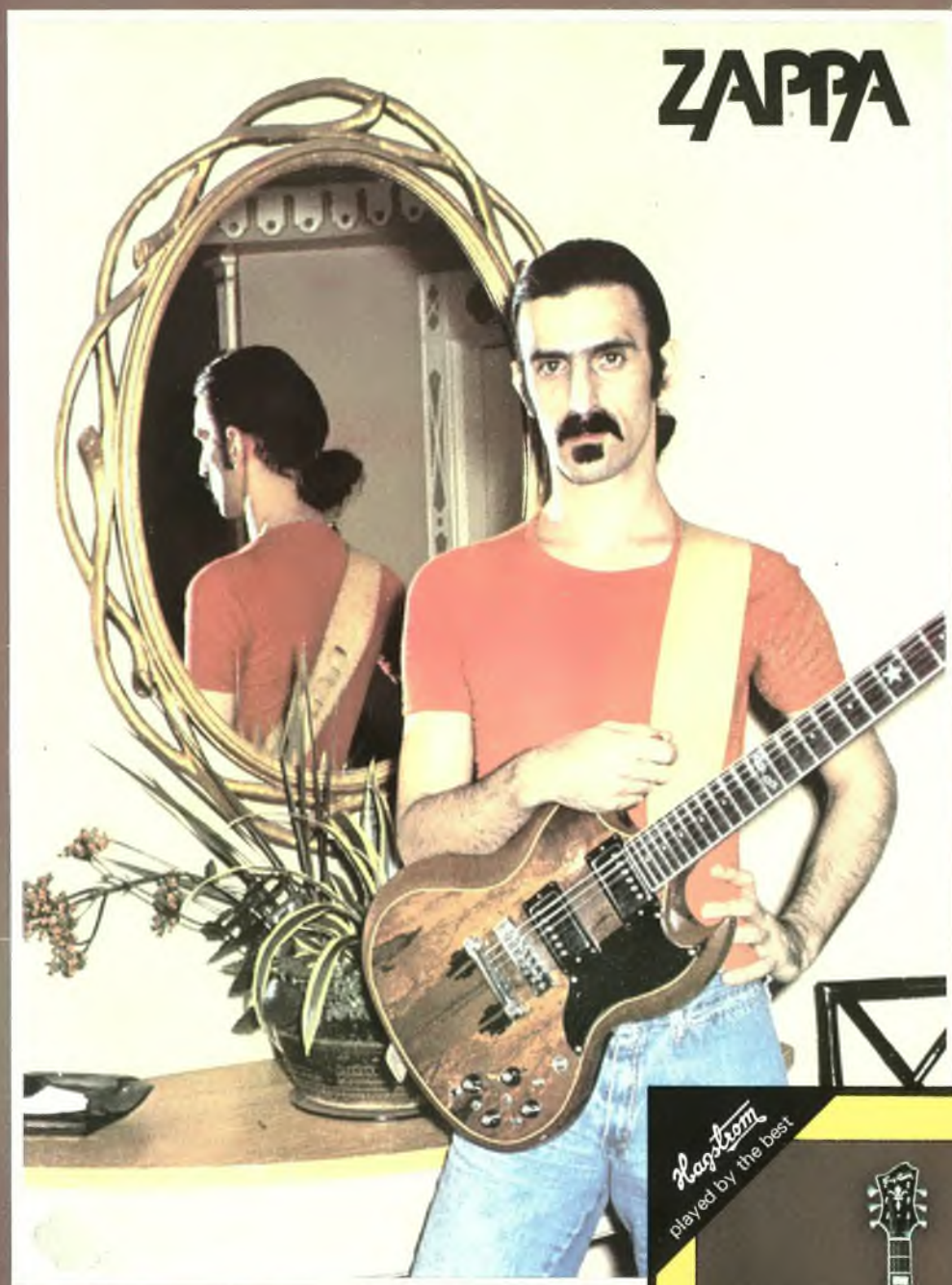


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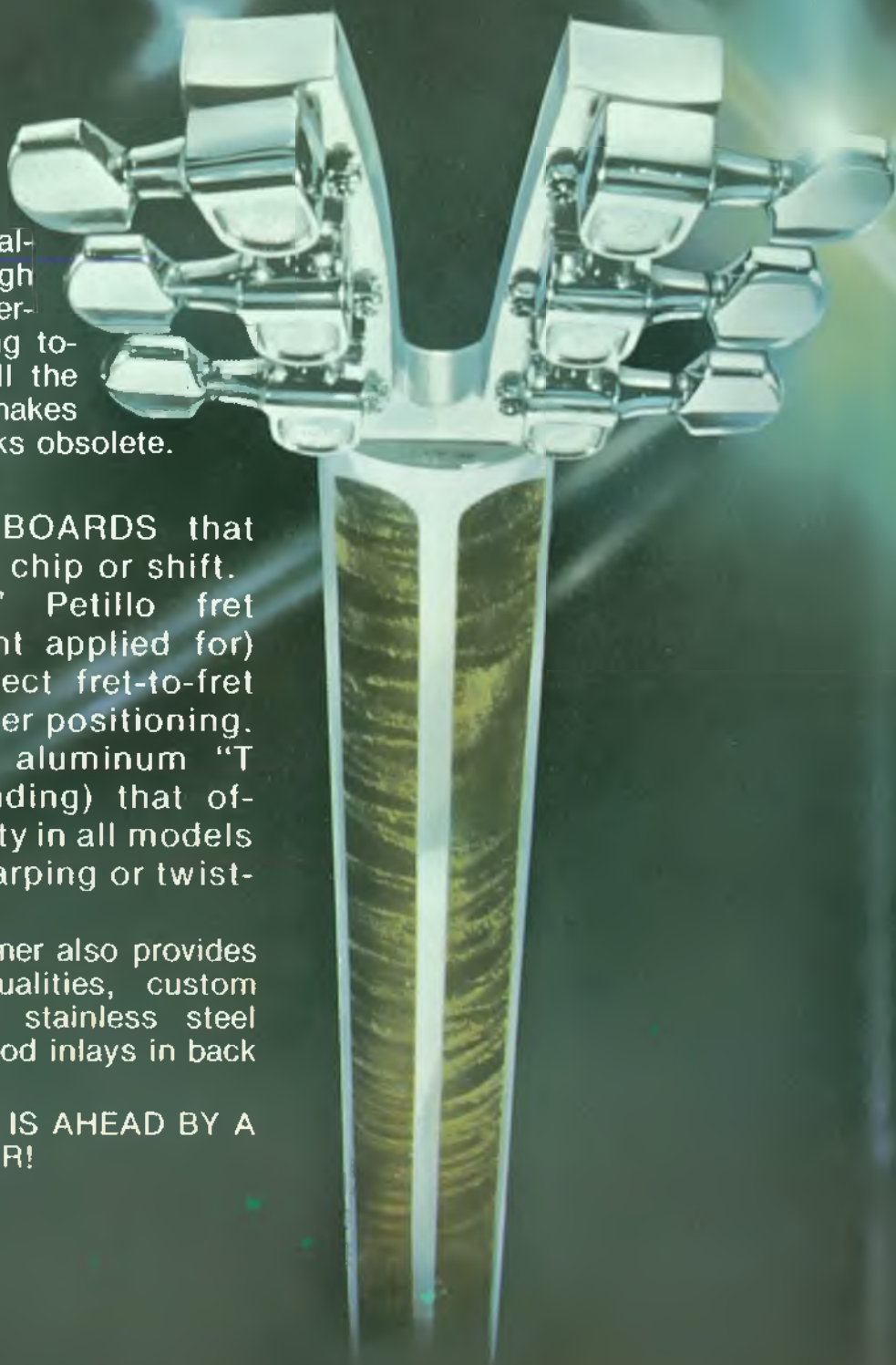
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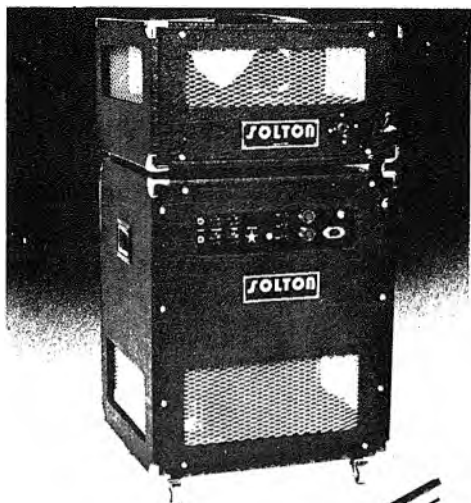
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Vikki Collins

Editorial

It's hard for unknown musicians to play good rock music in Britain. If they play "jazz" or "classical" music they can get public money support, rock seems to be a dirty work, however.

