band abilities.

The evening concert was the band's first New York appearance and they performed just like the professionals that they are.

Sam Ullano's Speakeasy 4 per-

formed "Sing, Sing, Sing", a salute to the late Gene Krupa. The Speakeasy 4 is a group headed by Sam Ullano on drums, Dick Brady on trombone, Don Edmonds on piano, Denis Brault on sax and clarinet. This group plays nightly at the famous "Gaslight Club" in New York.

Drum Sunday was an event which was covered not only by International Musician and Recording World but was also widely covered by the New York Press and by national Television News Service. It was truly a New York Happening.



L-R: Drummer Michael Shrieve (ex-Santana), Frank Ippolito Professional Percussion centre, drummer Jimmy Madison (with George Benson)



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Queen: A Day At The Races (EMI EMTC 104)

Since the release and subsequent success of "Sheer Heart Attack" and "Night At The Opera", a new Queen album has become something of a major event — perhaps not to the same extent as a new Beatles release in days gone by, but still worthy of attracting a lot of interest and speculation. It is, therefore, with regret that I find this new album rather sterile. Having dispensed with their former producer Roy Baker's services, Queen have taken it upon themselves to produce this new album. Strangely enough, there is not an awful lot of difference — the vocals are still well-forward and bright, and the drums are still "over-produced". Quite apart from their inability to perform any of their numbers which even approach intricacy on stage, Queen's main failing, as far as their studio work is concerned, would seem to be their obsession with "perfection". "Bohemian Rhapsody", with its multi-tracked harmonies, worked well but only because the song and arrangement warranted it. On most of the numbers on this album, there seems to be millions of harmonies, just for the sake of it. The last single, "Somebody To Love", which is also included on this album, is a prime example of this. Basically a very simple, straightforward pop song, it is lamentably drowned in harmony upon harmony. Admittedly, the vocals are well-arranged but, even so, I fail to see the point. They've proved they can sing but why go on accentuating the fact? It's almost as if they had too much studio time and nothing better to do than overdub all the vocal tracks. Songwise, I don't think the material on this album comes anywhere near to that which appeared on "Opera". There are a few nice ones, but there are also a lot of lame ducks. Brian May seems to be getting stronger in his writing — "Tie Your Mother Down" opens Side One and, with its Status Quo feel, would make an excellent single. So, too, would "You Take My Breath Away" which follows. The "overdone" vocals actually work on this one. May's "Long Away" has an attractive melody, almost in the Townshend class, but "The Millionaire Waltz" suffers from Mercury's pseudo-operatic vocal gymnastics. "White Man" is an example of Queen's heavier side — penned by May, it has a rather riffy chorus but, as a whole, is lyrically excellent. Again, too many voices let it down — it's a simple song and I would have thought a straightforward three-part harmony would have sufficed. There is no doubt that Brian May is one of the most talented and imaginative guitarists around, and he proves it on the solo on "Good Old Fashioned Lover Boy". His playing is well-constructed and well-executed with multi-tracked "answers" towards the end of this almost humorous solo. One of my favourite tracks on "Opera" was Roger Taylor's "I'm In Love With My Car" and, on this album, he also

scores well with his song "Drowse". The backing is dominated by May's lazy-sounding slide guitar, and Taylor's voice has a haunting feel to it. Excellent lyrics and a nice chord sequence make it a standout cut. After Queen's recent Far Eastern tour, their Japanese influence is apparent on "Teo Torriatte (Let Us Cling Together)", written by May. Two choruses are, in fact, sung in Japanese and the middle eight features a nice, solid wall of harmonies. A good song to close an, at times, uninspiring album.

Produced by Queen and engineered by Mike Stone. Recorded at various unspecified studios.

Eamonn Percival

Jackie Lomax: Livin' For Lovin' (Capitol EAST 11558).

At last a Jackie Lomax album — the man who recorded three fine solo albums starting with the peerless "Is This What You Want" on Apple back in '68 — but unfortunately this new waxing is not particularly good. The band which appears on the record was presumably assembled just for this recording, and consists of Jackie Lomax on rhythm guitar and vocals, Ron Stockert on keyboards, bassist Marty David and two horn players — Marty Grebb and Jimmy Roberts — plus an assortment of no less than five drummers. Most of the time they sound like they're at a funeral, offering up some of the most dispirited and lacklustre playing I've heard for many a day. There are, luckily, two good tracks and two reasonable tracks to save the album — the two goodies open Side Two. Firstly, "Our Love" which is essentially a simple song, but works somehow and features some playing that actually sounds like the players got into it just a little, especially extra guitarist Steve Beckmier. Unfortunately, the track features a rather weak sounding string ensemble courtesy of Ron Stockert. It's a shame because real strings would've sounded so much better. The other good track follows; "Hold On To Your Loved-One" opening with inevitable but well-handled voice box guitar (played by Jackie) and neat little mini-moog fills at the end of each chorus line from Ron Stockert. The song is immediate enough to make a good single, and is way above most of the other material on the album. The other two reasonable tracks are "Peace Of Mind" on Side One which features Jackie's distinctive overdubbed harmony vocals on the chorus and a fine slide guitar solo, and "I Remember (Memorabilia)" the last track on Side Two which boasts rather obscure lyrics but is one of the better arrangements with Jackie slipping and sliding effectively on 12-string. The other six tracks aren't really worth the mention. It might be nice if Jackie got together in a British studio with some stronger material and more sympathetic musicians.

Recorded at Clover Studios and Larabee Sound Studios, Hollywood. Engineered by Sheridan Eldridge, R.D. Smith and Serge Reyes. Produced by Jackie Lomax and Deke Richards.

Tony Bacon.

The Billy Cobham-George Duke Band: "Live On Tour In Europe (Atlantic K50316).

What a band! Probably the best live recording I've heard, this album made me really sorry I didn't get to see them during the tour last summer. They're so tight it's breathtaking and the music, most of which I hadn't heard before, is equal to the performers, something that's quite rare. In Alfonso Johnson, Billy Cobham has found a bass player good enough to correspond with him, and the partnership can be really exhilarating. The keyboards of George Duke are particularly interesting, and he brings a whole new lease of life to a Fender Rhodes using it as a basis for all the other keyboard sounds he adds in. The danger with Billy Cobham is that he tends to overspill a performance. He doesn't dominate the music — he's far too good a drummer for that — but the listener becomes conscious of such a tight rhythm that it can get in the way. In this band everybody's super-tight and it's a thrill to discover that musicians are still getting better.

Recorded by The Manor Mobile and Mountain Studios. Engineers were John Timperley and Denis McKay. Produced by George Duke and Billy Cobham. Ray Hammond.

The Eagles: Hotel California (Asylum K53051).

It was a long time coming and the reason's on the album — the most carefully produced Eagles album to date, and they're very much a "production" band. The impetus of success can produce many changes in bands. At it's best it can push talent and inspiration further than anyone would have dreamed possible and I believe this is what's happened to the Eagles. With Joe Walsh once again adding colour to the mix, the album has a clarity of recording and a sense of continuity often found when an act is rising to a peak. Elton John albums up to "Madman" had it. Most of this album is the relaxed "half beat with harmonies" but, miraculously, the band have avoided any tracks sounding samey. Writing credits run throughout the band and it's almost impossible to pick favourites. Criticisms are limited to things of personal taste: I suspect the quick fade ending on Joe Walsh's "Pretty Maids All In A Row" was not as he intended and, nice as it is, I might not have opened Side Two with the orchestral reprise of "Wasted Time." By now you'll know the album as well as I do. This is just to say thanks to the band for keeping it together and getting even better.

Produced by Bill Szymczyk at Criteria Studio and the Record Plant.

Ray Hammond

Spirit: Farther Along. (Mercury SRM-1-1094 import).

This is the best album I've heard in a long time. I always thought that Spirit had another good album in them ever since "The Twelve Dreams Of Doctor Sardonicus," and here it is. And there are a lot of obvious and not so obvious connections between the two records. "Twelve Dreams" was released in 1970 and, as such, promised good things for

70's rock, and was also a consolidation of various techniques learned from the 60's. The title "Farther Along" implies a progression from that, but the structure of the complete record is a very telling nod back to "Twelve Dreams." The opening line of the first track on "Dreams," "You have the world at your fingertips . . ." was tacked on as the last line of the last track "Soldier," and as such made the record a 'whole.' Exactly the same technique is employed here on "Farther Along," the opening line "Farther along for all it's worth/You live your life for all it's worth" is repeated at the end of the penultimate track on side two, "Diamond Spirit." And the last track on "Farther Along"? An 'orchestral' version of "Nature's Way," a song that originally appeared on "Twelve Dreams"! All very meaningful I'm sure. But anyway, despite all those strange goings on, the music is absolutely first class. The album opens with the title track and the evocative strains of Randy California's voice, excellent guitars from the same gentleman and from Matt Andes, the bass and drums of Mark Andes and Ed Casidy recorded so clearly, and all rounded off with some acoustic piano from John Locke that fits perfectly. There are two tracks that display a brass sound more warm and 'real' than anything I've heard; "Atomic Boogie," a light-hearted romp through the universe and other associated areas, and "Stoney Night," both handled by David Blumberg - hence the excellence. The best track, if you can possibly use that term for such a completely good album, is "World Eat World Dog" on Side One. It has a latin feel helped along by percussionist Steve Larrance, and the whole thing is brilliantly arranged, conceived, played and recorded. The "where are they now" department is boosted by the inclusion of ex-Zappa person Ian Underwood on lead coconut (really!) on one of two instrumentals on the album, "Pineapple," a typical John Locke composition. The other instrumental is "Phoebe," a beautiful Matt Andes piece, strings and reeds courtesy of Nick De DeCaro. "Mega Star" is a good song about being bigger than a superstar. "Colossus" opens with an acoustic guitar line matched by electric and bass and has interestingly obscure lyrics. "Don't Lock Up Your Door" features nice mandolin playing from Michael D. Temple. There's a very 'British' sounding track on Side Two, "Once With You." Probably that feeling's induced by the pounding pianos and chugging cellos - but it's very short at 1:32. None of the twelve tracks are over four minutes, and every single one is a winner. It'd be good to see this version of Spirit playing in the U.K. vastly superior to the apology of a band I saw at the Rainbow in the early 70's playing under that name. Great album.

Recorded at Ocean Way Recording, Sound Factory West, Total Experience, Larrabee Sound, and Capitol Records. Engineered by Mark Piscitelli, Bob Hughes, Jay Kauffman, Alan Sides. Produced by Al Schmitt.
Tony Bacon.

Gallagher & Lyle: Love On The Airways (A & M AMLH 6420).

In a totally non-derogatory sense,
94

Gallagher & Lyle are reminiscent of the Brill Building songwriting duos of bygone era. Consistent craftsmanship, high standards and high productivity come before the idea of waiting around for inspiration; hook-lines and harmonies are more important than deep messages or meaningful solos. The writing is spare and encapsulated at its best, as on "The Runaway," a simple, almost banal idea on paper is transformed by superb harmony singing, and atmosphere - in this case, a strong feeling of small-town claustrophobia - into a minor classic along the lines of "Breakaway." I would have thought "The Runaway" could have been a success on a similar scale but, strangely, it's the rather untidy MOR-ish "Every Little Teardrop" that has been chosen as the current single off "Love On The Airways." Gallagher & Lyle don't change much. They know their limits and create within them. The only surprise is that such an organic-sounding band actually makes regular (but relevant) use of synthesizers. Their sound is pure, light, wistfully undulating, but always with a spark of optimism to prevent it getting doomy. Two minor disappointments - Jimmy Jewell, always one of my favourite saxophone players, and a necessary guard against over-sweetening on G & L records, is mixed rather far back for my liking, though he still comes through strongly in a breathy old-time solo on the title track. Secondly, the duo's lyrics are rarely as specific as they were on early triumphs like "Mrs Canatellis" and "The Last Cowboy," and I feel their best songs are detailed, miniaturised and personalised. They are less effective on generalities. Apart from previously mentioned songs, the two most complete tracks are both concerned with a definite event - "Dude In The Dark", with a tinkling piano intro by Iain Rae, is a further exploration of the pair's natural inclination to move in the direction of light, feathery jazz. Unusually complicated construction, aching, undulating vocals, supreme harmonies and a real feeling for the terror of fame and success all play a part in a satisfying whole. "Call For The Captain," an unusual song about sailors becalmed at sea is slighter, reprieved from slightness by Jewell's alto, and by the feeling of space and distance that Gallagher and

Lyle often achieve vocally. The totally gimmickless and untrendy success of Gallagher & Lyle has been welcome and unexpected - another example of A & M's long-term promotion paying off in the end. And they should be around for a very long time to come.

Recorded at Air Studios, London, England. Engineered by Geoff Emerick. Produced by David Kershenbaum.
Rob Mackie

The Crusaders: The Best Of The Crusaders. (ABC ABCD 612).

A double album set of tracks selected from six albums, this "Best Of The Crusaders" collection is an excellent introduction to the eclectic music of the Crusaders, whom older hop lovers will remember as the Jazz Crusaders. Of the thirteen original compositions on the records, keyboard player Joe Sample rightfully takes the bulk, with trombone man Wayne Henderson coming in a close second. There's enough tight ensemble playing coupled with inventive soloing to keep most varieties of listener happy, guitarist Larry Carlton and keyboard player Joe Sample produce enough magic alone to justify the price of the albums. I've always found with Crusaders albums in the past that there'll be one or two things I really like and the rest, well . . . Fortunately the taste of the compiler of the record tends to coincide fairly closely with mine so the end result works out just fine. Side Two features an interesting little exercise too, inasmuch as it brings together the studio and live versions of Carole King's "So Far Away" on one side of vinyl - the studio version showcasing some beautifully melodic playing from Larry Carlton, the live take surprisingly shorter and accentuating the ensemble brass. My favourite is still the soothing, floating beauty of "Ballad for Joe (Louis)" from the "Southern Comfort" album, but all in all the set stands up as totally enjoyable and a welcome addition to any collection bereft of Crusaders records.

Recording location details not given. Engineered by Rik Pekkonen and Frank Clark. Produced by Stewart Levine in association with the Crusaders.
Tony Bacon



Queen - "over-produced"

STRAIGHT FROM CARLSBRO COUNTRY...

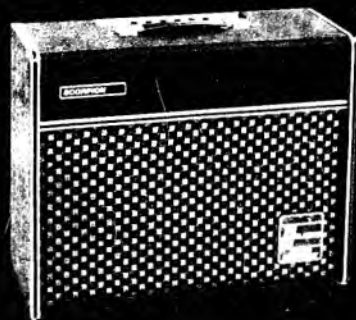
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Dealer of the Month

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It was back in 1851 that the Belfast piano firm of M. Crymble Ltd. was set up, and down the years it has earned a fine reputation. The original building which housed Crymbles, with its distinctive façade which once won a national prize for design, still stands in Wellington Place in the heart of the city.

The firm, which is today the biggest musical retailers in the province, now does business from impressive new premises at Dublin Road.

The Black family took over Crymbles in 1959 and retained the original name. The decision to move from Wellington Place was made because the premises there were becoming too antiquated and there was also a space problem. The move to Dublin Road was made in mid-1975. But in February last year, a bomb explosion badly damaged the premises, destroying thousands of pounds worth of stock.

Despite the terrorist attack, Crymbles kept in business by trading from temporary premises in another area of the city. And by the end of September, the Dublin road shop was ready to open its doors again. The three spacious ground floor sections are stocked with just

about everything the musician needs. The shop has a staff of twelve.

Crymbles has come a long way from the piano enthusiasm of the 1800s. Today Crymbles stock almost every kind of musical instrument from the traditional penny whistle, costing 60p, to a Farfisa organ at over £3,000.

"We don't concentrate on any particular section of the music industry. But we do try to cater for everyone," said manager Mr Kevin Black.

Northern Ireland has never been looked upon as any kind of high centre in the music business. Indeed it is described by some, in this context, as a backwater. And the troubles in Ulster have not helped, with many musicians reluctant to perform there.

However, Crymbles has had its share of famous visitors. The "Belfast Cowboy" — Van Morrison — bought his first guitar in the store. The Beatles, when they visited Ulster, had their amplifiers repaired at Crymbles, and other visitors have included Cat Stevens, the Bay City Rollers and Rory Gallagher.

Crymbles import Martin guitars direct from the U.S. and are main Irish distributors for Carlsboro



amplification, Premier drums, Farfisa organs and Barrett brass instruments. There is a large brass section and the Northern Ireland BBC orchestra, the Youth Orchestra and Salvation Army are regular customers.

The comprehensive guitar section includes some finely made instruments by a local craftsman, George Lowden. His acoustic guitars sell at between £300 and £400.

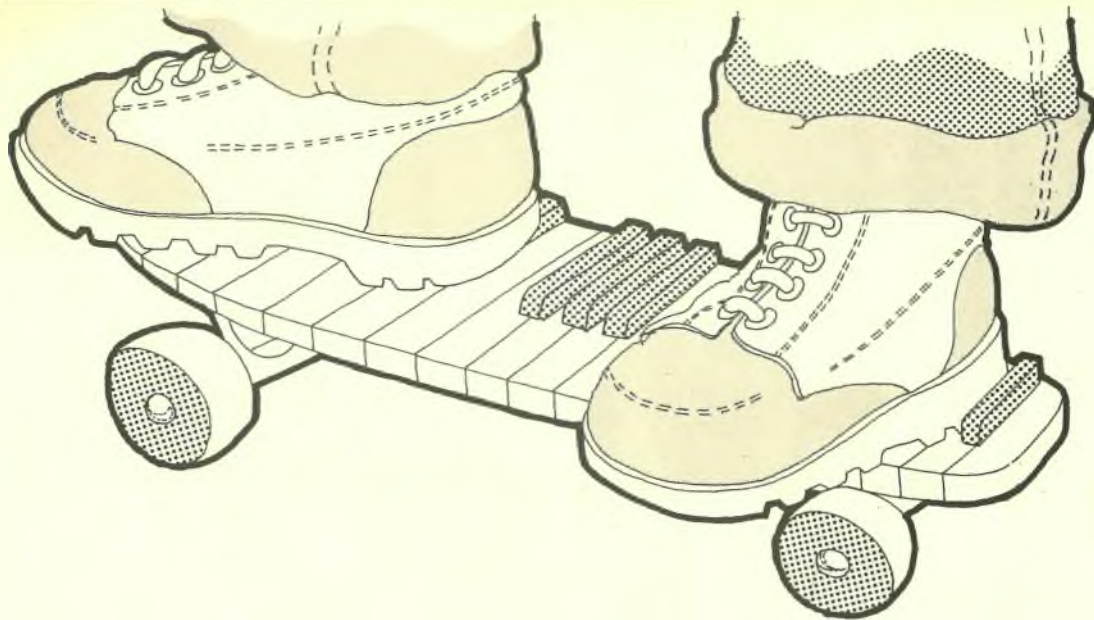
"Yes, these are quite expensive but they are on a par with any similar instrument in the world," said Kevin

Since his family took over Crymbles in 1959, it has evolved with the beat boom as the main beat instrument centre in Northern Ireland.

"We believe in the personal touch at Crymbles. At present we offer the best credit facilities in Ireland. There is a 10 per cent deposit and the balance is paid over two years. There are no interest charges in the first year on certain amounts.

"Undoubtedly the troubles in the province has hit the music business. There is a big swing towards home entertainment and we sell a lot of guitars, organs and





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pianos. Fewer showbands are around at present, but group gear still accounts for a lot of our business."

Kevin also points to the importance of the first class rental and repair service offered at Crymbles. On rented instruments there is a 16 per cent deposit and the instrument can be hired out for a period of three months. After this period, the instrument can be returned, or re-rented, or eventually bought.

"Also, we offer a comprehensive back-up service. Our former electronics engineer was here for 20 years. The current engineer is Joe Sweaney," said Kevin.

A piano tuner and a French polisher who restores old instruments are also full-time staff. The story of the Crymbles firm is certainly one of success. They carry a good stock and offer the kind of expert

personal service that the customer looks for.

There is a relaxing atmosphere in the Dublin Road store. The customer is not hurried into choosing but yet staff are always near at hand to advise on, or demonstrate, the various items. The accessory section is large and well-stocked and there is also a good range of sheet music. Crymbles also do a big trade in selling spares for various equipment.

"We have a spares section for guitars, drums and amplifiers. We feel that this is perhaps the most important department in the shop. Regarding our back-up service, we do a same-day service on amplifiers," Kevin added.

Belfast is not the easiest city to find convenient and safe parking space. However, up at Crymbles the motorist will find good parking facilities.



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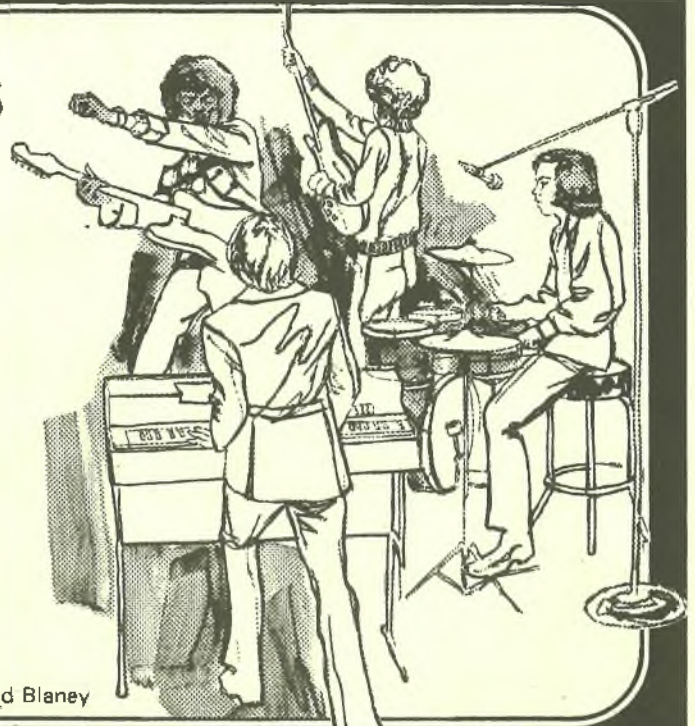
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AMERICA ROCKS ON MXR



AMERICA ROCKS on MXR! So does Britain. Almost every major rock star uses MXR effects to shape his (or her) act and if you've read "user lists" before, don't confuse them with the Who's Who of Rock compiled by MXR.

California rocks on MXR. Perhaps you've heard the new Eagles album "Hotel California," if so you'll be able to hear MXR working away. Perhaps you're into Southern Rock, if so you may have heard Little Feat groovin' on MXR, you might be into soul, if so you'll have heard Stevie Wonder's "Songs In the Key of Life" you might be into British rock, if so listen to Bowie, Deep Purple, Led Zeppelin etc. etc. The list of users of MXR goes on and on and it's hard to believe that a product in a crowded market place can have won such a complete monopoly in just three years. But it's happened. Why?

MXR effects require no special selling, the only requirement is that a musician tries them. Steve Hackett of Genesis talked recently of how he was approached about MXR backstage after a concert in Buffalo. He describes his scepticism when offered yet another effects pedal to try (in this case the MXR Phase 90). In fifteen minutes he was sold and he's been on MXR ever since.

It was like that for most musicians.

Eric Clapton caught onto what MXR could do for his guitar sound quite some time ago and careful listening will reveal the MXR influences on his music.

What is it that MXR has? The easiest way to describe it is to say that "MXR works more." When you plug into a usual phase pedal you hear the electronic simulation of phase shifting and your natural reaction is "Oh yeah, just another phase shifter." When you plug into one of the MXR range of phase shifters you hear the sound going into total phase convolutions and you know it's the best that can be produced. It's a matter of degree, MXR isn't just a bit better than the rest, it's so much better that MXR has no competition.

While the whole world is consuming MXR versatility, the company itself is busy producing more. Latest line is the MXR digital delay. This is a unit incorporating all the sophistication of the well-known studio type digital delays, but instead of costing thousands of pounds it's marketed at a sensible price. MXR are able to market it this way because they're a dynamic young company, in touch with musicians and in touch with the precise need of amateurs and professional alike.

Some musicians like to know they're in good company when they choose a particular instrument; here's an

abbreviated list of MXR users. The music they play is so different you'll get a fair idea about MXR versatility. BLUE OYSTER CULT, DAVID BOWIE, ERIC CLAPTON, CLIMAX BLUES BAND, JESSE ED DAVIS, DEEP PURPLE, THE DOOBIE BROTHERS, THE EAGLES, E.L.P. PETER FRAMPTON, GENESIS, GENTLE GIANT, JAN HAMMER, JACKSON FIVE, JEFFERSON STARSHIP, JETHRO TULL, JOURNEY, LED ZEPPELIN, JOHN LENNON, LITTLE FEAT, LOGGINS & MESSINA, LYNRYD SKYNYRD,

FRANK ZAPPA, BONNIE RAITH, ROLLING STONES, SOFT MACHINE, STEVIE WONDER. If you're still with us, do you play MXR?



APPICE SAILS ON LUDWIG

You can't beat pedigree. A track record stands for that in the rock and roll business and when you've got a track record like Carmine Appice's, you've got a hell of a pedigree. So has the drum make he chooses — Ludwig.

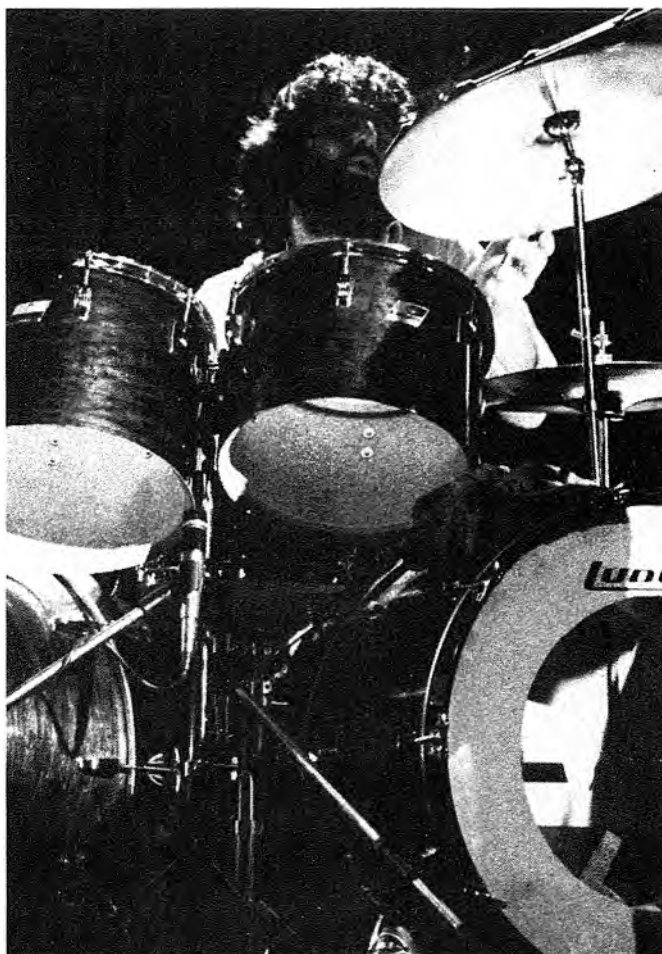
Carmine is currently in the new Rod Stewart band and if you think he's just a backup musician, then you haven't seen the band and you haven't read the papers. Ludwig is currently the best known drum in the world and if you think Ludwig are like any other drums then you haven't tried them and you haven't listened to them properly.

Carmine Appice is regarded (correctly) as being one of the world's finest rock drummers. He first came to the public's attention when he was with the legendary Vanilla Fudge. The band sprang to prominence in 1967 when they recorded an amazing version of the old Supremes' hit "You Keep Me Hanging On." As a result of this record — which featured neo-classical organ playing and rock-solid drumming — Fudge were hailed (later) as the very first of the "heavy groups" and the track became an all time classic.

Vanilla Fudge seemed overawed by the success of their first single and despite brave attempts at repeating the success, it was an impossible task. (A similar situation happened in Britain about the same time. Procul Harum recorded "A Whiter Shade Of Pale" once again the drums were Ludwig — and it took the band seven years to live the track down).

After Vanilla Fudge split, Carmine Appice and bass player Tim Bogert were much in demand. Jeff Beck approached both of them with a view to forming a band, but just as things were getting under way, Jeff suffered a crash in one of his many "super cars" and was out of action for 18 months.

Appice and Bogert weren't on the shelf very long. With Rusty Day and Jim McCarty



they formed Cactus. Despite the fact the band didn't mean a lot in the UK, they were really big in the USA. The band lasted just two years, and then Beck was ready for action again.

Carmine Appice is THE heavy drummer. He's always been a two-bass drum man pioneering the technique in the USA (whilst Ginger Baker — another Ludwig player — was doing the same here). When Beck asked, he and Bogert came running. The result? — another legendary band, Beck, Bogert and Appice.

Jeff's been quoted as saying that the band was obsolete before it made its first appearance, but in the opinion of the writer (who incidentally saw that very first concert) it was one of the finest rock bands ever to come together. Both musicians and the general public greeted that band warmly and as it was the first real UK exposure for Carmine Appice, the public were amazed — especially at

his double Ludwig set-up;

The band only made one album — more recordings exist but aren't released — but an afterglow has built up around B.B. & A and today recorded material is much prized from the band;

Carmine's pedigree continued. Returning to the States he helped to form yet another supergroup — KGB with Mike Bloomfield — before returning to the UK to work with the Rod Stewart Band.

Working for Rod Stewart would seem, on the face of it, to be an unenviable task. The Faces were always Rod's group and there were undoubtedly many fans who

felt they couldn't be replaced — at least until they saw Rod on the recent British dates. London's leading evening newspaper described the new band as "Rock Solid" and made particular tribute to the drumming of Carmine Appice.

If drummers ever argue about drumming, about the choice of drums or about other drummers, it's usually the track record which has the final say. In the case of Carmine, he wins everytime, and in the case of his drums, Ludwig, they win everytime.

The Ludwig pedigree goes back far beyond the year in which Carmine Appice was born. It goes back, in fact, to Chicago before the turn of the Century, when a German family settled in that trading town and one of the sons, William Ludwig, started to make percussion items as a sideline to being an orchestral drummer.

From such a small start an empire has grown. Nothing worthwhile in life is achieved easily and there were major setbacks in the Ludwig history. But today quality and innovation have triumphed and the giant Ludwig plant stands proudly in Chicago as a symbol of fine drums and free enterprise.

As much as Ludwig has achieved over the years, the Ludwig musicians have achieved more.

The rock generation became aware of Ludwig one night in 1964 when a Beatles special — networked by satellite across the world (remember how excited we all were about Telstar?) — opened with the introductory titles rolling over the Ludwig logo on Ringo's bass drum. From there the world of rock and roll used Ludwig as its rhythm.

Today it's hard to name a famous drummer who's not a Ludwig player. The list is endless, and one of the very finest names on that roster of fame is Carmine Appice. Yet another perfect partnership; Ludwig and Appice.



MARSHALL NEWS

WHY WE CHOOSE MARSHALL

'Status Quo'

" . . . We choose Marshall because the gears really good. The company have been really good to us as well, you know, looked after us, and we love the sound because we can get the valve amps really cooking. When you crank them up they really burn and it's raw edge to the sound that helps us get what we need. I use the cabinets because they're really pokey and all round we don't reckon we could do better."

— Francis Rossi, Status Quo.

'Jethro Tull'

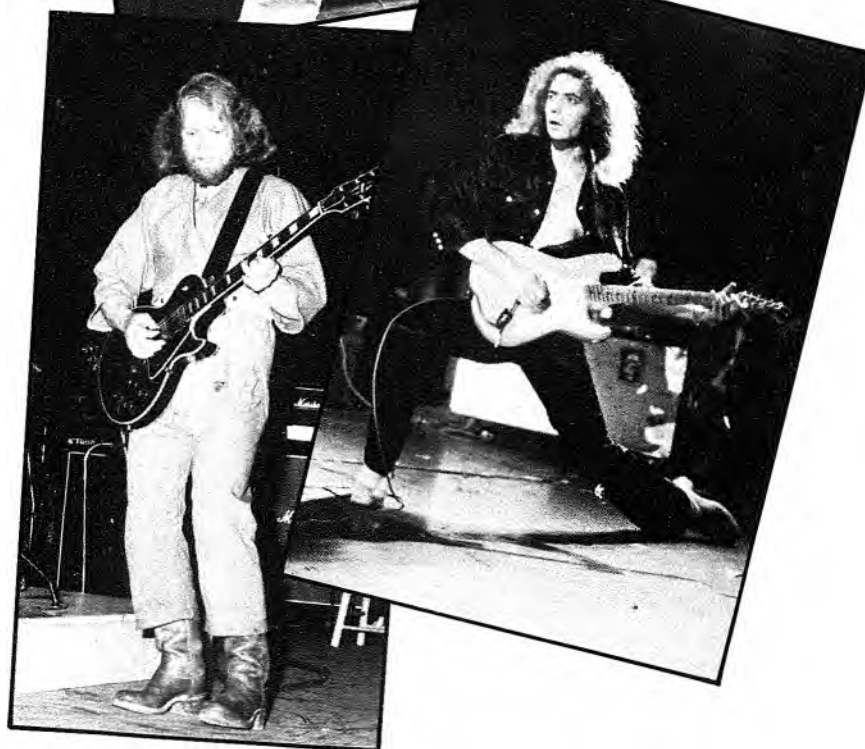
"I've been using Marshall a lot lately, because over the years Marshall gear has continued to improve and there are not many pieces of equipment you can say that about.

These Marshalls really belt it out — with lots of top, a nice low frequency response and not too much middle. And that's without using boosters — because with Marshall you just plug it in and it sounds good."

— Martin Barre, Jethro Tull.

'Ritchie Blackmore'

"American guitarists all seem to sound the same when they play rock, they've got this fuzz sound, I don't know whether it's their amplifiers or not. When they go into the treble side they grate a lot — you get a lot of fret noise and string noise when you get up the top, it sounds like the amp is trying too hard. You can't beat a Marshall, I've used them for years." Ritchie Blackmore.



GETTING THE BEST

A Practical Man's Guide

You might know quite a lot of what is to follow — even so, keep reading. The guy who has nothing to learn about amp sounds is a superstar indeed.

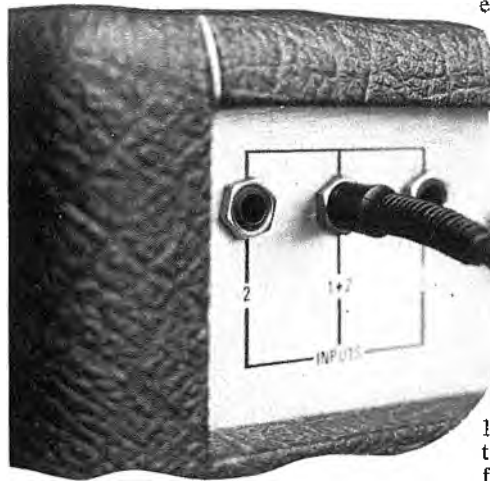
When you've got a Marshall amp, brand new or even a well maintained ten year old model, you've got just about the best musical tool technology can produce. Marshall has come a very long way since the earliest days when Jim put together the first amp behind his shop in Hanwell, West London. But, and it's a big but, Marshall have never lost sight of the basics. There are a lot of flashy amps on the market with winking electric eyes, matt black finishes, odd designs and so on, but an amp (especially a guitar amp) has to be straight, raw and reliable. It's this last word that has seen most attention. The famous 1959 Marshall valve amp has the same design and the same sound that shot The Who to stardom, it's just that modern technology has made it far more reliable.

When you've got your Marshall you have the maximum potential available, but it's up to you what you do with it. Here's some free advice.

Guitar Leads

When you've got something as good as a Marshall please don't economise on leads. As you know all instrument leads must be of the screened variety — a centre flex insulated and covered in a copper braid sheath and again insulated — but how good is the screening (the braid) on yours? If you use a cable which is too thin, or on which the braid screen is insufficient you'll get tiny clicks on your super-sensitive Marshall whenever the lead bangs against something (like the floor). If the screen's in a really bad way you'll get interference and general troubles you

might find hard to pin point. Several world famous guitarists prepare their own guitar leads — they won't let a roadie do it — and before a tour they will personally inspect all leads and repair all damage. Getting a lead caught under something heavy can damage the internal braid and this will definitely push down the quality of sound the Marshall tries so hard to give you.



Positioning

It's funny how few musicians lend a thought to where they place their amp on stage, in the studio or in a rehearsal room. Marshall amps are among the quietest items of music equipment available, but place your Marshall next to a badly screened organ, amp or even a fluorescent

light fitting and up will go the background noise and down will go the contrast in output. Your Marshall is, of course, protected from such interference by careful screening, but some items of equipment are so poorly designed that their very close proximity to even an amp as good as a Marshall produces unwanted sound.

Get the organist to move away an extra couple of feet and listen again, background noise is very important, especially when you're using effects units.

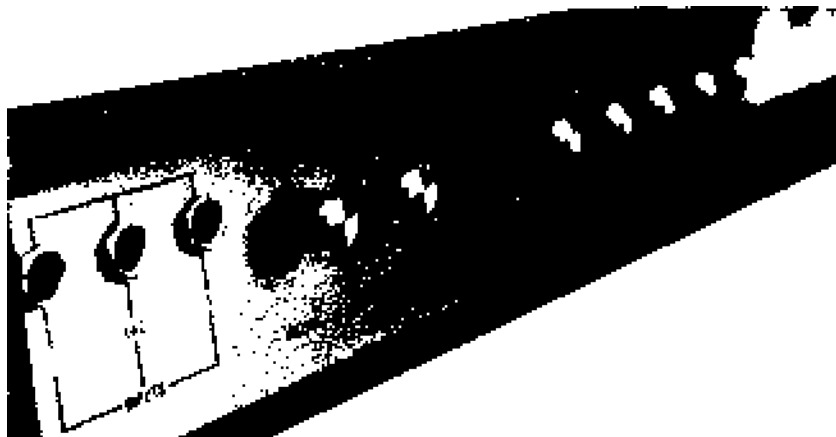
Working The Controls.

Sounds like a joke, doesn't it? But people don't know how to work Marshall controls — either because they're too impatient to read the instructions, or because they switch to Marshall from some inferior amp and don't realise the extra scope Marshall has to offer. Take the famous Marshall guitar amps, for instance. On the combos there's jack socket inputs, they're labelled 1, 1+2 and 2; in effect three channels, but there are only two volume controls, one for input 1 and one for input 2. If you feel cheated you haven't understood the fabulous degree of versatility that's built into your Marshall. Channel 1 is a warm mellow channel — in other words it has a built in "voice equalisation" which provides a deep rich clean sound for guitarists who want warmth and intimacy in their sound. Channel 2 is the "bright channel" which gives bite, attack and punch for guitarists who have to cut



OUT OF MARSHALL

To Even Better Sound!



through, for lead breaks or dancing music. But the centre channel is the most interesting of all. If at first you thought it didn't have a volume control, you'd be wrong, it has TWO. Both volume controls work on this input and depending on how you mix them you can have the characteristics of both channels MIXED TOGETHER! You can have searing top with strong bass, you can have a warm, deep tone with a real ching on the treble strings, try it out for yourself!