Arts council grants are regularly obtained by musicians working in "experimental" areas, and it is recognised that classical music requires massive subsidies either direct or indirect. A good example of indirect support is the massive bill picked up by the State-financed BBC which employs 12 full-time orchestras.

Henry Cow has come the nearest to getting public money for rock. They're working in a fringe music area, and the problem seems to be defining the merits of different musical efforts.

If a young musician wishes to write and perform music that is most easily classifiable as "pop" or "rock," it seems he's on his own. If it's not chart-type material he'll have to invest massive sums before he's able to play to more than a handful of people, and he must expect to pay for the privilege of performing.

Perhaps it is felt that, as so many "fortunes" are made from rock, the art-form can take care of itself. A glance at the superstar roster reveals this to be untrue. The fact is that superstars have all but stopped emerging — at least in "serious" contemporary music.

After the last flurry of Yes, Deep Purple, Pink Floyd etc., bands who care about their music have failed to attain international status. When young hopefuls start playing in their local pubs they quickly discover that if they want to earn, they have to allow the customer to call the tune. That's entertainment, but is it art?

If the magnificent explosion of contemporary music that occurred during the Sixties is to be maintained, the Arts Council and other bodies must learn to differentiate between superficially similar forms of contemporary music. Without financial support, fewer musicians will write and perform their compositions.

Grants to assist in the making of music for performance are available from the Arts Council and other organisations such as the Greater London Arts Association. If you are sufficiently organised, ask them to consider your music as being worthy of support.

Cover pic by Steve Emberton - Nice one Steve!

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Build A Solid Guitar
Part Three of Stephen Delft's continuing saga of solidity sets out in suitable terminology directions on the construction of truss rod and neck templates for your developing instrument.

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The Instrument That Got Banned For Being Too Sexy

The saxophone actually. Alan Holmes begins a look at the brass instruments of this world with a piece on Adolph Sax's brainchild, ranging from the oft-misplayed Soprano sax to the rare and hefty Contra Bass.



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Phillip J. Petillo - Luthier and Guitarmaker Extraordinaire

Luthier Phillip Petillo should know what he's talking about. Yet as mass-production of acoustic guitars increases, master guitar craftsmen are quickly becoming a vanishing breed." Gary Graifman reports from New Jersey.



The Peavey Story

How to become one of America's leading amplification manufacturers in just ten years.

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Microphones

Part Two of Mark Sawicki's technical view of the vocalist's tool deals with that all important event - choosing a microphone. The emphasis falls on correct application of a particular mike's characteristics.

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How Much To Make A Record?

After you've decided that your three-piece brass section won't all fit into the local railway station's "Record Your Voice for 20p" booth, it's time to think of something a bit more adventurous. Back to mono or back to the wall? I.M. sorts out some alternatives for your consideration.

Test Section



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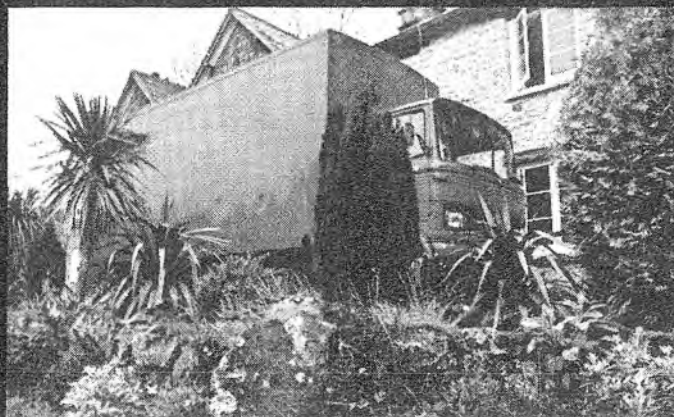
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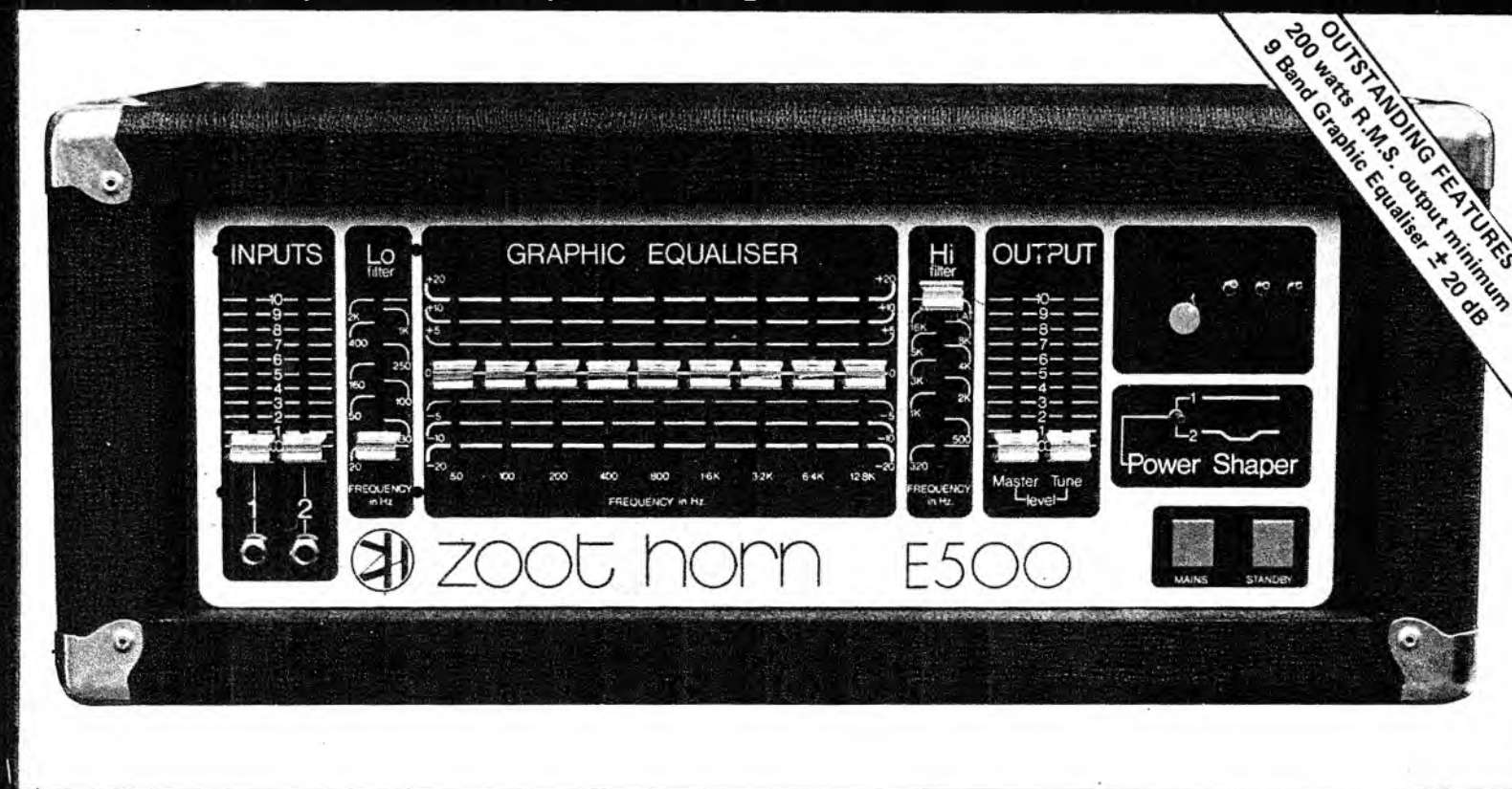
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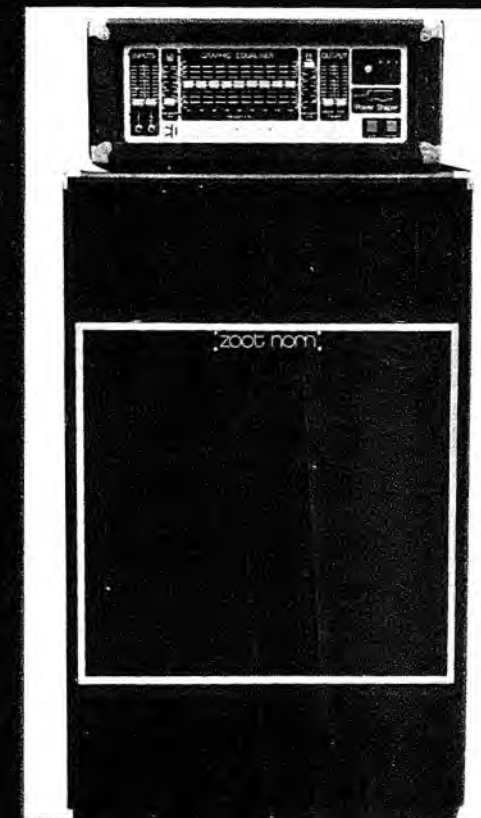
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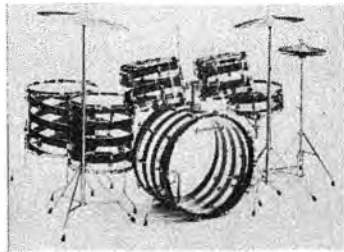