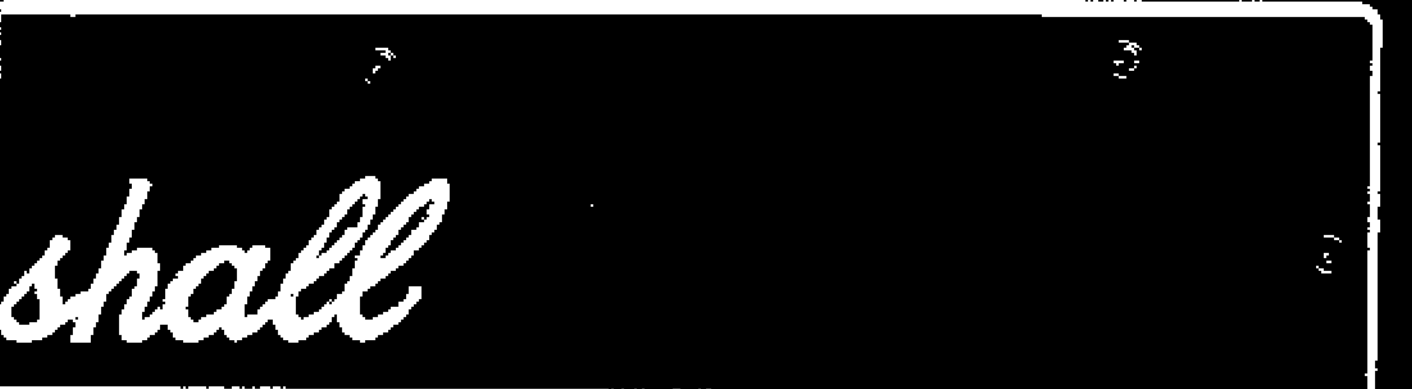
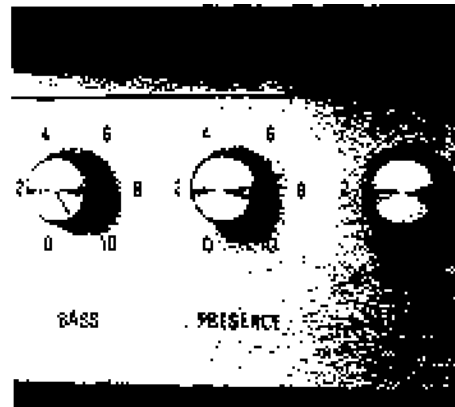
At the end of the control panel (on Master Volume models), you'll find a control marked "Master" - this, in fact, is the real key to the Marshall sound. Don't treat this as a pure volume control if you want to get the best out of your Marshall. Careful balancing between the input volume control (previously discussed) and the Master will give you the Marshall sound even at the LOWEST VOLUMES.

When the Marshall sound first hit the headlines in the days of the British Beat Boom, guitarists like Pete Townshend and Jimi Hendrix belted their amps flat out to get that sound. Today technology has brought the same sound to even the quietest venue. If you're playing a social function and you've got to be so quiet you can hardly hear yourself, you can still get that overdriving sustain by putting the input volume controls UP and keeping the master DOWN. If you want a clean sound keep the inputs down and the Master up. Sounds simple doesn't it - but there are even more subtleties available. Because the centre input mixes both the normal and bright channels it's possible to have a greater degree of overdrive on the treble than on the bass, or vice versa. Thus you will see that the combinations are endless AT ALL VOLUMES.

Presence

The word Presence in amplifier applications passed into the English language because of Marshall. It was Marshall who first used this term to describe a very special control unique to Marshall. Today many imitators call controls "Presence" but you can rest assured that no other Presence is like the Marshall Presence. Boost that control and the guitar leaps out of the boxes, dominating all sounds around and proving that Marshall Sound Rules - O.K.

Mix Presence with a little bass and the guitar roars, mix it with treble and it cuts like a knife. Work with the Presence control and your effort will be well-paid. Your amp needs little care, it's made to last under the toughest conditions. Abuse will cause harm, loud bass through a lead amp for example, but generally all you have to do is to be very careful about the mains wiring, don't let people stand beer on top and the amp will just go on and on. Good playing!



Marine Marshall

Dear Sir,

For over three years I've been working as a guitarist in a "cruising band" — doing regular stints on holiday liners. I've been using a Marshall 100 watt top and an old speaker cabinet and this has proved versatile enough to provide a variety of sound for the wide range of numbers we have to play — Monday is disco night, Tuesday is Old Tyne Dancing etc. When I arrived home this time I met up with an old mate who just got a recording deal for his band with a well-known record company and as he was anxious to change guitarists, he offered me the job. He now wants me to buy a new cabinet to go with my amp (he's prepared to advance the money) and I wondered which Marshall cab you'd recommend to get the best from the top. The music the new band plays is really quite heavy.

Alf Fry,
Maidenhead,
Berkshire,
England.

Lucky you, sounds as if you're into a good band. The choice of cabinet depends on the type of sound you want, but we'd suggest the famous 4 x 12 Marshall cab (Model No. 1982). We call it famous, and we think we've got a right to, because Jim Marshall invented the concept for The Who back in 1964. They regularly used to see him in London trying out ever new and better equipment, and Jim built a giant 8 x 12 cabinet. Pete Townshend tried it out and the sound was amazing, the problem was that The Who's roadies couldn't transport the thing. Jim promptly sawed it in half, stuck the two halves on top of each other and the very first Marshall stack was born. Today it's the standard format for many professional rock guitarists and we would heartily suggest it for any self-respecting player. Good luck with the band!

Touring

Dear Sir,

Because we've got two girl singers we get offered a lot of tours playing to forces overseas. I've been playing guitar through my Marshall stack for three years and we've toured most of Europe but we've been offered a three month tour of the Far East this summer. Will the oriental temperatures affect the amp — I know that electronics can suffer from climate changes.

Liam Short,
The Sunshine Show Band,
Galway,
Eire.

Good news, it shouldn't do any damage — in fact hundreds of thousands of Marshall amps are on sale and in use in that part of the world without any trouble. If you look back at our letters page in the last issue of Rose-Morris Marshall International you'll see that a guitarist from Singapore asked about his Marshall — like thousands of others, he's found no problem because of heat. The electronics that cause problems are mostly those associated with synthesizers and finely tuned oscillators, they can become unstable without care. Your Marshall will survive most things climate can hand out.

Old Marshall

Dear Sir,

I'm proud to say that I own two Marshall amps. I bought a 100 watt transistor top here (New Zealand) last year and I've been delighted with it. I also bought a Marshall 100 watt valve amp over ten years ago when my family was living in London. The serial number on my old Marshall is A00185Z and nobody I've met since has an earlier amp. Do I have one of the first made — if so I'm pleased to say it's still working really well.

Terry Yeates,
Harp Valley Community,
South Island,
New Zealand.

Sorry to disappoint you but your amp was made three years after the first Marshall appeared. Not many people realise that Marshall amps have been available since 1962 and most of the early production models are held in the Marshall plant ready for a "Marshall Museum."

Which Cab?

Dear Sir,

I am a lead guitarist working in a band who play a variety of material ranging from old-time standards, dance music, country and western through to pop and even semi-heavy material. We play in lots of different clubs to lots of different audiences, hence the wide ranging repertoire. My problem is that I am now in a position to buy a new amplification set-up for myself and, after trying out lots of gear, have decided to go for a Marshall 100 watt transistor amp top. It certainly gives me the sound I'm after and is easy to carry about with me. What I am rather undecided about is my choice of speaker cabinet. Is it important to get a Marshall cabinet to go with the amp, or can I save a few quid and buy any other secondhand cab?

Gerry Howe,
Aylesbury,
Buckinghamshire,
England.

Obviously, with both new and secondhand equipment, you get what you pay for. In terms of efficiency and portability, we would strongly recommend the Marshall 2196 cabinet which was specially designed to complement the 2195 transistor top. This cab houses two 12" heavy duty speakers and will handle 100 watts and is probably the best possible match for the 2195 top.



Marshall 2195 100 watt transistor lead and bass top with the 2196 2x12" cab.



Beatle Marshall

Dear Sir,

I've just bought the new Paul McCartney triple LP "Wings Over America" and I was amazed to see on the inside drawing the incredible line of Marshall amps. How long has Paul been using Marshall and can I get a copy of this pic?

John Davies,
Bermondsey,
London,
England.

Paul's played through Marshall at several key points during his career, but took delivery of his latest Marshall back-line before the last world tour. Unfortunately we can't supply the posters but would suggest you should write to EMI Records, Hanover Sq., London W.1.

Songwriters

Dear Sir,

Me and my buddy just got a Teac four-track machine to put down some songs at my place. It's working well but when I track on my guitar solos — I use a Travis Bean through a 100 watt Marshall — I get so much hiss with the presence right up. Is there something wrong with the goddam amp?

Paul Slitscovitch,
Boston,
Mass.,
USA.

Sorry you've got a problem, but it's because the amp's too good. When you crank up the presence you are, in effect, boosting the middle frequencies which produce the real Marshall sound, you're also boosting everything else at that level including the background noise that comes from the guitar lead, the mains etc. It's just a case of being so souped up you get everything and more at that frequency range. Keep that control down a little and you'll be OK.

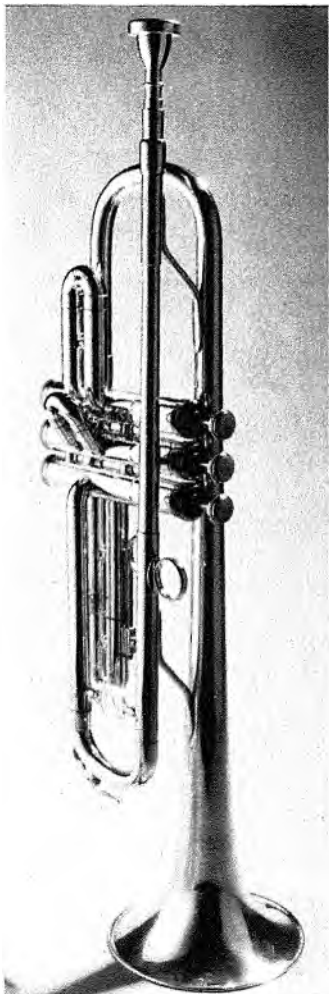
Marshall Products are distributed world-wide by Rose-Morris & Co. Ltd., 32 Gordon House Road, London NW5 1NE. If you require further information about any of the products please contact your local dealer. In the event of difficulty please write direct to Rose-Morris at the above address.

HOLTON BRASS PASSES TEST

It's often been said that brass players are a funny lot and trumpet players are the most individual. If that's true, it's easy to understand why top performers vary in their choice of instrument so much. One of the best trumpeters in the world, Maynard Ferguson, wasn't happy until he had an instrument associated directly with his name.

The American Holton company have been producing top quality brass instruments for some considerable time and in producing the "Maynard Ferguson Trumpet" they have surprised themselves in creating an instrument that's not only fit for Maynard, but also fit for other professional players who appreciate quality and tone — despite their individuality.

Maynard is famed the world over for his skill at wringing the highest notes out of the instrument. We'd like to think the instrument itself helps a little also.



NEW TRAVIS BEAN GUITAR



Guitarists the world over dream of Travis Bean. Before they close their eyes to sleep they usually think about one of two things. The second is Travis Bean: the most desirable guitar in the world.

Everyone knows about the one-piece aluminium neck which is machined from a solid block, the Hawaiian Koa wood body with the hand rubbed lacquer finish, the rosewood fingerboard and the solid brass top nut, and everybody also knows that Travis Bean are expensive guitars.

But, there's a new Travis Bean available — the TB500 Standard, and careful economies have been made that produce a guitar with all of the above features, at a price more easily accessible than the already available Travis Beans.

The TB500 has two high-gain single coil pick-ups, a master volume and tone control, a three way adjustable bridge with six individually adjustable bridge pieces, and all the other features associated with Travis Bean. But it's available at way below the cost of the present guitars.

The drastic price reduction has been achieved by small economies in purfling and fingerboard position markers, a simplification of the tone control system, a completely new pick-up design and a different body design. So today you can see your dream coming true earlier than you expected.

That Travis Bean you promised yourself with your first record advance, can actually be in your hands early enough to make sure you get the deal in the first place!

OVATION FOR RECORDING

Ask any recording engineer; next to the piano, the acoustic guitar is just about the hardest instrument to record.

It's easy enough to get a clanging sound, or a bassy sound, or a middley sound, but to get a full rich tone with sparkling highs and rich lows is really difficult. Having the right guitar in the studio is important, of course, but even so most guitars suffer from certain problems.

How many times have you said "It just sounds different in the studio" when talking about the failure of your favourite acoustic guitar to sound right on recording? Probably quite often and the reasons are numerous. One of the most important is the climatic change that can take place. The smaller, less expensive studios usually operate without air conditioning and because sound insulating material is usually also good heat insulation the studio can become very hot and sticky. Your wooden guitar reacts and you get a sound change.

But you haven't really got a choice about guitars — or have you. For some years now the American Ovation company have been making acoustic guitars with Lyrachord backs and these have turned out to be exceptionally good guitars for recording. The reasons are many.

When first introduced, the Ovation range of acoustic guitars were greeted with wild acclaim by guitarists who preferred to play acoustics on stage but who had suffered from the age-old problem of lack of penetration. The Ovations cut through. Despite the problems of miking up, an Ovation could always be heard. But then other things were discovered.

Recording engineers began to approach Ovation recording in a completely different way to normal acoustic guitar recording. Not nearly as much equalisation was required and the Lyrachord back meant that the changes in the guitar's structure were minimised under adverse or different climatic conditions.

Today you'll see experienced engineers smile if you walk into a studio with an Ovation acoustic. They know that they can place a full range mike well back from the guitar (no problems about having to avoid the mike with your right hand) and get plenty of level, they also know that they're likely to get an excellent natural frequency response that will make frequency boost unnecessary.

The Ovation philosophy is a simple one. The material that creates the guitar sound is the wood of the sound board. In the

case of Ovations this is the finest close-grained Sitka spruce — but the resonating area — the sound bowl — has a reflecting surface of Lyrachord and this pushes the sound outwards with a completely even frequency pattern. This means that the guitar has a perfect natural sound, but it is then acoustically "amplified" to produce volume and clarity in plenty.

When you're recording next, hire an Ovation: you'll end up buying one. For a guide, here are details of the most popular Ovation acoustics. The Glen Campbell Artist Balladeer has a shallower sound bowl than usual for extra projection and it also has distinctive diamond-shaped position markers, the machine heads are gold-plated and it is supplied complete with a carrying bag.

The Ovation Folklore is a bright sounding guitar designed for plectrum playing and it has a full depth sounding bowl producing a bright rich sound. The neck joins the body at the 12th fret and the bridge is of walnut.

The Ovation Classic Balladeer is a nylon strung instrument with a full sounding bowl and a wide flat fingerboard which meets the body at the 12th fret.

ROSE-MORRIS International

MUSICAL BARRIERS BROKEN BY KORG POLYPHONICS

"The Electronic creation of music is the direction of the future" — true or false?

That's a leading question really, but for the past ten years contemporary music has benefitted increasingly from the sounds obtainable from electronic circuits and only one thing has held back the development. Until now the synthesizer has been a purely monophonic instrument.

Now the Korg Polyphonic Ensemble has liberated the synthesizer from its shackles. The Korg Polyphonic was one of the first polyphonic synthesizers to go on sale in the UK and already it's contributed to the making of many hit records. Now the musician can bring technique as well as new sounds to his playing.

The Korg Polyphonic isn't any bigger than the well-known range of pre-set Korgs, but hidden under the innocent looking casing are some of the most intricate musical circuits yet built. This is an instrument for the player who has graduated from the stage of coaxing pretty sounds out of monophonic synthesizers and is now looking for a chance to express himself fully using tone generating oscillators as a sound source.

It has to be said the Korg Polyphonic is not a difficult instrument to play. It is so well designed that the new player is instantly able to find his way around the electronic complexity and the relationship between player and instrument that springs up is a developing one. At first the musician welcomes the chance of getting more than one note out of a synthesizer at a time. Then he begins to appreciate the amazing range of tone colours and effects obtainable from the Polyphonic Ensemble and finally he comes back to the basic fact that electronic music is now as versatile as any instrument and that it's possible to COMBINE MUSICAL TECHNIQUE AND ELECTRONIC SOPHISTICATION.

It's this last realisation that is so important. From this springs hope for the future of music. Within a decade it seems likely that the sounds heard in contemporary music will include many previously unheard, and it's instruments like the



Korg Polyphonic that will be responsible for pushing the barriers even further.

Examining the Korg Polyphonic more closely we discover that the envelope generator is divided into attack, decay, and sustain controls and five alternative modes are selectable. From this generation, it is also possible to select some pre-set sounds if required. These include strings, brass, reeds, percussion electric, percussion middle, percussion alto and percussion treble. Pushing the control button allows free form sound shaping. The more sophisticated controls are also incorporated including octave coupler, vibrato (pitch and depth), glide and pitch expand, and a pair of "Travellers" offers control over the variables of the generator.

ZILDJIAN FLAT CYMBALS

It's hard to find a musical item more difficult to judge on appearance than a cymbal. The ones that look the best often sound the worst, and vice versa. The art of cymbal making is a closely guarded secret and whilst you may be forgiven for thinking that a rolled piece of metal is just beaten into shape, you must at least be able to detect the difference in sound



between the good and the bad cymbal. One guarantee you always have is the name, and the best name in cymbals is Avedis Zildjian.

When a cymbal is made it is the object of the most careful balancing procedures with highly trained craftsmen listening to every segment of the disc before allowing it to go onto the next stage. The very curvature affects the type of sound produced and for this reason the announcement of the Zildjian flat cymbal is of particular importance.

Look at almost any cymbal and you'll see that at the centre, where the hole is situated, there is a definite "dome". This had traditionally been in cymbal design since they were first put on stands, but now Zildjian have pioneered a new sound and created an almost flat cymbal.

If you would like further information about any of the products listed below please place a tick (check) against the relevant box and post this coupon to Rose-Morris & Co. Ltd., 32 Gordon House Rd., London NW5 1NE.

MXR Ludwig Marshall Travis Bean Ovation Holton Korg Zildjian

RM14

Name Address

106

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QUALITY GUITARS IN STOCK
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ELECTRIC

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- Gibson ES 120 TD Sunburst old £150
- Gibson semi bass, flamed maple sunburst old £120
- John Birch — new — £315!
- Mickey Johnston new Di Marzio's £198
- Rickenbacker stereo bass, black, new £375
- Mickey Johnston stereo bass LH, black s/h £85
- Gretch bass s/h £75
- Fender Tele. s/h blond £175
- Fender Strat. s/h white £225
- Rickenbacker stereo bass s/h red £298

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- Martin D18 with case new £355
- Martin 00018 with case new £345
- Martin D28 no case s/h £298
- Martin Mandolin with case new £225
- Martin D18 Frappe P.U. with case new £395
- Vaga Banjo with case new £450
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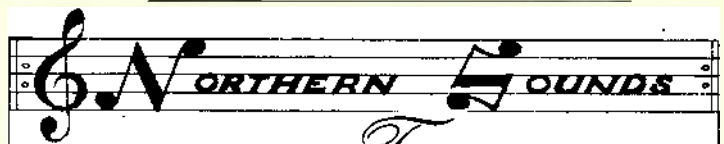


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MARKET REPORT



GIBSON

	How long a Gibson dealer	Les Paul	SG	PRODUCTS IN STOCK		Basses	Average monthly sales
				Semi-acoustic	L5S/L6S/Marauder/S1		
Abbey Music, 4, 5 & 6, Market Place, Burton-on-Trent.	3 years	2	2	—	—	2	2
Bath Music, 4/5 Green St., Bath.	2 years	—		TO ORDER	—		Varies
Bedford Musical Industries, 58 Midland Road, Bedford.	18 mths.	1	1	—	3	1	2
John Beeby's Music Place, 132 Crouch Hill, Crouch End, London N8.	2½ years	5	1	1	—	3	5-6
Bradleys Music, 69a West Regent St., Glasgow G2 2AF	10 years	1	1	1	—	2	Varies
Carlsbro Sound Centre, 182-184 Chesterfield Rd. Nth., Mansfield.	11-12 yrs.	6-8	8-10	6-8	6-8	6-8	Varies
Cass Music, 38 Monarchs Pde., London Rd., Mitcham, Surrey.	3 years	5	4	1	7	3	1
Celebrity Entertainments, 12 Fitzalan, Roffey, Horsham.	7 mths.	3	—	—	2	2	4-5
Chatfields, 2 Hope St., Hanley, Stoke-on-Trent.	20 yrs. +	1	1	2	—	3	1-2
Cleveland Music, 19-21 Cleveland Sq., Middlesbro, Cleveland	18 mths.	2	2	1	2	4	1-4
Cookes, 34 St. Benedicts St., Norwich.	9-10 yrs.	2-3	3	1	3	4	2
Custom Amplification, 45 Nantwich Rd., Crewe.	18 mths.	4	2	2	—	3-4	4
J.P. Dias, 149-153 Botchergate, Carlisle, Cumbria.	Since beginning	2	1	—	1	—	Varies
Free'n'Easy, 57 High St., Hemel Hempstead, Herts	7 mths.	—		6 EACH	—		3
Great Yarmouth Sound Centre, 102/105 St. Nicholas Rd., Gt. Yarmouth.	5 mths.	2	2	—	1	1	Varies
John Ham Sound Studio, 75/6 Mansel Street, Swansea	10 years	2-3	2	2	4-6	1	Varies

Do guitars require adjustment on arrival?	Good points	Weak points	State of second-hand Gibson market	Bands supplied with Gibsons	Do you discount Gibsons
Now, no. Action's personal anyway.	Quality has picked up lately	Price	When they come don't keep them very long	—	Yes, we're competitive with anyone in the country
No	All good	No	If and when we can get them	—	Cash
On average no	Mainly good quality	Price	Wish we could get more — sell a lot	Red Pepper	For cash
In general, no usually lower action etc.	They're just the best	No problems	Very healthy	Guitar player in Neil Innes Fatso	Normal cash discount
They do occasionally	Necks	—	Very occasional	Wings (Jimmy McCulloch)	For cash
Fair amount	Unique sound	Quality variations	Easy to sell, hard to get	Justin Maynard, Steve Marriott	For cash
Yes, 75% need fret attention at least	Despite problems, can't beat	Not really	Quite lively, harder to get at right price	—	For cash
Occasional models do	Name of Gibson means a lot	—	We can sell what we get—more so than new	Just Like That	Usually 10% for cash
Not usually	Always market leader and still is	Delivery, spares availability	When we can get —availability varies	Valkerie, Hutch	No
No, not really	Always well checked before arrival	Delivery on some models	Very active	Sugar & Spice, Evection	Negotiable
Usual things	Sound	Not really	SG's fairly thick on the ground. Les Paul's rarer	—	Varies deal to deal
Yes, and then re-adjust after sale	Investment, long-life	Lack of setting-up	Do a lot; 2 to 1	Billy J. Kramer	No
Very seldom	The Name	No	When we can get them	Tambourine, Strawbs	Cash discount
Varies with models	Gibson sound most popular	Not so struck on S1 and Marauder—not comparable to other Gibsons	Go out immediately they come in — most popular S/H Guitar	Orthi, Dodgers	Yes
Not really — just P/U heights	Still a decent guitar, a good Gibson	Not really	We've had a few	Melody Lane Showband	Yes, for cash
Better recently, previously needed a lot	Recent quality improvement	Finish, frets. New bridge assembly	As soon as it's in it's sold. Fairly hard to get	Locals	"If they screw us."

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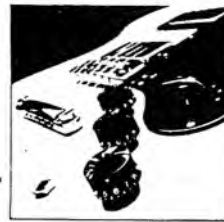
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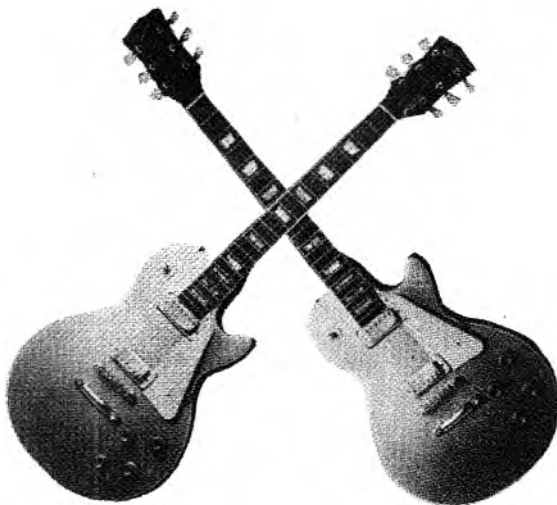
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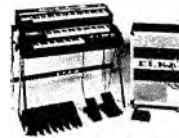


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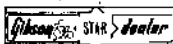


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MARKET REPORT



GIBSON

	How long a Gibson dealer	Les Paul	SG	PRODUCTS IN STOCK		Basses	Average monthly sales
				Semi-acoustic	L5S/L6S/Marauder/\$1		
Hessy, 62 Stanley St., Liverpool.	42 yrs.	17	5	3	2	5	At least 14
Hobbs Music, Sir Simons Arcade, Lancaster.	3 years			5	—		1
John Holmes, 21-23 Farringdon St., Swindon.	12 years	2	1	1	2	2	Varies
JSG Musical, 108b, Main St., Bingley, West Yorkshire.	1 year	5	4	1	3	1	2-3'
Jigsaw Sound Centre, 2 Station Rd., Ossett, West Yorks.	1 year	1	1	—	1	1	Varies
Jordans, 17 Victoria Rd., Wellingborough.	2-3 yrs.	1	1	—	—	1	1
Kennards & Sons Ltd., 87-88 Northgate, Canterbury, Kent	20 yrs. +	1	1	1	1	1	"That's confidential"
Kitchens, 26 Queen Victoria St., Leeds.	Since beginning	2	1	2-3	2	To order	Varies
Langdons Electric Music, 27 Victoria St., Wolverhampton.	5 years	1	1	—	2	1	1
Matthew Music, 20 The Broadway, Maidstone, Kent.	9 years	2	2	4	1	6	3
McCormacks, 33 Bath St., Glasgow C2	30 yrs. +	2+	2-3	4	1-2	2	6
Modern Music, 30 Castle Hill, Dudley, West Midlands.	1968	2	1	To order	—	2	Very pr
Modern Music, Wrights Arcade, Newtownards.	2 years	1	2	—	1	1	Varies
Musical Sounds, 274 London Rd., Sheffield.	3 years	3	2	2-3	3	3	2
Music Box, 7 & 9 Whiteburn Rd., Bathgate, W. Lothian.	20 yrs.	2-3	3-4	—	2	—	2-3
New Rhythm House, 22 Middle Hillgate, Stockport, Cheshire.	5 years	4	5	3	2	3	3

Do guitars require adjustment on arrival?	Good points	Weak points	State of second-hand Gibson market	Bands supplied with Gibsons	Do you discount Gibsons
Yes, everything	Finest name in guitars	Delivery, expense	When we can get them	—	Yes
Yes, more than the price suggests	Sound is great, P/U's excellent	The price and general turnout	Great demand	Deja VU, Nemesis	Yes, for cash
A lot of trouble with necks	P/U's and machine heads	Bridges could be improved	When we can get them they sell	Granny	Cash
Vary tremendously. Recently been better	—	Finish has been bad, not so bad lately	Sold as soon as they come in	Jenny Haan's Lion	10% for cash
No—they're excellent	Workmanship	Don't like newer models	Turnover's very quick	Change Of Direction, Ghost	For cash
Not really	The aristocrat of guitars	Price	Can't get many	—	Yes for cash
A little bit	Good sellers	No, not really	It fluctuates	Local bands	Don't like to because of our good service
Quite often	Sound	Availability of spares	Very few—can't get them	—	For cash
Yes, varies a lot	Have own quality, tone	No, not really	Hard to get	—	Yes
No	Nicely finished	Selection of finishes	Scarce	Muffin, Sweet Illusion	Yes, for cash
Action needs lowering usually	Sound	Necks now-days	Quite good—prices vary a lot	David Ross	5% for cash, sometimes 10%
LP custom usually needs fret attention	The name	In general, no	Normally have a few	Local bands	For cash
All guitars are checked	The name	Price	Difficult to get here	—	Yes
Some do, unfortunately	Tonal response, fingerboards, pick-ups	Finish	Very good market, very hard to come by	New Jersey, Turnpike	Yes, for cash
Not too much	Nothing to beat a good Gibson	Prices	Only take good ones so they go quickly	Steelyard	Realistic discount for cash
Not in the last couple of months	Necks	Gold-plating	S/H market very good—lots about	Alberto Y Lost Trios Paranoias	Yes

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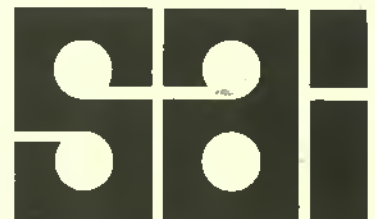
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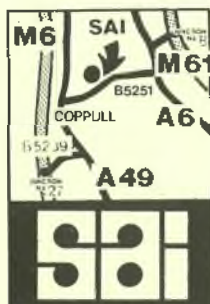
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MARKET REPORT



GIBSON

	How long a Gibson dealer	Les Paul	PRODUCTS IN STOCK				Basses	Average monthly sales
			SG	Semi-acoustic	L5S/L6S/Marauder/S1			
Normans, 1 Litchfield St., Burton-on-Trent	17 years	4	2	1-2	—	3	2	
Northern Sounds, 41 Jane St., Workington, Cumbria.	4 years	1	1	2	2	—	Varies	
Rock City, 48 Cloth Market, Newcastle.	15 mths.	3-4	2	1-2	3	1	2-3	
Ross Soundhouse, 17 Gloucester Rd., Ross-on-Wye.	2 years	2	2	—	1	1	Varies	
SAI, Regent St., Warehouse, Coppul, Nr. Chorley.	6 years	3	1	2	2	1	Varies greatly	
Salop Music Centre, Town Walls, Shrewsbury.	2 years	1	2	—	2	1	1	
John Savage, 71-72 Norfolk St., Kings Lynn.	2-3 yrs.	1-2	2	1	1-2	1	Varies	
Socodi Music, 9 The Friars, Canterbury, Kent.	4 years	1	1	—	—	—	1 every 2 mths.	
Sound Centre, 9 St. John's Sq., Cardiff.	10 yrs.	5	4	10	3	4	4-5	
Sound Pad, 64 London Rd., Leicester	4-5 yrs.	30	15-20	8-10	—	8-10	—	8-10
South Eastern Entertainments, 375 Lewisham High St., SE13.	15 years	6	6	3	5	2	Lots	
Sports & Music Centre, 73-75 Broughshane, Ballymena.	4 years	2-3	1	1	2	1	Varies	
Len Stiles, 264/6 Lewisham High St., SE13.	37 years	3	1	1	2	2	Varies	
Sun Music, 110/111 Oxford Rd., High Wycombe, Bucks	4 years	2	1 or 2	1	1	1	2 to 3	
White Sound, 3 Albion Pl., Suncerland.	5 years	4	4	1	3	1	4	
Yardleys, 89a Old Snow Hill, Birmingham 4 6HB.	50 years	4-5	2-3	—	2	2	Varies	

Do guitars require adjustment on arrival?	Good points	Weak points	State of second-hand Gibson market	Bands supplied with Gibsons	Do you discount Gibsons
No, seem OK at moment	Good necks, good playing action	Not really	Sell better than new, hard to come by	—	10% for cash
Yes, minor adjustments	Never had to send one back	Top of neck weak on Les Paul	We generally have a few	—	Normal cash discount
Yes, action always need adjusting, frets need polishing	The name	They're too expensive —	More demand for S/H than new ones	—	For cash
Not really	The name	No	Quite a reasonable, buoyant market	Kilgaron	Just for cash
Yes, for price they should be better	Sound, the way they play	Certain models not as good as older equivalents	Can't get hold of enough—very popular	Albertos, Winston	Yes, for cash
Yes	People want them	Quality control	Can sell every one I get	Maribou	"If notes ready"
Yes they do	Good product	Getting expensive, more promotion	S/H very sought after, can't get many	Local bands	Yes
Not a lot — but some	Excellent guitars	So many good copies	Not too many around	Feasty, Origin	Yes
Slight adjustment	Good finish, reliable	Not really	Very rare	—	For cash
Yes a lot.	Probably best production	Not really, just a bit overpriced	We sell a lot, prob-average 20 a mth.	Local bands	Negotiable
Every guitar is set-up	Selling well	No	They always sell well	—	For cash
Have to lower action	General finish and sound	Not really	Usually have a couple in stock	Shangri La	For cash
Set up to individual	Uniqueness of sound, and feel	Attention to detail of some models	Very buoyant if you can get them	—	For cash
Occasionally	The sound, the name	The odd flaw in wood, finish etc.	About 50/50 with new	Crossfire, Fruupp	10% for cash
No	Tone quality, finish	No	Most people hang on to them	Superstition, Freight	Cash
Yes, they do	—	Not as good as they used to be	Never stay on shelf long	—	Occasionally

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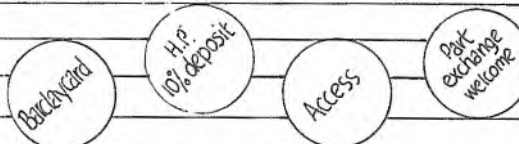
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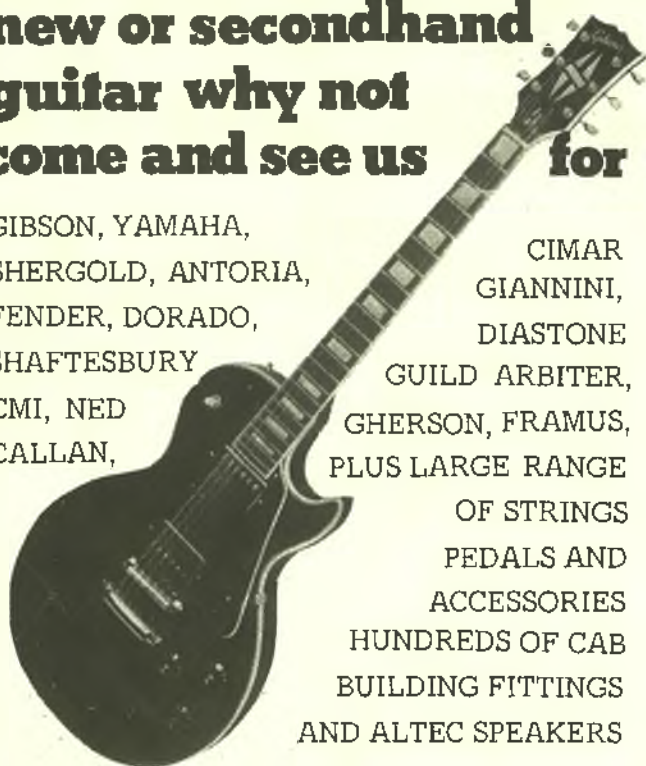
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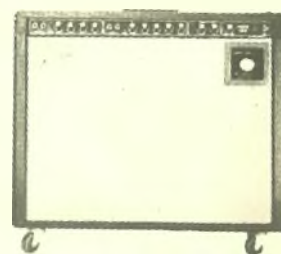


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This fantastic combo amp as reviewed in I.M. dated November 1976 now available, special features are: Twin Channel, Reverb, Tremelo, Phase, Master Volume, Power Overload (distortion from 3-100w variable). Special synthesizer reductions this month Moog, Arp, Korg etc. etc.

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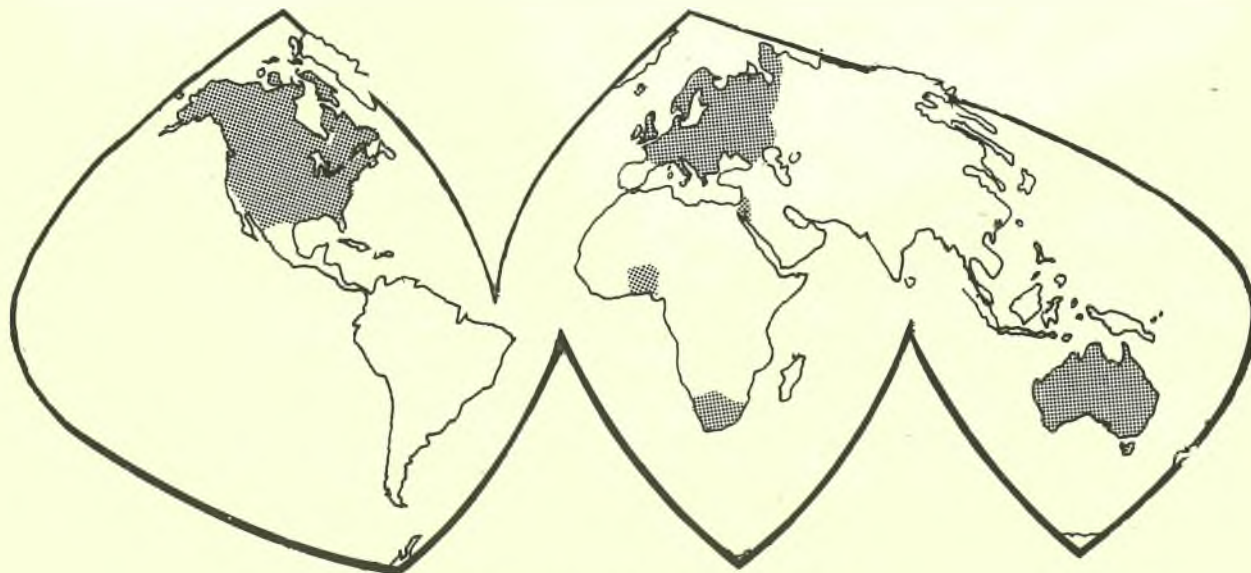
I do not know how MM can produce such a sophisticated machine for this price but this really has to be "the best buy."

Bruce Gibbs BSC
International Musician
December 1975

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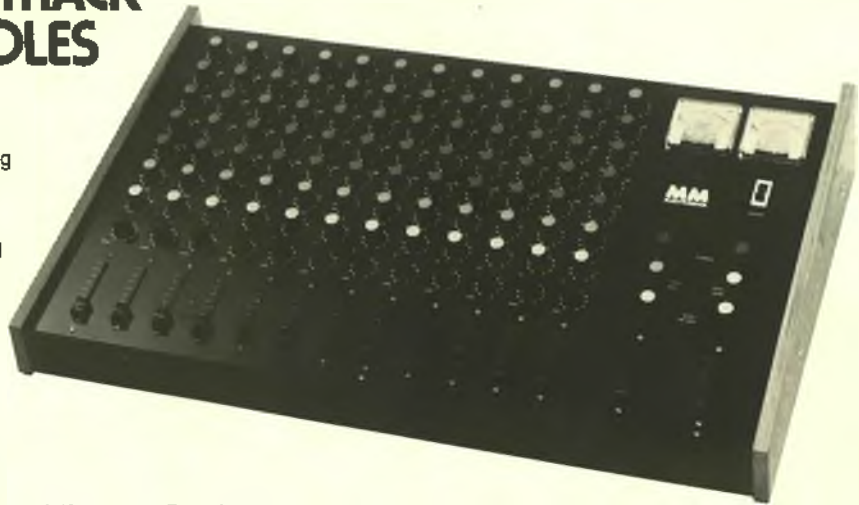
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The ideal 4-track recording mixer – £390

MP275 £400 approx.

The "Export" version, fitted as standard with Cannon connectors, built-in flight-case and ultra low bass control.



MP185 £490

A 16 channel mixer having all the facilities of the MP175, and additionally

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- ★ Graphic equalisers on each output, for equalisation of auditorium acoustics.
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Other units available include 16 - 4 and 16 - 6 foldback mixers and 16 - 8 recording mixers, all at under £1000.

For further details of these and other models in our range please telephone Royston (0763) 45214; or contact your local MM dealer.

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The MM Electronics Rack Mounting Ancillary units present for the first time a truly professional approach to the mobile public address work at a price within the reach of most users. Centred around a 19" rack system in the form of a flight-case, it is built to the highest professional standards; the individual units offer "studio" specifications with no compromise on quality or ruggedness.

Available in the range are:-

- EP122 2 way Stereo Electronic Crossover — £49
- EP123 3 way Stereo Electronic Crossover — £65
- EP127 7 way Stereo Graphic Equaliser — £65
- EP130 Stereo Fast Cut-off Bass Bin Filter — £46
- EP141 Stereo wide range Compressor Limiter — £72
- EP161 6 channel Mono Submixer — £93
- AP360 200 w per channel Slave Amplifier — £180



This rack mounting system offers great flexibility for adding many additional facilities such as blowers, connector panels, etc. through internal wiring. A complete system such as the one illustrated could cost as little as £700 (recommended retail)



MM Electronics, Knesworth Street, Royston, Herts SG8 5AQ. Tel: Royston (0763) 45214.

pa:ce

ANNOUNCEMENT

Over the last few years, PA:CE Ltd., the design and development company behind the MM Electronics range of mixing desks and ancillary equipment has had the good fortune to work with many well respected performers in the field of contemporary music. Much of the work has been directed toward specialist instrument amplifiers particularly for guitar and keyboards. As a result of the experience gained during this period, the design team have evolved what they believe to be a unique solution to the requirements of most instrumentalists, combining a pleasing 'musical' sound with the convenient interconnection of effects units and rugged 'road-proof' mechanical design.

Accordingly the formal unveiling of this range of equipment will be made at the Frankfurt International Trade Fair, stand number 51329

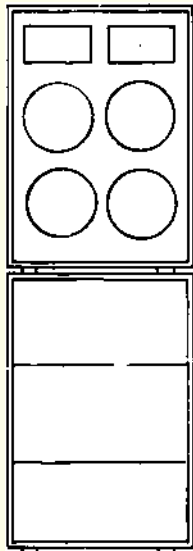
We sincerely believe that you will find these instruments of interest, and that they will present a more complete concept of unified amplification.

They will bear the style.

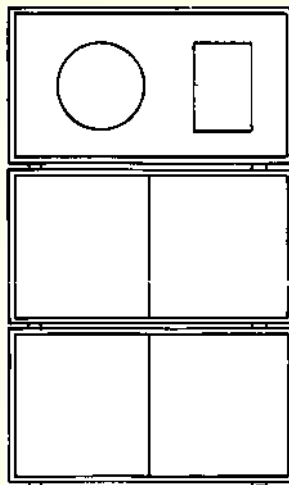
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MM ELECTRONICS

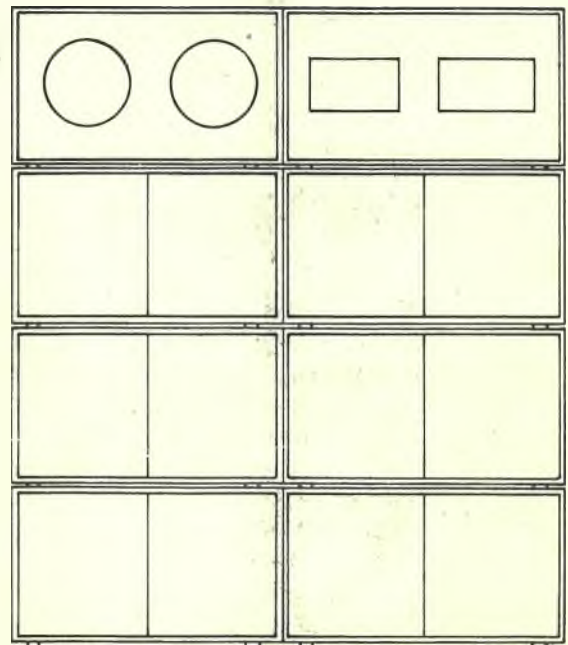
New MM PA Stacks



Two 810 and two 820 cabs retail for £800 including built-in Passive Crossover, and could use one MM AP360 dual 250 watt slave.



Four 830 and two 840 cabs retail for £1200 including Electronic Crossover and could use 2 or 3 MM AP360 slaves.



Twelve 830, two 850 and 860 cabs retails for £2700 including Electronic Crossover and could use 4 or 5 MM AP360 dual 250 watt slaves.

Studio Diary Studio Diary

AMAZON (LIVERPOOL) . . . Two well-known Liverpool bands from the 'sixties were working things out - the Chants, with Chipping Norton's Richard Vernon as producer, tried out some ideas, while Tony Crane, the original and lead Merseybeat, was achieving a re-creation of the Merseybeats' Greatest Hits . . . Another famous name of a decade ago, P.J. Proby, currently working the northern clubs, was in working on some ideas . . . Supercharge were in doing some early work on their album, and will be back to continue further work on it . . . Regency Kreem did some demos for CBS . . . Amazon engineer Mike Bersin is getting together tapes by his own band, and a signing seems imminent . . . Another band with strong Amazonian connections, Love Potion, is now signed to Tony Hall and Polydor Records . . . Other bands using the studios in recent weeks include Vice Versa, Next, and Ginger . . .

GOOSEBERRY (LONDON) . . . Pickwick International have been recording a singalong album at Gooseberry, with the help of producer Bruce Baxter and engineer Mike Cooper . . . Matumbi did a reggae album which will probably be released by EMI . . . Tony Macaulay, more noted as a writer and producer for other people, was recording some demos as a singer/performer, and is reported by Gooseberry personnel as having a very pleasant voice . . . Don Fraser, one of the men behind 'Rock Follies,' was in to make a pilot for a new show . . . Another new arrival at Gooseberry is the new Soundcraft desk, a sophisticated version of the Series 2 . . . Marginally less welcome was a visit from the VAT man . . .

KINGSWAY RECORDERS . . . K-Tel's album with the Lifeguards Military Band in commemoration for the Queen's Silver Jubilee was recorded during December at Kingsway Recorders . . . Eddie Hardin, formerly half of Hardin & York, was in making a single . . . Three-piece band Cruella DeVille, engineered and produced by Paul 'Chas' Watson, have begun their recording career there, and The Sweet are due in very shortly to overdub and mix an album they began at Advision . . .

MARQUEE . . . Marquee's most successful year ever ended with three singles in the charts - Elton John's 'Sorry Seems To Be The Hardest Word,' Tina Charles' 'Dr. Love,' and Mud's 'Lean On Me' . . . Producer Tony Atkins was working with engineer Geoff Calver on mixing a new album recorded in the US by Keith Herman . . . A single for New Faces winners Ofranchi, the follow-up 45 for Keith Edwards and a single for new band Complex . . . The Goodies were also recording a new offering for '77, with Geoff Calver again engineering . . . Biddu worked on a new album . . . Paul Geedus, for GTO, and Kandidate for RCA were also Marquee visitors . . . Micki Anthony produced Gerry Trew for Pye, and Robin Cable produced Elliott Murphy for CBS . . . Marquee's brand new 24-track remix suite is now open and already heavily booked for '77 . . .

INDIGO (MANCHESTER) . . . Indigo is fast threatening to become the northern punk mecca, with Slaughter and the Dogs and Buzz-

cocks both recording for their own label (Buzzcocks for an EP), and another band who might come under Fleet Street's favourite musical category, Mirror Boys, doing a single for Wart Records, produced and engineered by Mike Thomas . . . On a more light-hearted level, Mike Harding has been in doing the second side of a Polydor album . . . No less than three near-namesake groups, Sweet Sensation, Sweet Chariot and Sweet Vine have been into Indigo, the first doing a single for Pye, and sharing their producer, Dave Kent-Watson with the second group, who were recording a demo. The third, Sweet Vine, were recording a single with Phil Hamp on producing . . . Bacchus did a few single demos in connection with a special programme for Piccadilly Radio . . . Paul Stewart remixed a track for a single . . . Family Silver and Bernie Burns were also in . . .



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Music Trade News Music Trade News

Custom Sound

THIS MONTH, Custom Sound (SST) Ltd., introduce their new CS7HPH high powered horn unit giving superb mid and HF response, handling power levels up to 100 watts. A correctly designed sectorial flared horn is used which over comes the distortion problems of non-sectorial horns of similar size. A notable feature of the CS7HPH is the special cross-over network designed by Custom Sound engineers, which optimises the crossover point to suit the actual level of the horn. The horn has its own variable level control.

Custom Sounds' Wedge Monitors, CS7WM and CS7WMS, have been restyled and the CS7WMS has increased power handling at 75 watts. They are both available with level controls and provide a high quality answer at a reasonable price to most monitoring problems.

A horn is incorporated in the CS7212H, 2 x 12" HF horn cabinet. This is part of the general respecifying of the Custom Sound speaker units to give greater quality and power handling. All Custom Sound speaker units now bear the Custom Sound mark. No price increases have been made.

Elka-Orla (UK) Ltd.
Names New Sales
Director

GORDON GIBBINS has been appointed Sales Director of Elka-Orla (UK), and will be in charge of reorganising the company's marketing and sales division. He recently visited Elka-Orla's factory in Italy, where a new range of console organs is being produced ready for the Frankfurt Fair.

Mr. Gibbins will work in close co-ordination with the present team of managing director Nando Fabi, and Dec McLoughlin, who is handling all financial and administrative aspects of the company and will be promoting sales and extending the present network of franchise dealers throughout the UK.



Custom Sound CS7HPH horn



Custom Sound Wedge Monitor



Custom Sound 2 x 12 Horn Cab

H/H Superservice

H/H HAVE opened a new department to cater exclusively for the musician in need of immediate service. Service manager Richard Gleaves will be available to sort out problems while the customer waits.

All items under guarantee will be repaired without charge, and only a nominal amount will be charged for goods outside the guarantee period. H/H would prefer customers to 'phone before coming, as a journey can often be avoided by a little good advice.

H/H's service department will open at 8.30 a.m. and will normally close at

5.15 p.m. Richard Gleaves is a B.Sc. with considerable experience of equipment, and will be happy to give advice about setting up and using equipment as well as the normal service.



Richard Gleaves

Studer Announce New Mixer

A NEW Studer professional quality audio mixer ideally suited to mobile or small studio use has just been announced by sole U.K. distributor F.W.O. Bauch Limited of Borehamwood.

The Studer 169 audio mixer is fully portable and provides professional performance in a suitcase sized unit with the same basic dimensions as the Studer A67 studio tape recorder. Competitively priced, it has a wide range of applications in mono, stereo and 4-channel sound work.

The 169 is fitted with rechargeable nickel-cadmium batteries, to give a five hour continuous operation capability from a single charge (depending on the number of amplifiers used). The batteries are automatically charged when the mixer is connected to a suitable power source, and another useful feature is an integral AC to DC converter which allows the 169 to operate from a standard 12-volt vehicle supply, from dry cell batteries or from a mains supply.

Constructed for maximum flexibility, the 169 is fully modular. The chassis can accommodate up to 11 inputs with one master unit, or up to four master units with eight input units. Each master unit includes a linear high level input, pre-fade listening and mute/solo switching. A high-quality switchable limiter with reset time variable is also standard.

Reverberation foldback facilities are provided using a built-in electret microphone with its own limiting amplifier. The monitoring section is available in mono, stereo or quad versions with outputs on headphone jacks and on a multiple socket for direct connection to external amplifiers.

Fully equipped, the Studer 169 portable mixer weighs 25kg. The price of a stereo model with peak programme meters is £3500 plus VAT.

New Sunn Cabs

TWO NEW additions to Sunn musical equipment company's line of PA speaker systems is the Model 10, combining two 12" Sunn special design speakers with a Sunn/Magna wide-range compression driver and a piezo-electric tweeter.

The cabinet design is a front loading exponential horn for uniform bass projection. Sunn's unique wooden radial horn is hooked to the Sunn/Magna driver for mid-range reinforcement. The system will handle 100 watts RMS, and uses a biampable crossover network.

The new Concert Monitor is designed to serve as an effective 'front fill' enclosure that is both accurate and versatile. Two 10" special design Sunn speakers are combined with a high frequency tweeter in a uniquely shaped cabinet which can be placed at several angles.



New Sunn Cabinets

Speedy Eastlake

TOM HIDLEY of Eastlake Audio S.A. arrived in England on November 16, to sign contracts on work at Marquee Studios' remix suite. Work began on November 22, and finished on December 12, in time for Jerry Browse, Marquee's chief engineer to complete the installation on December 15.

The speed of the installation for all acoustic finishes has not meant any compromise of Marquee's or Eastlake's high standards, and the photo shows Marquee director Gerry Collins with Tom Hidley, Marquee engineer John Eden, Mud producer Pip Williams, David Hawkins of Scenic Sounds and Marquee director Simon White celebrating.



Marquee Celebration

Playing proof! **picato**



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ROB DAVIS (Mud)

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POWER MUSIC

FEBRUARY'S TOP BARGAINS

Gibson Flying "V", walnut, £350

Travis Bean Standard with case, £565

Gibson SG Standard walnut, £180

Fender Semi-Acoustic Telecaster, £185

Fender Stratocaster, Sunburst, trem, £200

Acoustic combo's, 150 watt lead & Bass £195

Yamaha 100 watt bass combo JBL speaker £220

Fender Bassman 50 watt top, new condition
£100.

Fender Showman 100 watt top £95

Marshall 50 watt lead top £70

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124C GREEN LANE ROAD, LEICESTER.

GUITAR AND AMPLIFICATION SPECIALISTS.

MXR Envelope Filter And Flanger

MXR INNOVATIONS Inc. of Rochester, New York, has added a new addition to its roster of professional products, the Envelope Filter. The filter is a professionally designed, competitively priced tone modifier, enabling the player to create a variety of wah-wah sounds responding directly to touch.

The filter is basically a voltage controlled low-pass filter allowing for a wide variety of effects. The threshold control adjusts the level at which the filter is activated. The Attack control varies the time required for the filter to respond, and the MXR envelope filter

represents another addition to the growing line of creative tools for the musician.

Also new from MXR is the first studio quality flanger in a compact, durable case designed for live performance. The flanger utilizes an actual time-delay, which makes it different from phasing. The longest delay time (16 milliseconds) goes over 150 notches, giving an audible effect of enhanced tonality.

A variety of operating effects can be obtained, ranging from classic flanging to quivering vibrato. The flanger is designed to accept a wide variety of inputs, including guitar, piano, organ, electric bass and vocal microphones.



MXR Flanger

Soundcraft Demo

SOUNDCRAFT ELECTRONICS, based in London, will be giving live demonstrations of their professional mixing equipment at the Audio Engineering Society convention in the Hotel Meridien, Paris, from March 1-4.

They will be conducting 16-track mixdowns through their series 2 Console, which is available in several models with 12 to 24 inputs and various output configurations. They will also be displaying the Series 1 sound reinforcement console and the new Concert Series console designed to fill the gap between the First and Second series.

Soundcraft has found that the quality and versatility of their products are shown off best by testing in live "studio control room" conditions. Their last two AEF demonstrations in Zurich and New York, using similar conditions, were extremely successful.



Barcus-Berry Superducer

Rent-A-Rig

JOHN BEEBY'S Music place in the Hornsey area of London has just started a rather unusual hire service — they're offering total Peavey PA systems of up to 1,500 watts. The service has been so successful recently that John Beeby is splitting the hire company away from the shop

and calling it Rent-A-Rig. The rigs use all Peavey equipment (including Peavey desks) and a price for a London gig for a 500 watt set-up is around £50 including crew.

Barcus-Berry Introduce Superducer

BARCUS-BERRY Sales Corporation of Long Beach, California has found a new method of adding acoustic sound qualities to an electric guitar. The company claims that their new Superducer electric guitar transducer can bring the acoustic tone out of every solid-body or thin-body electric guitar with remarkable accuracy.

Superducer is completely portable and attaches quickly to any electric guitar: a small solid-state transducer attaches to the guitar bridge and connects to a miniature battery powered mixer. An additional lead from the mixer connects to the regular output jack of the guitar which permits isolation of the electric and acoustic signals.

Amcron EQ2

AMCRON HAVE introduced a new stereo equaliser designed for professional use, and featuring eleven bands per channel. The EQ2, as the new unit is called, provides full equalisation from 20Hz to 20KHz with a cut or boost

of ± 15 dB on each band. Each filter has a control which allows $\pm \frac{1}{2}$ octave variation of the centre equalisations.

Balanced inputs provide either unity gain or switched 10dB gain. LED's are provided to monitor, and indicate overload of the EQ2.



Amcron Stereo Equaliser

New Man At Hohner

TERRY MABEY has been appointed Special Projects manager of Hohner (UK). He joined the company towards the end of last year and his responsibilities include UK promotion on a wide range of merchandise. His first job will be promoting the well-known ranges of Hohner keyboards.

Before joining Hohner, Terry was with Rosetti & Co. where he had been for six years. He joined Rosetti when the company took over Simms-Watts, the company he started within the musical instrument industry.

New Canary Mixer

CANARY MIXERS have designed a new 10/2 mixer, which includes 10 low impedance balanced inputs, 3-band equalisation, foldback and echo sends on each channel, PFL, panning, Master VU meters, master 3-band tone controls and headphone monitoring.

The entire unit, in its own carrying case, comes complete with a built-in power supply, at a cost of £225 retail plus VAT, with Cannons an optional extra at £25.



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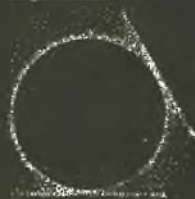
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SOUND IS ROUND

The musical sounds you listen to are in fact concentric waveforms similar to the impression you get as an object is dropped into water. The rings displayed on the surface are visual images of the way sound waves travel. Because sound is round we felt it was quite obvious to use a sphere to project and reinforce the sound wave. So, using this application, we designed the soundsphere. The soundsphere loudspeaker enclosure allows you to actually feel the difference. Dispersion characteristics as well as efficiency vs. fidelity problems are vastly improved. In the past, just about all loudspeaker enclosures offered one plane of sound coming from a box, whether we talk of your present stereo speakers or conventional in and out of date "black boxes" used for professional sound. Either way, the result was sound coming from a box and sounding like a box. The soundsphere is a magnificent conception; its shape suggests a resolve.

As the bass and midrange transducers pump their response into the two reflector dishes, the sound wave is propelled around the sphere, which houses the transducers, thus creating a cleaner, more accurate and highly dispersed sound.



MORE WITH LESS



Truly, your ears get more with less. Functionalism and utility are unique benefits of the soundsphere. Economy of space and amplifier power used to attain desired levels of distortion-free sound are examples. Weight and size are always significant, especially if you're on the road.

You'll really appreciate the amount of level with two soundspheres, instead of three or four conventional boxes and large heavy horns for your P.A.. The soundsphere is a full range loudspeaker enclosure for use with **musical instruments and voice**, as well as other **P.A. applications** such as **club, disco, concert stage, and more.**

Highlighting the soundsphere's economic and functional design, less amplifier power is necessary to produce desired levels for P.A., musical instruments and home entertainment. Each component works less and realizes more. Superior dispersion allows for less level resulting in a clean full sound, without distortion, reducing listener fatigue.

FORM FOLLOWS FUNCTION

Nothing forces customers away from a club or disco faster than loud, distorted music. With the soundsphere, headaches and irritability are eliminated. Those vital psycho-acoustic benefits are the continued economic application of the "sphere". The soundsphere can deliver 360° of dispersion in low and mid-range and well over 200° in high end.

Don't just take our word for it. Les McCann has been using our enclosure almost since its beginning. The word is out. Stop listening to "square" music. Remember, sound is round, you'll feel the difference. Feel for yourself. Drop us a line or just ask your nearest professional instrument dealer or fine audio supplier about the revolutionary

Feel the Difference



soundsphere

SPECIFICATIONS

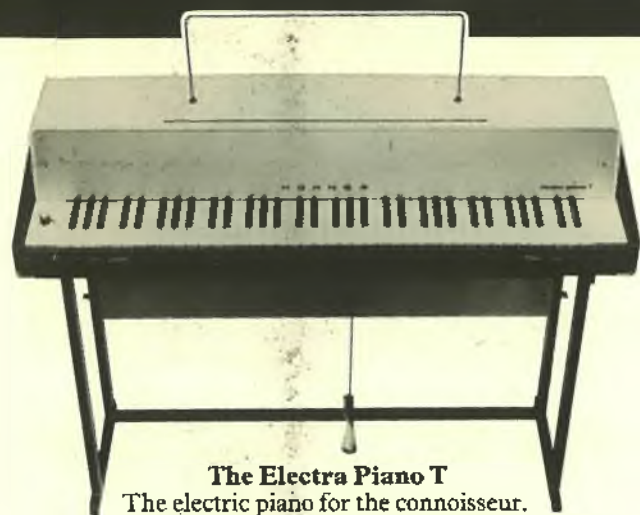
DISPERSION (Low) 360°
(Mid) 360°
(Hi) 180° horizontal; 120° vertical
FREQUENCY RANGE - 29/45 Hz to 22K Hz
MAXIMUM POWER CAPACITY - "Type E" 250 watts RMS
"Type G" 350 watts RMS
MAXIMUM SOUND LEVEL - 123db @ 4 ft.

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WELCOME TO FRANKFURT



FRANKFURT

Frankfurt has a particular importance to every musician (and every member of the trade) this year. It looks like it's going to be the year of the Japanese with almost every major company announcing giant new ranges in almost every field. The British and Americans have had fair warning, however, and strong rumours are circulating about

several show-stopping items intended for launch from both countries.

If you're a European musician you should try to get to the Frankfurt Spring Fair.

It's probably the most important musical instrument fair of the year and, at the show, instruments and equipment are displayed that doesn't become

available for some considerable time after the exhibition. Persistent attention from a musician can, however, succeed in winning possession of a certain item in advance of other musicians.

Ideally a band should try to visit the fair together as much of the PA equipment on display would require a committee decision before ordering.

For the musical instrument trade, the fair is always one gigantic shop window with dealers and wholesalers visiting from all over the world. As a direct result of the deals concluded at this Fair, items will appear (or disappear) from the windows of your local music shop and, indirectly, the purchasing ability of your country's retail trade will either win you lower or higher priced instruments.

British manufacturers have never faced a BETTER PROSPECT than they do this year. Britain's calamitous trading record for the pound

has at least ensured that British products on sale at Frankfurt are perhaps more competitive than ever before.

At Rose-Morris, the export team have assembled especially large order pads to deal with the enquiries they're sure are going to flood in for the new range of Marshall amps. PA:CE have gone to Frankfurt for the first time and their hopes are high for entering export markets for the first time. HH are now old hands at the Fair, but they're now brand leaders so they are confident of a massive boost in overseas sales to help Britain's trade gap. Larry Macari and his team expect soaring sales for Colorsound and Eurotec.

There are many other British made items on show at Frankfurt and, to some extent, they're being offered at below their true value because the pound is considered by many to be artificially low at the moment.

But if Britain has a strong financial advantage, other countries have had the money to develop extra new lines. MXR are punching very hard this year and they'll be showing their incredibly low-priced digital delay at Frankfurt for the first time. The big guns are always there in force and, for names like Fender, Gibson, Moog, Rogers, Hammond, Lowrey, Ludwig etc., it's more of a PR exercise than a hard selling pitch.

Yamaha are rumoured to be making a big thing of drums this year and Pearl are showing a whole range of new lines from mixers through guitars to "touch sensitive" keyboards. Roland have developed some particularly interesting new lines like the guitar synthesizer and the electronic guitar, and it's likely these will be on show.

Of course the Europeans,

whose show it is, aren't likely to allow themselves to be overshadowed. Brand names like ASBA, MCH, Sonor (who are launching a completely new drum range), Dynachord, Hohner and the Italian organ makers like Elgam, Elka and Crumar will be shouting about their new products and established lines as loudly as

anybody else.

It's impossible to say in advance who's going to come out winning. Several experts are pointing to Peavey to do something amazing in Europe and win a market position similar to the one they enjoy in the USA.

What's for sure is that Frankfurt can't be missed by those who need to know

what's happening in the world music trade.

HOW TO GET THERE

The Frankfurt International Spring Fair opens on Sunday February 27th, and runs until March 3rd 1977. The fair ground is very near to the centre of town and is an easy cab ride from Frankfurt International Airport. It's often said that the casual visitor to the Fair finds difficulty in finding hotel accommodation but, invariably, hotel rooms can be found when required within the Greater Frankfurt Area (within a 40km radius).

Flights in and out are hourly from most European capitals and road access to Frankfurt is also very easy. Adequate parking space is provided within the exhibition grounds. If further information about the Fair is required, it can be obtained from the organiser, Mess-und Ausstellungs-Gesellschaft MbH., 6 Frankfurt am Main 97, Friedrich-Ebert-Anlage 57, Postfach 97 0126. Phone 0611-7575-1.

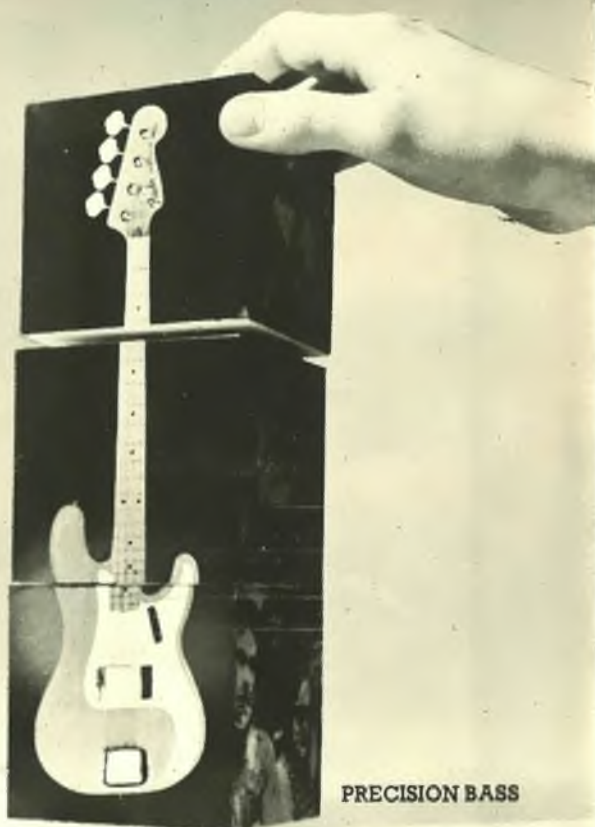
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Dan Armstrong Sound Modifiers, marketed by Sound Projects, are a range of effective, compact and rugged accessories which may be used with any electrified instrument. Their designs were personally supervised by Dan Armstrong to provide the musician with the best sound quality and maximum convenience at the lowest cost. The Modifiers were designed to plug directly into the output of your instrument to give the player fingertip control of his sound. Each unit has a specific effect or function, but several of them may be combined by plugging one into another to produce more complex effects. Any musician who wishes to use these units at the input of his amplifier, rather than at his instrument, need simply interchange two-colour-coded wires inside the box.



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FRANKFURT '77

Acoustic Control Corporation, 7949 Woodley Avenue, Van Nuys, California 91406.

Acoustic amplification is well respected by musicians that have used it, and also by most that have heard it. A full range of the amplifiers and speaker systems will be on display at the Fair this year, and visitors can expect to see all the models that put Acoustic on the amplification map, including the 470 Series amps, the Classic 371 bass series, and the full range of Acoustic PA equipment.

Acoustic-Verstärker werden nicht nur von den Musikern, die sie verwenden, sondern auch den meisten Zuhörern hoch geschätzt. Eine komplette Serie von Verstärkern und Lautsprechersystemen wird auf der diesjährigen Messe ausgestellt, und die Besucher werden wahrscheinlich alle Modelle sehen, die Acoustic zu einer führenden Stellung auf dem Gebiet der Verstärker verholfen haben, darunter die Verstärker der Serie 470 die klassischen Bassgitarren der Serie 371 und die komplette Reihe der Acoustic-Lautsprecherübertragungsanlagen.

Le apparecchiature di amplificazione Acoustic sono altamente apprezzate dai musicisti e dagli appassionati della musica. Quest'anno, alla Fiera apparirà una serie completa di amplificatori ed altoparlanti; i visitatori potranno osservare tutti i modelli che hanno apportato fama alla Acoustic, tra i quali gli amplificatori Serie 470, la serie di contrabbassi Classic 371 e la selezione di apparecchiature Acoustic PA.

L'amplification "Acoustic" est respectée par tous les musiciens qui l'ont utilisée et par la plupart de ceux qui l'ont entendue. Une gamme complète d'amplificateurs et de systèmes de haut-parleurs sera également exposée à la Foire cette année. Les visiteurs pourront contempler tous les modèles d'amplificateurs produits par Acoustic, y compris la série des 470, celle classique des basses 371 et l'ensemble des équipements de retransmission publique d'Acoustic.

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AKG, 184-186 Campden Hill Road, London W8. Tel: 01-229-3695.

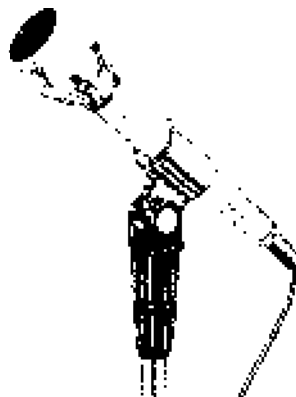
AKG will have an expanded representation at this year's fair. The company's range includes microphones, hi-fi headphones, studio reverb units, including a new portable model. It is expected that the parent Austrian company, which will be presenting the display, will have some additions to the range of musicians' mikes.

AKG wird auf der diesjährigen Messe mit einer erweiterten Ausstellung vertreten sein. Zur Kollektion der Firma gehören u.a. Mikrophone, Hi-Fi-Kopfhörer und Studio-Nachhallgeräte, u.a. auch ein neues tragbares Modell. Man erwartet, daß die österreichische Stammfirma, die für die Ausstellung verantwortlich ist, einige neue Artikel in der Musiker-Mikrofonreihe zeigen wird.

La AKG presentera una serie più ricca, alla Fiera di quest'anno. Tale serie includerà microfoni, cuffie alta fedeltà, riverberatori per studio unitamente ad un nuovo modello portatile. Si spera parimenti che la sede della società, situata in Austria, che presenterà i prodotti, esibisca a sua volta addizioni alla serie di microfoni.

AKG sera largement représentée à Francfort cette année. Elle proposera des microphones, écouteurs hi-fi, et unités de réverbération de studio dont un modèle portatif. La société autrichienne associée qui présentera le stand devrait aussi y ajouter quelques micros de musicien.

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Allen & Heath Ltd., Pembroke House, Campsbourne Road, London N1. Tel: 01-340-3291.

Allen & Heath will be exhibiting their full range of mixers including the SD 12 into 2 model and the new Production Mixer, designed for use with small radio stations. In addition to this, the new Pro Limiter and Automatic Double Track units should be well worth a glance or two.

Die Firma Allen & Heath wird ihr komplettes Mischprogramm ausstellen, darunter das Modell SD 12 in 2 und den neuen Produktionsmischer, der zur Verwendung in kleinen Radiosendestationen bestimmt ist. Außerdem sollte der Besucher nicht versäumen, den neuen Pro Limiter und die Automatic Double Track Units zu besichtigen.

La Allen & Heath esporrà la serie completa di miscelatori, incluso il tipo SD 12, in 2 modelli, assieme al nuovo Production Mixer, adatto per piccole stazioni trasmettenti. I visitatori potranno inoltre osservare il nuovo Pro Limiter e le unità Automatic Double Track.

Allen & Heath présentera sa gamme complète de mixeurs, parmi lesquels le SD 12 en deux modèles et le nouveau Production, destiné à être utilisé par de petites stations de radio. De plus, il vaudra sûrement la peine de jeter un coup d'oeil aux nouvelles unités Pro Limiter et Automatic Double Track.

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ARP (Distributed in UK by Boosey & Hawkes).

ARP will have a full range of their products available on static display and, among the new products, pride of place goes to the ARP Omni synthesizer.

The Omni is really two instruments in one — a string synthesizer being coupled to a conventional synthesizer with the voltage control filter and envelope generator controls which provide the characteristic sound moulding possibilities of the instrument.

Die Firma ARP stellt ihre ganze Produktreihe aus. Unter den neuen Erzeugnissen kann der ARP-Omni-Synthesizer Anspruch auf einen Ehrenplatz erheben.

Beim Omni handelt es sich in Wirklichkeit um zwei Instrumente in einem. Ein Saitensynthesizer ist mit einem konventionellen Synthesizer mit Spannungsregelfilter und Umhüllungsgenerator verbunden. Diese Regler sorgen für die charakteristischen Klangbildungsmöglichkeiten des Instruments.

La ARP esporrà una serie di prodotti in una mostra statica; tra questi, particolare risalto verrà posto sul sintetizzatore ARP Omni.

In effetti, si tratta di due strumenti in uno — un sintetizzatore a corde accoppiato ad un sintetizzatore convenzionale. Il regolatore di tensione, il filtro ed il generatore creano le tipiche caratteristiche sonore dello strumento.

ARP aura à disposition à l'exposition toute une série d'articles, et entre autres le synthétiseur Omni ARP qui occupera une place de choix parmi les nouveautés.

Le synthétiseur Omni est en fait la réunion de deux instruments en un seul : un synthésiseur de cordes couplé d'un synthésiseur conventionnel, avec filtre pour contrôle du voltage et contrôle de générateur, à quoi l'instrument doit toutes les possibilités sonores.

ASBA, 11 Rue Henri-Barbusse, 94450 Limeil-Brevannes, France. Tel: 922 65 59.

Asba drums are available in two main finishes — stainless steel and Altuglass. A range of kits in both finishes will be shown at Frankfurt this year, and visitors will no doubt be interested to take a look at the Altuglass kits, Altuglass being a French acrylic which seems to be the perfect drum material. Asba's 222 bass-pedal will also be shown, along with a large display of drums from the whole Asba range.

Asba-Trommeln sind in zwei Hauptausführungen, nämlich aus rostfreiem Stahl und aus "Altuglass", lieferbar. Auf der diesjährigen Frankfurter Messe werden Sätze in beiden Ausführungen zu sehen sein, und die Besucher werden ohne Zweifel die "Altuglass"-Sätze besonders interessant finden. "Altuglass" ist ein französisches Acrylmateriale, das der beste Werkstoff für diesen Zweck zu sein scheint. Das Basspedal Asba 222 wird ebenfalls ausgestellt und es ist auch eine große Auswahl an Trommeln aus der Asba-Kollektion zu sehen.

I tamburi Asba vengono prodotti in due finiture, di acciaio inossidabile o Altuglass. Alla fiera di Francoforte verrà presentata una serie di kit di entrambi i tipi. I visitatori saranno indubbiamente interessati ad osservare i kit Altuglass; l'Altuglass è un materiale acrilico francese che, a quanto pare, è ideale per la produzione dei tamburi. Verrà presentato il pedale Asba 222, unitamente ad una selezione di tamburi appartenente alla serie Asba.

Les batteries Asba sont disponibles en deux finitions—acier inoxydable et altuglass. Une gamme d'ensembles dans les deux finitions sera présentée à Francfort cette année; les visiteurs seront sans nul doute soucieux de regarder les ensembles en Altuglass, un acrylique français qui apparaît comme le matériau parfait pour batteries. Sera également exposée la pédale-basse 222 Asba ainsi qu'un large échantillon des tambours de toute la gamme Asba.

Asba-Trommeln sind in zwei Hauptausführungen, nämlich aus rostfreiem Stahl und aus "Altuglass", lieferbar. Auf der diesjährigen Frankfurter Messe werden Sätze in beiden Ausführungen zu sehen sein, und die Besucher werden ohne Zweifel die "Altuglass"-Sätze besonders interessant finden. "Altuglass" ist ein französisches Acrylmateriale, das der beste Werkstoff für diesen Zweck zu sein scheint. Das Basspedal Asba 222 wird ebenfalls ausgestellt und es ist auch eine große Auswahl an Trommeln aus der Asba-Kollektion zu sehen.

Avedis Zildjian Incorporated, P.O. Box 198, Accord, Massachusetts 02018, USA. Tel: 0101-617 8712200.

This year will be Zildjian's 20th year at the Frankfurt Fair. Present on the stand will be Armand and Robert Zildjian, together with their sales and selection manager Leonard DiMusio.

Apart from their world renowned range of cymbals, of particular interest will be their new Flat Top Ride cymbals, available from 8" to 22" sizes. These cymbals have neither "cup" nor "bell" and produce a fine high pitched tone and a positive stick sound with no build-up in overtones.

Dieses Jahr stellt Zildjian schon zum 20. Mal auf der Frankfurter Messe aus. Den Besuchern stehen am Stand Armand und Robert Zildjian und der Verkaufs- und Auswahl-Manager der Firma, Leonard DiMusio, zur Verfügung.

Außer ihren bereits weltbekannten Becken dürften die neuen "Flat Top Ride" Becken der Firma, die es von 20cm bis 34cm gibt, besondere Aufmerksamkeit erregen. Sie haben weder "Becher" noch "Trichter" und erzeugen einen schönen hohen Ton und einen positiven Stabklang ohne Obertöne.

Quest'anno segna la ventesima partecipazione della Zildjian alla Fiera di Francoforte. Allo stand saranno presenti Armand e Robert Zildjian, con il direttore commerciale Leonard Di Musio.

Oltre alla serie di piatti, rinomata in ambiente internazionale, particolare interesse suscita la nuova serie di piatti Flat Top Ride, nelle misure da 8 a 22". Tali piatti non hanno né "cup" né "bell" e producono un tono alto e preciso, senza creazione di ipertoni.

Cette année, la société Zildjian participera pour la vingtième fois à l'exposition de Francfort. Seront présents Armand et Robert Zildjian, avec leur Directeur des ventes, Léonard DiMusio.

Oltre leur célèbre série de cymbales, leurs nouvelles cymbales Flat Top Ride, disponibles en plusieurs dimensions entre 20 et 60 cm., seront particulièrement dignes d'intérêt. Ces cymbales n'ont pas de "creux"; elles ont un timbre aigu et fin et produisent un son vraiment persistant.

Asba-Trommeln sind in zwei Hauptausführungen, nämlich aus rostfreiem Stahl und aus "Altuglass", lieferbar. Auf der diesjährigen Frankfurter Messe werden Sätze in beiden Ausführungen zu sehen sein, und die Besucher werden ohne Zweifel die "Altuglass"-Sätze besonders interessant finden. "Altuglass" ist ein französisches Acrylmateriale, das der beste Werkstoff für diesen Zweck zu sein scheint. Das Basspedal Asba 222 wird ebenfalls ausgestellt und es ist auch eine große Auswahl an Trommeln aus der Asba-Kollektion zu sehen.

Boosey & Hawkes, Deansbrook Road, Edgware, Middlesex, Tel: 01-952-7711.

The old-established British company of Boosey & Hawkes will be exhibiting a very wide range of instruments and equipment as usual. Their goods include the world famous Sovereign brass range, the Regent Edgware Emperor clarinet and Emperor flute plus the grand new Emperor oboe, Golden Strad violin and cello bows, Dolmetsch recorders, Dennis Wick mouthpieces and mutes, and Beverley drums and accessories.

Die alteingesessene britische Firma Boosey & Hawkes stellt, wie immer, eine sehr große Auswahl an Instrumenten und Geräten aus. zu ihrem Sortiment gehören die weltberühmten Sovereign-Blechinstrumente, die Emperor-Klarinette, die Emperor-Flöte und die großartige neue Emperor-Oboe von Regent Edgware, Golden-Strad-Violin- und -Cellobögen, Dolmetsch-Blockflöten, Dennis-Wick-Mundstücke und -Dämpfer und Beverley-Trommeln mit Zubehör.

L'antica società britannica Boosey & Hawkes esporrà nuovamente una vasta selezione di strumenti ed apparecchiature. Questi comprenderanno la famosa serie di ottoni Sovereign, i clarinetti Regent Edgware Emperor, i flauti Emperor, gli archetti per violino e violoncello Golden Strad, i flauti dolci Dolmetsch, le imboccature Dennis Wick ed i tamburi ed accessori Beverley.

La société Boosey-Hawkes, qui existe depuis tres long-temps, présentera, comme chaque année, un très large éventail d'instruments et de matériel. On pourra voir entre autres la série de cuivres Souverains, célèbres dans le monde entier, la clarinette de l'Empereur Regent Edgware et la flûte de l'Empereur, ainsi que le nouveau et magnifique haut-boys de l'Empereur, le violon Golden Strad et les archets pour violoncelles, les magnétophones de Dolmetsch, les microphones et les sordines de Dennis Wick, et enfin les percussions de Beverley avec divers accessoires.

Asba-Trommeln sind in zwei Hauptausführungen, nämlich aus rostfreiem Stahl und aus "Altuglass", lieferbar. Auf der diesjährigen Frankfurter Messe werden Sätze in beiden Ausführungen zu sehen sein, und die Besucher werden ohne Zweifel die "Altuglass"-Sätze besonders interessant finden. "Altuglass" ist ein französisches Acrylmateriale, das der beste Werkstoff für diesen Zweck zu sein scheint. Das Basspedal Asba 222 wird ebenfalls ausgestellt und es ist auch eine große Auswahl an Trommeln aus der Asba-Kollektion zu sehen.

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Bose, Milton Regis, Sittingbourne, Kent. Tel: 0795-75341.

Bose P.A. systems have consolidated their importance on the British market in the last 12 months. British bands have been made increasingly aware that Bose offers a viable and valuable alternative for making reliable big sound to 70's specifications. A wide choice of 1800 and 800 Bose units will be available again at Frankfurt this year, and as always choosing Bose gives you an unusual clarity for such a relatively small system.

Die öffentlichen Lautsprecheranlagen von Bose haben sich in den letzten 12 Monaten auf dem britischen Markt immer mehr durchgesetzt. Britische Kapellen haben immer mehr erkannt, daß die Firma Bose eine erfolgreiche und nützliche Alternative bietet, wenn es darum geht, nach den Spezifikationen unserer heutigen Zeit einen zuverlässigen, kräftigen Klang zu erzeugen.