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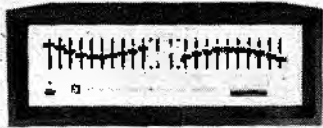
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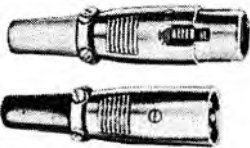


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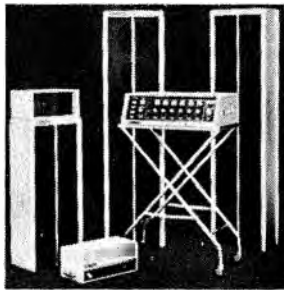
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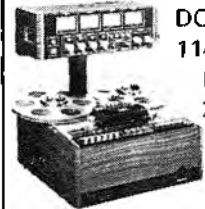


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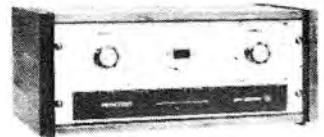
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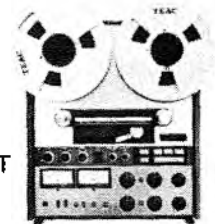


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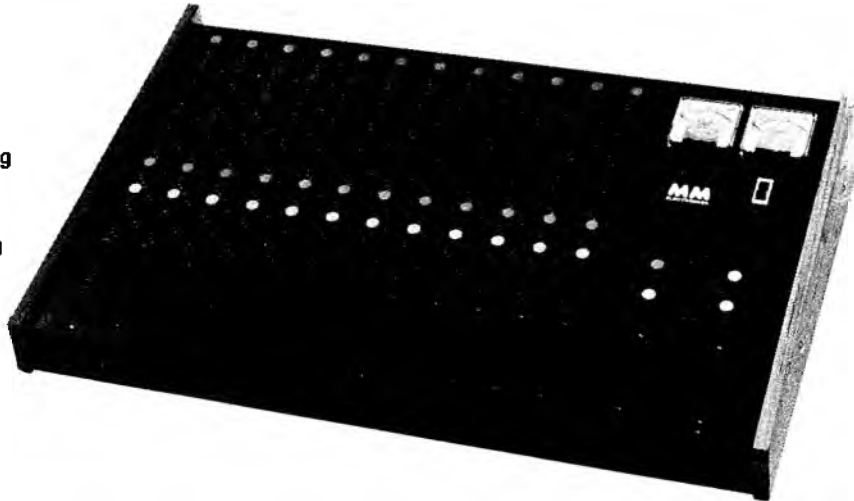
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Other units available include 16 - 4 and 16 - 6 foldback mixers and 16 - 8 recording mixers, all at under £1000.

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

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

MM ELECTRONICS

PROFESSIONAL QUALITY RACK MOUNTING EQUIPMENT

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.

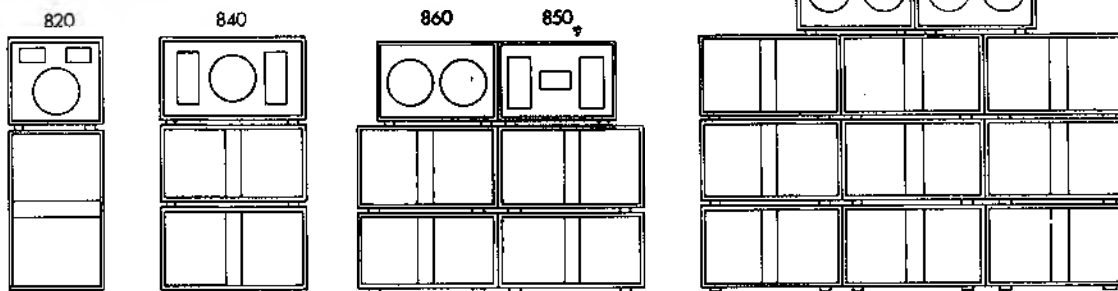


Available in the range are:-

- 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

MM PA Stacks

The '800' series of PA Stacks has been designed to replace the successful MM Stacks released in 1976. Whether you are a touring band, cabaret group or disco, with this new series, we hope to offer a wider range to today's user.



810

Bass Bin — below 300Hz. contains one 15" speaker Impedance 8 ohms. Retail price £160.

820

Mid and HF unit — above 300Hz. contains one 12" driver, two horns and two supertweeters and built-in crossover for use with 810. Retail price £180.

830

Bass Bin — below 300Hz. Contains one 15" Powercell speaker. Impedance 16 ohms. Retail price £175.

840

Wide dispersion Mid and HF cabinet — above 300Hz. Contains one 12" 100 watt Powercell, 4 horns and 4 supertweeters. Suitable for

use with either 2 way or 3 way Electronic Crossover. Impedance 8 ohms. Retail price £240.

850

Wide dispersion HF unit — above 3KHz. Employs 6 horns and 4 supertweeters. Handles 150 watts. Impedance 5 ohms. Retail price £225.

860

High power Midcab — 300Hz — 3KHz. Contains two 12" powercell 100 watt drivers. Impedance 4 ohms. Retail price £165.

Individual prices are given here but when buying an 830/40 or 830/50/60 system, a 2 way (300Hz) or 3 way (300Hz & 3KHz.) Stereo ECO is included at no extra cost.

After 100 gold records, thousands of concerts and millions of miles, only the strong survive.



1. ARP ODYSSEY. Fast, powerful and funky, like Rufus. Classic ARP human engineering. 2. ARP PRO SOLOIST. "The finest lead line synthesizer ever made," says Mike Mandell of the Larry Coryell band. Over 30 pre-set voices and incredible touch sensitive keyboard. 3. ARP AXXE. Popular, inexpensive. The basic variable synthesizer. Herbie Hancock says, "the AXXE is the place to start." 4. ARP STRING ENSEMBLE. Lush, authentic strings. Plus full brass, electric piano and clavinet when combined with the AXXE. Listen to the Jefferson Starship. 5. ARP 2600. "The synthesizer standard," says Pete Townshend. "Beautiful," says Stevie Wonder. 6. ARP EXPLORER. The fattest soulful sound around. Fast like a pre-set yet flexible like a variable. 7. ARP LITTLE BROTHER. A synthesizer expander with guts. Its extra voice comes in deep and low-down.

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BOOSEY & HAWKES (Musical Instruments) LIMITED. Deansbrook Road, Edgware, Middlesex.

2

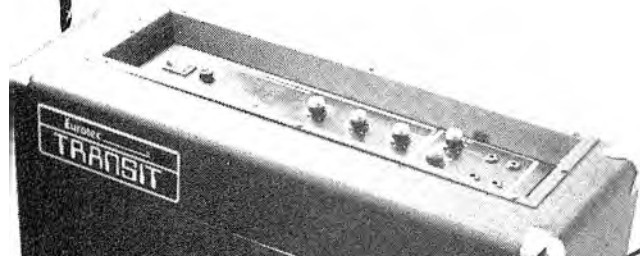
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ARP 2600. ASK THE MUSICIAN WHO C

*Our 2600 synthesizer
is the fine ARP of music.*

Ask Joe Zawinul.