Auch dieses Jahr wird in Frankfurt wieder eine große Auswahl an Bose-Geräten 1800 und 800 gezeigt, und wie immer, erhalten Sie mit Bose ungewöhnliche Klarheit, wenn man bedenkt, daß es sich hierbei um relativ kleine Anlagen handelt.

I sistemi Bose P.A. si sono definitivamente affermati sul mercato britannico in questi ultimi 12 mesi. Le bande musicali nazionali hanno constatato che i prodotti Bose rappresentano un metodo di accertata efficienza per ricavare un alto rendimento sonoro, adatto per i nostri tempi.

Anche quest'anno, a Francoforte verrà esposta una vasta serie di unità Bose 1800 e 800. Tali unità forniscono una chiarezza musicale, malgrado le modeste dimensioni.

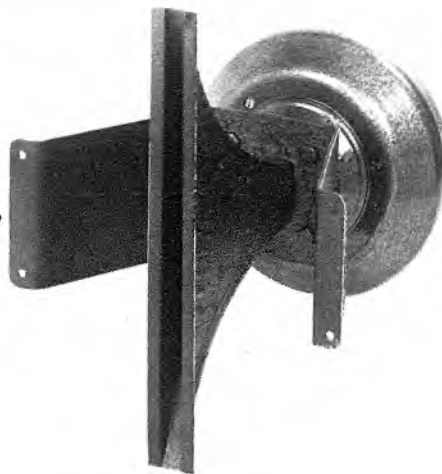
Les procédés d'amplification utilisés par la société Bose ont pris une place de plus grande sur le marché britannique, au cours des douze derniers mois. Les orchestres britanniques ont pris conscience que Bose offre un choix de matériel durable et de bonne qualité, permettant de produire des sons de grande intensité.

Un large éventail des appareils de sonorisation 1800 et 800 de Bose sera disponible cette année encore à Francfort, et comme toujours, en choisissant un matériel Bose, vous obtenez une pureté étonnante pour des appareils relativement petits.

Asba-Trommeln sind in zwei Hauptausführungen, nämlich aus rostfreiem Stahl und aus "Altuglass", lieferbar. Auf der diesjährigen Frankfurter Messe werden Sätze in beiden Ausführungen zu sehen sein, und die Besucher werden ohne Zweifel die "Altuglass"-Sätze besonders interessant finden. "Altuglass" ist ein französisches Acrylmateriale, das der beste Werkstoff für diesen Zweck zu sein scheint. Das Basspedal Asba 222 wird ebenfalls ausgestellt und es ist auch eine große Auswahl an Trommeln aus der Asba-Kollektion zu sehen.



◀ The S3 driver for extreme sensitivity and high power.

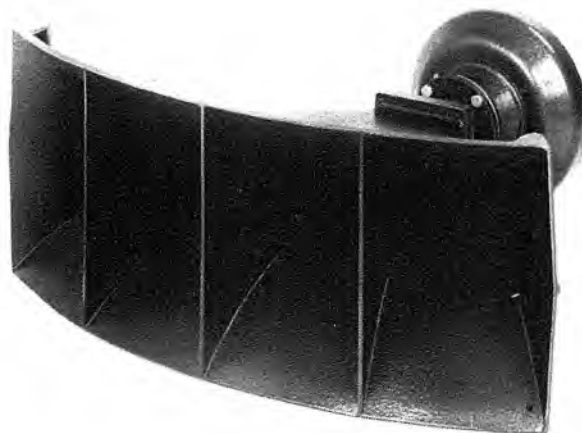


▶ The unique 4kHz horn for wide dispersion of the upper audio frequencies.

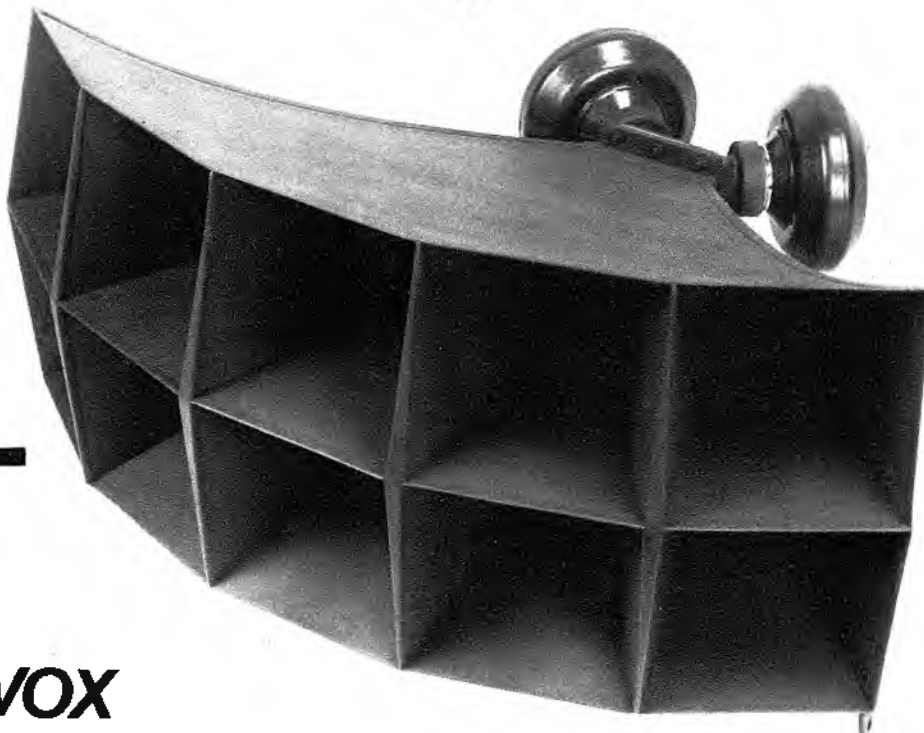
▼ The four-cell dispersive horn for superbly well balanced acoustic output for mid and high frequencies.



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Brodr Jorgensen, Rygaards Alle 104, 2900 Hellerup, Denmark. Tel: 010-451-297511.

Brodr Jorgensen will be showing quite a wide range of new Roland items at Frankfurt, including the RE301 Echo Chamber, which is a deluxe version of the popular RE201, but with a built-in Jazz Chorus effect. This effect is also featured in their new DC50 electronic digital echo chamber, which is sure to be a winner.

The highlight should be the Roland MP700 portable electric piano and the MPA100 amplifier which was designed for use with the piano.

Brodr Jorgensen wird eine recht große Auswahl an neuen Roland-Artikeln in Frankfurt ausstellen, darunter die Echokammer RE301, die eine Luxusversion des populären Modells RE 201 darstellt, jedoch mit einem eingebauten Jazzchor-Effekt ausgestattet ist. Diesen Effekt findet man auch in der neuen elektronischen Digital-Echokammer DC 50 der Firma, die verspricht, ein Schlager zu werden.

Die beiden Hauptattraktionen an diesem Stand dürften das tragbare elektrische Klavier Roland MP 700 und der Verstärker MPA 100 sein, der zur Verwendung mit dem Klavier bestimmt ist.

La Brodr Jorgensen présentera une riche série de appareillatures Roland, a Francoforte, tra le quali la camera a echi RE 301, una versione tipo lusso del popolare modello RE 201, dotata di un effetto Jazz Chorus incorporato. Tale effetto è parimenti presente nella nuova camera a echi elettronica numerica DC 50, che costituirà una forte attrazione.

Particolarmente interessante sarà il piano elettrico portatile Roland MP 700 e l'amplificatore MPA 100, disegnato per l'impiego con il piano.

Brodr Jorgensen exposera une très large gamme de nouveaux produits à Francfort, notamment la chambre d'écho RE301, une version de luxe de la populaire RE201 mais avec un effet de chorus de jazz intégré. Cet effet figure aussi dans la nouvelle DC50, une chambre d'écho électronique à touches qui sera certainement un succès.

Le clou du stand sera sans doute le piano électrique portable Roland MP700 et l'amplificateur MPA100 destiné à être utilisé avec le piano.

Frankfurt 1976年9月10日、11日、12日の3日間、ハンブルク・メッセで「FRANKFURT '76」の楽器展示会が開催された。この展示会には、世界中の楽器メーカーが参加し、最新の楽器や楽器部品を展示した。その中でも、デンマークのBrodr Jorgensen社が展示したRolandの楽器は、特に注目を集めた。その中でも、RE301のデジタルエコーチェンバー、DC50のデジタルエコーチェンバー、MP700のポータブル電気ピアノ、MPA100のピアノ用アンプが、大きな人気を博した。また、Brodr Jorgensen社は、この展示会を通じて、多くの楽器愛好家と出会い、今後の営業に繋げたいと考えている。

Burns U.K. Ltd., Home Sales Division, 9 Olive Street, Sunderland, Tyne & Wear. Tel: Sunderland 40974.

Burns U.K. exhibited at Frankfurt for the first time last year, when their 'Artist' guitar made its debut. The company has kept its new designs coming, and this year, there is another new model ready for showing at Frankfurt. The LJ24 is a conventional solid guitar with a 24-fret neck and new pick-ups designed to give the same level of volume as the Burns Flyte guitar's Humbuster pick-ups and deliver an increasing level of treble.

Die Firma Burns U.K. stellte letztes Jahr zum ersten Mal in Frankfurt aus. Bei dieser Gelegenheit machte ihre 'Artist'-Gitarre ihr Debut. Die Firma hat immer wieder neue Modelle herausgebracht, und auch dieses Jahr wird in Frankfurt wieder ein ganz neues Modell ausgestellt. Die LJ24 ist eine konventionelle 'solid' Gitarre mit 24-bündigem Hals und neuen Pick-ups, die die gleiche Klangfülle ergeben wie die Humbuster-Pick-ups der Burns-Flyte-Gitarre und auch einen höheren Diskant liefern.

La Burns U.K. ha esposto per la prima volta a Francoforte l'anno scorso, presentando la chitarra 'Artist'. Anche quest'anno, la società avrà un nuovo disegno per Francoforte. Il modello LJ24 è una chitarra convenzionale con manico a 24 tasti e nuovi pick-up che forniscono lo stesso livello di volume della chitarra Burns Flyte, con un livello più elevato di acuti.

L'année dernière, Burns U.K. exposait pour la première fois à Francfort et lançait sa guitare 'Artist'. La société a mené à terme de nouveaux projets et présente cette année à Francfort un nouveau modèle, le LJ24 qui est une guitare pleine traditionnelle, avec manche à 24 cases, pourvue d'un nouveau micro capable de fournir des sons de la même intensité que les micros Humbuster de la guitare Burns Flyte, et des aigus d'intensité croissante.

バーンス(英国)社は、去年初めてフランクフルトに展示した「アーティスト」ギターが、今年もまた新しいモデル「LJ24」を発表した。このギターは、24フレットのフルボディで、新しいピックアップを搭載している。これは、バーンスの「フライテ」ギターのハムバスターピックアップと同等の音量を出力し、さらに高音域の増強が特徴である。

Canary Mixing Desks Ltd., 17 West Hill, Wandsworth, London SW18. Tel: 01-870-7722.

Canary had their own stand for the first time at Frankfurt '76, when visitors were able to view not only 12 and 15-channel mixers, but 18-channels as well. Visitors this year will be able to view Canary's new low-price mixer designed for newer bands, a 10 into 2 mixer. The new mixer incorporates 3-band EQ on each channel, master VU's, pre-fade listen buttons on each channel and a sub mix socket which allows a band to tack on an extra mixer if they need it. Canary's range still includes an 18 into 2 desk, with a new Mark II version. The company has also produced a new rack-mounted power amp.

Die Firma Canary hatte 1976 in Frankfurt zum ersten Mal einen eigenen Stand. Dort sahen die Besucher nicht nur Mischer mit 12 und 15, sondern sogar mit 18 Kanälen. Dieses Jahr können sie Canarys neuen preiswerten, für neuere Bänder ausgelegten 10 in 2 Mischer sehen.

La Canary ha partecipato per la prima volta all'edizione Frankfurt '76, presentando al pubblico i miscelatori a 12, 15 ed a 18 canali. Quest'anno i visitatori potranno osservare il nuovo miscelatore Canary, di basso prezzo, adatto per bande di nuovo concetto. Il miscelatore è del tipo 10 in 2.

C'est à l'exposition de 1976 à Francfort que la société Canary a obtenu son propre stand d'exposition pour la première fois, où elle présentait aux visiteurs des appareils de mixage, non seulement à douze ou quinze canaux, mais aussi à dix-huit canaux. Cette année, les visiteurs pourront voir le nouvel appareil de mixage Canary, d'un prix modéré, destiné aux orchestres les plus modernes, qui offre dix possibilités en deux canaux.

1976年のフランクフルトでの展示は、当社にとって初めての経験であり、12、15、18チャンネルのミキサーだけでなく、10チャンネルから2チャンネルへの新しいミキサーも展示しました。この新しいミキサーは、最新のバンド向けに設計されており、各チャンネルに3バンドEQ、マスターVUメーター、プリフェードリスニングボタン、サブミックスソケットを備えています。また、18チャンネルから2チャンネルへの新しいMark IIバージョンのミキサーも展示しています。さらに、新しいラックマウント型パワーアンプも開発しました。



この新しいミキサーは、最新のバンド向けに設計されており、各チャンネルに3バンドEQ、マスターVUメーター、プリフェードリスニングボタン、サブミックスソケットを備えています。また、18チャンネルから2チャンネルへの新しいMark IIバージョンのミキサーも展示しています。さらに、新しいラックマウント型パワーアンプも開発しました。

Carlsbro Sound Equipment, Cross Drive, Low Moor Industrial Estate, Kirkby-in-Ashfield, Nottinghamshire, England. Tel: 0623-753902.

Carlsbro will be showing some exciting new products alongside their very successful range of solid state amplifiers and high power speakers. A range of new effects units including Phasing, Wah-Wah, Flanging and Sustain will be on show along with a new 130 watt bass amplifier, a 12 channel stereo mixer, several new speakers for PA, instrument and monitoring applications and a small Bass Combo.

In addition, Carlsbro are now in full production of their popular Mantis electronic delay line echo unit which features 240 push-button selections of echo, reverb and repeat effects coupled with slider controls.

Carlsbro wird neben der sehr erfolgreichen Serie von Solid-State-Verstärkern und Hochleistungs-Lautsprechern eine Reihe neuer, besondere Aufmerksamkeit erregender Erzeugnisse ausstellen. Es gibt eine Reihe neuer Effektgeräte, darunter Phasenkontrast, Wah-Wah, Dauerton usw., sowie einen neuen 130-Watt-Baßverstärker, ein 12-Kanal-Stereomischpult, verschiedene neue Lautsprecher für die öffentliche Übertragung, Instrumente und Kontrollzwecke und eine kleine Baßkombination.

La Carlsbro esporrà alcuni eccitanti nuovi prodotti, assieme all'affermata serie di amplificatori a semiconduttori ed altoparlanti ad alta potenza. Verranno presentate nuove unità per la creazione degli effetti, inclusi gli effetti Phasing, Wah-wah, Flanging e Sustain, unitamente ad un nuovo amplificatore dei bassi di 130 watt, un miscelatore stereofonico a 12 canali, diversi nuovi altoparlanti per strumenti PA, accessori per strumenti e controllo ed un piccolo Bass Combo.

Carlsbro exposera quelques nouveaux produits excitants à côté de sa gamme très réussie d'amplificateurs solides et de haut-parleurs à grande puissance. Elle exposera une série de ses nouvelles unités à effets, notamment phasé, wah-wah, flanging et sustain ainsi que son nouvel amplificateur de basse 130 watt, un mixeur stéréo à 12 canaux, plusieurs nouveaux haut-parleurs pour retransmission publique, utilisation instrumentale et témoin et un petit combiné de basse.

この展示会では、最新のバンド向けに設計されており、各チャンネルに3バンドEQ、マスターVUメーター、プリフェードリスニングボタン、サブミックスソケットを備えています。また、18チャンネルから2チャンネルへの新しいMark IIバージョンのミキサーも展示しています。さらに、新しいラックマウント型パワーアンプも開発しました。

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Cardiff Music Strings, Pontygwindy Industrial Estate, Caerphilly, South Wales. Tel. 0222-883904/5.

With the acquisition of Sound City, Cathedral and Summit ranges to its roster of Londoner and St. David, the Cardiff company has been working hard on updating the presentation of its strings for this year's fair.

The new look will incorporate new developments, new materials and new sounds. Dealer incentives, always a strong part of Cardiff's marketing, will again be prominent.

Mit der Erweiterung ihres Londoner- und St. David-Lieferprogramms um Sound City, Cathedral und Summit hat sich die Firma Cardiff sehr darum bemüht, ihr Saitenprogramm für die diesjährige Messe den neuesten Erfordernissen anzupassen.

Der 'New Look' zeichnet sich durch neue Entwicklungen, neues Material und neue Klänge aus. Cardiff hat schon immer großen Wert darauf gelegt, den Händlern einen besonderen Ansporn zu bieten, und diese Bemühungen stehen auch dieses Jahr wieder im Vordergrund.

La Cardiff, dopo aver concluso le serie Sound City, Cathedral e Summit ai propri prodotti Londoner e St. David, si è dedicata al compito della presentazione dei propri articoli alla mostra di quest'anno.

Si noteranno nuovi perfezionamenti, nuovi materiali e nuovi suoni. Seguendo la propria tradizionale politica, la Cardiff assegnerà allettanti incentivi ai propri distributori.

En raison de l'acquisition des gammes de Sound City, Cathedral et Summit, qui viennent s'ajouter à ses séries de Londoner et Saint-David, la société Cardiff a eu fort à faire pour mettre à jour la présentation de ses instruments à cordes pour l'exposition de cette année.

De nombreux progrès ont été accomplis et l'on trouvera de nouveaux équipements et de nouveaux éléments sonores. Des éléments attrayants pour la vente, qui ont toujours constitué l'essentiel des méthodes de commercialisation de Cardiff, seront à nouveau largement utilisés.

Cleartone Musical Instruments, 27 Legge Lane, Birmingham. Tel: 021-236-6100.

Though it was not absolutely certain at press time, CMI were hoping to introduce three new addenda to their range of amplification equipment. Firstly, an all-purpose bin with two 12" 50-watt speakers and two horns, together with a fairly inexpensive three-way electronic crossover, and a monitor cabinet with a built-in amp. These three items will be an extra to an already wide range of cabinets produced by CMI, whose Frankfurt winner last year was the Maximin range of cabinets.

Die Firma CMI hofft, ihr Sortiment an Verstärkeranlagen um drei neue Artikel erweitern zu können. Zur Zeit der Drucklegung stand dies allerdings noch nicht mit absoluter Sicherheit fest. Es handelt sich dabei erstens um einen Allzweckkasten mit zwei 305 mm 50-Watt-Lautsprechern und zwei Schalltrichtern, zweitens eine verhältnismäßig billige elektronische Dreiwegeweiche und drittens ein Kontrollgerät mit eingebautem Verstärker.

Quantunque al momento della pubblicazione non fosse assolutamente certo, tuttavia a tal momento la CMI sperava di aggiungere tre nuovi articoli alla propria serie di apparecchiature di amplificazione. Innanzitutto, un mobile a più funzioni con due altoparlanti di 12", 50 watt, con due trombe. Inoltre, un crossover elettronico a tre vie, di basso prezzo, ed un mobile monitor con amplificatore incorporato.

Bien que cela ne soit pas encore absolument certain, Cleartone Musical Instruments espère ajouter trois nouveaux articles à son matériel d'amplification. Premièrement, un ensemble comportant deux haut-parleurs de 50 Watts, de 30,48 cm, avec deux antennes; deuxièmement, un appareil électronique à trois sorties, relativement bon marché, et une table de contrôle avec amplificateur incorporé.

このプレス時の確信は、まだ確実ではありませんが、プレス時には、CMIは、3つの新しい追加品を、その増強された増強装置の範囲に追加することを希望していました。まず、2つの12インチの50ワットのスピーカーと2つの角の、比較的安価な3ウェイの電子クロスオーバー、そして、内蔵アンプのモニターキャビネットを含む、すでに幅広い範囲で提供されているキャビネットの範囲に、これら3つの追加品を、すでに提供されているキャビネットの範囲に追加することを希望していました。昨年、Frankfurtの勝者であったMaximinのキャビネットの範囲に、これら3つの追加品を、すでに提供されているキャビネットの範囲に追加することを希望していました。

CBS/Arbiter, Dallas House, Vanguard Way, Shoeburyness, Essex. Tel: 03708-4121.

CBS/Arbiter will be displaying all their Fender guitar and amp lines this year. The percussion end of their Arbiter range has a number of innovations, with Autotune's new single-headed 5-drum kit, a full set of Concert tom-toms, a new range of double-headed 14 x 10 and 18 x 16, 6 1/2 inch snare drum, and a new tom-tom holder among the year's new lines. Autotune come in two new colours, metallic gold and metallic silver.

Die Firma CBS/Arbiter stellt dieses Jahr alle ihre Fender-Gitarren und -Verstärker aus. Ihr Arbiter-Sortiment an Schlaginstrumenten enthält einige Neuheiten, u.a. Autotunes neuen aus 5 Trommeln mit Einzelfell bestehenden Satz, einen vollständigen Satz Concert-Tomtomms, ein neues Sortiment an 35 x 25 und 46 x 41, 16,5 cm Schnarrtrommeln mit doppeltem Fell und einen neuen Tomtomhalter. Autotune gibt es in zwei neuen Farbe - metallisch Gold und metallisch Silber.

Quest'anno la CBS/Arbiter esporrà la propria serie di chitarre Fender ed amplificatori. La selezione di strumenti a percussione presenta diverse innovazioni; tra queste, il kit a 5 tamburi, di nuovo concetto Autotune, una serie completa di tam-tam Concert, una nuova gamma di tamburi 'timbro' di 14 x 10 e di 18 x 16, de 6 pollici e mezzo ed un nuovo sostegno per i tam-tam. I modelli Autotune appariranno in due colori: oro ed argento metallizzati.

CBS/Arbiter présentera cette année toutes ses guitares Fender et ses séries d'amplificateurs. Il y aura parmi les instruments à percussion de la série Arbiter, plusieurs innovations, notamment un nouveau petit tambour Autotune, toute une série de tam-tams Concert, une nouvelle gamme de tambours à timbre de 16,5 cm à deux têtes 14 x 10 et 18 x 16, et un nouveau support pour tam-tams. Autotune est disponible en deux nouvelles couleurs, or métallisé et argent métallisé.

CSL (Distributed in the UK by Summerfield Bros.)

Ibanez guitars should prove to be a very popular exhibit this year, not only because of their already proven excellence, but also because of the fact that there are new pick-ups featured on many of the Ibanez models this year, and it's rumoured that these are even better than the current type. Ibanez will be shown at Frankfurt this year under the banner of the German distributor, Roland Meini, and visitors can expect to see a wide and interesting display of Ibanez and CSL instruments there.

Ibanez-Gitarren dürften dieses Jahr sehr beliebte Ausstellungsstücke sein, nicht nur wegen ihrer bereits erprobten ausgezeichneten Qualität, sondern auch wegen der Tatsache, daß viele Ibanez-Modelle in diesem Jahr mit neuen Pick-ups versehen sein werden, die noch besser sein sollen als die bisher verwendeten. Ibanez-Gitarren werden auf der diesjährigen Frankfurter Messe unter der Flagge ihres deutschen Vertreters Roland Meini ausgestellt und die Besucher können mit einem ausgedehnten und interessanten Aufgebot von Ibanez- und CSL-Instrumenten rechnen.

Le chitarre Ibanez, indubbiamente, costituiranno un'attrattiva alla fiera di quest'anno, non solo perchè sono accertatamente eccellenti ma parimenti per via dei nuovi pick-up dei quali verranno dotati i nuovi modelli. A quanto pare, tali modelli saranno ulteriormente migliorati rispetto le versioni attuali. I prodotti Ibanez, all'evento di Francoforte di questo anno, verranno presentati dal distributore tedesco Roland Meini. I visitatori potranno osservare un'interessante mostra di strumenti Ibanez e CSL.

Les guitares Ibanez devraient s'affirmer comme un des objets exposés les plus populaires, non seulement à cause de leur grande qualité déjà reconnue, mais aussi à cause des nouveaux capteurs que comportent nombre de modèles Ibanez exposés cette année: on dit même qu'ils sont supérieurs au type actuel. Ibanez exposera cette année sous la bannière du distributeur allemand, Roland Meini et les visiteurs peuvent s'attendre à admirer un étalage ample et intéressant d'instruments Ibanez et CSL.

このプレス時の確信は、まだ確実ではありませんが、プレス時には、CMIは、3つの新しい追加品を、その増強された増強装置の範囲に追加することを希望していました。まず、2つの12インチの50ワットのスピーカーと2つの角の、比較的安価な3ウェイの電子クロスオーバー、そして、内蔵アンプのモニターキャビネットを含む、すでに幅広い範囲で提供されているキャビネットの範囲に、これら3つの追加品を、すでに提供されているキャビネットの範囲に追加することを希望していました。昨年、Frankfurtの勝者であったMaximinのキャビネットの範囲に、これら3つの追加品を、すでに提供されているキャビネットの範囲に追加することを希望していました。

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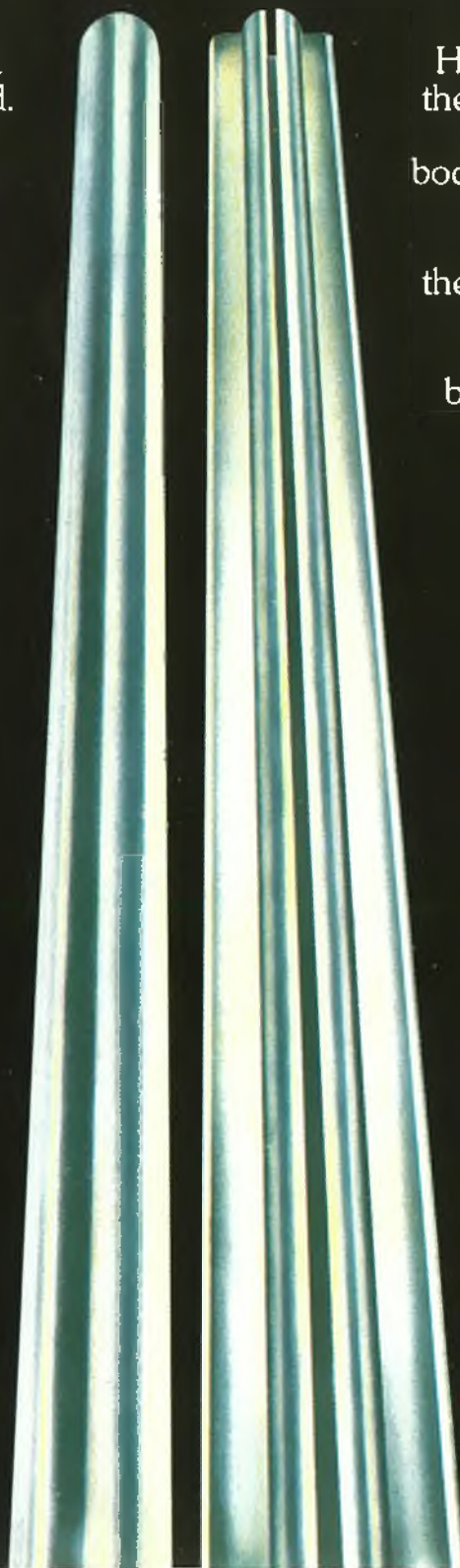
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FRANKFURT '77

Custom Sound Ltd., Custom House, Arthur Street, Oswestry, Salop SY11 1JN. Tel: 0691-59201.

Custom Sound is this year an exhibitor in its own right at Frankfurt. Though various products from Custom Sound have previously been exhibited at Frankfurt, this will be the first occasion when the complete range will be exhibited by Custom Sound themselves.

Amongst the company's products, the Trucker 45 watt combo is one of the biggest selling combos in the UK, yet was only introduced a year ago. Also on show will be the CS 700-A PA mixer amplifier and the CS 700 MXR mixing desk.

Zu den Erzeugnissen der Firma gehört die Trucker 45-Watt-Kombination, einer der Verkaufsschlager dieser Art im Vereinigten Königreich, obgleich das Gerät erst vor einem Jahr eingeführt wurde. Ferner sind auf der Messe der Lautsprecherübertragungs-Mischverstärker CS 700-A und das Mischpult CS 700MXR zu sehen.

Uno dei prodotti suddetti, il combo Trucker di 45 watt, ha acquistato alta popolarità in G.B. quantunque sia apparso sul mercato solo un anno fa. Verrà parimenti esposto il miscelatore amplificatore CS 700-A PA e l'unità miscelatrice CS 700MXR.

Parmi les autres productions de la société figure le combiné Trucker de 45 Watts, une des meilleures ventes de combiné depuis son introduction en Grande-Bretagne il y a en an. Sera également présenté l'amplificateur-mixeur CS 700-A PA et la table de mixage CS 700MXR.

出品物の中心は、一年前に登場したばかりの「トラック」の45ワットの電圧増幅器の組み合わせ、1000Wの45ワットのコンボアンプである。また、CS 700-A PAのミキサー・アンプとCS 700MXRのミキシング・コンソールも展示される。この「トラック」は、英国で最も売れているコンボアンプであり、これは音響技術の進歩を示す好例である。音楽界でもっとも売れている製品である。以前は、英国でもっとも売れている製品であり、これは音響技術の進歩を示す好例である。

Electronic Music Studios, 227 Putney Bridge Road, London SW15 2PT. Tel: 01-788-3491.

EMS have done a great deal of pioneering work in the field of synthesizer development, and are basing their display this year on three rather special products, the Vocoder (already possessed by Stevie Wonder and Kraftwerk), the Synthi E, a bright hope for schools, and the Computer Synthi, which EMS regard as an ultimate gargantuan synthesising system.

Die Firma EMS hat bedeutende Pionierarbeit auf dem Gebiet der Synthesizer-Entwicklung geleistet und der Schwerpunkt ihrer diesjährigen Ausstellung sind drei besondere Spezialerzeugnisse, und zwar der Vocoder (bereits von Stevie Wonder und Kraftwerk bezogen), das Modell Synthi E, von dem man sich eine große Zukunft für Schulen verspricht, und der Computer Synthi, den EMS als den Gipfel eines riesigen Synthesizer-Systems betrachtet.

La EMS ha svolto opera di pioniera nello sviluppo dei sintetizzatori; tale società, quest'anno, baserà la propria partecipazione alla Fiera sulla presentazione di tre prodotti speciali, il Vocoder (già posseduto da Stevie Wonder e Kraftwerk), il Synthi E, una chiara promessa per le scuole ed il Computer Synthi che la EMS considera un sintetizzatore di grandi dimensioni, che riflette i concetti più contemporanei.

EMS a fait un important travail de pionnier en matière de développement des synthétiseurs et fonde son exposition cette année sur trois produits assez spéciaux, le Vocoder (que possèdent déjà Stevie Wonder et Kraftwerk), Synthi E, un grand espoir pour les écoles, et le Computer Synthi, que EMS considère comme un système de synthétisation gargantuesque ultime.

EMSはシンセサイザーの開発の分野で、先駆者の役割を果たし、今年もその分野で三つの特別な製品を展示する。その中心は、Vocoder (既にStevie WonderとKraftwerkが所有している)、学校に明るい希望を与えるSynthi E、そして、EMSが最終的な巨大なシンセサイザーシステムと見做しているComputer Synthiである。

Elka-Orla (UK) Ltd., 19 Bluebridge Industrial Estate, Halstead, Essex. Tel: Halstead 5325.

The Italian company Elka-Orla will have six new models ready to display at Frankfurt this year in addition to a full range of their products, including the Fantasy and Companion lines, the very popular X-55 portable organs, the compact Rhapsody string machines, and many more lines which have become better known in Britain since the British company was set up to distribute here.

Die italienische Firma Elka-Orla stellt dieses Jahr in Frankfurt sechs neue Modelle aus. Das umfangreiche Lieferprogramm, das sonst noch zu sehen ist, enthält die Modelle Fantasy und Companion, die sehr beliebten transportablen Orgeln X-55, die kompakten Saitengeräte Rhapsody und zahlreiche weitere Artikel, die in Großbritannien bekannter geworden sind, seit die britische Firma gegründet wurde, um sich hier mit dem Vertrieb zu befassen.

La società italiana Elka-Orla presenterà sei nuovi modelli, quest'anno, a Francoforte, oltre alla serie completa de prodotti che comprende gli affermati modelli Fantasy e Companion, i popolari organi portatili X-55, i compatti complessi a corda Rhapsody e parecchi altri articoli che sono diventati più conosciuti in Gran Bretagna da quando è stata istituita la ditta britannica che distribuisce gli strumenti in ambito nazionale.

La société italienne Elka Orla a mis au point six nouveaux modèles qui seront exposés à Francoforte cette année et s'ajouteront à toute leur gamme de matériel, y compris les séries Fantasy et Companion, les célèbres orgues portatils X55, les instruments à cordes Rhapsody, et de nombreux autres articles qui commencent à être connus en Grande Bretagne depuis que la société anglaise y a été fondée aux fins de la commercialisation.

Elka-Orla社は今年、Frankfurtの展示会に、そのフルラインの製品に加えて、6つの新しいモデルを展示する。その中心は、FantasyとCompanionのシリーズ、非常に人気のX-55のポータブルオルガン、コンパクトなRhapsodyの弦楽器、そして、英国でより知られるようになった多くの他の製品である。この英国の会社は、英国でこれらの楽器を販売するために設立された。

FAL, Henconner Lane, Leeds LS13 4LQ. Tel: Pudsey 56478.

Futuristic Aids Ltd. are at Frankfurt for the first time under their own name, as a direct result of greatly increased and expanding sales on the Continent.

Their superbly-styled new Kestrel twin channel combo with Hammond reverb will be on show, among many other styles of PA and disco equipment. On the disco side, FAL's 'Decor box' (small and double sizes) will be on show.

Als direkte Folge ihres stark erhöhten und sich immer weiter ausdehnenden Umsatzes auf dem europäischen Kontinent stellt die Firma Futuristic Aids Ltd. dieses Jahr zum ersten Mal in Frankfurt unter eigenem Namen aus.

Neben vielen anderen Lautsprecher- und Disco-Anlagen ist auf der Messe die besonders formschöne neue Kestrel-Zweikanal-Combo mit Hammond-Nachhall zu sehen. Auf der Disco-Seite stellt die Firma FAL ihre 'Decor Box' (in kleiner und doppelter Größe) aus.

La Futuristic Aids Ltd. parteciperà per la prima volta sotto il proprio nome alla fiera di Francoforte; questo è dovuto al successo incontrato nelle vendite sul continente.

Verrà esposto il superbo e nuovo combo a due canali Kestrel, con riverberatore Hammond, assieme ad altre apparecchiature PA e per discoteca. Tra quest'ultime, menzioniamo il 'Decor box' FAL (formato piccolo e doppio).

2. C'est la première fois que Futuristic Aids Ltd. apparait sous son propre nom à Francoforte. Cela est du au développement considérable de leurs ventes sur le continent.

Leur nouveau et magnifique combo Kestrel à deux canaux, avec céverge incorporée Hammond, sera exposé, ainsi que d'autres modèles de matériel de sonorisation et de lumières de scène. En matière de lumières de scène, on pourra voir la "Boite-Décor" FAL (en petite et grande dimensions).

Fane Acoustics Ltd., 286 Bradford Rd., Batley, Yorkshire.

Fane are a loudspeaker manufacturer specialising in producing drive units for use in cabinets intended for use in rock music applications.

Many UK made amplifiers incorporate Fane loudspeakers, and the company has gained a particularly strong hold in the disco market. Drivers with a wide range of power handling capabilities are available.

Als Hersteller von Lautsprechern ist Fane auf die Erzeugung von Drive Units zur Verwendung in Gehäusen spezialisiert, die für Rock 'n' Roll Musik bestimmt sind.

Viele im Vereinigten Königreich hergestellten Verstärker enthalten Fane-Lautsprecher, und die Firma hat im Disco-Geschäft besonders festen Fuß gefaßt. Es gibt Drivers mit einem weiten Leistungsbereich.

La società Fane si specializza nella costruzione di unità di comando per l'uso nei mobiletti usati per il rock.

Parecchi amplificatori prodotti in G.B. incorporano gli altoparlanti Fane; questa società si è affermata in modo assai incoraggiante sul mercato dei 'disco'. Essa produce unità di comando caratterizzate da differenti livelli di potenzialità operativa.

Fane est un fabricant de haut-parleurs spécialisé dans la production d'unités de drive pour des baffles destinés à la musique rock. De nombreux amplificateurs fabriqués au Royaume-Uni comprennent des haut-parleurs Fane et la compagnie a acquis des positions très fortes sur le marché des discothèques. Nous proposons des drivers ayant d'importantes capacités en matière de power-handling.

フエーンはラウドスピーカメーカーとして、ロックミュージック用に利用されるべき音域の広いドライブユニットを専門に製造して、英国製のものにのみ提供している。フエーンはラウドスピーカを輸入販売しており、現在、世界中の市場で音質の良い地位を得て、多くの音楽愛好家の間で高い信頼を得ている。パワーハンドリング能力が広い音域の広いドライブユニットを提供する。

General Music Strings, C7, Treforest Industrial Estate, Pontypridd, Glamorgan, Wales. Tel: Treforest 2098

GMS have a number of new lines at Frankfurt this year. For acoustic guitars, there are the new Picato Custom Gauge strings, and for bass guitars, Picato bass strings are to be introduced at Frankfurt.

Customatic strings have been given a new package, and a unique Custom Gauge selector dispenser will also be available, along with a complete range of Picato strings, and a newly packaged range of Monopole strings.

GMS zeigt dieses Jahr in Frankfurt eine Reihe neuer Artikel. Für akustische Gitarren gibt es die neuen Picato-Custom-Gauge-Saiten und für Bassgitarren werden in Frankfurt die Picato-Bass-Saiten vorgestellt.

Customatic-Saiten werden in einer neuen Packung herausgebracht; eine einzigartige Custom-Gauge-Wählervorrichtung ist ebenfalls lieferbar, zusammen mit einer kompletten Kollektion von Picato-Saiten und einer neuverpackten Serie von Monopole-Saiten.

Quest'anno, a Francoforte, la GMS presenterà parecchi nuovi prodotti. Nel campo delle chitarre acustiche, figureranno le nuove Picato Custom Gauge, nel campo delle chitarre a corde basse, figureranno i modelli Picato Bass String.

La serie Customatic è stata presentata sotto una nuova confezione; alla Fiera verrà inoltre esposto il nuovo dispensatore selettore Custom Gauge, assieme alla serie di corde Picato ed alle nuove corde Monopole.

GMS offre plusieurs nouvelles séries à Francoforte cette année. Pour les guitares acoustiques, il y a les nouvelles cordes Picato, Custom Gauge, et pour les guitares basses, des cordes basses Picato seront présentées à Francoforte.

Les cordes Customatic ont reçu une nouvelle présentation et un distributeur unique de Custom Gauge sera proposé aux cotés d'une gamme complète de cordes Picato et d'un nouvel emballage de la gamme des Monopole.

GMS は今年、フランクフルトで、いくつかの新しい商品を展示する。アコースティックギター用の新しい Picato Custom Gauge の弦、ベース用の Picato Bass String の弦、また Customatic の弦の新しいパッケージング、そして Custom Gauge の新しい選択式分配器も展示される。また、Picato の弦の完全なラインナップと、Monopole の弦の新しいパッケージングも展示される。

Guild Musical Instruments, 225 Westgrand Street, Elizabeth, New Jersey 07202. Tel. (201) 351 3002.

A wide range of Guild's excellent acoustic and electric guitars will be on show at their stand at Frankfurt this year, including all the well-known models like the D-55, D-40 and D-35 acoustic guitars, the S-100 and M-75 electric and the JSB-2 bass, plus the newer guitars - the B-50 flat-top acoustic bass and the M-80 solid electric.

Die Firma Guild zeigt dieses Jahr an ihrem Stand auf der Frankfurter Messe eine reiche Kollektion ausgezeichnete akustischer und elektrischer Gitarren, u.a. auch alte Bekannte wie die akustischen Gitarren D-55, D-40 und D-35, die elektrischen Modelle S-100 und M-75 sowie die Bassgitarre JSB-2 und die neueren Gitarren - die flache akustische Bassgitarre B-50 und das elektrische Instrument M-80.

Al proprio stand di Francoforte, la Guild esporrà una ricca serie di chitarre acustiche ed elettriche, tra le quali i rinomati modelli di chitarre acustiche D-55, D-40 e D-35, le chitarre elettriche S-100 e M-75, il contrabbasso JSB-2 oltre alle novità - le chitarre 'flat-top' B-50, la 'acoustic bass' e la 'solid electric' M-80.

Une large gamme des excellentes guitares acoustiques et électriques sera exposée au stand Guild à Francoforte cette année; ce sera le cas de tous les modèles connus comme la D-55, la D-40 et la D-35 guitares acoustiques - et les S-100 et M-75 - guitares électriques - ainsi que la basse JSB-2 et les nouvelles guitares: la basse acoustique B-50 à sommet plat et la M-80, électrique, extra-plat.

フランクフルトの展示場では、Guild の優れたアコースティックギターと電気ギターが展示される。有名なモデルとして、D-55、D-40、D-35 のアコースティックギター、S-100、M-75 の電気ギター、そして JSB-2 のベースギター、さらに新しいギター - B-50 のフラットトップアコースティックベースギターと M-80 の電気ギターが展示される。



HH Electronic, Viking Way, Bar Hill, Cambridge CB3 8EL. Tel: 0954-81140.

H.H. Electronic will this year be showing the largest range of products in the company's history. In addition to their popular M.A.100 PA, and the new V.S. Musician range, six new units will be shown.

These are: the Studio 50 Combo, a small, efficient amplifier in a well-built cabinet with a 12" speaker; a new effects footswitch, the 'Clockwork Concubine,' which requires no batteries and can link up with other HH pedals in modular form; a new 12 into 2 channel mixer; the S500D amplifier, a flight case system for the S500D, and a new advanced 3-way high power speaker system.

H.H. Electronic zeigt dieses Jahr das größte Lieferprogramm in der Geschichte der Firma. Außer ihrer sehr beliebten Lautsprecherübertragungsanlage M.A. 100 und den Geräten der Reihe V.S. Musician werden sechs neue Artikel gezeigt, und zwar Studio 50 Combo, der Fußschalter 'Clockwork Concubine', ein neuer 12/2-Kanal-Mischer, der Verstärker S500D, ein Flugsystem für den S500D und eine neue Dreiweg-Lautsprecheranlage.

La H.H. Electronic, quest'anno esporrà la più ampia selezione di prodotti, nella storia della società. Oltre al popolare modello M.A. 100 PA ed alla nuova serie V.S. Musician, verranno presentati sei nuove unità, che includono lo Studio 50 Combo, l'interruttore a pedale 'Clockwork Concubine', il nuovo miscelatore 12/2 canali, l'amplificatore S500D, il sistema a cassetta per il modello S500D ed un nuovo altoparlante a 3 vie.

Cette année, HH Electronic exposerà le plus large éventail d'appareils de toute l'histoire de la société. Outre le célèbre amplificateur MA 100 et la nouvelle série V.S. Musian, elle présentera six nouveaux appareils, notamment le Studio 50 Combo, la pédale 'Clockwork Concubine', une nouvelle table de mixage 12/2, l'amplificateur S500D, un système d'emballage pour le S500D et un nouveau système de haut-parleurs à trois sorties.

今年、HH Electronic は、その歴史の中で最大の製品ラインナップを展示する。M.A. 100 PA と新しい V.S. Musician シリーズの機器に加えて、6 つの新しい装置が展示される。これらは、Studio 50 Combo、電池を必要としない 'Clockwork Concubine' のフットスイッチ、他の HH ペダルと接続可能なモジュラー形式の新しい 12 入力 2 出力チャンネルミキサー、S500D アンプ、S500D のフライトケースシステム、そして新しい 3 ウェイ高出力スピーカーシステムである。

FRANKFURT '77

Keith Hitchcock & Co., 1379 Lincoln Road, Peterborough. Tel: 0733-71913.

The Sharma range has one addition for this year's display, a big model with large pressure units, bass speakers and a 500-watts speaker capacity. All Sharma's cabinets are now dual purpose, with a standard conventional kit, or jack input with pre-amplifier, so that the amplifier works with either consoles or portables.

Hitchcock & Co. will again be exhibiting the full range of their speaker cabinets at Frankfurt this year. Last year's debutant was the 3000 de luxe multi-channel cabinet, with a separate bass speaker, a 12" straight speaker and the 'sound around' Sharma voice, and this will again be exhibited along with such popular ranges as the 2000 Professional, 5000 GT and Sharma 900.

Die Firma Hitchcock & Co. stellt dieses Jahr in Frankfurt wieder ihr vollständiges Lautsprecher-sortiment aus. Neu auf der letztjährigen Messe waren der Mehrkanal-Lautsprecher 3000 de luxe mit extra Baßlautsprecher, ein 305 mm gerader Lautsprecher und die 'Sound Around' Sharma-Stimme. Diese Artikel werden zusammen mit so beliebten Geräten wie dem 2000 Professional, dem 5000 GT und Sharma 900 auch dieses Jahr wieder ausgestellt.

La Hitchcock and Co. tornerà ad esporre la serie di mobili per altoparlanti, quest'anno a Francoforte. L'anno scorso essa ha presentato il mobile multicanale 3000 de Luxe, con un altoparlante separato per i bassi, un altoparlante normale di 12" ed un gruppo 'sound around' Sharma. Questo modello verrà nuovamente esposto assieme a versioni altamente popolari quali la 2000 Professional, la 5000 GT e la Sharma 900.

Hitchcock & Cie exposeront à Francfort cette année encore toute leur série d'enceintes. La nouveauté de l'année dernière était l'enceinte de luxe 3000 à plusieurs canaux, avec haut-parleur de basses séparé, haut-parleur de 30,48 cm, et l'appareil de bruitage Sharma 'Sound Around'. Elle sera a nouveau exposée cette année, à côté de bien d'autres articles très connus, comme le 'Professional 2000', le 5000 GT et le Sharma 900.

Keith Hitchcock & Co. will again be exhibiting the full range of their speaker cabinets at Frankfurt this year. Last year's debutant was the 3000 de luxe multi-channel cabinet, with a separate bass speaker, a 12" straight speaker and the 'sound around' Sharma voice, and this will again be exhibited along with such popular ranges as the 2000 Professional, 5000 GT and Sharma 900.

Hohner, 39-45 Cold-harbour Lane, London, SE5. Tel: 01-733-4411.

Hohner's new Planet and the Electra Piano T will be new features of Hohner's range of instruments at Frankfurt this year, together with a variety of Hi pianos and string synthesizers.

This is in addition to what Hohner is known for — harmonicas, both tonal and chromatic, melodicas and accordions. Most important new development in these traditional areas is the new Special 20 harmonica, a different model in the range of the Super Vamper.

Neu unter den von Hohner dieses Jahr in Frankfurt gezeigten Instrumenten sind die neue Pianette und das Electra Piano T sowie verschiedene Hi-Klaviere und Saiten-Synthesizers.

Daneben sind auch die Instrumente zu sehen, für die Hohner bereits bekannt ist — tonale und chromatische Harmonikas für alle Ansprüche, Melodikas und Akkordeons. Die wichtigste neue Entwicklung auf diesen traditionellen Gebieten ist die neue Harmonika Special 20, ein weiteres Modell in der Super-Vamper-Reihe.

I nuovi prodotti presentati quest'anno a Francoforte dalla Hohner comprenderanno il nuovo piccolo piano, l'Electra Piano T, una varietà di Hi pianos e sintetizzatori a corde.

Questi rappresenteranno un'addizione ai prodotti per i quali la Hohner è famosa — le armoniche a bocca, tonali e cromatiche, basiche o elaborate, melodiche e fisarmoniche. La più importante innovazione in questo campo è la nuova armonica Special 20, che farà parte della serie Super Vamper.

Le nouveau piano de Hohner et le piano Electra T feront figure de nouveautés dans la gamme des instruments, la série de pianos Hi et les synthétiseurs exposés par Hohner cette année à Francfort.

Tout cela vient s'ajouter aux articles pour lesquels Hohner est le plus connu, harmonicas tonaux et chromatiques, mélodicas et accordéons. La principale nouveauté dans ces domaines traditionnels est le nouvel harmonica 'Special 20', modèle qui diffère du Super Vamper.

本年のフランクフルト展では、ホーナー社が新しいピアノとエレクトラピアノ T という新製品を展示します。その他に、ハイピアノや弦楽器のシンセサイザーも展示されます。これらは、ホーナー社が有名であるハーモニカ、音調と色調のハーモニカ、メロディカ、アコーディオンに加えてのもので、最も重要な新開発は、スーパーヴァンパーシリーズの新しい Special 20 ハーモニカです。これは、スーパーヴァンパーシリーズの他のモデルとは異なるモデルです。また、音調と色調のハーモニカ、メロディカ、アコーディオンも展示されます。最も重要な新開発は、スーパーヴァンパーシリーズの新しい Special 20 ハーモニカです。これは、スーパーヴァンパーシリーズの他のモデルとは異なるモデルです。

James How Industries, 20 Upland Road, Bexley-heath, Kent. Tel: 01-304-4711.

The Rotosound display will feature various facets of its range at the Frankfurt Fair. The highly popular gauge selection for plectrum and bass guitar will be prominently featured. New additions to both ranges are the "Jumbo Bronze Box" and the "Jazz Bass Box" which both have balanced sets available to suit all tastes.

Another feature will be a unique range of bass and guitar strings which is an expansion of the Super Bass series. Catalogues, leaflets, posters and other items will be available from the stand.

Auf der Frankfurter Messe werden verschiedene Aspekte der Rotosound-Kollektion herausgestellt, besonders die sehr populäre Maßauswahl für Plektrum- und Baßgitarre. Neue Zusätze zu den Serien sind "Jumbo Bronze Box" und "Jazz Bass Box", die beide ausgeglichene Sätze haben, um allen Geschmacksrichtungen zu entsprechen.

Ein weiteres Merkmal des Standes ist eine einzigartige Kollektion von Baß- und Gitarresaiten, die eine Erweiterung der Super-Bass-Serie bilden. Kataloge, Flugblätter, Plakate und anderes Material liegt am Stand auf.

Alla Fiera di Francoforte la Rotosound presenterà parecchi prodotti della propria serie, tra i quali l'affermata serie di plettri e chitarre. Le più recenti addizioni saranno le "Jumbo Bronze Box" e le "Jazz Bass Box", con unità equilibrate, adatte per preferenze particolari.

Figurerà inoltre una serie esclusiva di corde per contrabbassi e chitarre che rappresenta un'addizione alla serie Super Bass. Allo stand potranno venir richiesti i cataloghi, volantini, affissi ed altri articoli.

Le stand Rotosound présentera divers aspects de sa palette à la foire de Francfort. La sélection standard, très populaire, de médiators et guitares basses sera au premier plan. S'y ajouteront respectivement le "Jumbo Bronze Box" et le "Jazz Bass Box" qui toutes deux proposent de quoi satisfaire tous les goûts.

On pourra aussi remarquer une gamme unique de cordes de basse et de guitare, dérivée des séries Super Bass. Le stand proposera entre autres des catalogues, prospectus et posters.

フランクフルト展では、フレットレスギター、バスギター用のピック、ジャズベースボックス、ジュンボブロンズボックスの新しいピックを展示します。これらは、フレットレスギター、バスギター用のピック、ジャズベースボックス、ジュンボブロンズボックスの新しいピックを展示します。これらは、フレットレスギター、バスギター用のピック、ジャズベースボックス、ジュンボブロンズボックスの新しいピックを展示します。

Kramer Guitars, 1111 Green Grove Road, Neptune, New Jersey 07753. Tel: (201) 922-8600.

Kramer guitars feature the fascinating T-section aluminium necks that I.M. readers will doubtless be aware of already. The four main models in the Kramer range will be on show at the Fair, the 350 guitar and 350 Bass, along with the 450 guitar and 450 Bass, and all the guitars feature ebonol fingerboards, 'centre-touch' Petillo fret wire design and selected wood inlays in the back of the T-neck.

Kramer-Gitarren zeichnen sich durch die faszinierenden T-Profil-Aluminiumhalse aus, mit denen I.M.-Leser sicher schon vertraut sind. Die vier Hauptmodelle in der Kramer-Serie werden aus der Messe ausgestellt, und zwar die Gitarre 350 und die Baßgitarre 350 sowie die Gitarre 450 und die Baßgitarre 450; alle Gitarren sind mit einem Ebonol-Griffbrett, "centre-touch" Petillo-Bunddesign und exklusiven Holzeinlagen auf der Rückseite des T-Halses ausgestattet.

Le chitarre Kramer sono caratterizzate dagli affascinanti manici in profilato di alluminio a T, ben noti ai lettori di I.M. I quattro più importanti modelli Kramer che appariranno alla fiera saranno il 350 Guitar, il 350 Bass, il 450 Guitar ed il 450 Bass; tutte le chitarre posseggono una tastiera di ebonol, corde di accompagnamento "centre-touch" Petillo ed intarsi di legno sul lato retrostante del manico a T.

Les Guitares Kramer sont munies des fascinants manches d'aluminium en T, que connaissent déjà sans aucun doute tous les lecteurs d'I.M. Les quatre principaux modèles de la gamme Kramer seront exposés à la foire, à savoir la guitare 350 et la Basse 350, ainsi que la guitare 450 et la basse 450. Toutes les guitares comportent des touches d'ebonol, des touchettes "centre-touch" Petillo de fil de fer et des incrustations de bois sélectionnées au dos du manche.

フランクフルト展では、Kramer社のT-プロファイルアルミニウムネックのギターとベースを展示します。これらは、フレットレスギター、バスギター用のピック、ジャズベースボックス、ジュンボブロンズボックスの新しいピックを展示します。これらは、フレットレスギター、バスギター用のピック、ジャズベースボックス、ジュンボブロンズボックスの新しいピックを展示します。

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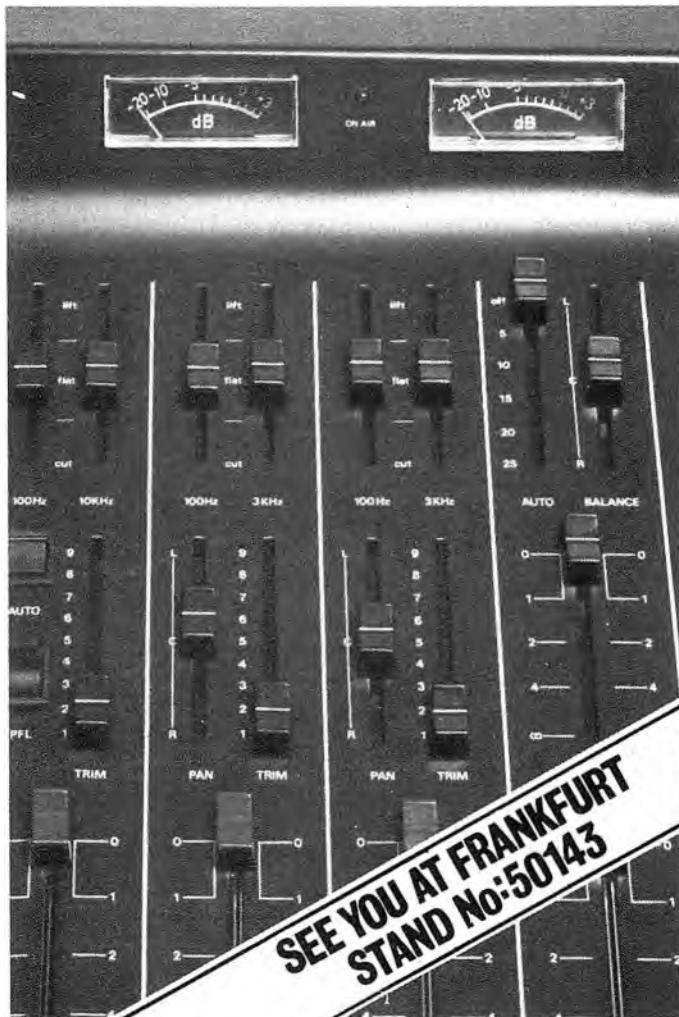
The unit has been designed for the production of tape collages for radio, TV, film and broadcast recording studios.

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FRANKFURT '77

Leech Manufacturing Co., Broughton Road, Salford M6 6AQ. Tel: 061-737-4466.

This Manchester based company have cornered much of the UK market in speaker cabinet assemblies. Specialising in carpentry for the music trade, the company has recently moved to larger premises in Manchester and are currently mounting an export drive. They have their own fleet of trucks to transport their woodwork across Europe, and Germany is currently proving to be their biggest growth area. It's surprising just how many well-known speaker cabinets are of Leech manufacture.

Diese in Manchester ansässige Firma hat sich in der Herstellung von Lautsprechergehäusen einen bedeutenden Anteil am britischen Markt erobert. Die Firma, die auf Holzartikel für den Musikhandel spezialisiert ist, übersiedelte vor kurzem in größere Räume in Manchester und ist gegenwärtig im Begriff, einen intensiven Exportfeldzug zu unternehmen. Ihre Holzzeugnisse werden in eigenen Lastwagen quer durch ganz Europa transportiert, und in Deutschland hat die Firma zur Zeit ihre Wachstumsrate zu verzeichnen.

Questa società, con stabilimenti a Manchester, si è assicurata una notevole percentuale del mercato britannico dei mobiletti per altoparlanti. La ditta, che si specializza nella fabbricazione di articoli di legno per il settore della musica, si è recentemente spostata presso un nuovo stabilimento e sta ponendo in atto una vigorosa campagna per l'esportazione. Tale società utilizza i propri autocarri per trasportare i prodotti sui mercati di consumo, in Europa. Attualmente, la Germania costituisce il mercato di maggior assorbimento.

Cette compagnie de Manchester a essaimé ses cadres d'enceintes dans une grande partie du marché britannique. Spécialisée dans la charpenterie en musique, la compagnie a récemment déménagé à un siège plus grand à Manchester et développe actuellement un effort d'exportation. Elle possède sa propre flotte de camions pour le transport de ses constructions de bois à travers l'Europe et l'Allemagne s'avère sa principale zone d'expansion.

この会社は、英国を主とするが、ヨーロッパ全土に展開し、特にドイツ市場に大きな成功を収めている。音楽業界の専門工芸者として、最近より大規模な工場に移動し、輸出用のトラックを保有し、ヨーロッパ全土に木材を運搬するトラックのフリートを保有し、ドイツ市場の拡大に力を入れている。現在、ドイツ市場が最大の成長分野となっている。

Ludwig Industries, 1278 North Damen Avenue, Chicago, Illinois 60647.

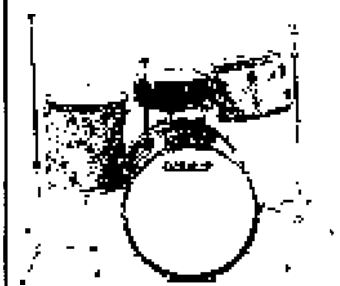
The Stainless Steel drum kits that Ludwig are now manufacturing are bound to prove popular at this year's Frankfurt Fair. This famous drum company will also be showing a large array of other types of percussion, including many examples of the drum kits that have made the name Ludwig synonymous with fine percussion throughout the world.

Die gegenwärtig von Ludwig hergestellten Trommelsätze aus rostfreiem Stahl werden sich ohne Zweifel auf der diesjährigen Frankfurter Messe als populär erweisen. Dieser berühmte Trommelhersteller wird auch eine große Auswahl anderer Schlaginstrumente ausstellen, darunter viele Beispiele von Trommelsätzen, die den Namen Ludwig auf der ganzen Welt zu einem Synonym für feine Schlaginstrumente gemacht haben.

I tamburi di acciaio inossidabile della Ludwig si affermeranno, senza dubbio, quest'anno a Francoforte. Questa rinomata società presenterà parimenti un'assortimento di altri strumenti a percussione assieme a vari kit che hanno imposto il nome Ludwig all'ammirazione mondiale, nel settore degli strumenti a percussione.

Les batteries acier inoxydable maintenant produites par Ludwig s'avèreront à coup sûr populaires à la foire de Francoforte cette année. Cette fameuse compagnie de batteries exposera aussi un large éventail de ses autres types de percussion, en particulier plusieurs exemplaires d'ensembles de tambours qui ont rendu le nom de Ludwig synonyme de grande percussion dans le monde entier.

現在、ドイツ市場に展開し、特にドイツ市場に大きな成功を収めている。音楽業界の専門工芸者として、最近より大規模な工場に移動し、輸出用のトラックを保有し、ヨーロッパ全土に木材を運搬するトラックのフリートを保有し、ドイツ市場の拡大に力を入れている。現在、ドイツ市場が最大の成長分野となっている。



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Music Man (Distributed in the U.K. by Strings & Things, 20 Chartwell Road, Churchill Industrial Estate, Lancing, West Sussex BN15 8TU).

The full range of Music Man equipment will be shown at the Fair this year, including amplification and guitars. In the amplification field Music Man has caught on very quickly and many top-line professional musicians are now using these powerful little units, including the range of combos — the 112-65, 212-65 and 212HD-130 amongst them — the amps like the 65 and the 130 reverb, and the three speaker enclosures: the 115, 212 and 412. The two guitars featured thus far bearing the Music Man logo are the Stingray 1 Guitar and the Stingray 1 Bass — these too will be shown and visitors would do well to try them out.

Die komplette Serie der MUSIC-MAN-Ausrüstung wird dieses Jahr auf der Messe gezeigt, darunter Verstärker und Gitarren. Auf dem Gebiet der Verstärkung hat sich Music Man sehr rasch eingebürgert und viele führende Berufsmusiker verwenden jetzt diese kleinen, leistungsfähigen Geräte, darunter auch die Kombinationsserie, zu der z.B. die Modelle 112-65, 212-65 und 212HD-130 gehören, ferner Verstärker wie die Nachhallgeräte 65 und 130 sowie die drei Lautsprecherverkleidungen 115, 212 und 412.

Quest'anno, alla Fiera, apparirà l'intera serie di apparecchiature Music Man, inclusi gli amplificatori e le chitarre. Nel campo degli amplificatori, prodotti Music Man si sono chiaramente affermati ed oggi, parecchi professionisti di fama usano queste potenti e compatte unità che comprendono la serie di combo — 112-65, 212-65 e 212HD-130 — gli amplificatori tipo 65 e 130 Reverb e tre complessi per altoparlanti: tipo 115, 212 e 412.

La gamme complète de l'équipement Music Man sera exposée à la foire cette année, y compris amplificateurs et guitare. Dans le domaine de l'amplification, Music Man s'est très vite développé avec succès et nombre de musiciens professionnels de première classe utilisent maintenant ses petites unités puissantes, notamment la gamme de combinés, parmi eux les 112-65, 212-65 et 212-D-130, les amplis comme le 65 et le Reverb 130, ainsi que les trois enceintes de haut-parleurs: le 115, le 212 et le 412.

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Nashville Music Strings Ltd., 203, Ystrad Road, Pentre, Rhondda. Tel: 044-348-2428.

In addition to the popular Nashville strings, Nashville's Sounder bass guitar strings are now available. Sounder are available in the wound-round, and semi-woundround styles, both available in long and medium-scale.

The 'wound' strings are precision wound under constant tension, so that they can be cut anywhere along the length without the spinning wire coming loose. They are spun with silk at the ball end, to protect the instrument from roughness.

Außer den normalen Nashville-Saiten gibt es jetzt von Nashville auch die Sounder-Baßgitarrensaiten. Sounder-Saiten sind sowohl in gedrehter runder als auch in halbgedrehter runder Form mit langem und mittlerem Tonumfang erhältlich. Zum ersten Mal gibt es jetzt die Custom-Reihe auch für elektrische Gitarren.

Die 'gedrehten' Saiten werden unter konstanter Spannung präzisions-gedreht, so daß sie an jeder Stelle abgeschnitten werden können, ohne daß der Draht aufgeht. Sie sind am einen Ende mit Seide umspunnen, damit das Instrument geschützt wird.

Oltre alla popolare serie di strumenti a corda Nashville, verrà ora posta in commercio la serie di chitarre basso Nashville Sounder. Queste verranno prodotte nella versione con avvolgimento completo o semiavvolte, a scala lunga e media. Sarà parimenti disponibile, per la prima volta, la serie di chitarre elettriche Custom.

La serie avvolta ha l'avvolgimento effettuato sotto tensione costante per cui è possibile effettuare il taglio a qualunque punto sulla lunghezza, senza che il filo si svincoli. Sull'estremità a sfera viene usata la seta per non creare detrimento alla dolcezza dello strumento.

Outre les célèbres instruments à cordes, Nashville présente maintenant ses cordes Sounder pour guitares bases. Les cordes Sounder existent en large et fin cerclage et sont disponibles en deux longueurs. La série de guitares électriques est mise en vente pour la première fois.

Le cerclage des cordes est fait de telle sorte que les cordes peuvent être coupées à n'importe quel endroit sans risquer de se détendre. Les boules des extrémités sont pourvues de boucles de soie.

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Norlin (UK) Ltd., Woolpack Lane, Braintree, Essex CM7 6BB. Tel. Braintree 21911.

Two particularly important lines are included in Norlin's exhibits for '77: the Gibson Mark guitar series, and the new polyphonic Moog.

The Poly Moog is a new development from the Monophonic Moog, and 71 keys can be played simultaneously, and there is an electronic chip for every key. Each key has its own volume, response and brightness, and has been produced after eight years of tests, with consultants including Rick Wakeman and Patrick Moraz.

Zwei besonders wichtige Artikel gehören 1977 zum Ausstellungsgut der Firma Norlin, nämlich die Gitarren-Serie Gibson Mark und die neue vielstimmige Moog. Jede Taste hat ihre eigene Lautstärke, Frequenz und Helligkeit und ist nach acht Jahre langen Prüfungen in Zusammenarbeit mit Fachberatern, wie z.B. Rick Wakeman und Patrick Moraz, gebaut worden.

Alla Fiera del '77, la Norlin presenterà due prodotti particolarmente importanti: le nuove chitarre Gibson Mark ed il nuovo polifonico Moog.

Il Poly Moog costituisce un perfezionamento del Monophonic Moog; tale modello permette di suonare 71 tasti simultaneamente. Ciascun tasto è dotato di un chip elettronico. I tasti posseggono un volume individuale, un responso e livello di vivacità indipendenti; a tali risultati si è pervenuti a seguito di otto anni di esperimenti, con l'aiuto di vari consulenti, tra i quali Rick Wakeman e Patrick Moraz.

Le stand Norlin 1977 comporte deux séries particulièrement importantes: celle des guitares Gibson Mark et celle de la nouvelle Moog polyphonique.

Chacune possède son propre volume, son brío et sa réponse et a été produits après huit ans de tests avec des experts comme Rick Wakeman et Patrick Moraz.

1977年の1-11月に出品された物の中に、この新しい物は、71の音の同時演奏が可能で、71のキーそれぞれに、音量、反応、明るさの異なるチップが搭載されています。

Ovation Instruments Inc. New Hartford, Connecticut 06057. Tel: (203) 379 0721.

Ovation guitars are well established in both acoustic and electric fields now, and will be showing a wide range of their instruments at Frankfurt this year. These include the Glen Campbell six and twelve string acoustics and the Breadwinner solid electric guitar, along with all the other well-known roundback acoustic models and the 'Deacon' solids, plus the 'Electric' models of the acoustics.

Ovation-Gitarren sind sowohl im akustischen als auch im elektrischen Bereich gut eingeführt und eine große Serie der Ovation-Instrumente wird dieses Jahr in Frankfurt zu sehen sein. Zur Kollektion gehören die sechs- und zwölfsaitigen akustischen Modelle Glen Campbell und die "solid" elektrische Gitarre Breadwinner, alle anderen wohlbekannteren akustischen Modelle mit rundem Rücken und die "Deacon-Solids" sowie die "Electric"-Modelle der akustischen Serie.

Le affermate chitarre acustiche ed elettriche Ovation appariranno a Francoforte, quest'anno. Verranno presentati i modelli acustici a sei e dodici corde Glen Campbell, la versione 'solid electric' Breadwinner, i noti modelli acustici a configurazione arrotondata, i modelli 'Deacon' ed i modelli acustici 'Electric'.

Les guitares Ovation sont maintenant bien implantées dans les domaines acoustique et électrique; elles seront exposées cette année à Francfort dans leur gamme instrumentale étendue. Parmi elles figurent les acoustiques Glen Campbell à six et douze cordes et la guitare électrique solide Breadwinner, ainsi que tous les autres modèles connus d'acoustiques à dos ronds et les extra-plates "Deacon", sans oublier les modèles d'acoustiques "Electric".

この楽器は、現在、両方の分野でよく知られており、今年、幅広い種類の楽器を展示します。これには、6弦と12弦のOvationの楽器が含まれており、それらには、有名な丸背の楽器と、Deaconの楽器、そして電気楽器のElectricのモデルが含まれています。

PA:CE (MM Electronics), Kneesworth Street, Royston, Herts. Tel: 0763-45214.

MM Electronics will be displaying their full range of sound reinforcement equipment in the private sector this year. The range includes stereo and 4-track mixers, rack mounting ancillary units and loudspeakers. In addition to this well established range, PA:CE will be exhibiting for the first time their Redmere instrument amplifiers and loudspeakers. Due to the technical innovations and value-for-money approach apparent in this new equipment, PA:CE are anticipating world-wide acceptance on the Redmere range of combos, amplifier tops and practice amps.

Cette année MM Electronics exposeront indépendamment leur gamme complète d'instruments de renforcement du son. La gamme comprend des mixers stéréo et à quatre voies, unités auxiliaires (rack mounting), et des haut-parleurs. En plus de cette gamme bien établie, PA:CE Ltd exposera pour la première fois leur amplificateurs et haut-parleurs Redmere.

PA:CE anticipe une grande demande des amplificateurs et haut-parleurs Redmere ceci du à leur innovation technique et à leur raisonnable.

MM Electronics werden diese Jahr im Privatsektor ein umfassendes Verstärkerprogramm aufstellen, in dem sich auch Stereo- und 4-Kanal Mischpulte, Anschlußgeräte und Gesang- und Instrumentenboxen befinden. Außer diesem bewährten Sortiment zeigen PA:CE noch zum ersten Mal ihre Redmere Instrumentenverstärker und Boxen.

Wegen ihrer Preisgünstigkeit und technischen Erneuerungen glauben PA:CE dass ihr neues Sortiment von Redmere combo- und Kofferverstärkern, Boxen und kleinen Übungesverstärkern Weltweit erfolgreich sein Wird.

Pearl Musical Instruments; various UK distributors including Norlin (UK) Ltd., Nexus Music and Rosetti & Co.

The Japanese Pearl company market the most diverse range of musical instruments possible. Pearl flutes have been regarded as among the best available by orchestra musicians and in recent years rock drummers have made Pearl drums best sellers. Amps, guitars and mixers are also available from the company and in Frankfurt there's bound to be a few surprises. The big news is bound to be the new guitars, especially the fibreglass back acoustics, and this will be the first opportunity the Western trade has had of examining these long awaited items.

Also on show will be the new mixers - 16 and 8 channel versions - and another highlight will undoubtedly be the "Touch Sensitive" piano.

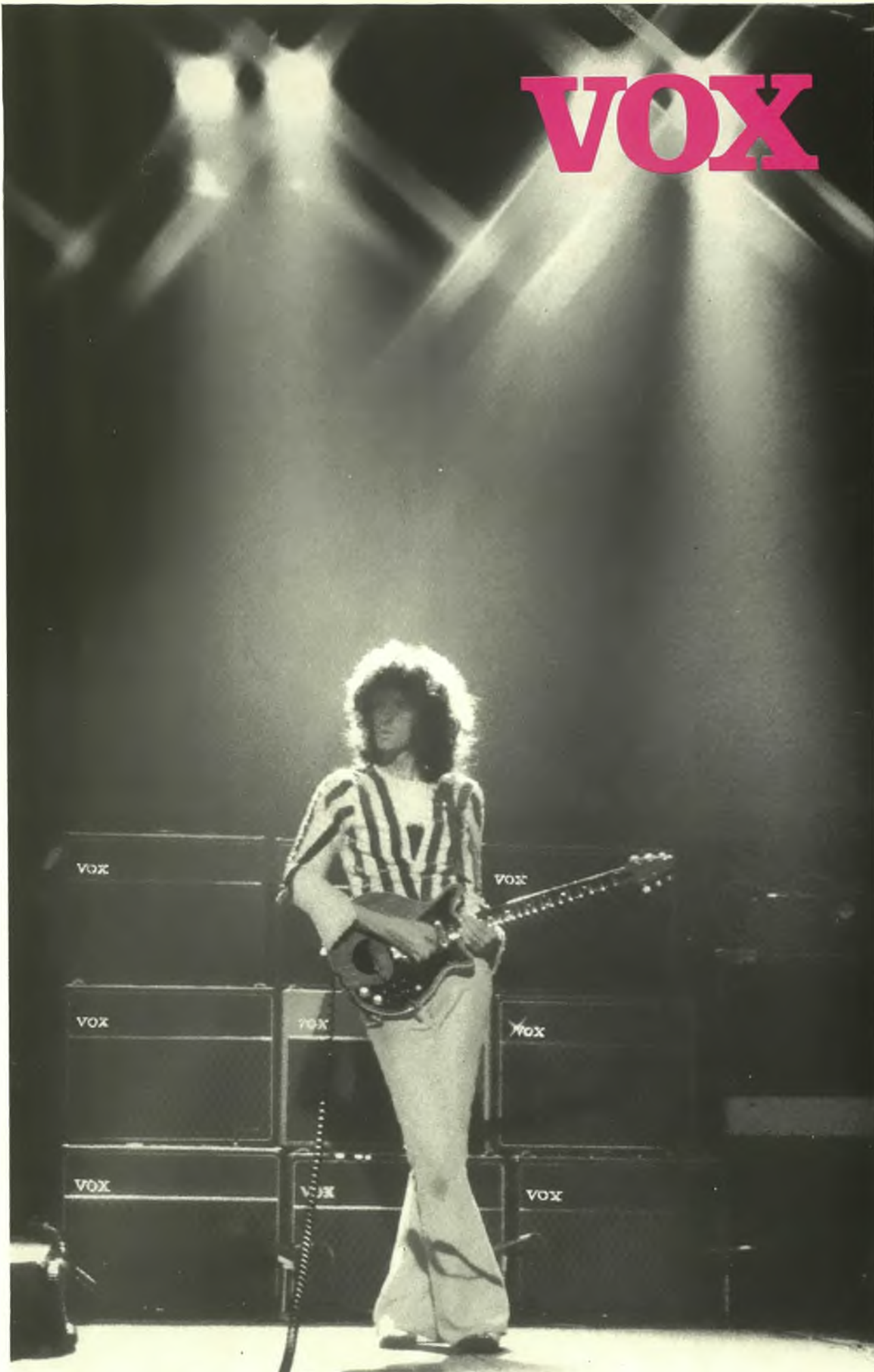
Die Pearl Musical Instrument Corporation stellt ein außerordentlich großes Sortiment an Musikinstrumenten her. In den letzten Jahren haben sich Pearl-Trommeln auf der ganzen Welt also großer Verkaufsschlager erwiesen, und vor kurzem hat die Firma eine Reihe von Gitarren - solid und akustisch - sowie eine 'berührungsempfindliche' Klaviatur herausgebracht. Alle diese Artikel werden in Frankfurt zusammen mit neuen Mischern und Verstärkern zu sehen sein.

La Pearl Musical Instrument Corporation produce una vastissima selezione di strumenti musicali. In questi ultimi anni i tamburi Pearl hanno incontrato un chiaro successo in tutto il mondo. Recentemente, la società ha introdotto una serie di chitarre tipo solido ed acustico, e tastiere 'sensibili al tocco'. Questi articoli, assieme ai nuovi miscelatori ed amplificatori, verranno presentati a Francoforte.

La société Pearl Musical Instruments produit une très grande quantité d'instruments différents. Au cours des dernières années, les instruments à percussion Pearl se sont très bien vendus dans le monde entier, et la société vient de lancer sur le marché une série de guitares, avec et sans caisses, pourvues d'un manche très sensible. Ces articles seront exposés à Francfort, ainsi que de nouveaux appareils de mixage et amplificateurs.

パールミュージカルインストルメントコーポレーションは多種多様な楽器を製造している会社です。この数年の間、パールは世界的にドラム、ギター、アンプ、ミキサー、そして最近では、タッチ感応型ピアノの製造を開始しました。また、最近では、繊維強化プラスチック製の楽器も製造しています。これらの楽器は、西洋市場でも長らく知られており、今回、これらの楽器を初めて展示する機会があります。

VOX



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The manufacturers and distributors of Vox Sound Ltd., Dallas House, Vanguard Way, Shoeburyness, Essex will be exhibiting at the Frankfurt Trade Fair on stand 50154

SONOR-PHONIC

SPRING 77

NEW SONOR OUTFITS COMING

AN ENTIRELY new range of Sonor drum outfits is to be launched this spring!

This startling news from the drum world has just been announced from Sonor's headquarters in Aue, West Germany. By the beginning of the summer drummers the world over will have the opportunity to see and hear the new outfits which get their trade launch at the 1977 Frankfurt Spring Fair.

The new range is a major step forward by this long established German firm (founded in 1875) and several exciting new drum developments form the heart of the new range.

A new snare drum has been developed by Sonor. The company realised that it's very difficult to improve on existing snare designs and to ensure improvement a special listening panel of leading drummers and percussion experts was gathered at the Sonor factory, BLINDFOLDED and asked to listen to the new Sonor snare drum in comparison tests with other drums.

By this method it has been possible to establish that the new Sonor snare drum has more penetration than any other snare drum. Controlled conditions applied during the experiment and the result was conclusive.

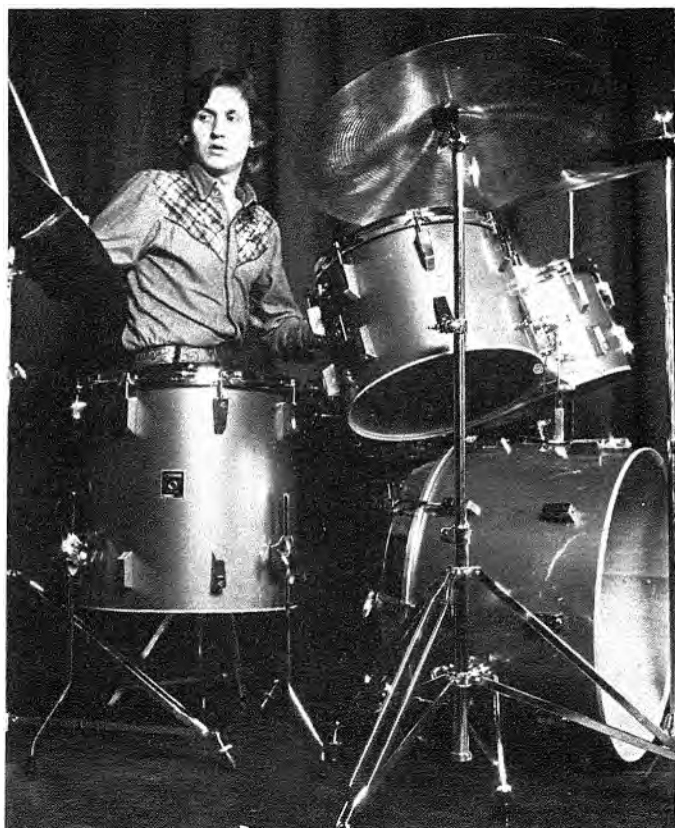
A highly secret special metal has been developed by Sonor

for use in this application and it has been arrived at after many years of intensive research. The snare drum shell is 5 $\frac{1}{4}$ in. deep and is entirely one-piece; no seams at all. More details have not yet been made public.