Producer, composer and keyboard artist Josef Zawinul is the co-founder and driving power behind *Weather Report*, generally acknowledged as the most influential jazz group of the decade.

Since 1971, Zawinul has played ARP 2600 synthesizer on such memorable *Weather Report* albums as "Sweet-nighter," "Mysterious Traveler," and "Black Market," with musicians like Wayne Shorter, Billy Cobham, Airto and Miroslav Vitous. He and his two ARP 2600s have toured the world, performing in thousands of concert halls and jazz festivals from Montreaux to Monterey.

"I want orchestral sounds from a synthesizer; the kind of realism beyond imitation. I can make the 2600 sound like Coltrane, just like Coltrane . . . or change it to soft, haunting flutes. My first 2600, 'Eins,' is my soft synthesizer, with a clear, clean sound I have never heard on any other. 'Zwei,' my second 2600, gives me a harder edge, so they are complementary."

Joe Zawinul's enchantment and musical success with the ARP 2600 speaks favorably for the instrument's famous "human engineering" concepts and musical flexibility. The 2600 control panel permits fast visual and physical access to every synthesizer function. A musician can alternate between pre-wired connections for "live" work and patch cord over-ride for more complex studio sounds and effects. The combinations of electronic music functions are endless. And the inspiration provided by such unlimited sound potential cannot be translated into words — only music.

"Our sound engineer, Brian Risner, has built an unbelievable sound system for my ARPs. I run each 2600 through its own Echo-plex and phase shifter and get a brilliant sound. I don't like studio overdubbing, I hardly ever do it, so it's easy to make my music sound exactly as it has been recorded. Having two ARPs lets me play one keyboard while I set the controls on the other. Lately, I've been inverting the keyboard, which is like playing upside down with my right hand, while I play rightside up chords with my left. It's a real head trip."

The ARP 2600 is the only synthesizer that has been thoroughly researched and documented. The ARP 2600 Owner's Manual is used by schools around the world as a guide to basic electronic music principles. ARP has also published a book of 100 control diagrams contributed and inspired by 2600 owners like Edgar Winter, Stevie Wonder, Bob James, Pete Townshend and others.

"I have my own 'magic book' of sounds I've created on the 2600. Melody lines from 'Black Market,' 'Scarlet Woman' and lots of music and sound effects from other albums I've done. I tape some nice stuff just playing around. With the 2600, you never have to listen to the same sound twice, if you don't want to."

As a performance instrument, as a studio instrument, the ARP 2600 synthesizer has no equal. Nearly every major college and university music department owns a 2600. Thousands of professional composers, arrangers and recording studios work with them every day, as well as jazz, rock, classical and avant-garde musicians around the world. Like Josef Zawinul, they own an ARP 2600 not for the name, or the status it may bring, but for the pure and unlimited pleasure it brings to creating and performing music.

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OWNS ONE.

Some people will do just about anything for the right sound.



At MXR we realize that every place you perform will not have the ideal acoustical environment. The sounds you have been searching for in tape echoes and spring reverb units have not been possible until now. At last there is a reliable, professional quality delay, designed for the live performance musician who wants the "right sound".

The MXR Analog Delay is the first, completely electronic means of simulating echo and reverberation in severe environments where durability and immediate control by the performer is important.

The MXR Analog Delay provides continuously variable delay times, from 25 to 500 milliseconds. A mix control provides adjustment of the ratio between original and delayed signals. A regeneration control allows the user to return a selected



amount of the delayed signal back to the input to be delayed again, thus providing multiple echoes with varying decay times. Special circuitry within the Analog Delay allows the optimum delay-bandwidth to be selected. When a delay time is increased and the bandwidth reduced, an audible effect closely

simulating the natural reverberation characteristics of a range of room sizes is created.

The MXR Analog Delay represents another addition to the growing line of signal processing equipment for the professional musician. If you're still searching for the right sound, see your MXR dealer Rose-Morris & Co. Ltd. 32-34 Gordon House Rd., London NW5 1NE England.

MXR Professional Products Group

USE YOUR HEAD



...AND THE CHOICE IS YOURS

Do you want your music to sound "open," or do you want it close and intimate. Beyer Dynamic now offer headphones capable of such different responses. The acoustically open headphones DT440 (on the left) gives the listener a "spacey" feeling that offers both the superb frequency response of Beyer headphones and yet a feeling that you're not listening on headphones at all. The "closed" headset DT220 (on the right) presents the music so close it's inside your head. You can hear the front skin on John Bonham's bass drum vibrate in sympathy with the snare drum or the third harmonic on Yehudi Menuin's violin.

Your reasons for preferring headphones may be many. They are certainly a superb way to monitor and they are often more truthful than listening on the very best speakers in an acoustically imperfect room. But remember, monitoring on headphones isn't the same as monitoring on Beyer Dynamic headphones. Use your head and the choice is yours.

Ask your Beyer Dynamic dealer for a demonstration but be warned, you may decide on both! Send now for our 1977 brochure, illustrating the full range of Beyer Dynamic headphones, microphones, infra-red listening systems etc.



BEYER DYNAMIC

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To Beyer Dynamic, 1 Clair Road, Haywards Heath, Sussex.

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Versatile, tough and with great tonal character, the B212 power pack is unusually efficient and gives effortless projection. All this, coupled with its close miking facility, makes it ideal for the stage and for studio recording. The Yamaha guitar amp: yet another expression of our advanced technology and our dedication to superlative quality.



YAMAHA

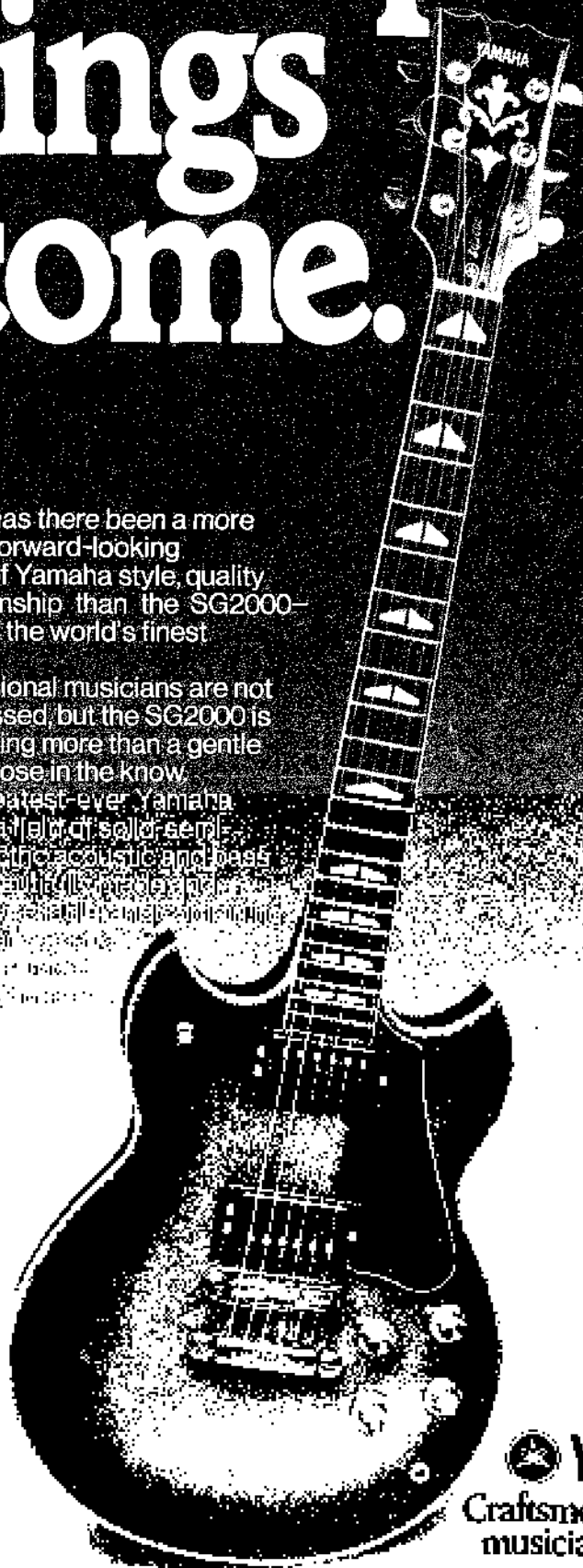
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The shape of strings to come.