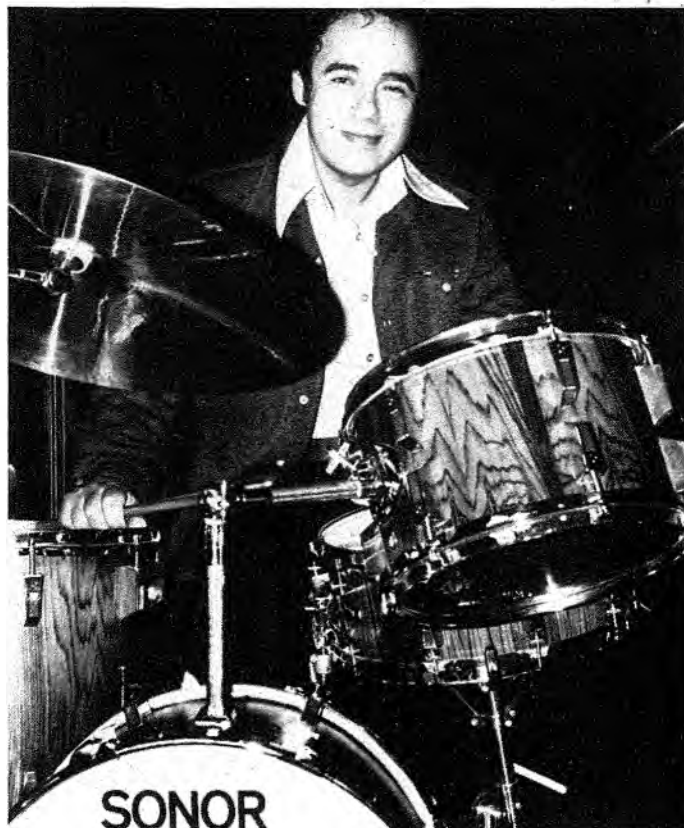
To go with this astonishing new snare drum is a new snare stand featuring an extra large wing-nut assembly for easy control, a completely up-dated hi-hat — both single and double spring versions will be available and new fittings all round.

Because the new range of drums is so important to Sonor — and in turn to drummers all over the world — the company has made available THREE brand new metallic finishes. These will be available AT NO EXTRA COST!

The drums themselves will continue to enjoy the same constructional techniques that have combined to make Sonor market leaders. To use a fit metaphor, Sonor are the Mercedes of the drum world. At the heart of Sonor drum philosophy is an enormous NINE-PLY drum shell, thicker and heavier than any other shells! It is this superb shell which gives Sonor the punch, the bite, the attack and clarity the drum is so famous for. Nothing else but weight and quality on this massive scale can provide depth and power. This is now combined with individually designed and superbly crafted accessories to make Sonor-Phonic outfits the ones by which all are judged.



"Upi" Sorvali from Finland



Maurice Mark — a household word among New York Studios

SONOR: THE BACK



(a) The scene at Sonor's 100th Birthday party. President Horst Link is addressing the 600 plus guests, on stage a row of Sonor outfits awaits the onslaught of the world's top drummers entertaining the top celebrities from the percussion world and the West German TV audience.



(b) President Horst Link and Mrs Link entertaining guests at the Sonor Plant.



(c) Visitors in the drum assembly department.

BACKGROUND STORY

What's so special about a family business? Is it that the workers feel part of the family, is it that the boss knows everybody by his or her Christian name? Perhaps it's a sum of both of these, but the one word that sums up the best type of family business is "Service,"

Sonor is a family business. It was founded in 1875 after Johannes Link started a business tanning calf skins for drum heads. So successful was he at this that he set up a small drum making operation at Weissenfels an de Saale and before long his small enterprise was growing to the point where it was producing a wide range of drums and accessories.

Today the plant is situated at the Westphalian village of Aue in a factory set up in 1950 by Otto Link, son of the founder. Today the company is run by Horst, Otto's son.

Because it's a family business things in the Sonor factory are done very differently to most similar operations. The company does not operate the usual mass production methods — a glance at any Sonor products will reveal the hand-built care and attention that is paid during manufacture — and by developing their own style of production the company is able to ensure strict quality control over all products.

In most mass production techniques, products roll, or are moved, from department to department and at each stop something else is added until the item is complete. Horst Link and his team don't believe that idea breeds pride in the job. Each section of the plant in Aue is responsible for completing a particular job on a batch production basis and in this way it is possible to ensure that quality control is tight at every point of manufacture as well as at the final product stage. Most products today receive a quality control check when they are complete and waiting to leave the factory. By submitting the components to a rigid quality control check themselves, Sonor ensures that quality as an end in itself is pursued right down to the individual wing nut and washer.

It is this attitude that has hoisted Sonor into the number one position in Europe. More Sonor kits are played throughout Europe than any other kind and it is precisely because of the quality control and outstanding design that this situation exists.

At the Aue factory the machine shops make the various parts in both wood and metal and all plating and finishing is completed in the factory. The jigs that form the drum shells were specially designed for Sonor by Sonor and built within the factory and are of a design exclusive to the company. This kind of specialising has produced unique drums made by

methods unlike those in use anywhere else in the world.

Today the cream of the world's drummers play Sonor. Across America and Europe the most respected players are Sonor addicts and the check list reads like a roll call of percussion gods. The names include, Sonny Payne of the Harry James Band (he's ex-Basie and Ellington) Bernard Purdie, the session player who's worked so well with Aretha Franklin, Barry Reeves with the James Last Orchestra, Tommy Aldridge of Black Oak Arkansas, Frank Gant, known so well for his performance with Ahmad Jamal and Can's Jackie Liebezit.

Towards the end of 1975 top names in the percussion world attended Aue for a celebration to mark the company's centenary. The festivities lasted two days and in addition to the world's top drummers, the representatives of the world's music trade also attended. The phenomenal attendance was a clear indication of the esteem in which the company is held.

PACK & ROLL WITH SONOR

What's the single biggest problem associated with being a drummer? Many would say that being restricted to one spot on stage is the worst aspect, others would say it's the role in which drummers are traditionally cast by other musicians, but most would agree with the point that drums are difficult to pack, and even more difficult to transport.

Since the introduction of the dance band drum kit in the thirties methods of packing and moving drum kits haven't changed. Now Sonor has brought relief to weary gigging drummers and come up with the "PACK AND ROLL" concept of drum cases.

Like all works of genius, the idea behind Pack and Roll is deceptively simple. Take the main drum case — to con-

tain snare, pedals, hi-hat and accessories — make it a little bigger than usual so that all odd items of hardware will fit in and add wheels on the bottom. That might not sound like a revolution — but try it out!

All of a sudden the drummer can roll away the heaviest case and he can be sure that all the little bits that are in danger of getting lost are packed in.

The transport system of the main case is thoughtfully engineered. Two fixed wheels are provided for the pushing end, two multi-direction wheels are attached to the end to be steered — the result is a really easy to move drum outfit.

Drummers all over the world will be able to get their hands on the "PACK AND ROLL SYSTEM" by mid 1977.



When only the best is good enough



SONOR-PHONIC XK927

SONOR INTERNATIONAL



(d) A meeting of top drummers at Hohner's London headquarters see how many you can spot. Hohner are sole UK distributors of Sonor products.



(a) Barry Reeves, drummer with the fabulous James Last Orchestra. A truly great sound.



(b) Art Taylor get the message across on Sonor.



(c) Graham Jarvis, globe trotting percussionist with Cliff Richard



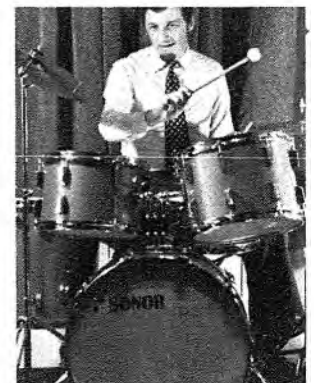
(e) Bernard Purdie – you must have heard him on Aretha Franklin's records (and many others). One of the world's great drummers.



(f) Jack De Johnette – known as "The Wizzard" – rightly so.



(g) Jon Marshall, Soft Machine



(h) Tommy Thomas of BBC Northern Ireland and leader of his own showband.



(j) Eliot Zigmund of the Bill Evans Trio – yet another top Sonor player.

HOW THE NEW OUTFITS MEASURE UP

SONOR-PHONIC SOUND MACHINES

XK 924

G 322 Bass Drum 22" x 14"
D 500 Snare Drum 14" x 5"
T 723 Tom-Tom 13" x 9"
T 736 Floor Tom-Tom 16" x 16"
Z 5501B Single Tom-Tom Holder
Z 5317 Bass Drum Pedal
Z 5554 Snare Drum Stand
Z 5456 Hi Hat Stand
Z 5232 Two Cymbal Stands
All drums fitted with REMO Weather King Heads

XK 925

G 322 Bass Drum 22" x 14"
D 505 Snare Drum 14" x 5 1/2"
T 723 Tom-Tom 13" x 9"
T 724 Tom-Tom 14" x 10"
T 736 Floor Tom-Tom 16" x 16"
Z 5503B Double Tom-Tom Holder
Z 5317 Bass Drum Pedal
Z 5554 Snare Drum Stand
Z 5456 Hi Hat Stand
Z 5232 Two Cymbal Stands
All drums fitted with REMO Weather King Heads

XK 946

G 324 Bass Drum 24" x 14"
D 506 Snare Drum 14" x 6 1/2"
T 724 Tom-Tom 14" x 10"
T 725 Tom-Tom 15" x 12"
T 736 Floor Tom-Tom 16" x 16"
T 738 Floor Tom-Tom 18" x 16"
Z 5503B Double Tom-Tom Holder
Z 5317 Bass Drum Pedal
Z 5456 Hi Hat Stand
Z 5224 Two Cymbal Stands
All drums fitted with REMO Weather King Heads

XK 984

G 318 Bass Drum 18" x 14"
D 500 Snare Drum 14" x 5"
T 722 Tom Tom 12" x 8"
T 734 Floor Tom Tom 14" x 14"
Z 5501B Single Tom Tom Holder
Z 5317 Bass Drum Pedal
Z 5554 Snare Drum Stand
Z 5456 Hi Hat Stand
Z 5232 Cymbal Stand
Adjustable Cymbal Arm fitted to Bass Drum
All drums fitted with REMO Weather King Heads

XK 927

G 322 Bass Drum 22" x 14"
D 506 Snare Drum 14" x 6 1/2"
T 713 Concert Tom Tom Single Head 13" x 9"
T 714 " " " " 14"x10"
T 715 " " " " 15"x12"
T 716 " " " " 16"x14"
T 738 Floor Tom Tom Double Head 18"x16"
Z 5503B Double Tom Tom Holder
Z 5226 Tom Tom Stand
Z 5317 Bass Drum Pedal
Z 5554 Snare Drum Stand
Z 5456 Hi Hat Stand
Z 5224 Two Cymbal Stands
All drums fitted with REMO CS Weather King Heads

XK 949

G 324 Bass Drum 24" x 14"
D 506 Snare Drum 14" x 6 1/2"
T 710 Concert Tom Tom Single Head 10"x6 1/2"
T 712 " " " " 12"x8"
T 713 " " " " 13"x9"
T 714 " " " " 14"x10"
T 715 " " " " 15"x12"
T 716 " " " " 16"x14"
T 738 Floor Tom Tom Double Head 18" x 16"
Z 5503B Double Tom Tom Holder
Z 5226 Two Double Tom Tom Floor Stands
Z 5317 Bass Drum Pedal
Z 5554 Snare Drum Stand
Z 5456 Hi Hat Stand
Z 5224 Two Cymbal Stands
Z 5227 Two Boom Arms
All drums fitted with REMO CS Weather King Heads

XK 9212

G 322 Two Bass Drums 22" x 14"
D 506 Snare Drum 14" x 6 1/2"
T 706 Concert Tom Tom Single Head 6"x5 1/2"
T 708 " " " " 8"x5 1/2"
T 710 " " " " 10"x6 1/2"
T 712 " " " " 12"x8"
T 713 " " " " 13"x9"
T 714 " " " " 14"x10"
T 715 " " " " 15"x12"
T 716 " " " " 16"x14"
T 738 Floor Tom Tom double Head 18"x16"
Z 6204 Bongo Stand
Z 5503B Two Double Tom Tom Holders
Z 5226 One Double Tom Tom Floor Stand
Z 5317 Bass Drum Pedal
Z 5554 Snare Drum Stand
Z 5457 Hi Hat (fitted with special Bass Drum attachment)
Z 5224 Three Cymbal Stands
Z 5227 Two Boom Arms
All drums fitted with REMO CS Weather King Heads.

SONOR NEWS FROM AROUND THE WORLD

SONOR IN SOUTH AFRICA

Well known Sonor drummer Bobby Gien is back after absence of more than 10 years and is fast re-establishing himself as one of the countries top drummers.

Amongst top artists using Sonor in South Africa are Richard John Smith, who is a singer and also plays drums and was recently in England and also appearing on German TV, as well as one of our top group called Ballywho, who use a Sound Machine which they say are the best drums they have ever known. The new Sonor-Phonic line fast gaining a good reputation out here which we have never really had with Sonor in the past.

MARSHALL KEEPS MOVING

Sonor Drummer John Marshall is particular busy around now. In addition to undertaking a new continental tour with the fabulous Soft Machine, the drummer is also playing selected dates with Eberhard Wieber, and Charlie Mariano.

MIAMI CHOOSE SONOR

After their disaster year in 1975, things seem to keep getting better for Ireland's top group, The Miami Showband. Drummer Ray Miller has just celebrated increasing success by buying a new Sonor Outfit.

The band are as big in Ireland as the Bay City Rollers are in the UK and Sonor are naturally delighted that a top Irish act should insist on Sonor-Phonic.

CAT BUYS SONOR

Cat Stevens has bought a new Rosewood finish Sonor-Phonic drum outfit. The singer/songwriter has been recording a great deal recently and as percussion forms such a vital part of his music, he chooses Sonor because it offers him the sounds he wants.

The recordings Cat made with his musical director Del Newman placed specific emphasis on percussion of all types and it's indicative of Cat's recording direction that he should personally be anxious to be a Sonor owner.

MANN, KESSEL & SONOR

Tony Mann - a long time Sonor player - recently played the sort of gig other drummers just dream about.

Along with Jim Richards he worked with guitarist Barney Kessel at the Royal Festival Hall, London.

"UPI" TEACHES WITH SONOR

Top Finnish drummer Urpo "Upi" Sorvali is currently working with several top Finnish pop and jazz bands including the Rotex band. "Upi," a Sonor drummer, has been playing professionally for five years and his percussion development has been closely associated with the Oulunky La Pop-Jazz Institute in Helsinki and since 1972 "Upi" has been ateacher at the institute. At present he has 60 pupils, many of whom are teachers in their own right.

BEST EVER USA YEAR FOR SONOR

Charles Alden, President of the Charles Alden Music Co. Inc., of Westwood, MA, Sonor's US distributors, reports their best year ever in the United States.

In addition to helping to push Sonor even further ahead of the competition, Charles has also been of particular help in the technical development of the new Sonor-Phonic range of drums.

Sonor drummer, Steve Smith, recently teamed up with French violinist and winner of the 1976 Down Beat Readers Poll, Jean-Luc Ponty. Immediate plans are for a tour in the U.S. and a new record to be released sometime in the spring. Steve's set up consists of 2-24" bass drums, three mounted toms and 16/16 and 18/16 on the floor.

Tommy Aldridge and Black Oak Arkansas are back in the recording studio after a very successful European trip followed by a swing through the Midwest.

Bachman-Turner over-drive continues to fill every concert hall in the U.S.A. and Canada with Robbie Bachman supplying all the power that is needed with his Sonor 24" double bass drum set up.

Eliot Zigmund and the Bill Evans trio were in Boston a couple of months ago for one of their rare night club appearances at the Jazz Workshop. Eliot's first encounter with Sonor drums was through his good friend, Jack DeJohnette and has been raving about his 18" bass drum Jazz set ever since. The trio is planning to do concert work throughout the U.S.A. and Europe in '77. Sonor's first U.S.A. endorsee, Connie Kay, is currently working with the Benny Goodman quartet. Plans for modern Jazz Quartet albums are also a possibility for '77.

Bernard "Pretty" Purdie is currently on the road with Gato Barbier and his exciting new band.

Greg Thomas has switched over to the oversized XK955AS set and finds that it responds beautifully to the current recordings and tours with Leon Russell's big group.

SONOR-PHONIC

SPRING 77

DRUMMING WITH JOHN MARSHALL



The drummer traditionally stands apart from other musicians. The old joke about a group being four musicians and a drummer came about because of the separate needs and aims of drummers from the rest of the musical fraternity. In certain instances, however, the drummer comes a lot closer to the other musicians he's working with and when that happens — it's magic. One such drummer is John Marshall who's about as integrated as it's possible to get with a band; in his case, Soft Machine.

The Soft Machine are a band continuously pushing forward the outer limits of contemporary music. In their seven year career the band have received a variety of labels — jazz/rock, avant garde, free-form etc. — but none of them have succeeded in encapsulating the essence of the group. It's really just about music.

Within the band John's playing forms a far more integral part of compositions than most drummers' work. His percussion almost forms parts of melodies and for that reason John is particularly careful about his choice of drums.

"I was turned onto Sonor about a year ago," he told me at the end of last year, "and I've been so pleased with my kit, I'm amazed. I'd been playing various kits before I found Sonor, but I certainly wouldn't change back. I was turned onto Sonor by a

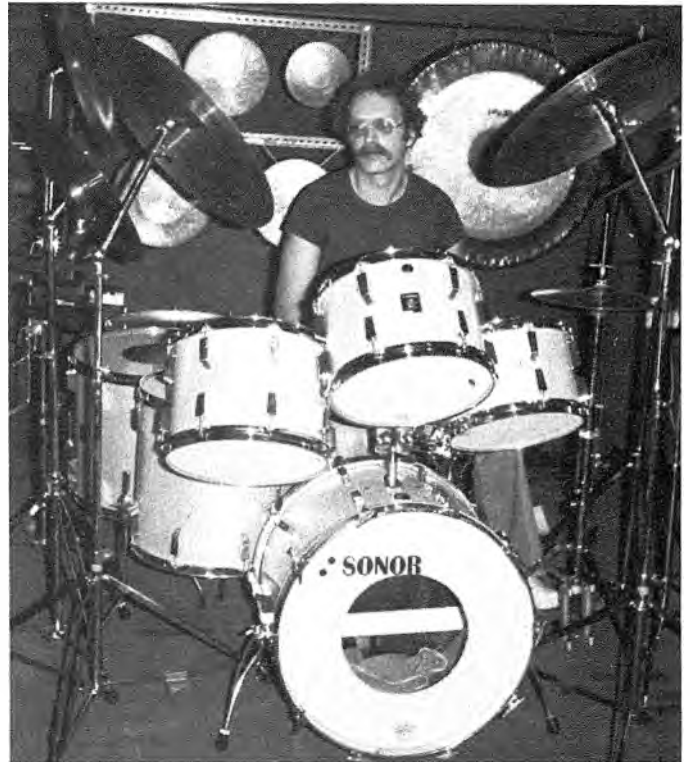
friend of mine, Daniel Humair the French drummer, and he suggested that the company might be able to make me a particular kind of bass pedal I was looking for."

Daniel himself is, of course, the inventor of a highly successful bass drum pedal marketed by Sonor. The pedal is available with the new range of Sonor outfits that will be on sale this summer. The link between the Softs and Daniel is an easy one to explain. Despite being a British band, the Soft Machine found fame first in France and that country supported the band for years before their homeland accepted them for the innovators they undoubtedly are. It's the old story about a "Prophet being without honour in his own country."

After coming to national attention in France, the band slowly found recognition in other European countries and today they are able to undertake European tours headlining at major venues. It was actually at the Berlin Festival that Daniel suggested Sonor to John.

"When I was back in England I got in touch with Gordon Williamson, Sonor Sales Director, and I arranged to try out a Sonor kit on the recording of our last album.

"When I started working with the kit in the studio I was really amazed. It needed far less attention to get a good drum sound than anything else I'd used. Before I always had to spend a considerable amount of time with padding to get a good drum sound in the studio, but the Sonor kit sounded just right with only the minimum



adjustment.

"Of course I was doubtful about how the kit would sound on stage because a good recording kit usually sounds terrible live. I was really surprised, however, because on stage I got really good projection. Of course all my drums are miked up on stage so theoretically it should be the same sound as in a studio, but it never works that way and you do need extra projection on stage. I was really surprised with the way my Sonors projected, they had a real edge to the sound as well as depth — I think it must be something to do with the nine-ply wood that is used in the shell construction."

On stage with the Softs John's set-up comprises a 22in. bass drum, 12in, 13in and 14in top tom-toms, a 16in and 18in. floor tom-tom, and a special 20in bass

drum placed on legs like a floor tom-tom and struck by the special pedal that Daniel suggested Sonor might be able to provide. Sonor were in fact able to fill the bill and John is now the proud possessor of a completely unique drum outfit.

When he's not on tour with the Soft Machine John likes to keep his hand in by gigging around. He works a lot on the Continent fulfilling recording dates as well as individual live performances and in that way manages to play a wide range of music.

At the moment the band is preparing to record their next album. The material is ready and it's only a question of deciding where, when and how. The suggestion of a live album has been made and John quite welcomes the idea. But however it's recorded, you can be sure it's percussion by Sonor.

MICROPHONES

By Mark Sawicki, M.Sc. (Eng), Assoc. M.I.E.E.

These days, electro - acoustic systems contain many highly sophisticated audio elements one of them being a very special acoustical transducer, where sound pressure waves are directly applied to a tightly stretched diaphragm or other moveable element - namely a microphone.

Basically, there are two groups of microphones, the pressure type and the gradient/pressure type, the first group consisting of carbon, condenser (capacitor), crystal (piezo-electric), and the most popular, the dynamic (moving coil) microphone. The second group is represented by a velocity-type construction, which incorporates a special metallic ribbon suspended in a strong magnetic field and is generally used in laboratories and in the field of acoustic measurements.

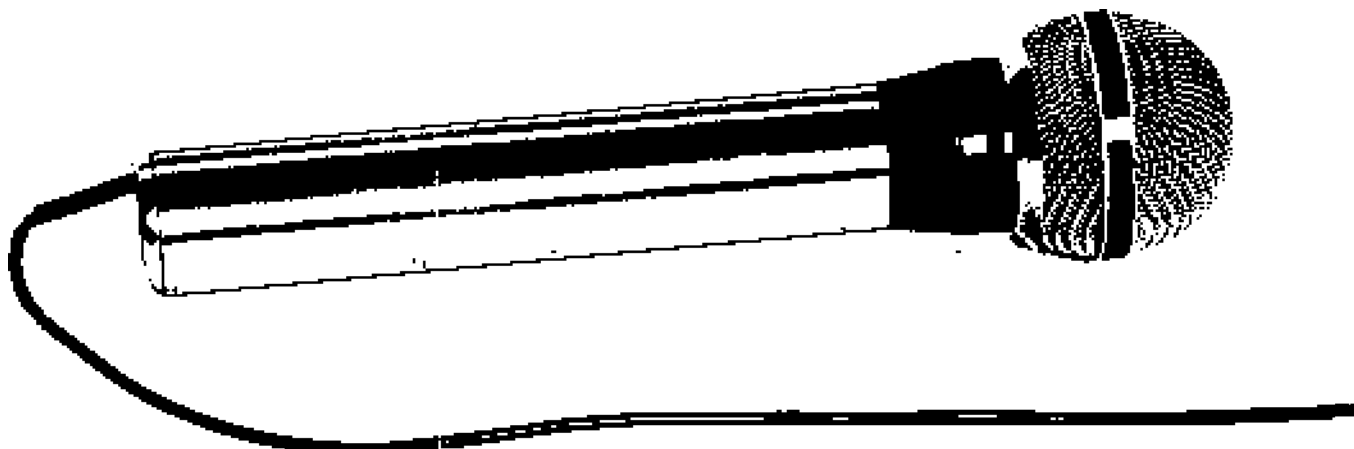
The history of the microphone dates back to 1878, when the first single button carbon microphone was invented by David Edwin Hughes and this early and simple construction was later converted (by E. Berliner and F. Blake in 1890) into a microphone which is still very much in use - amongst its many applications are the G.P.O. and various telephone services. However, this first carbon micro-

phone was not able to fulfil all the fast changes occurring until 46 years later when Walter Schottky discovered the first moving-coil dynamic microphone. He worked on the principle that when sound waves strike the surface of the microphone, they cause the coil to be moved in a permanent magnetic field, which generates a difference of potentials (voltage) corresponding to the input sound pressure of the working surface of the diaphragm.

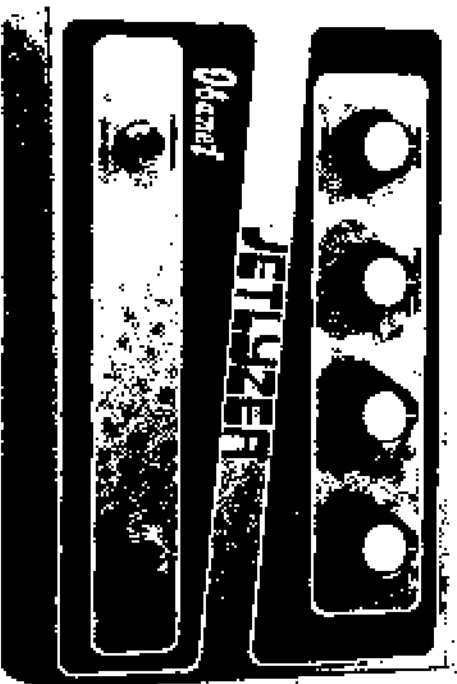
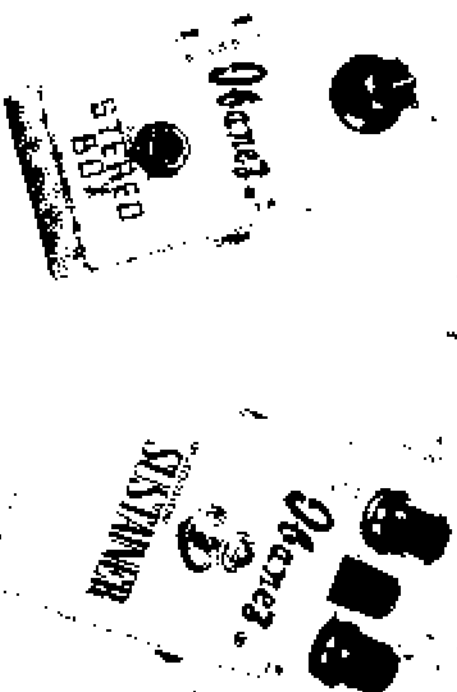
The relatively high jump in microphone production and technology really began in Europe and America after the second World War. Nowadays, leading microphone manufacturers produce equipment of high technical performance and quality.

In order to help you find the most suitable microphone for your particular application and to help you understand the various characteristics and working principles of different types of microphones, our series of articles will cover the following problems.

- (a) Basic Facts & Theory.
- (b) Choosing a Microphone to suit your requirements.
- (c) Microphones in practice, applications, accessories etc.
- (d) Microphone Review - Facts, Figures, Opinions.



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MICROPHONES

BASIC FACTS AND THEORY

The most popular microphone today is probably the dynamic type. This particular construction possesses all the advantages rarely found in other types, such as condensers, crystals or electret mikes. The basic rule in moving-

coil dynamic mikes is that their acoustical transducers do not require any external power supply, as there is no supplied voltage modulation inherent in this type of microphone and its working principle, i.e. the microphone itself is the voltage source. Another attractive feature is that, in most situations, the afore-

mentioned construction needs no pre-amplifier and can be successfully used with relatively long connection cables — an important point as any experienced audio engineer would confirm.

With regard to the exploitation of the dynamic microphone, another detail should be pointed out concerning

the low noise voltage level, the effect being caused by electro-thermal movements of the electrons in the moving coil material. Fig. 1 illustrates a typical dynamic microphone construction and shows the working principle of this type of transducer.

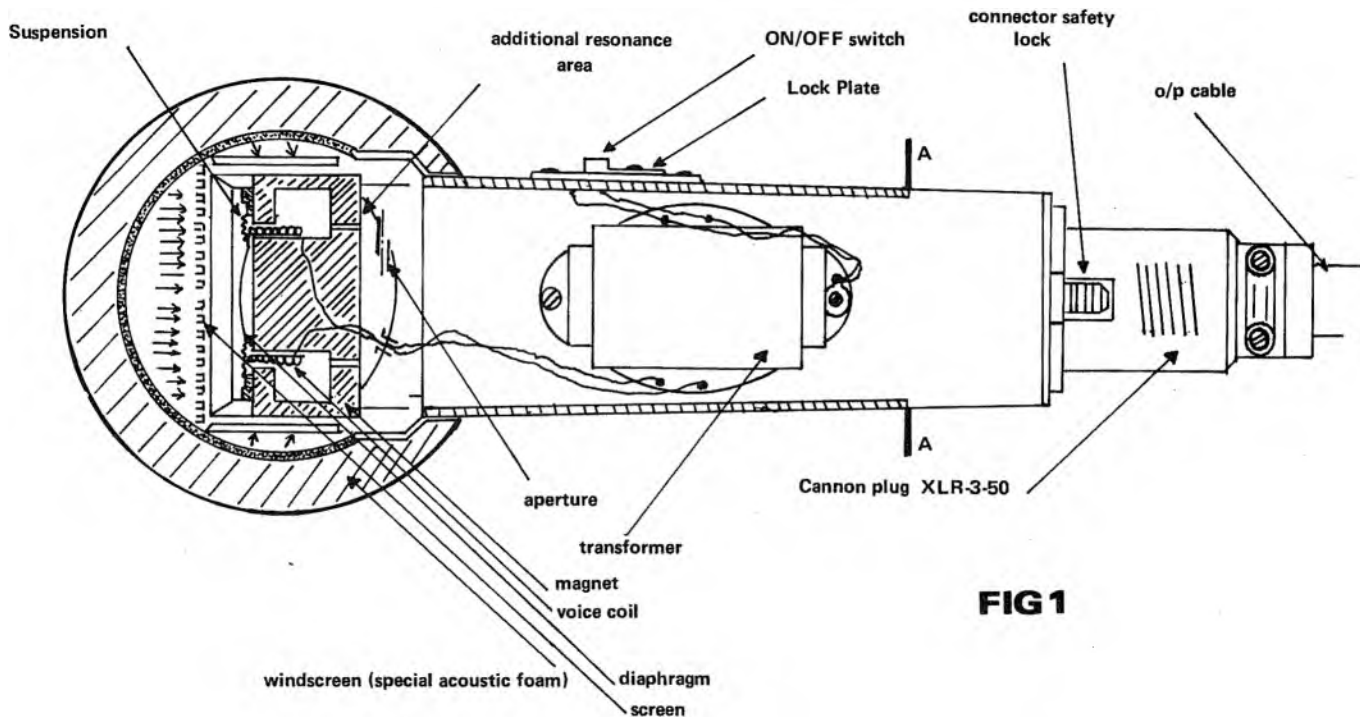


FIG 1

Condenser (capacitor) microphones incorporate so many different types of constructions that it is practically impossible to review all of them. I will, therefore, concentrate on the most popular type — the electret type, which utilises the audio frequency condenser mike principle. In this type of construction, the basis is a specially-designed flexible diaphragm, consisting of a metalized plastic foil with a permanent electrostatic charge. As electret microphones always have a very high output impedance, the microphone usually incorporates a specially matched pre-amplifier based on a F.E.T. (Field effect transistor) design, setting the output impedance at a relatively lower value.

Good quality electret microphones possess wide frequency response facilities and can be used progressively with low high impedance inputs, and, as the internal electronics in the electret mike require an energy supply, the majority of these mikes incorporate a small dry battery. Certain high quality electret microphones have a wide application in the instrumentation and measuring equipment field, reaching a very sophisticated level of design.

Another popular mike, used frequently with tape recording equipment and stringed instrument pick-ups (violin, cello, piano) is the crystal or piezoelectric type, which works on the principle of piezoelectric phenomena (discovered in 1880 by Pierre and Jacques Curie) and depends on natural crystals generating voltage under mechanical tension, proportionate to the value of the mechanical

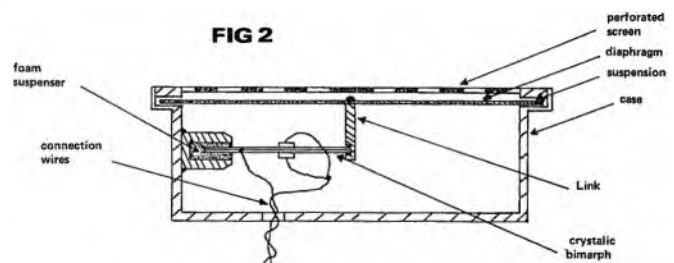
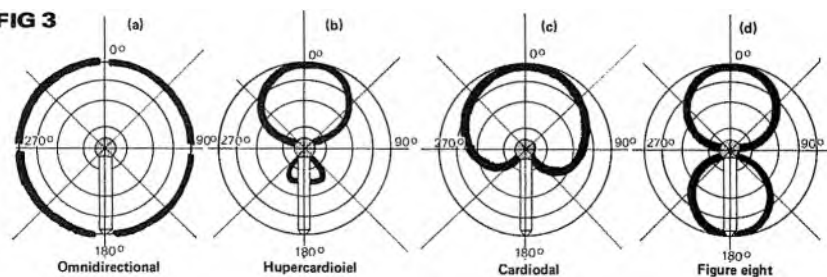


FIG 2

FIG 3



force deforming the crystals. This specific physical effect, where vibrations of the diaphragm under acoustical pressure introduced to the piezocrystal network, generate voltage corresponding to the sound pressure at the surface of the diaphragm. Fig. 2 shows a simple piezoelectric mike construction. Piezoelectric microphones, compared to dynamic condenser

types, are fairly economical to produce, and have a relatively high output voltage, with a flat frequency characteristic. The output of this type of microphone needs to work into high impedance input which causes problems when used with long connection leads.

In any description of microphones, you are bound to be confronted with a large number of

technical terms and characteristics, but in general there are four basic polar response patterns. Each different type of mike exhibits a different amplitude response for the varying positions of the acoustical pressure sources (sound) in the microphone pick-up range. These basic patterns are illustrated fully in Fig. 3 and each depends on the internal design of the incorporated transducer.

DiMarzio picks up where the others leave off.



Rick Derringer



Al Di Meola



Laurie Wisefield



Earl Slick



Ronnie Montrose

Aerosmith
Blackfoot
Blue Oyster Cult
Brownsville Station
Dan Hartman
Danny Johnson
Steve Kahn (Breckler Bros)
Carol Kaye
Jefferson Kewly (Mac Davis)
Kiss
Lynyrd Skynyrd
Bob Mann (session man)
Nazareth
Mick Ronson
David Sancious

Di Marzio, the "Pickup People" offers a complete line of guitar and bass pickups. All high output Di Marzio pickups feature a dynamic range unmatched by any other pickups on the market. Their exclusive Tailored Frequency Response achieves optimum sound from your instrument. And there's no technical expertise required to install them.

Check out the Pickup People. Hear how Di Marzio picks up where the others leave off.

Super Distortion Humbucker

The SDPH combines a tailored frequency response with extremely high output, making it much more sensitive to string vibration than any standard unit on the market.

The SDPH is the exact size and hardware replacement for large Gibson humbucking pickups, and greatly improves the sustain and output capabilities of the guitar.



Features:

- 12 individually adjustable pole pieces
- Dual creme-colored coils
- Special magnet structure minimizes string damping
- High temperature shielded cable

Dual Sound Humbucker

This deluxe version of the SDPH shown above, features both the hot sound of the SDPH plus a second sound similar to that of a Stratocaster or Firebird. This allows the guitarist a choice of two distinct tones, providing greater flexibility. The installation of a small switch provides for the selection of a "hot" or "clean" mode in humbucking.

Features:

- Same construction as SDPH
- Special wiring allows two separate sounds
- Foil wrapped three conductor cable.

Di Marzio
International
Distributors

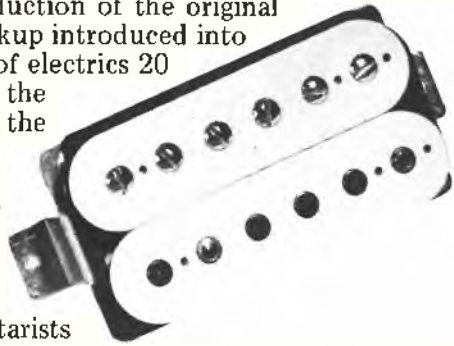
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New! PAF

The PAF, or "Patent Applied For" pickup is an authentic reproduction of the original humbucking pickup introduced into the Gibson line of electrics 20 years ago. Until the Di Marzio PAF, the quality of sound of this original device was never approached by other pickups. The PAF is intended for guitarists who don't need the extreme increase in output of the SDPH, but want a warm, sustaining sound with moderately increased output at a reasonable price.



Features:

- Nickel plated pole pieces
- Double creme colored bobbins

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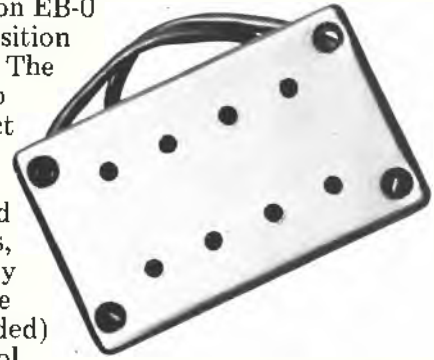


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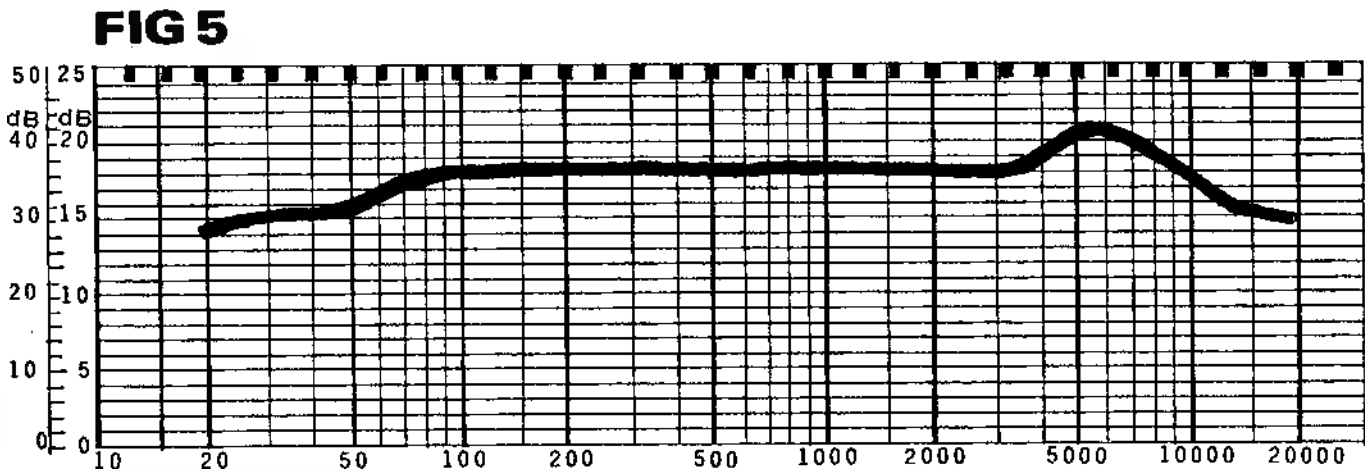
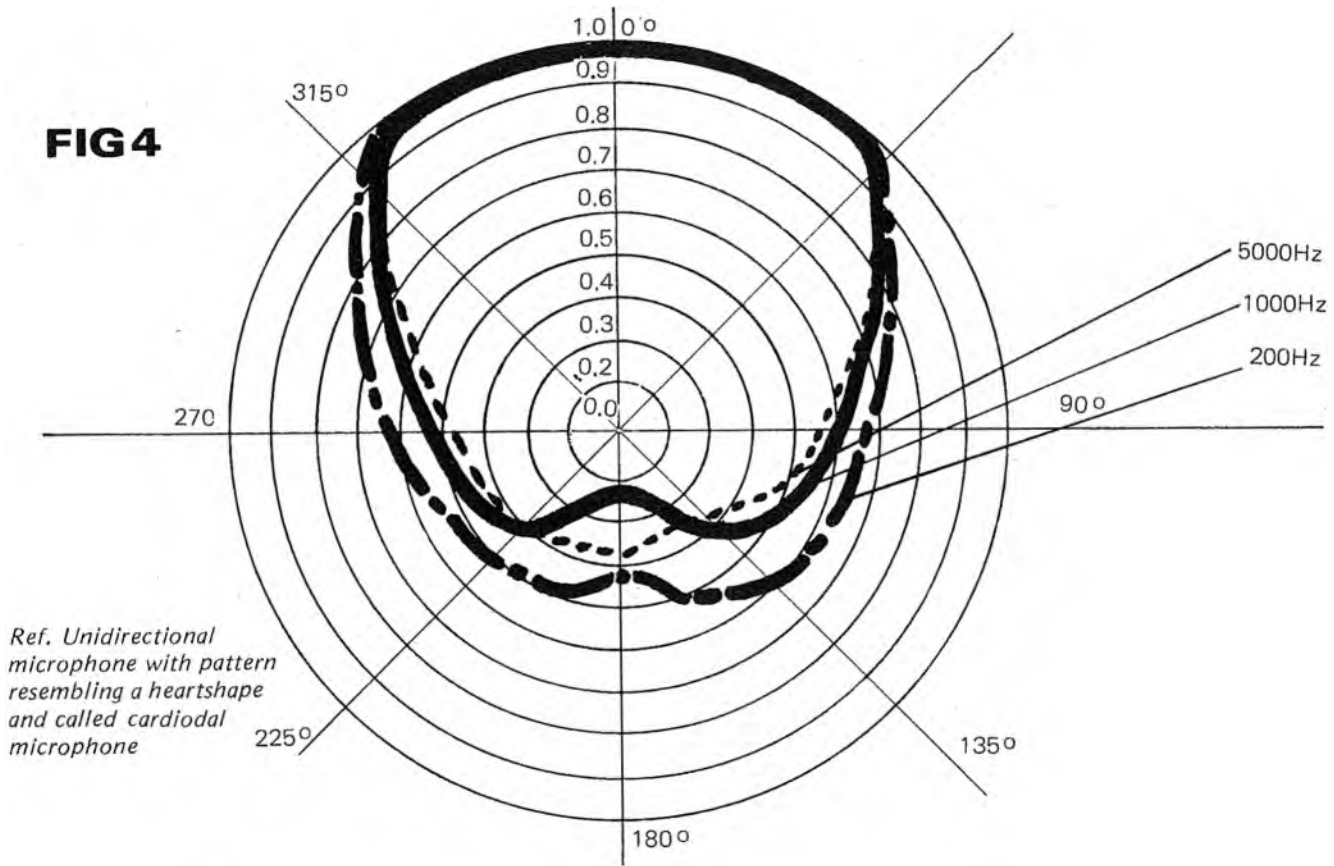
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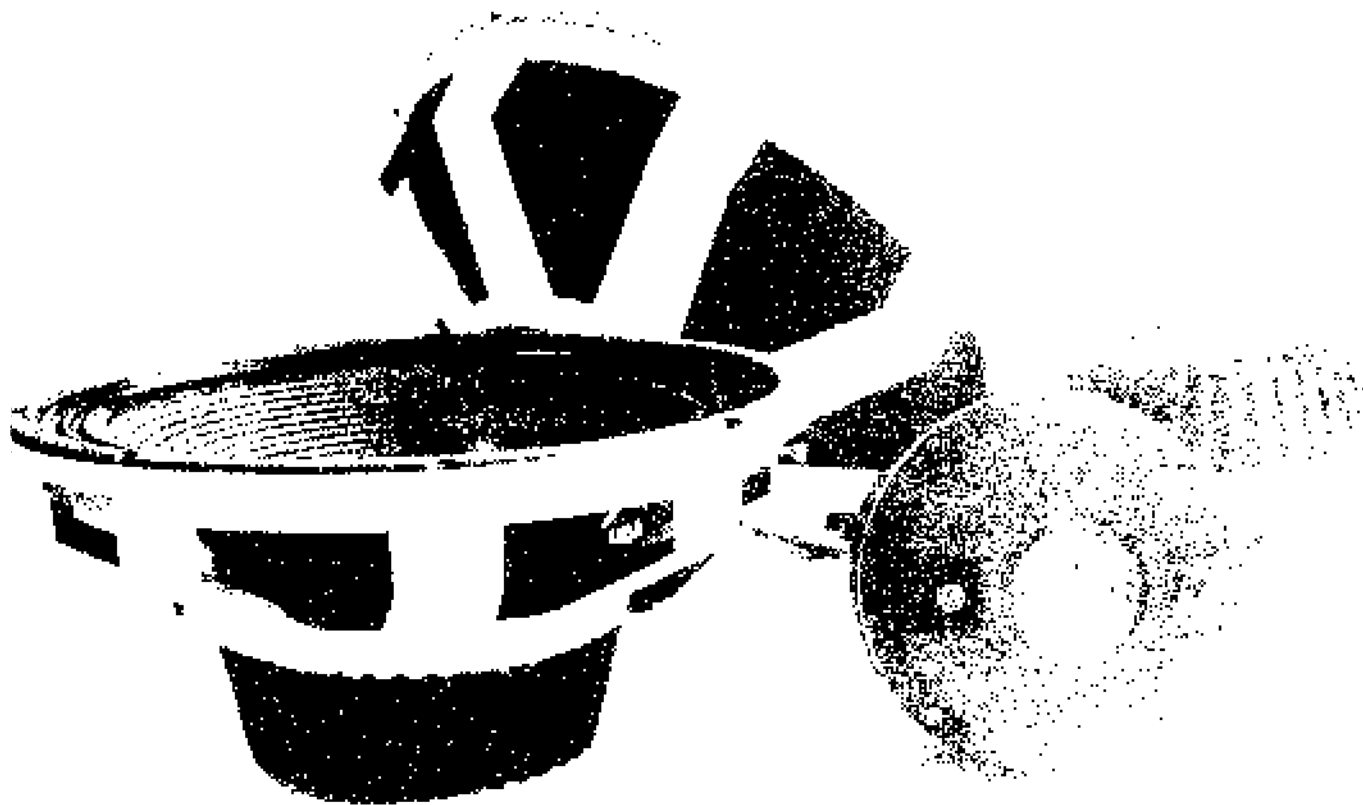
family of closed curves (see Fig. 4.) which would show the deviations from the standard 1KHz shape. So, when a sound source possessing a constant intensity is moved around at a constant distance with the amplitude also at a constant output voltage level, we say that this mike has a non-directional or omnidirectional characteristic. In the bi-directional pattern we can see that the mike is sensitive from both front and rear but not

sensitive at the sides. Obviously, the uni-directional characteristics would be measured in an anechoic chamber, which is an acoustically 'dead' room, or in other words an 'open space' with absolutely no reflection of sound waves.

One other characteristic that should be mentioned is the frequency response curve, plotted automatically on a graph recorder using a logarithmically-scaled horizontal (frequency) axis set against the amplitude in dB on

the vertical axis. This test should also be carried out in an anechoic chamber and, when plotting mike characteristics in more realistic situations, both results can be compared for different frequencies if so required. Fig. 5 shows this set of characteristics of the frequency ranges varying from approximately 20Hz to 20KHz.

Next month: Choosing a microphone to suit your requirements.



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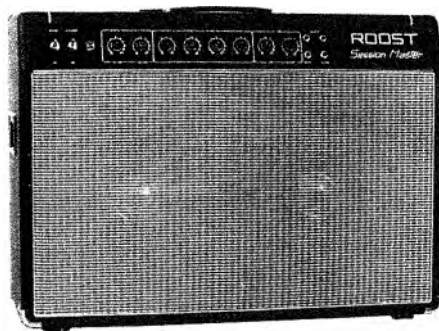
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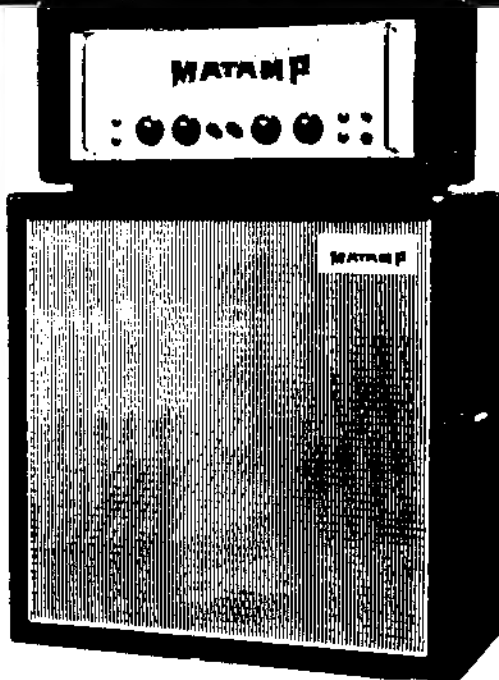
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Bob Henrit visits the Asba factory

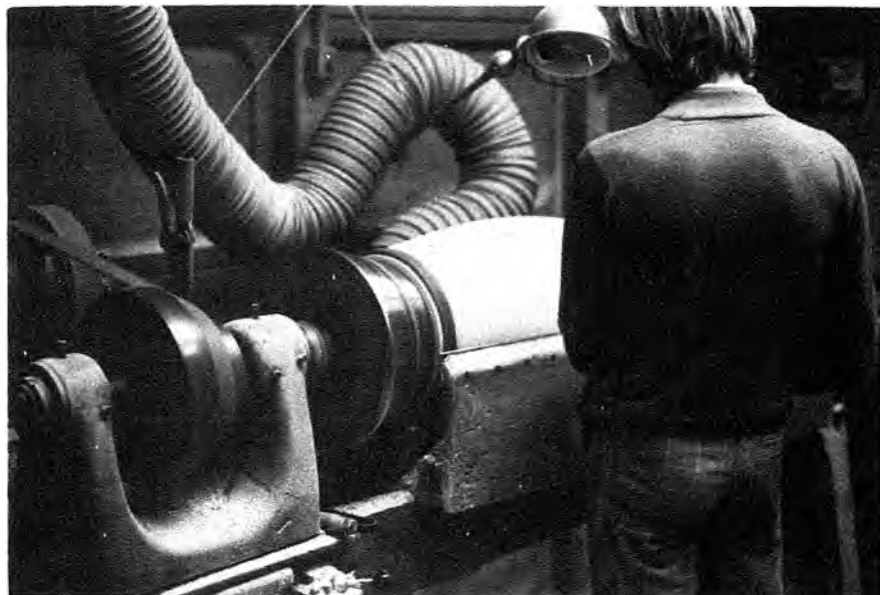
London, Heathrow. Nine-thirty and I am waiting for the Airbus to Paris. I would have visited the Asba drum factory three weeks before, when Phoenix were playing Paris, but due to my ill-advised choice of the hamburger au poivre at a restaurant in the Rue Scribe, I woke up on the morning of my visit with an acute attack of Montezuma's Revenge. In short, I had the runs! There was, of course, no way I could visit a drum factory with this disability so the whole exercise was re-scheduled. After British Airways' normal uneventful Tri-Star flight, I was met at Charles de Gaulle airport by Peter Ison, an Englishman who I first met years ago when he worked at Dover as a customs officer.

The Asba factory is situated fifteen kilometres outside Paris and was started in 1928 by one Alfred Bondardo. The company was called "Alfred and Simone Bondard Accessoires." Hence Asba. Its present owner, Monsieur Perin, is the late Albert's brother-in-law. It's still very much a family business with three of the family working there assisted by 16 or so other people. French drums are expensive to produce, partly because materials are expensive there and wages are correspondingly high. The minimum salary in the factory is nine francs per hour for a 42 hour week; from 7.15 until 5 daily with a 45 min. unpaid meal break - no tea or coffee breaks other than this. Average wages are £65 per week and overtime is not normally worked unless absolutely necessary. As you would suppose from what I've just said, there are no unions involved in French drum manufacture - or at least none at Asba belongs to one.

I enquired about how much of their production goes out of the country and discovered that 60% of their output goes for export. They ship to most of the European countries with the exception of Spain; also to Hungary, Australia, South Africa and North America. I thought that Canada would have been a large market because of its nationalistic affiliation to France, but as yet it's just a reasonable one.

Wooden drums are made at the factory from Okume which is a red, hard wood of probably African origin. The grain runs from top to bottom of the drum. One piece of 3mm material is cut to size, glued on one side and placed into a former with its dry side facing inwards. This former is a very crude but effective piece of business. Basically, it has a wooden central core which is split in the centre to enable it to be made slightly larger by pieces of metal attached to it and working on a sort of parallelogram system. This makes the exact interior dimension of the drum. On the outside is an omega section-shaped piece of metal the same distance from top to bottom as the drum and its inner core. This is slightly larger than the exterior of the drum but, once it's edges have been tightened together, it is exactly the size of the drum. However, before this happens another piece of 3mm material is glued and inserted this time with its dry side out and its edges moved round 180 degrees. This means the joins on the shell are opposite each other and, for those of you who are really paying attention, means the shell is now double-thickness (6mm) the two pieces of material having glued themselves together after pressure was applied via the former to the inside and the outside. To get a nice flat join on the outside edge, the pattern has a shaped piece of wood inserted where the outside former splits to put just a little more pressure and present a more even pressure surface. The plastic finish is finally glued on with an impact adhesive.

The bass drum hoops are bent to shape from



solid wood and then clamped and glued at their joins. Underneath the five clamps are arc formers which apply pressure back and front; the hoops are left overnight and then, like magic, come out perfectly round. Ten years ago Asba made metal bass drum hoops but found them to be superfluous - they reasoned that since the bass drum's beater always strikes at the same spot it wasn't necessary to use hoops to make the sound any brighter. I'm not too sure that I know what they're talking about.

Stainless steel drums are made on the premises. The metal is purchased in large sheets with one side covered in plastic. This means through all the processes one side (the outside)

is protected from scratches and knocks. This sheet is cut to size on a guillotine and then put through a hand-operated set of three adjustable rollers (like a mangle) which bends the metal to the required circumference. This machine can bend to almost any diameter and from any thickness of material up to about 1/4", the only limitation in this case being available head size. The snare and bass drums are made from slightly heavier gauge material than the tom-toms but only two thicknesses are used. The circular piece of material is now ready to be welded. An impressive electronic machine carries out this task in no time at all. Finally our completed cylinder has a concave bead pressed into it about half an inch or so from each edge to strengthen it. That's basically all there is to it.

One of the keys to Asba's success could be the fact that since they aren't a ridiculously large corporation but more of a family business, they only make as many drums as are on order at a specific time. This means they are in the comfortable position of going out to find orders to increase production rather than (as is the case with almost all other companies) having to go out and get orders to move increasing stockpiles.

The Altuglas drum shells are not made by Asba but by an outside plastics firms (rather like the French I.C.I.) to their specifications. They say that the development and manufacturing processes are so complex that they couldn't possibly get involved with them at the factory. This of course gives Asba grounds for complaint if something goes wrong with a shell. I don't know how often (if ever) this happens but their plexiglass drums certainly seem to be nicely made.

Plexiglass and stainless steel drums are polished on a series of buffing wheels prior to assembly and, in the case of the metal drums, can take up to an hour for four drums. Successively finer grades of soap are used for this exercise and applied to huge cloth buffing wheels.

With the exception of the cast counterhoops and nut-boxes, all the metal parts, for the Asba sets are worked in the factory. All sorts of 'T' handles, snare strainers, filters, drum keys and holders, damper parts etc. are cast from zamak by highly skilled foundrymen who make the castings as and when the factory needs them in an oil fired smelting furnace. The molten metal is then hand-ladled into the molds. Needless to say this foundry works all day everyday. Some of the really big casting jobs are contracted out to Asba's specifications, but all of these parts are hand assembled in the factory.

The Caroline and the Veronic pedals are named after the proprietor's daughter and a distant relative who died tragically young. As I said, it's a real family business. The bass drum pedal, first introduced in 1969, replaced a less sophisticated model. It's just recently been assigned to Ludwig for American distribution, which says much for its reputation since Ludwig already have the Speed-King and Ghost pedals. The Caroline has a facility which I missed on my "drum check" - its footplate is adjustable in its angle relative to the drum head, through two sets of holes per side at the frame's bottom which locates the 'U' shaped rod attachment underneath itself.

Asba are justifiably famous for their coopered Congas which are now made on the premises from mahogany and ash. The ash has recently replaced the much nicer sounding lemon-tree wood which they used for many years but which has recently become scarce. It is now possible to buy congas made completely from coopered mahogany which may be a pointer to a possible scarcity or perhaps a price increase in ash. These certainly look different from the "striped" ones which have become Asba's trademark and are very easily identifiable.

The wood for the congas comes from outside. It is dry and is kept in an unheated storeroom for one year before use. The slats are first cut to length and then cut to a slight oval shape to a pattern on a circular saw. The

long edges are then shaped front to back to enable them to butt together like a barrel and to give the glue something to work on. The staves are glued, formed into a circle in a jig and held together with a removable ring at each end. Several days are now allowed for drying prior to the rough shaped barrel being turned on a horizontal lathe. The next step is the fitting of a wooden reinforcing glue ring edge into each end. The glue is allowed to dry again and the whole drum is finished off completely on the lathe and its permanent metal bands fitted prior to a visit to the paint shop for a coat of varnish. I presume the metal bands are fitted as an insurance to keep the staves together just in case. As far as I can see they are unnecessary since they gave me a demonstration where they broke an offcut section of sawn-off conga. The glue never breaks under the strain — only the wood. The skins for the heads are lapped in the factory from specially selected thick animal hides. The wet skins are placed onto congas and left to dry naturally for three days.

The company have recently come up with a new size of conga which is larger than normal, called Super Tumbador. The other sizes they make are Quinto (the smallest), Tumba and Tumbador. They have recently branched out into fibreglass congas which I didn't see being made, but come in only two sizes: Tumba and Tumbador. These are roughly 50% more expensive than the wooden drums.

Cuban bongos are made in the factory in exactly the same way as the congas and these, as I mentioned in my drum check in January, were England's introduction to Asba in the early 'sixties. In those days, as now, they were fitted with plastic heads which were first made by them in 1958 and called Dermaplastic — I'm not sure if this pre-dates Remo Belli's heads but, anyway, it's a different process, the plastic being held in a normal 'U' shaped channel but with its open end away from the shell. This channel then has the plastic film inserted into it and jammed in place with a plastic-covered metal wire. The whole thing is then crimped together by squashing the aluminium channel around the plastic and the wire. No glue is used although heat treatment shrinks the plastic into the channel. The head, which runs over one side of the channel before insertion, has no collar on it. This could arguably be a problem as far as tensioning is concerned. However, I'm not equipped to comment, since it's over ten years since I played these heads and at that time, I didn't realise they were made any differently to other heads. I don't remember them pulling out but I notice that Asba don't specify their own heads for their sets. They use Remo.

Bongos are also available in metal and Altuglas, and they have recently resurrected some hard drums which they first made fifteen years ago called Rosottl. These metal drums with skin heads have an internal tuning system with cast rings and a centre thread much like Remo's roto-toms.

All sorts of different latin percussion instruments are made at the factory including timbales with, according to my catalogue, metal or wooden shells, Mexican maraccas, tambourines, claves in mahogany or something called bois des Iles (Island Wood?), Cowbells and something I have always coveted — a foot cowbell pedal.

There's also a pair of practice pads. One normal one to be mounted on a stand and one highly original one with a strap on it to be fixed above the player's knee in the most convenient position. (This could definitely save those bruises on your legs. You know what I mean.)

Unfortunately, these very, well-made pads are a little expensive even in France. It's a real shame.

Asba also make marching drums (soldiers for the use of) all with wooden hoops whether made from veneered wood or metal. There's two different sorts of parade drums, one quaintly called "Musique de l'air" and one double-headed bass drum.

Once the shells are fabricated, they are assembled completely by hand (all drilling is done at this time) by just three or four people. While I was observing, one 16" tom tom was being put together. I watched for over half an hour and the drum wasn't half-finished. They even died some screws by hand to fit the drum. This assembly department definitely goes part of the way to justifying the price of Asba's instruments.

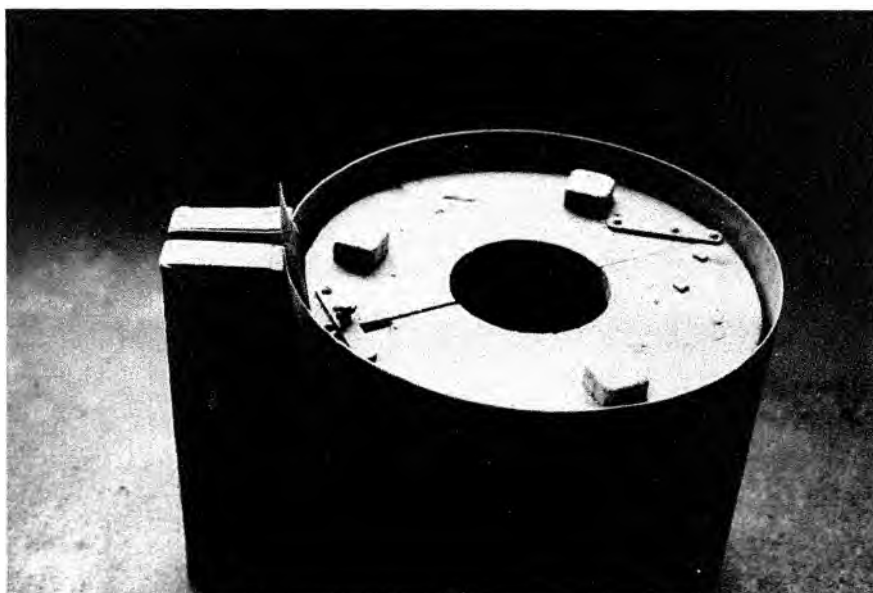
A room off the assembly department houses the polishing equipment. Here, the Altuglas and stainless steel drums are buffed up prior to

being fitted with nut boxes and fittings. They are polished on a grinder fitted with large cloth wheels using successively finer grades of soap. This exercise, believe it or not, takes up to an hour for a four drum set!

I saw a beautiful drum made in 1948 which was so sturdy it could last forever. The snares were now attached to their mechanism with a plastic strip. Asba have been fixing their snares this way for seven years or so.

Even though the drums are expensive in England, they are even more expensive in France. Their different sorts of drum shell materials — wood, Altuglas and stainless steel — all sell for the same price. Presumably what they gain on the swings they lose on the roundabouts.

Anyway, I must say my visit to Asba's factory was a really interesting experience. I enjoyed seeing the manufacturing processes of what must be the closest thing to hand-built drums available commercially in the world today.



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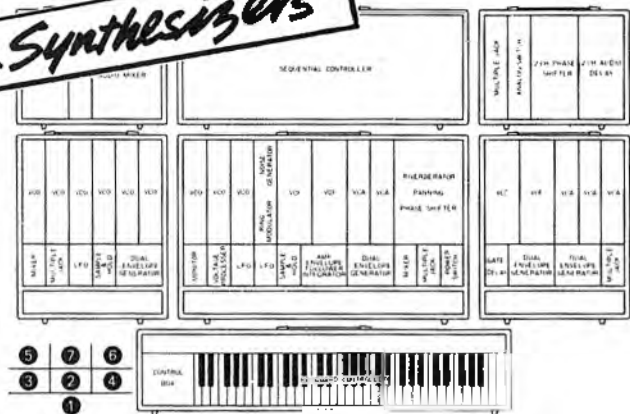
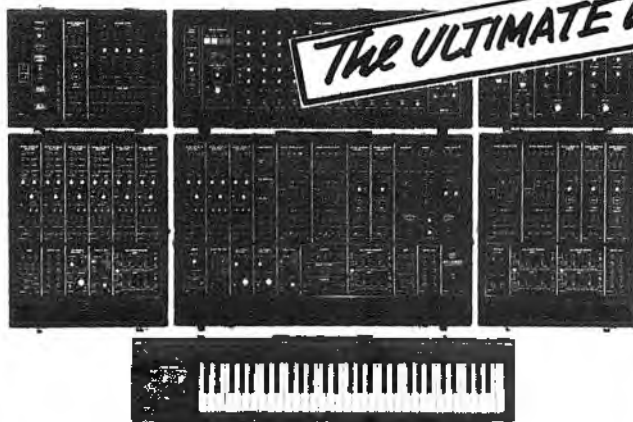
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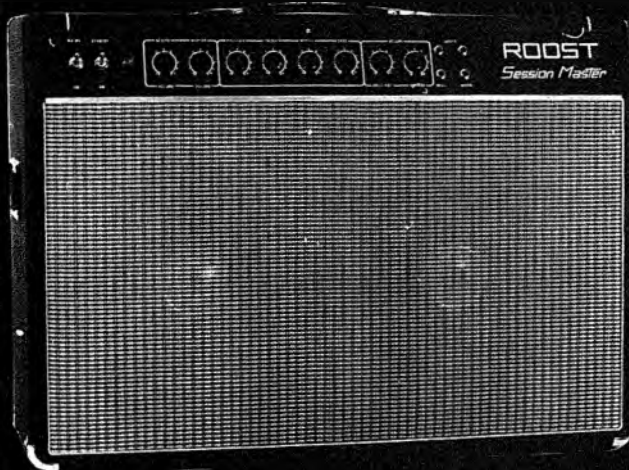
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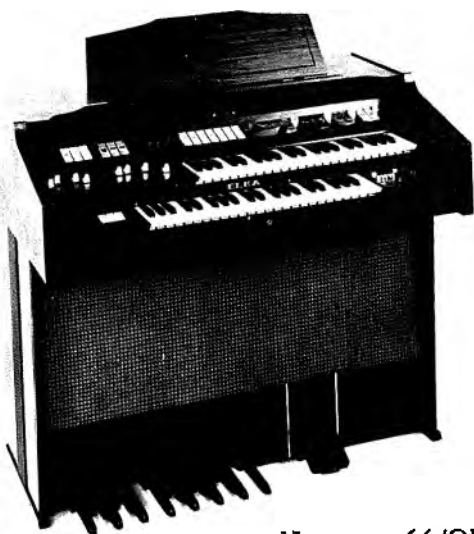
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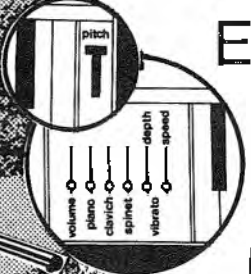
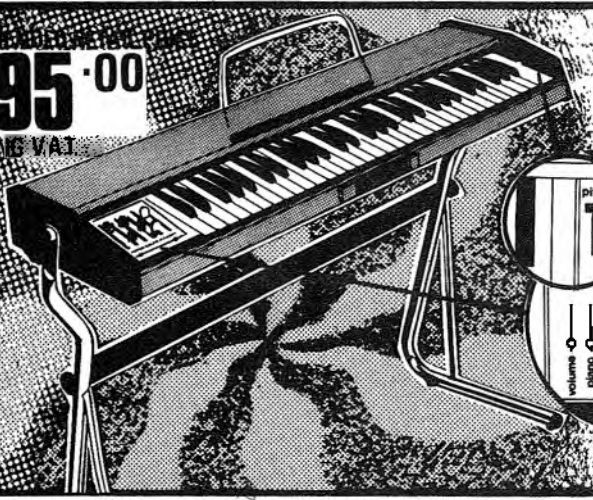


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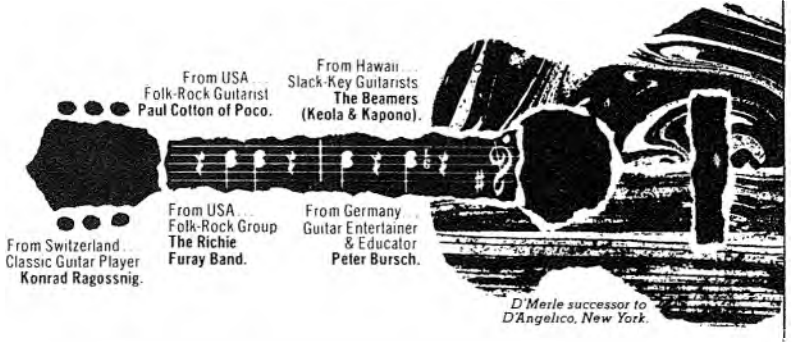
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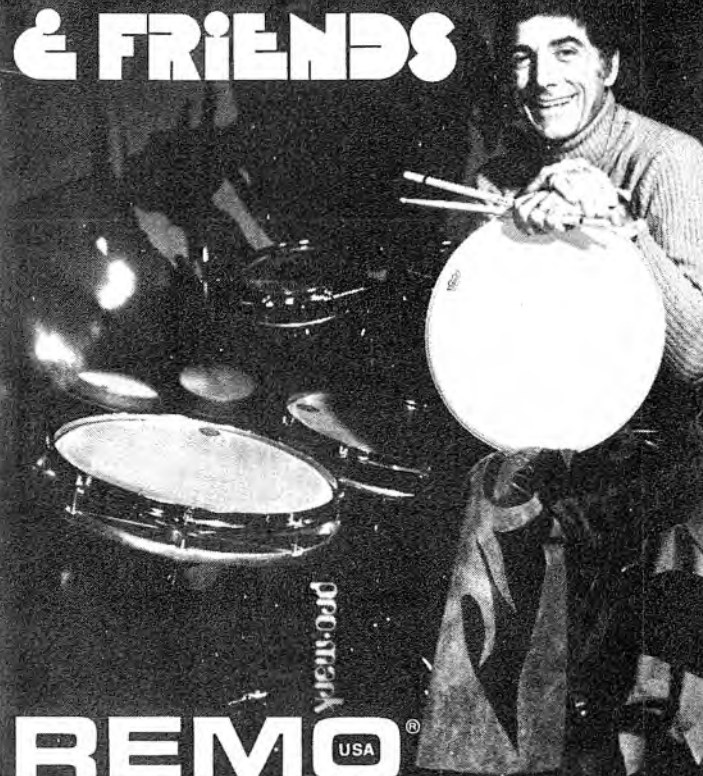
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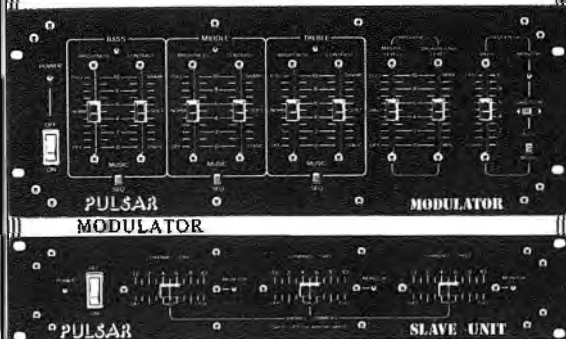
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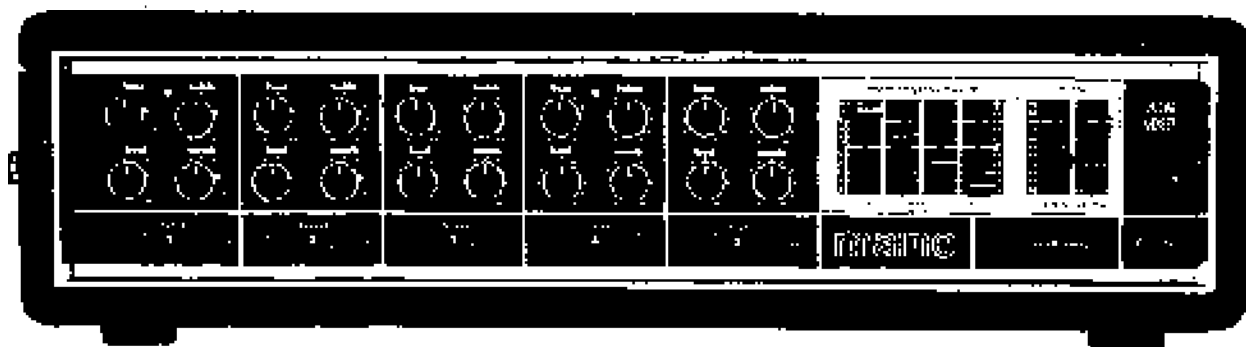
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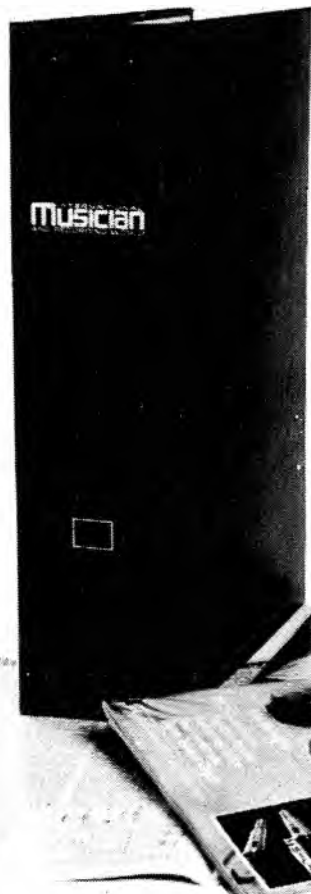


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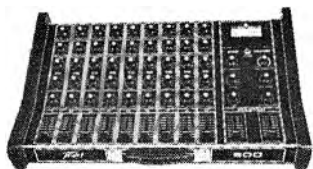
Peavey will have an impressive display of all their current models in amplification at Frankfurt this year, and are expected to make a very noticeable mark on the European scene. Probably the best known among Peavey's extensive range is the excellent range of combos with the useful Automix feature, and these will be shown, with Classic, Deuce and Artists all in evidence.

Also on show will be the speaker enclosures, equaliser, PA amps and slaves, mixers, PA speaker enclosures and ancillary PA equipment that go to make the Peavey range as respected as it is among musicians everywhere.

Die Firma stellt dieses Jahr in Frankfurt ihre gegenwärtigen Verstärkermodelle aus — ein sehr eindrucksvolles Angebot. Die Firma dürfte in Europa einen beachtlichen Eindruck hinterlassen. Die bekanntesten Beispiele aus Peaveys umfangreichem Lieferprogramm sind wahrscheinlich die ausgezeichneten Combos mit dem nützlichen Automix. Daneben werden auch noch Classic, Deuce und Artists gezeigt.

La Peavey, quest'anno a Francoforte presenterà una vasta serie di modelli correnti di apparecchiature per l'amplificazione; tale serie, indubbiamente riscuoterà un forte successo in Europa. Probabilmente, tra i prodotti Peavey, uno dei più conosciuti è il combo, con il dispositivo Automix. Una selezione di quest'ultimi verrà esposta assieme ai modelli Classic, Deuce e Artists.

Peavey exposera une gamme impressionnante de ses modèles courants de matériel d'amplification à Francfort cette année, et l'on peut s'attendre à ce qu'il marque fortement la scène européenne. Ce qui est sans doute le plus connu parmi la vaste gamme de Peavey est l'excellente série des combos, avec caractéristique Automix. On pourra les voir à Francfort, ainsi que les Classic, Deuce et Artists.



Premier Drums, Pullman Road, Wigston, Leicester LE8 2DF. Tel: 0533-773121

The latest seven drum Premier D717 outfit in a very attractive two-tone silver-blue 'combination' finish is among Premier's exhibits for '77.

Also on show will be the low priced Super Olympic outfit, a full range of Italian made UFIP cymbals, and marching drums and accessories alongside many other Premier specialities.

Die neueste Sieben-Trommel-ausrüstung Premier D717 in besonders schönem zweifarbigen 'Kombinationsfinish' in Silber und Blau gehört zu den Ausstellungsobjekten von Premier auf der Messe 1977.

Außerdem werden die preiswerte Super-Olympic-Ausrüstung, eine komplette Serie von in Italien hergestellten UFIP-Zimbeln sowie Marschtrommeln und Zubehör neben zahlreichen anderen Spezialitäten von Premier ausgestellt.

Tra i prodotti Premier, che verranno esposti alla Fiera '77 figurerà il nuovo complesso a sette tamburi Premier D717, in una elegantissima finitura 'combination' a colori argento-blu.

Verranno parimenti presentati i complessi Super Olympic, di prezzo assai moderato, una serie completa di piatti UFIP, prodotti in Italia, tamburi per parate, accessori varie ed altre specialità Premier.

Le dernier équipement Premier D717 à sept caisses figurera parmi les produits exposés par Premier en 1977, avec sa finition à deux tons gris-blue très attractive.

Également exposé: l'équipement Super Olympic à prix bon marché, une gamme complète de cymbales UFIP de fabrication italienne, des tambours de marche et des accessoires accompagnant les nombreuses autres spécialités de Premier.

下等価格の最新型「セブン・ドラム」は、7つのドラムを備えた、非常に美しい銀と青の「コンビネーション」仕上げのドラムセットです。また、低価格のスーパーオリンピックドラムセット、イタリア製のUFIPのシンバル、そして様々な種類の行進ドラムやアクセサリーも展示されています。

Roost Sound Equipment, Unit Q, Starline Works, Grainger Road, Southend-on-Sea, Essex, England. Tel: 0706-613232.

Roost have been selling their range of P.A. gear and 'Session Master' combos to Germany for some time, as well as producing successfully for the home market. But over the last year, the name has been getting around a lot more in Europe and as a result of increased demand, the company is exhibiting for the first time at Frankfurt this year.

Die Firma Roost verkauft ihre Kollektion von Lautsprecher-übertragungsausrüstungen und 'Session Master' — Kombinationen schon seit geraumer Zeit nach Deutschland und mit großem Erfolg auch auf dem einheimischen Markt. Im Laufe des Vorjahrs hat sich jedoch diese Marke sehr stark auf dem europäischen Kontinent verbreitet und die gesteigerte Nachfrage hat die Gesellschaft dazu veranlaßt, dieses Jahr zum ersten Mal auf der Frankfurter Messe auszustellen.

La Roost, da tempo, vende la propria serie di accessori P.A. e combos 'Session Master' alla Germania, oltre a fornire adeguatamente il mercato nazionale. Durante l'anno scorso, il nome della società si è ulteriormente affermato in Europa; a seguito dell'accresciuta domanda, la ditta parteciperà quest'anno, per la prima volta, alla Fiera di Francoforte.

Roost vend ses appareils de retransmission publique et ses combinés "session Master" en Allemagne depuis un certain temps, tout en produisant avec succès pour le marché intérieur. Mais dans le courant de l'an dernier, cette marque s'est beaucoup plus faite connaître en Europe et devant la demande accrue, la société exposera pour la première fois à Francfort cette année.

Roost社は、自社のP.A.ギアを販売して、ドイツに長い歴史があります。また、成功裏に国内市場でも生産してきました。しかし過去一年、ヨーロッパでもこの名前が知られるようになり、増大した需要の結果、今年初めてFrankfurtの展示会に出展することになりました。

現在、Roost社の新しい製品がドイツでもこの展示会を通じて知られるようになり、増大した需要の結果、今年初めてFrankfurtの展示会に出展することになりました。

Rose-Morris, 32-34 Gordon House Road, London NW5. Tel: 01 267 5151

Rose-Morris will be displaying four separate ranges of equipment, dominated by Marshall equipment.

For the first time, all the Shaft products — microphone stands, drum hardware, with cymbal stands, hi-hats, and bass drum pedals included — will be part of the Rose-Morris stable.

Natal Latin percussion instruments, ranging through congas, bongos and guiros are becoming more and more popular, and the complete variety of Clansmen parade drums, some with emblazoning, will be on show.

New lines from Marshall in 1977 will include bass and lead amplifiers, speaker cabinets, combos and PA/monitor systems

Zum ersten Mal enthält die Rose-Morris-Kollektion sämtliche Shaft-Produkte, wie, Trommelgeräte mit Beckenhaltern, Hi-Hats und Pedale für große Trommeln.

Natal-Latin-Schlaginstrumente, wie Congas, Bongos und Guiros, werden immer populärer, und auf der Messe wird das komplette Sortiment an Clansmen-Paradetrommeln, manche mit heraldischer Bemalung, ausgestellt sein.

Per la prima volta, la società esporrà tutta la serie dei prodotti Shaft: aste portamicrofono, accessori per batteristi, aste portapiatto, hi-hats* e pedali per grancasse.

La Rose Morris esibirà gli strumenti a percussione Natal Latin, che comprendono le conga, bongo e guiro — di sempre crescente affermazione. Inoltre, figurerà la selezione di tamburi Clansmen, alcuni dei quali saranno dotati di decorazioni.

Pour la première fois, tous les produits Shaft — supports de microphones, parties métalliques des batteries avec supports de cymbales, hi-hats, et pédales de batterie basse, notamment — feront partie de "l'écurie" Rose-Morris.

Les instruments de percussione Natal Latin, allant des congas et bongos aux guiros, deviennent de plus en plus populaires et la variété complète des caisses de parade Clansmen, dont certaines blasonnées, sera présentée.