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This greatest-ever Yamaha guitar leads a line of solo semi-acoustic, electric acoustic and bass guitars that are all available in a wide variety of finishes and colors. The SG2000 is a true workhorse, built to last and to play like a champion.



YAMAHA

Craftsmen to the world's
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If Roland is king of the keyboards-their guitar amps are heirs to the throne

ILLUSTRATED JC 120

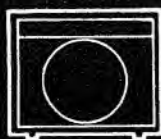
120w (R.M.S.)
2-Channel/30cm
speaker x 2



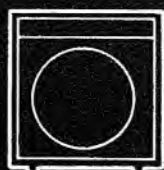
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Blending more than two musical sounds at the same time adds depth, softness and spread of the sound image and helps create moods unattainable by the single voice or instrument. Up to now no one has come up with an effector with practical chorus effect capability. Roland has succeeded in producing a natural chorus effect to give you an easy automatic double tracking effect.

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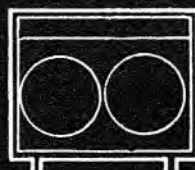
JC 60
60 watts
1 channel
30cm x 1



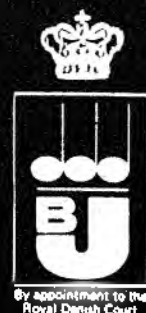
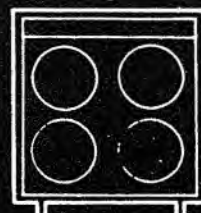
JC 80
60 watts
1 channel
38cm x 1



JC 120
120 watts
2 channel
30cm x 2



JC 160
120 watts
2 channel
25cm x 4



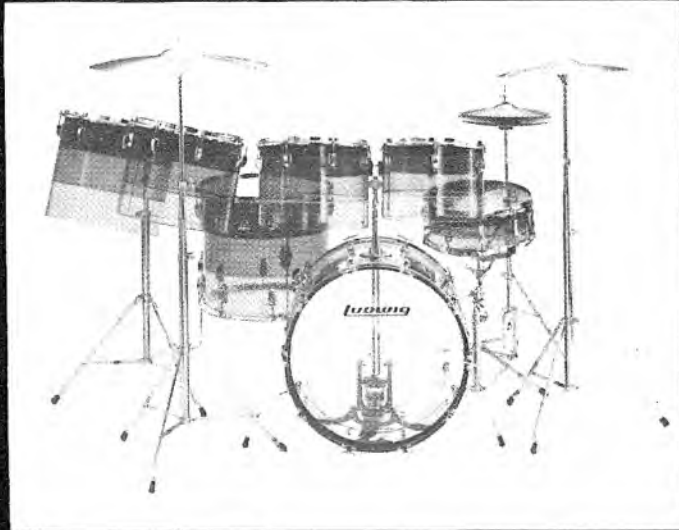

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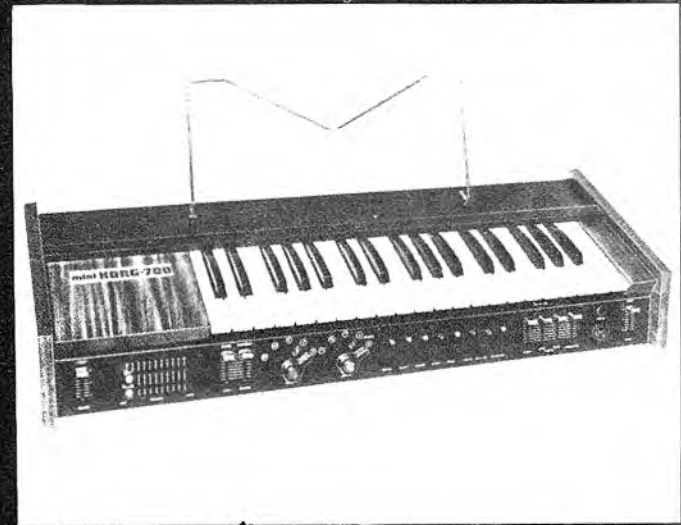
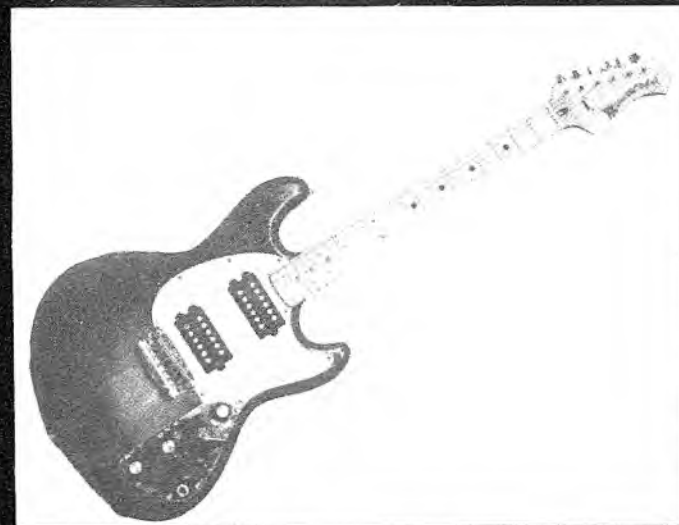
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NEWS



ROCK ORGANISER FOR M.U.

MIKE EVANS, a former member of Liverpool Scene and the Music Liberation Front, has joined the Musicians Union as Rock Organiser. This is a special, newly-created position, which the MU hopes will supplement the work already being done in all areas of music by existing officials.

Mike Evans has been a member of the union since 1964, playing sax in various bands during the Sixties, and touring in Europe and America. He also did a TV series with Liverpool Scene and made four albums.

In the early Seventies, he became increasingly concerned with the widespread exploitation of musicians by the rock business. It was at this time that he set up the Music Liberation Front; "Enjoying the nominal support of a great many musicians from the big names like Pete Townshend and John Lennon to semi-pros, MLF served a useful purpose. The union, far from feeling it was some kind of opposition, were quick to welcome it. Union officers Stan Hibbert and Brian Blain came to Liverpool to discuss the MU's role for the working rock player, and from that, a succession of Rock Work-

shops were set up, with discussions and seminars indicating the union's increasing activity in the field."

Evans, who still plays semi-pro, has been occupied in recent years as a freelance rock journalist, gained the appointment over strong competition from 30 applicants, and among the immediate tasks facing him, a priority is improving the Union's credibility among younger musicians who often see the MU as a bureaucratic monolith, or don't see it at all.

"It's these same rock players," says Evans, "who come to the Union a couple of years later, with their finances in a shamble, after making records and touring extensively for negligible returns after making ill-advised contracts with managers and record companies."

FRANZ DIES

JOHNNY FRANZ, producer of the million-selling *Dusty Springfield* hits, died last month at the age of 54. In addition to producing *Dusty*, John Franz also produced artists such as *Peters & Lee*, *The Four Pennies*, *Shirley Bassey* and *The Walker Brothers*. He was known throughout the industry as an A & R man who would always listen carefully to tapes submitted by young hopefuls. He had worked for 33 years for Phonogram (formerly Philips).

NYJO Support CAMRA

THE NATIONAL Youth Orchestra has completed a link with the real beer campaign, CAMRA, to promote their new album expected out on RCA about now. The album is titled "In Camra" and the sleeve features pix of the "right" breweries' trade marks.

PRS issues writs

THE PERFORMING Rights Society has issued writs against three of the top retail outlets in this country, Harlequin, Virgin and Rushworth & Dreaper, of Liverpool.

The writs are the result of a prolonged conflict between the PRS and the retailers over the licensing of stores for the playing of records. An attempt to settle the issue last year was turned down by the Music Trade Association.

The PRS believes its members are entitled to payment for in-store record playing. The retail trade is opposed to this, feeling that the playing of records in shops is in the interests of PRS members as an aid to sales.

Several of the larger shops not concerned solely with records have reached agreement. These include Boots, Smiths and Woolworths.

NEW ROCK VENUE



Opening act John Miles

A NEW venue for rock music in London has been announced. It is The Sound Circus, in Portugal Street, and was formerly called the Royalty.

The theatre is being reconstructed as a complex which will include a disco and restaurant. A custom-built sound system has been especially built for the hall. Owner Bob Dick intends to use the venue for receptions as well as concerts. Food and drink will be served until 2 a.m. at pub prices.

The venue - formerly home of "Oh, Calcutta" for a number of years - opens with two concerts by John Miles on March 10 and 11. Gordon Giltrap is the support act. Bands set for the Sound Circus include Racing Cars, SAHB, and Widowmaker. The venue has a capacity of just under 1,000.

Blue Mink Re-form

BLUE MINK are reforming and the group is planning to release a single in the next two or three months.

Songwriter and lead singer Roger Greenaway made this announcement last month. It is expected that the group will only come together for recording dates.

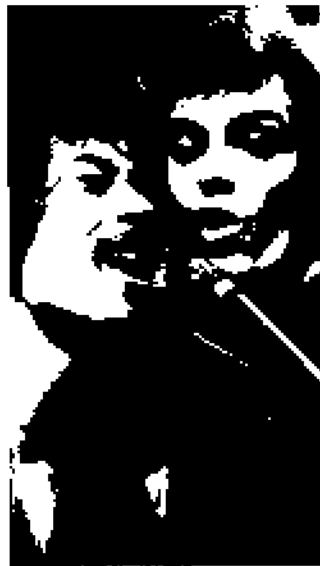
BE-BOP BLOW

CHARLIE TUMAHAI, the bass player of Be Bop Deluxe, has been told to leave Britain. Tumahai, a New Zealander, has had work permit problems for the last two years.

His appeals to the Department of Employment, the Home Office and the Immigrant Appeal Tribunal have been unsuccessful, but Tumahai was given two months' leave to complete Be-Bop's recent British tour.

He left with the band to record on the Rolling Stones mobile in the South of France during February. It appears that Tumahai will have to apply for a limited work permit for any future Be-Bop tours of Britain, and that the group's recording and rehearsal activities will have to be done abroad.

Tumahai commented: "I am bitterly disappointed at having to leave Britain, which



Charlie (left) with Bill Nelson

has become my home, I don't even know where I'm going to live. The rest of the band have been amazing and stuck with me through it all. If anything, this trouble has made the band more determined and united than ever before."

New deals for Big Bear

AS A result of negotiation originating at MIDEM, Big Bear Records announce deals giving them total label identity in France, Holland and Australia — this is in addition to the existing label arrangements in the UK (EMI) Belgium and Luxembourg (CBS).

In France, the label will be manufactured and distributed by Pathe Marconi for an initial 3 year term negotiated by Frank Lipsik for Pathe Marconi and Jim Simpson for Big Bear.

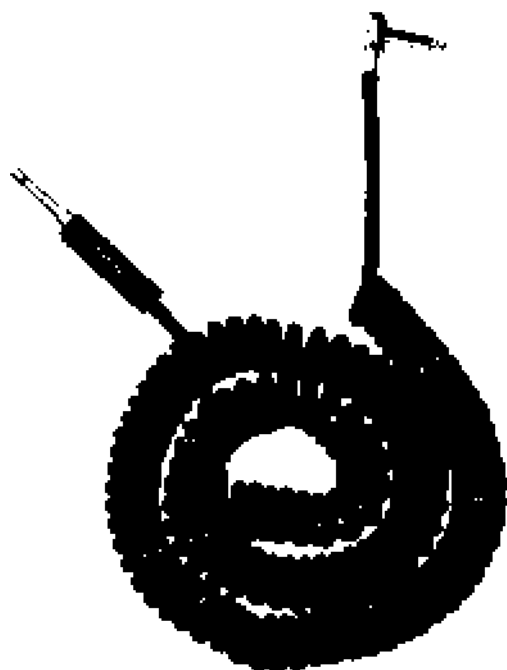
The Australian deal is with the leading Australian independent company Wizard Records — Big Bear being the first non-owned label handled by Wizard. Excluded from the Wizard deal is singer Bobby Dazzler — Big Bear Productions are to have their product on

this artist released on RCA.

In Holland, Big Bear will be handled by EMI Negram b.v. for a 3 year period. Negram's Karel Hendrikse visited London this week to complete negotiations.

Early releases through the new deals include product by Muscles — single "Love Is All I've Got" and album "Muscles," and singles from Garbo, Bobby Dazzler, Cousin Joe and (Australia excepted) Hank C. Burnette.

SILENT PERFORMANCE



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The first totally noise-free retractile guitar cord. Thick, heavy coils of tough cured neoprene cover a double-shielded cable manufactured by Belden to our exacting specifications. Tipped with rugged, strain relief phone jacks (your choice of solid brass military or standard steel Switchcraft plugs), Cobra comes with a full two year guarantee you'll never have to use. Your dealer has a complete selection of Cobra and other solid connections from Whirlwind Music, so get your Cobra from him.

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DiMarzio picks up where the others leave off.



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 Carol Kaye
 Jefferson Kewly (Mac Davis)
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 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

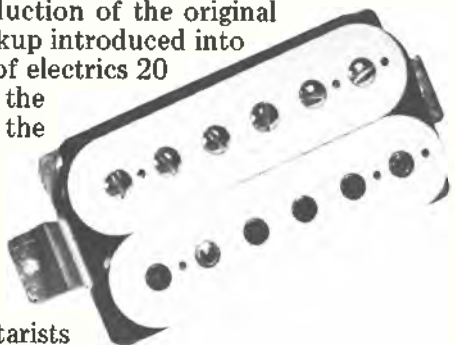
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 20 Denmark St., London WC2H 8NA

In Australia
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In Jap
 James
 Kanda

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

'Fat Strat' & 'Pre-BS' Telie

Designed for the Fender Stratocaster or Telecaster player who wants to improve his guitar's output and sustain, while retaining the guitar's original circuitry and appearance, the Fat Strat and Pre-BS Telie are exact replacements for the original pickups — and are installed in a matter of minutes. The Pre-BS Telie mounts in the bridge position of Telecasters only; the Fat Strat is recommended for the bridge position in Stratocasters, but can be installed in other positions. These exceptional pickups feature the increased low and midrange response, and they especially complement the harmonics already present in these guitars while virtually eliminating the "squeal" or feedback common to them.

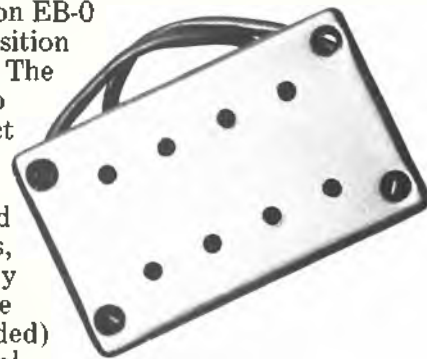


Features:

- Improved signal-to-noise ratio
- High temperature vacuum-injection sealing
- Improved magnet structure

Model 1 Bass Pickup

The Model 1 is a high fidelity, exact size replacement pickup for the Gibson EB-0 (also for the bass position of the EB-1, 2 & 3). The Model 1 Bass Pickup produces two distinct sounds, similar to those made by Fender Precision and Rickenbacker basses, which are selected by installing a miniature toggle switch (included) in the guitar's control section. The pickup is hum-cancelling in both modes, and can be wired directly into the circuit without the switching ability.



FEATURES:

- Eight individually adjustable polepieces
- Two separate sounds
- Three conductor cables

New!

DiMarzio Acoustic Pickup

A new type of contact pickup for acoustic guitars, the Di Marzio Acoustic is an attractive alternative both in price and sound to other pickups. It's easily installed (non-marring adhesive) and no Pre-Amp is required. Suggested list is \$29.95.



ALL DI MARZIO PICKUPS CARRY A 5 YEAR WARRANTY WITH OPTIONS FOR TRANSFERRAL TO A SECOND OWNER. A MUSIC INDUSTRY FIRST!