Roost社は、自社のP.A.ギアを販売して、ドイツに長い歴史があります。また、成功裏に国内市場でも生産してきました。しかし過去一年、ヨーロッパでもこの名前が知られるようになり、増大した需要の結果、今年初めてFrankfurtの展示会に出展することになりました。

FRANKFURT '77

Rosetti & Co., 138 Old Street, London EC1. Tel: 01-253-7294.

In addition to exhibiting their full range of Simms-Watts amplification this year, the Rosetti company is busily finishing models in time to display them at Frankfurt. Among these, it is hoped that a British made electric guitar will be ready in time, and, according to the company, other new models will have particularly attractive prices attached to them.

One line which only just made last year's show was Hamma drums. Only one set was available at Frankfurt '75, but this time, the kit will be fully exhibited and demonstrated.

You can also expect to find a full range of amplifiers, including the popular Saphire range and a wide range of educational instruments and accessories under the Rosetti banner, in addition to disco consoles and P.A. systems.

Die Firma Rosetti stellt dieses Jahr nicht nur ihr vollständiges Sortiment an Simms-Watts-Verstärkern aus, sondern auch einige neue Modelle, an denen zur Zeit eifrig gearbeitet wird, damit sie in Frankfurt gezeigt werden können. Darunter befindet sich eine in Großbritannien hergestellte elektrische Gitarre, die hoffentlich noch rechtzeitig fertig wird, und wie uns die Firma mitteilt, zeichnen sich weitere neue Modelle durch besonders attraktive Preise aus.

La società Rosetti, che quest'anno esporrà la serie completa di apparecchiature per amplificazione Simms-Watts, sta completando un complesso di modelli che appariranno parimenti a Francoforte. La ditta spera di ultimare una chitarra elettrica di marca britannica ed altri nuovi modelli dal prezzo assai allettante.

Cette année, la société Rosetti exposera à Francofort non seulement toute sa série d'amplificateurs Simms-Watts, mais aussi de nouveaux modèles qu'elle est en train de mettre au point, entre autres la guitare électrique fabriquée en Grande Bretagne, qu'elle espère terminer en temps voulu. La société annonce d'autres nouveaux modèles à des prix particulièrement intéressants.

本展後、フランクフルト展に引き続き、東京の各主要楽器店に「ローゼット」の楽器を展示する。その際、最新の「ローゼット」の楽器は、東京の各主要楽器店に展示する。その際、最新の「ローゼット」の楽器は、東京の各主要楽器店に展示する。

Shure Brothers Inc., 222 Hartley Avenue, Evanston, Illinois, USA.

Centrepiece of the Shure exhibit in Frankfurt will be their new M615 Sound System Analyser, designed to equalise sound systems for a flat response. It is built into a suitcase for easy portability. The SR107 graphic equaliser is designed to complement the M615 analyser and this too will be on show, along with the well-known range of Shure studio and stage microphones and their SR range of sound reinforcement systems.

Die Hauptattraktion am Shure-Stand in Frankfurt wird der neue Tonsystem-Analysator M615 sein, der zur Entzerrung von Tonsystemen entworfen wurde. Das Gerät ist in einen Koffer eingebaut, um das Tragen zu erleichtern. Der graphische Entzerrer SR107, der als Zusatz zum Analysator M615 gebaut wurde, wird ebenfalls ausgestellt, und die Besucher sehen außerdem die bekannten Shure-Studio- und Bühnenmikrophone sowie die Tonverstärker der SR-Serie.

Il prodotto più importante che la Shure presenterà a Francoforte sarà il nuovo Sound System Analyser M615, che equilibra la risposta sonora dei sistemi. Tale prodotto sarà completo di valigetta. L'equalizzatore "Graphic" SR107 completa l'analizzatore M615. Quest'ultimo verrà a sua volta esposto assieme all'affermata serie di microfoni per studio e palcoscenico ed agli intensificatori sonori SR.

Au centre de l'exposition Shure à Francofort figurera le nouveau Sound System Analyser M615, destiné à compenser les systèmes sonores pour une réponse plate. Il est fixé dans une valise afin de le rendre aisément portable. Le SR107, compensateur graphique destiné à compléter l'analyseur M615, sera aussi présenté au sein de la gamme bien connue de microphones Shure de studio et de scène et de ses systèmes SR de renforcement de sons.

フランクフルト展の中心に展示されるのは、音のレベルを均等化するのに役立つ新しい「M615」のサウンドシステムアナライザーと、その補完として設計された「SR107」のグラフィックエーライザーである。この両者は、持ち運びが容易なケースに入っており、展示のために特別に設計された。また、最新の「SR」のスタジオおよびステージ用マイクと、その増強システムも展示される。

Dave Simms Music Products, Project House, 1-5 The Grove, Ealing, London W5. Tel: 01-560 0520

Dave Simms will be showing a considerably expanded range of disco, sound and lighting equipment in the British section. In addition to their existing lines, there are two new models, both with built-in power amplifiers.

The MDI unit will be available with a 60 watt integral amp, and the Super Professional Stereo SD5 unit with two built-in 125 watt power amps giving a total output of 250 watts. The latter uses the new Power Slave chassis, also available as a separate unit.

Dave Simms im britischen Teil der Messe eine stark erweiterte Kollektion von Disco-, Ton- und Beleuchtungsaustellungen ausstellen. Zusätzlich zu den bestehenden Artikeln dieser Firma gibt es zwei neue Modelle, beide mit eingebauten Kraftverstärkern.

La Dave Simms esporrà una serie notevolmente arricchita di apparecchiature per "disco", per il suono e per l'illuminazione, nella sezione riservata alla Gran Bretagna. Oltre ai prodotti esistenti, la società presenterà due nuovi modelli, entrambi con amplificatori di potenza incorporati.

L'unità MDI sarà dotata di amplificatore integrale di 60 watt e l'unità Super Professional Stereo SD5 disporrà di due amplificatori incorporati di 125 watt, raggiungendo un totale di 250 watt. Quest'ultimo modello utilizza il nuovo telaio Power Slave, fornito parimenti come articolo separato.

Dave Simms exposera dans la section britannique une gamme considérablement étendue d'équipement disques, son et éclairage. En plus de ses séries existantes, il présentera deux nouveaux modèles munis chacun d'amplificateurs intégrés.

L'unité MDI sera livrée avec un ampli intégré 60 watts et le SD5 stéréo super-professionnel avec deux amplis intégrés de 125 watts, soit une sortie totale de 250 watts. Cette dernière unité utilise le chassis Power Slave, également disponible séparément.

フランクフルト展の中心に展示されるのは、音のレベルを均等化するのに役立つ新しい「M615」のサウンドシステムアナライザーと、その補完として設計された「SR107」のグラフィックエーライザーである。この両者は、持ち運びが容易なケースに入っており、展示のために特別に設計された。また、最新の「SR」のスタジオおよびステージ用マイクと、その増強システムも展示される。

Sola Sound, 20 Denmark Street, London WC2. Tel: 01-836-2856.

Sola Sound's stand will doubtless attract many visitors at the Frankfurt Fair this year. On show will be a vast range of the excellent Colorsound effects pedals, which include various permutations of fuzz, phase, wah-wah, swell, and a lot more. The Eurotec Black Box system of modular pedals will also be exhibited and, as always, there will be a few surprises in store.

Der Stand von Sola Sound wird auf der diesjährigen Frankfurter Messe zweifellos viele Besucher anziehen. Es wird eine große Auswahl an ausgezeichneten Colorsound-Effektpedalen mit verschiedenen Verzerrungen von verschommenen Tönen, Phase, Wah Wah, Schwellen u. dergl. ausgestellt. Das Eurotec Black Box System von Modulpedalen wird ebenfalls zu sehen sein und, wie immer, erwartet den Besucher eine Anzahl von Überraschungen.

Indubbiamente, lo stand della Sola Sound attrarrà un gran numero di visitatori, quest'anno, alla Fiera di Francoforte. Verrà esposta una vasta selezione di pedali per effetti Colorsound, che includerà svariate permutazioni di fuzz, fase, wah-wah, intensificazione ed altri effetti di marcato rilievo. Verrà parimenti presentato il sistema di pedali modulari Eurotec Black Box, oltre ad alcune immancabili innovazioni.

Le stand Sola Sound attirera sans aucun doute de nombreux visiteurs à la foire de Francoforte cette année. Sera exposée une large gamme des excellentes pédales à effets Colorsound, comportant de nombreuses permutations de distorsion, phases, wah-wah, pédale expressive, et bien d'autres choses. Le système de pédales modulaires Eurotec Black Box sera également présenté; et comme toujours il y aura quelques surprises en réserve.

フランクフルト展の中心に展示されるのは、音のレベルを均等化するのに役立つ新しい「M615」のサウンドシステムアナライザーと、その補完として設計された「SR107」のグラフィックエーライザーである。この両者は、持ち運びが容易なケースに入っており、展示のために特別に設計された。また、最新の「SR」のスタジオおよびステージ用マイクと、その増強システムも展示される。

Sonor, distributed by Hohner, 39-45 Coldharbour Lane, London SE5. Tel: 01-733-4411.

Sonor, a company which has been famous for over a century, will show their extensive drum catalogue, well-known for their thick shell and heavyweight fittings. Sonor also markets the Orff school musical instruments, which include timpani, bells, castanets, claves, and many other educational and normal wares can be viewed.

Sonor kits have become far more competitively priced over recent years, and they can now meet a wide variety of needs.

Die Firma Sonor, die schon seit über einem Jahrhundert berühmt ist, zeigt ihr umfangreiches Sortiment an Trommeln, die sich durch ihren starken Rahmen und ihre schweren Beschläge auszeichnen. Sonor vertreibt auch die Orff-Schulinstrumente, darunter Timpani, Glocken, Kastagnetten und Zimbeln. Daneben können noch viele andere Instrumente für die Schule und den normalen Gebrauch besichtigt werden.

Sonor-Instrumente, die es jetzt für den verschiedensten Bedarf gibt, sind in den letzten Jahren immer konkurrenzfähiger geworden.

La Sonor, una società rinomata da più di un secolo, esporrà la vasta selezione di tamburi, noti per la robusta struttura e per gli accessori di alta resistenza. La Sonor vende parimenti gli strumenti musicali didattici Orff, che includono i timpani, le campane, le nacchere, le clave e parecchi altri accessori per fini didattici o normali.

I kit Sonor vengono ora venduti a prezzi assai più allettanti e sono adatti per una grande varietà di applicazioni.

La société Sonor, célèbre depuis plus d'un siècle, présentera son vaste catalogue d'instruments à percussion, réputés pour leur peau résistante et leur solidité. Sonor lance aussi sur le marché les instruments éducatifs Orff, notamment des timbales, des cloches, des castagnettes, des claviers. Beaucoup d'autres articles, éducatifs ou non, seront également exposés.

Ces dernières années, les prix des équipements Sonor sont devenus beaucoup plus compétitifs et ils peuvent maintenant satisfaire une clientèle très diverse.

ソナー社の楽器は100年以上の歴史をもち、同社は、その多種多様な楽器を展示する予定です。そのほか、厚い皮と、しっかりした構造で有名な、ソナー社の「オルフ」楽器も展示する予定です。また、学校用、クラブ、その他教育用、汎用の楽器も展示予定です。

Soundout Laboratories Ltd., 91 Ewell Road, Surbiton, Surrey KT6 6AH. Tel: 01-399-3392.

Soundout will have a whole new range on show, including the new Fibreglass Series Seven discotheque, available in various new colours. The structure of this unit is based on the fibreglass technique used in building powerboats, which means that it is exceptionally hard wearing. An additional attractive aspect is that it utilises the SP 18 control panel, which until recently was restricted to the US, for which it was designed, but is now becoming standard for Soundout.

Die Firma Soundout zeigt ein ganz neues Sortiment, darunter die neue Glasfaser-Diskotheque Series Seven, die es in Verschiedenen neuen Farben gibt. Sie beruht auf der gleichen Glasfasertechnik, die auch beim Bau von Motorbooten verwendet wird. Das bedeutet, daß sie sich durch besondere Stabilität auszeichnet. Ein weiterer Vorteil ist, daß sie mit dem Bedienungspult SP 18 geliefert wird, das bis vor kurzem nur in den USA erhältlich war. Ursprünglich wurde es auch speziell für die USA gebaut, aber jetzt gehört es bei Soundout allmählich überall zur Standardausrüstung.

La Soundout esporrà una nuova serie di prodotti, tra i quali la nuova discoteca di fibra di vetro Series Seven, che verrà prodotta in diversi colori. La struttura di queste unità sarà basata sulla tecnica di costruzione delle imbarcazioni a motore, per cui sarà eccezionalmente robusta. Un ulteriore aspetto attraente sarà l'uso del quadro di controllo SP 18. Tale quadro, fino ad ora, era riservato per gli USA, per il quale mercato era stato disegnato. Ora, invece, la Soundout lo installerà di serie.

Soundout présentera toute une gamme de nouveautés à Francfort, en particulier la série de lumières de scène Fibreglass, disponible en de nombreuses couleurs nouvelles. Ce matériel est fabriqué selon la technique de la fibre de verre, utilisée dans la construction de bateaux à moteur, ce qui constitue une garantie absolue quant à sa résistance. De plus, il est pourvu du, tableau de commandes SP 18, qui n'existait jusqu'alors qu'aux Etats-Unis, mais que Soundout a maintenant adopté.

サウンドアウトは今年全く新しい一連の製品を展示します。その中には色々のカラーの光の演出装置「ファイバグラス」シリーズが展示されています。このシリーズの構造はファイバグラス製造船艇に似た、極めて丈夫で、異常な耐久性を有しています。これにSP18コントロールパネルが標準的に取り付けられています。その他、船舶のエンジン、最近までアメリカ合衆国のみでしかSP18コントロールパネルが使用されておらず、このユニットは以前にアメリカにのみ存在していました。現在、サウンドアウトは、このパネルを標準的に採用しています。

Tama (Distributed in the UK by Summerfield Bros).

Tama drums will be on show at Frankfurt this year, and can be seen at the stand of their German distributor, Roland Meini. Of prime importance will be the new 4-ply solid wood shell drums, and these will be included amongst a display of the full range of Tama drums, including Imperial Star, Saturn, Mars, Mercury, Royal Star, Swing Star and Drum Mate kits.

TAMA Trommeln werden in diesem Jahr in Frankfurt am Stand ihres deutschen Vertreters Roland Meini ausgestellt. Von größter Bedeutung sind die Trommeln mit vierfachem massivem Holzgehäuse, die in das zur Schau gestellte komplette Tama-Sortiment aufgenommen werden. Zu den gezeigten Modellen gehören Imperial Star, Saturn, Mars, Mercury, Royal Star, Swing Star und Drum-Mate-Sätze.

I tamburi Tama, quest'anno, verranno presentati alla fiera di Francoforte dal distributore tedesco della società, Roland Meini. I rinomati tamburi a struttura massiccia di legno a 4 stratificazioni appariranno assieme all'intera selezione Tama, che include i kit Imperial, Star, Saturn, Mars, Mercury, Royal Star, Swing Star e Drum Mate.

On pourra regarder les batteries Tama exposées cette année à Francfort au stand de leur distributeur allemand, Roland Meini. Les nouveaux tambours de bois à quatre épaisseurs seront de la plus grande importance, aux cotés de la gamme complète de tambours Tama, notamment l'Imperial Star, le Saturn, le Mars, le Mercury, le Royal Star, le Swing Star et le Drum Mate.

タマドラムは今年、フランクフルトの展示場にて、その全範囲の製品を展示します。4層構造の完全木製ドラムが、最も重要なポイントとして展示される予定です。また、そのほかのタマドラムの全範囲の製品も、この展示場にて展示される予定です。



タマドラムは今年、フランクフルトの展示場にて、その全範囲の製品を展示します。4層構造の完全木製ドラムが、最も重要なポイントとして展示される予定です。また、そのほかのタマドラムの全範囲の製品も、この展示場にて展示される予定です。

Vitavox, Westmoreland Road, London NW9. Tel: 01-204-4234.

Vitavox have a wide variety of products available at Frankfurt. The AK156 and 157 bass loudspeakers feature highly efficient 15" bass drivers suitable for bins and bass-reflex cabinets handling up to 100 watts.

The S-3 pressure driver is rated at 100 watts, and is probably the best high power, wide range pressure driver available. The four-cell dispersive horn is made as a single die casting of lightweight aluminium. With the wide range of adaptors, almost all drivers can be used in a single or multiple configuration.

Vitavox wird in Frankfurt eine große Auswahl an Erzeugnissen vorführen. Die Baßlautsprecher AK 156 und 157 zeichnen sich durch leistungsfähige Bass Drivers von ca. 38 cm aus, die für Bins und Baßreflexgehäuse bis zu 100 Watt geeignet sind. Der Pressure Driver S-3 ist für 100 Watt ausgelegt und wahrscheinlich der beste Hochleistungs- und Großreichs-Pressure-Driver, den es heute gibt.

A Francoforte, la Vitavox presenterà una varietà di prodotti. Gli altoparlanti per bassi AK 156 e 157 sono dotati di azionatori di 15" di alta efficienza, adatti per i bin e mobiletti per bass-reflex funzionanti con un massimo di 100 watt.

L'azionatore S-3 funziona a 100 watt—questo è probabilmente il miglior azionatore ad alta potenza ed a vaste gamme di pressioni.

Vitavox présente une large variété de produits à Francfort. Les haut-parleurs de basse AK156 et 157 comportent des drivers de basse de 15" très efficaces convenant à des coffres et cadres basse-reflex allant jusqu'à 100 watts.

Le driver de pression S-3 est classé dans les 100 watts et constitue sans doute le meilleur engin haute puissance de grande série. Le cor dispersif à quatre cellules est fait d'un seul moulage par matricage en aluminium léger. Avec la large gamme d'adaptateurs, on peut utiliser presque tous les drivers en configuration simple ou multiple.

フランクフルトでは、フランクフルトの展示場にて、その全範囲の製品を展示します。4層構造の完全木製ドラムが、最も重要なポイントとして展示される予定です。また、そのほかのタマドラムの全範囲の製品も、この展示場にて展示される予定です。

FRANKFURT '77

Vox Sound Ltd., Dallas House, Vanguard Way, Shoeburyness, Essex. Tel: 03708-4121.

Vox will this year be showing the well-known AC30 amplifier together with the AC50 model, and many speakers.

Five completely new models are also available: a new version of the AC30 with reverb, two inputs and two 10" speakers; a completely new AC120 twin, with reverb, tremolo, six inputs and 12" speakers; a Vox Escort practice amplifier, obtainable as a battery or battery/mains model; and the AC15 and 25 amplifiers.

Vox wird in diesem Jahr die bekannten Verstärker AC30 zusammen mit dem Modell AC50 und auch viele Lautsprecher ausstellen.

Außerdem sind fünf vollkommen neue Modelle lieferbar: Eine neue Version des AC30 mit Nachhall, zwei Eingänge und zwei 25 cm Lautsprechern ein kompletter neuer AC20 (Doppelmodell) mit Nachhall, Tremolo, sechs Eingänge und 30 cm Lautsprechern; ein Verstärker VOX Escort Practice, erhältlich als Batterie oder als Batterie/Netzgerät, sowie die Verstärker AC15 und 25.

La Vox, quest'anno, presenterà gli affermati amplificatori AC30, AC50 ed una serie di altoparlanti.

Appariranno cinque modelli completamente nuovi: una versione AC30 con riverberatore, due ingressi e due altoparlanti di 10", un gruppo gemello AC120, con riverberatore, tremolo, sei ingressi ed altoparlanti di 12", un amplificatore per pratica Vox Escort, nelle versioni a batteria ed a funzionamento con alimentazione di rete, e gli amplificatori AC15 e 25.

Vox présentera cette année son amplificateur AC30 bien connu ainsi que le modèle AC50 et de nombreux haut-parleurs.

Cinq modèles entièrement nouveaux seront aussi disponibles: une nouvelle version du AC30 avec réverbération, deux prises et deux haut-parleurs de 10", un twin AC120 entièrement nouveau avec réverbération, six prises et haut-parleurs de 12", un amplificateur d'exercice Vox Escort, disponible en piles ou piles/secteur, et enfin les amplis AC15 et 25.

ボクサウンド社は、今年、新しいモデルの AC30、AC50、AC15、AC20、AC120、VOX ESCORT の 5 つの新しいモデルを展示する。また、多くのスピーカーも展示する。AC30 は、リバーブ、2つの入力、2つの 10" のスピーカーを持つ新しいモデルである。AC120 は、リバーブ、トレモロ、6つの入力、12" のスピーカーを持つ新しいモデルである。VOX ESCORT は、練習用アンプで、バッテリーまたはバッテリー/交流電源で動作する。また、AC15 と AC25 のアンプも展示する。

Watkins Electric Music, 66 Offley Road, London. Tel: 01-735-6568.

A star turn of this year's WEM exhibits will be the new, updated version of the ever-popular Copicat echo unit, the Super I.C. model. In one compact case, the Copicat contains multi-echo, reverb, four echo heads, a new 'double tracking' feature, long life cassette tape, the 'sound on sound' feature, and four inputs with volume controls.

Ein Star im diesjährigen Ausstellungsgut von WEM ist das Modell Super I.C., die den modernsten Erfordernissen angepaßte neue Version des stets beliebten Echogeräts Copicat.

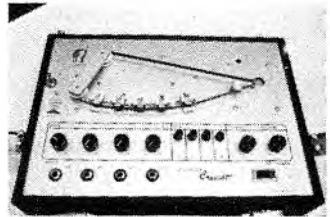
Ein einziges kompaktes Gehäuse enthält ein Multiecho, Nachhall, vier Echoköpfe, ein neues 'Zweispuren' System, ein langlebiges Kassettenband, das 'Ton-auf-Ton'-System und vier Eingänge mit Lautstärkeregelung.

Il più importante prodotto che la WEM esporrà quest'anno sarà la nuova perfezionata versione del popolare gruppo eco Copicat, il modello Super I.C.

In un solo compatto mobiletto, il Copicat contiene il gruppo multiecho, il riverberatore, un gruppo a quattro eco, la nuova particolarità 'double tracking', un nastro su cassetta, di lunga durata, il gruppo 'sound on sound' e quattro ingressi, con regolatori di volume.

Cette année, la grande nouveauté de Watkins Electric Music à l'exposition de Francfort sera le modèle modernisé de la célèbre sonorisation Copicat, le Super I.C. Il s'agit d'un bloc compact, comportant multi-son, réverbère, quatre têtes sonores, une bande magnétique longue durée à deux pistes, le 'Sound and sound', et quatre entrées ayant chacune un réglage du volume.

今年、ワトキンスエレクトリックミュージック(WEM)の展示の中心は、エコー装置のコピカットの最新バージョンであるスーパー I.C. モデルである。コンパクトなケースの中に、マルチエコー、リバーブ、4つのエコーヘッド、新しい「ダブルトラック」機能、長寿命のカセットテープ、サウンドオンサウンド機能、4つの入力と音量コントロールが搭載されている。



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Yamaha, 10-1, Nakazawa-Cho, P.O. Box 1, Hamamatsu, Japan. Tel: Hamamatsu 61-1111.

Yamaha will be showing a full range of their products at the Fair this year, including their well-proven lines of amplification and guitars. Amongst the newer instruments on display will be the three new solid electric guitars which are proving to be a particularly successful part of the Yamaha range, the SG1000, 1500 and 2000. Also, the new EM150 mixer will be visible to visitors to the overflowing Yamaha stand this year.

Die Firma Yamaha wird eine komplette Serie ihrer Erzeugnisse auf der diesjährigen Messe ausstellen, darunter ihre erprobten Verstärker und Gitarren. Zu den neueren Instrumenten, die gezeigt werden, gehören drei neue "solid" elektrische Gitarren, die sich als besonders erfolgreicher Teil der Yamaha-Kollektion erwiesen haben, und zwar die SG1000, 1500 und 2000. Besucher der überaus reichhaltigen Yamaha-Standes werden dieses Jahr auch den neuen Mischer EM150 bewundern können.

Quest'anno, alla Fiera, la Yamaha esporrà l'intera serie dei propri prodotti, incluse le apparecchiature per amplificazione e le chitarre. Tra gli strumenti più recenti, figureranno le chitarre 'solid electric', in tre versioni, che rappresentano tre prodotti di alto successo della Yamaha, ossia, i tipi SG1000, 1500 e 2000. La Yamaha presenterà parimenti il nuovo miscelatore EM150.

Yamaha exposerà cette année à la foire une gamme complète de ses produits, en particulier ses séries confirmées d'amplificateurs et de guitares. Parmi les nouveaux instruments présentés figureront les trois nouvelles guitares électriques extra-solides qui s'annoncent comme un gros succès dans la gamme Yamaha, la SG 1000, la 1500 et la 2000. Les visiteurs pourront aussi voir le nouveau mixer EM150 dans le très riche stand de Yamaha cette année.

今年、ヤマハは、フェアに、その全範囲の製品を展示する。その中でも、よく知られた増幅装置とギターを含む。展示される新しい楽器の中で、特に成功を収めているのは、ヤマハの新しい SG1000、1500、2000 の 3 つの新しいソリッドエレキギターである。また、新しい EM150 のミキサーも展示される。ヤマハの豊富な展示台は、今年もヤマハの製品を多く展示する。

Zoot Horn Ltd., 31 Station Road, London S.E.25. Tel: 01-653-6018.

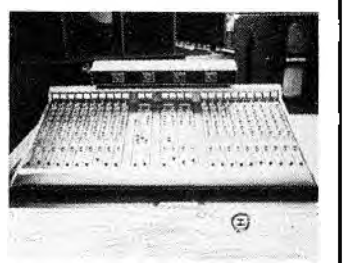
Their PA equipment section will be showing one side of a full rig, both A4 and B4 systems. The A4 is a 750 watts system, while the B4 will handle 1500 watts. Also on show will be their new FFI four-way, full frequency enclosure, designed for portable PA use. In addition to this, full range wedge monitors will also be exhibited.

Die Abteilung für Lautsprecher-Übertragungssysteme wird eine Seite einer kompletten Ausrüstung mit den Systemen A4 sowie B4 ausstellen. A4 ist ein 750-Watt-System, während B4 für 1500 Watt ausgelegt ist. Außerdem wird die Firma ihre neuen für tragbare Lautsprecher-Übertragungssysteme gebauten Vierwege Vollfrequenzgehäuse ausstellen. Vollbereichs-Kontrollgeräte werden ebenfalls zu sehen sein.

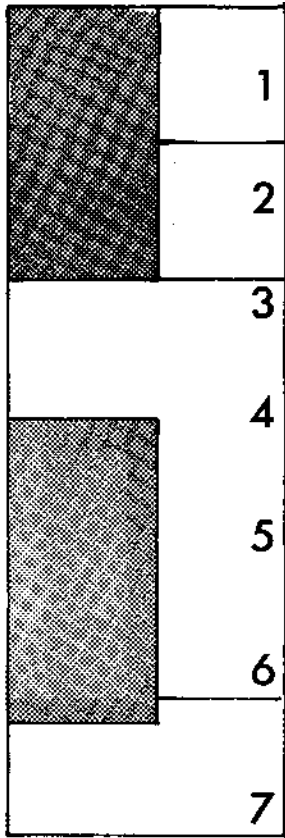
Nel campo delle apparecchiature PA, verrà presentato un lato di un complesso, comprendente i sistemi A4 e B4. Il sistema A4 è del tipo a 750 watt ed il sistema B4 è del tipo a 1500 watt. Verrà parimenti esposto il gruppo a frequenza completa FFI, a quattro vie, adatto per apparecchiature PA portatili. Verrà presentata, inoltre, la serie completa di monitori.

La section consacrée à la retransmission en public montrera un aspect d'un montage complet, à savoir les systèmes A4 et B4. Le A4 est un système de 750 watts, le B4 fonctionnera sur 1500 watts. Le nouveau FFI quatre voies sera exposé une enceinte pleine fréquence destiné aux retransmissions publiques comme engin portatif. On pourra de plus examiner la gamme complète des témoins angulaires.

PA設備の展示では、A4とB4の2つの両方を全体の構成として展示する。A4は750ワットのシステムであり、B4は1500ワットのシステムである。また、新しいFFI四方向のフル周波数エンクロージャーも展示される。また、ポータブルPA用途に適したフルレンジのウェッジ型モニターも展示される。

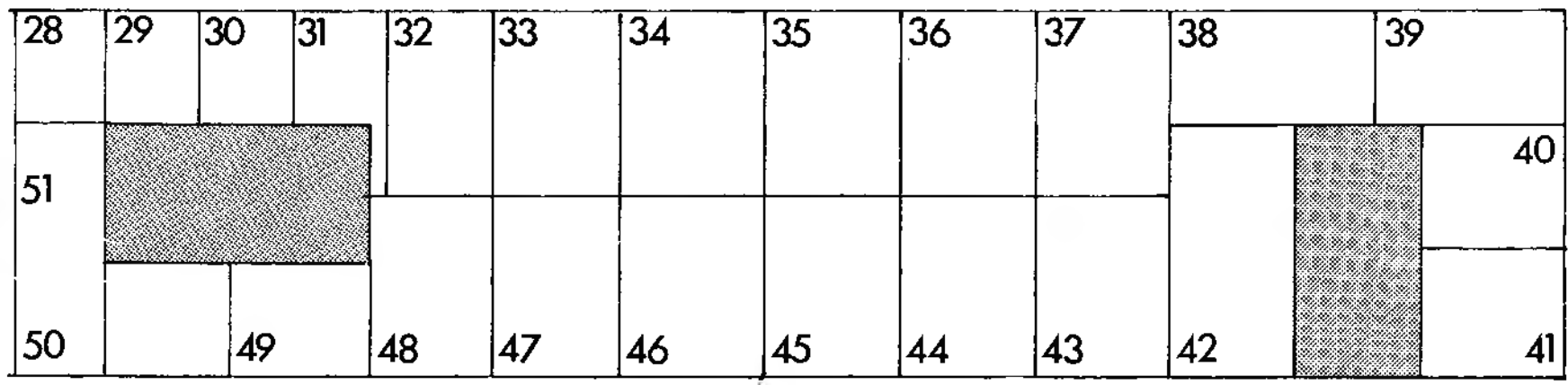
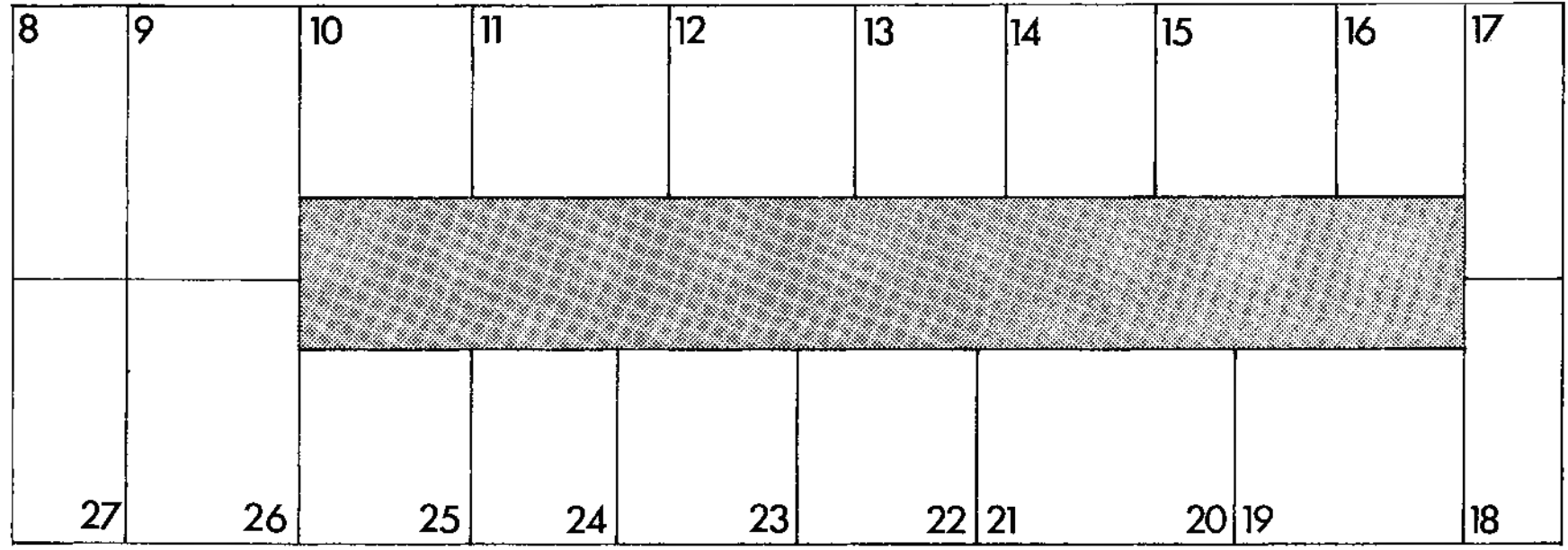


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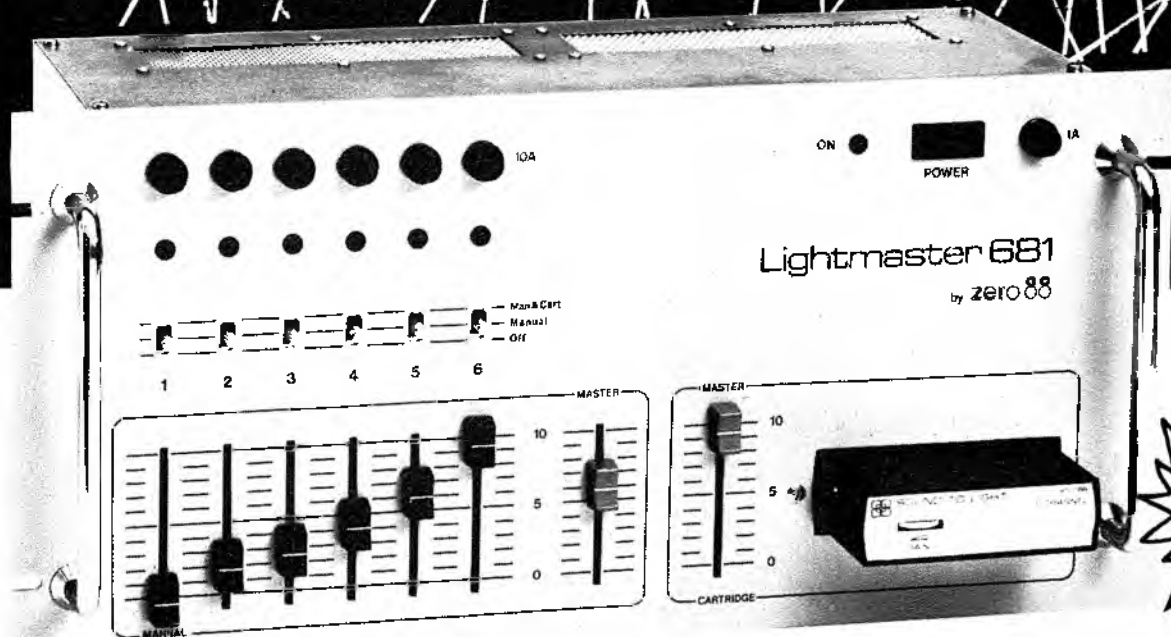
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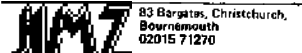
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tba to be advised
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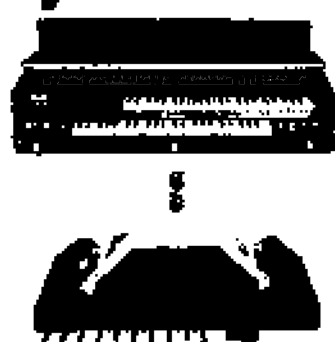
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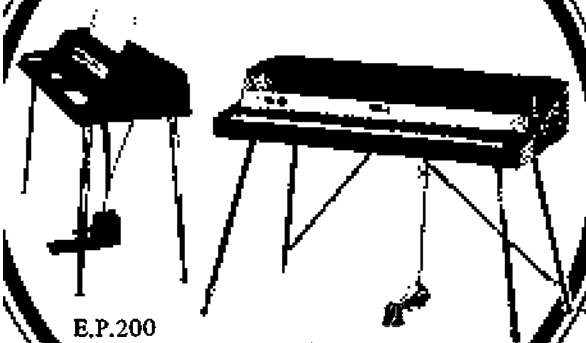
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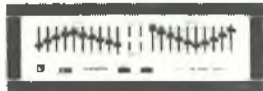
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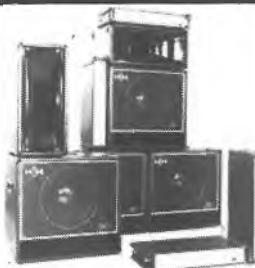
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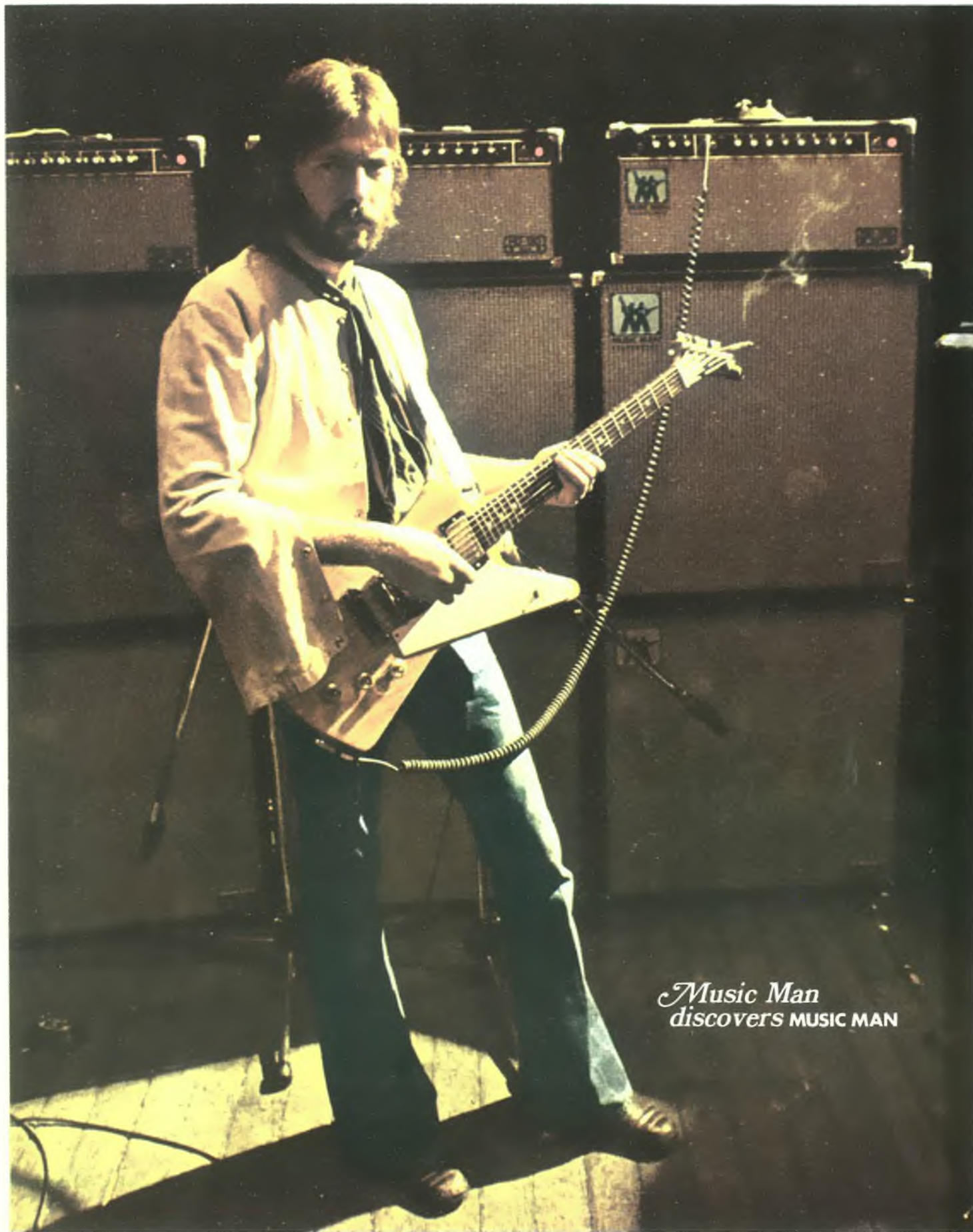
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