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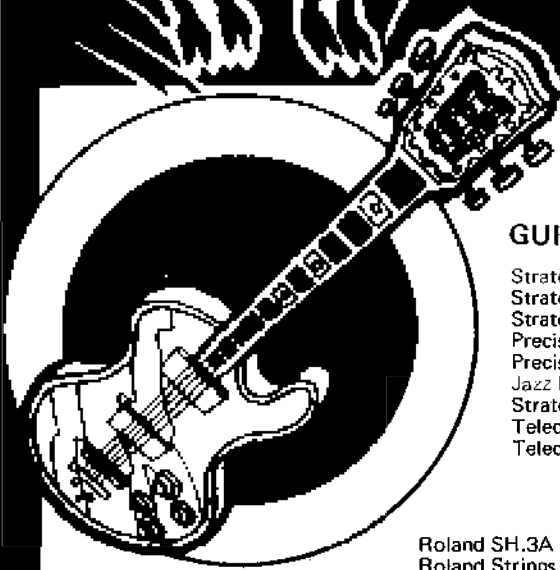
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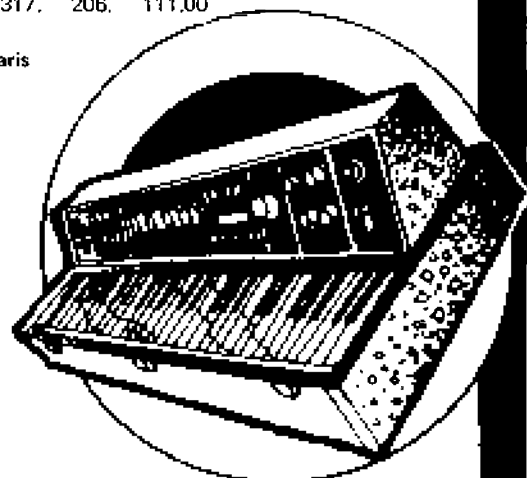


GUITARS

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Stratocaster Tremelo M/N White	392.	254.	138.00
Stratocaster Tremelo M/N Natural	392.	254.	138.00
Stratocaster M/N Black	354.	230.	124.00
Precision Bass Natural	302.	196.	106.00
Precision Bass M/N Black	330.	214.	116.00
Jazz Bass M/N White	392.	254.	138.00
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edited by Tony Bacon

BUDGET RECORDING

Dear Sir: In I.M. for January, you asked for details of any budget recording set-ups. In the spring of 1976 I formed Fellside Recordings, the intention being to provide both a mobile recording facility and a record label for the Cumbria/Border area. We have so far issued three albums which have been modest successes in local terms. The first two releases were successful enough to enable us to expand and re-equip. We started off basing everything round the MM 12 into 2 mixer which we find performs exceptionally well. The original tape deck was an EMI R301 (steam driven?) — second-hand and noisy. With a few AKG mikes, we recorded the first two albums — both good albums but you begin to detect the tape hiss in quiet passages (the R301 distorted if you tried to drive the levels really hard). We recouped enough money, sold some of the gear and invested in the superb Revox A77, a Teac 4-track, some more mikes, a monitor amp manufactured by Cathedral Sound, and a better pair of speakers (not monitor quality yet, but we're working on it!). We use a domestic Sony 350 tape deck slightly modified for tape delay echo. We also use a mains filter because of fridges, etc.! Problems: the mixer output was a bit hefty for the Revox (you can really drive an A77 right off the end of its VU meters if you set everything up carefully). We have had trouble with the mixer H/P circuit since we bought it and, despite various attempts to solve it, we've just abandoned it. The Teac was duff on one input when we bought it and despite being several months later, it still hasn't been sorted out (despite a return to London). The future? Studio type monitors, Dolby unit for the 4-track, 10 or 12 into 4 mixer and a more flexible echo unit. We are mobile at present — we hope for permanent premises. To make it pay for itself, we launched the company complete with trade mark and VAT registration number. Tying up the various ends in record production is not easy for anyone starting out, but I have worked freelance for the BBC for some time. My wife and myself have two albums out for the company we are under contract to, so I have a lot of friends and contacts in the business. Our masters are cut in London and the discs are pressed in Wales by one of the leading firms specialising in small runs. Sleeves are done by one of the major sleeve printers. So we are now in the position to offer tape to disc, custom recording, disc, sleeve and cassette production, as well as our own label. We try to keep our prices sensible. Our equipment may make a studio engineer's hair turn grey, but if you know what you're doing, keep a level head, use a bit of ingenuity and haven't got cloth ears, you can verge on the impossible. I hope I haven't made it all sound too easy, it required a large dose of cash and a lot of hard work. We do not expect to make money for another couple of years. The bread and butter will be the custom recording and tape to disc, but you've got to get known (either advertise or, the method we prefer, personal recommendation). You also need a solicitor, accountant and insurance.

Paul Adams,
Fellside Recordings,
Workington, Cumbria

Heartening news for anyone setting up their own studio; a long, hard but rewarding task by anyone's standards. Incidentally, I.M. would be pleased to hear any discs issued by small own

studio/own label concerns. It's not surprising that many artists and bands are turning to this kind of arrangement, with the larger companies seemingly placing more and more limits on the creativity of their acts, and signing less and less new, different artists.

STUDIO

Dear Sir: I read International Musician regularly, mainly for the features on top recording studios to see if I can pick up any tips, and I sure have! I've been in the music scene for quite some years now, trying not to show my age, since the jam sessions with the first Beatles line-up at the Star Club Hamburg way back in the 60's. A couple of years ago I decided to build a studio for making demos of my own songs. Not having much cash to spare, I bought a rather large concrete garage and spent quite a lot of time sound-proofing the walls and doors thoroughly, as well as building a control room and separate booth. With the help of local musicians it was all wired, soldered and decorated — thanks fellas! At last my own fully equipped 4-track studio comprising of Teac 4-track recorder, Revox recorders, Alice mixing desk, reverb, jackfield and other pieces of my own. Soon the word got around and now we have so many people waiting to use the studio that time is limited to use it myself. We are hoping to go 8-track sometime this year, depending on how the money situation is, but musicians from up here are already putting the pressure on to expand. We have produced two albums and numerous singles and are still going strong.

L.A. Johnson,
Humberside Recording Studios,
Grimsby, South Humberside

Once again we're pleased to hear from a young studio that's doing well for itself, and would welcome further details of studios recently set up, especially those operating with new bands' demos in mind.

MULTI-TRACKING

Dear Sir: I feel your readers will be interested in a small modification I have made to my old Akai 4000D. By the use of a 3-pole 3-way switch and a monitor amp I have been able to record pseudo multi-track stereo.

Referring to the diagram, please note that 1 gives monitor right channel, record on left, 2 gives normal operation, 3 gives monitor left channel, record on right. The dummy load can be an old erase head to prevent damage to the erase oscillator, all leads should be as short as possible and screened, and the switch is three-pole, three-way. The monitor amp must be able to boost the record head signal to an audible level. Conventional multi-tracking on a deck such as this is done by, for instance, recording on track A and transferring to track B whilst mixing on a second piece of material with the original, and so on. My method comprises of recording one piece, say drums, on both tracks simultaneously (to get at least one central 'image') and then switching out the erase head. With my switching method, it is then possible to monitor the left channel whilst recording on the right, and vice versa. I have found that with clean heads and fresh tape it is possible to record up to four tracks on each channel, this gives one central image and three on either side, even with my old tape deck! By careful use of the VU's and by recording the least quality conscious tracks first, some surprising result can be obtained. If a second person is available to monitor the final mix (i.e. off tape) then the volume levels can be set even better.

J.K. Hitchmough,
R.A.F. Linton on Ouse, Yorks

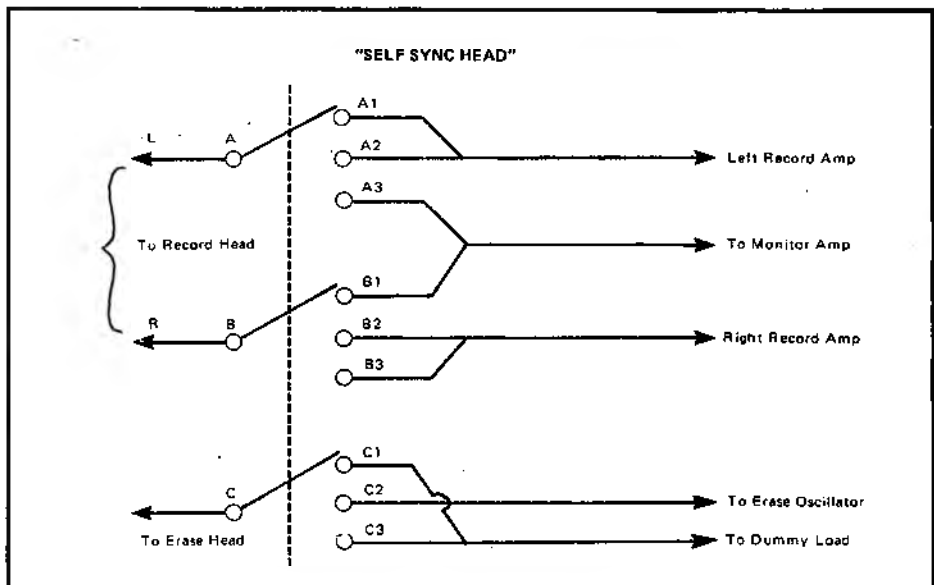
Sounds like a very useful little modification, and certainly would make the scope of a deck like the 4000D, already a trusty machine, much wider. We'd be interested to hear of other 'home-made' modifications made by readers to their recording equipment.

PREMIERVOX

Dear Sir: Remember in the Premier Story in the September 1976 issue of International Musician you mentioned that Premier made electric guitars in the 'thirties? Well, I have got a Premiervox electric Hawaiian guitar which I don't want myself so will be selling soon. If you know of anyone interested, tell them to drop me a line.

Nigel Watson,
London, N13

A good find! If anyone is interested in Nigel's guitar, they can reach him at 40, Wentworth Avenue, Finchley, London N13 1YL.





On eventually entering Zappa's room at London's Dorchester Hotel, I noticed that the previous interviewer had just finished, and was embarking on what is often the more interesting part of an interview: when you turn the cassette player off. He was asking Frank if he enjoyed interviews, to which the reply came that he loved them, and then he said, rather more interestingly, that he always tried to slant answers to the needs of the particular publication or radio station or whatever involved. Good news, I thought.

As Mr. Zappa dived into a peach melba which had just appeared in all its magnificence for the great man to devour, my mind went back to the concert earlier in the week at Hammersmith Odeon — I'd been totally impressed by everything but the sound — and that was due to my positioning in the circle I'm sure, because some friends in the stalls had reported excellent sound. The stage set-up at the concert was very pleasing, giving the band plenty of room, a large platform to the rear of the stage taking Terry Bozio's drums, Eddie Jobson's keyboards and Patrick O'Hearn's bass amplification, the rest of the stage given over to Frank's amplification, pedalboard and stool (centre stage), second guitarist Ray White's amp, and Eddie Jobson's plexi-glass violin sitting on a stand. The band threw themselves enthusiastically into "Peaches en Regalia," the opener, followed by "The Torture Never Stops," and things got better and better. How did Frank feel about the stage sound?

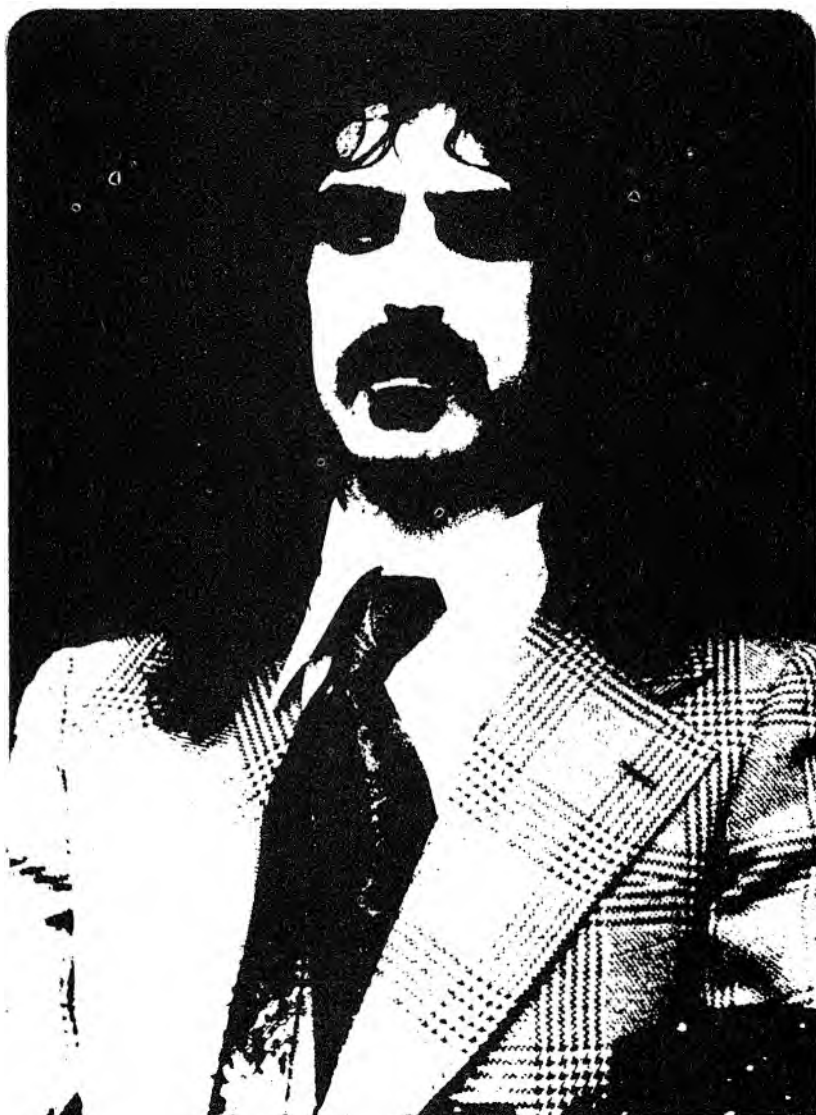
"From what I could hear, it was okay. Myself, I use Marshall and Acoustic amps, and also there's a stereo feed from the guitar that goes direct to the PA. The pedalboard I have has 27 different buttons. It's a specially-built thing that looks a little like a small version of the G.P.O. Tower around here. It has all the normal fuzz and phasing switches taken from their little boxes and put on this thing. It was constructed at the beginning of this tour — this is the first tour where I've actually used it."

The board looked very impressive, lights being illuminated on the front every time a different setting was selected. But 27 settings? Didn't he find it a little confusing?

"Well, it's a little ungainly, and since my leg is crooked it's hard to stand up, it's hard to do pseudo-punk-rock choreography and dash over sticking one leg out to hit just the right button out of 27, and hope that the levels you set during the soundcheck, say the level of fuzz versus

"... doesn't make any difference to me whether it's live or studio, so long as everything's O.K."
Frank Zappa talking to Tony Bacon.





the normal guitar, is gonna come out right. Keeps you thinking, alright! They're all useful effects for different kinds of songs and different types of settings.

"One thing that I've enjoyed using has been the Eventide harmoniser that I have included on the board. I had been using it to do some space effects and stuff like that, but one day I decided to set the pitch control at 99, instead of some lower figure, so that means that the double note is a small per cent flat from your original note, and it comes out about 30 milliseconds late. So I've got that split left and right, because I have switching on the pedalboard that allows me to cut off the Marshall and the Acoustic, so the only thing the audience hears is the direct sound from the PA. When you strum chords through that it makes them sound really full, and then when you punch in the normal guitar amps, you get all the

distortion.

"There are so many different combination possibilities with the switching set-up on the pedalboard the way it is that, as I've only been using it about a month, I haven't been able to experiment with all the ones that really work in a concert situation. If you don't have enough time before a concert to set all the levels you can step on a button and get a horrible surprise. There's still some improvements that I'm going to make on the board; the guy that built it for me is Klaus Wiederman, who's on the crew now, and used to work for Stockhausen. Unfortunately he's leaving the crew at the end of this tour to do six weeks ski-ing!"

In addition to Klaus, described as "Mr. Fixit," this Zappa tour has involved a pretty hefty crew, including a sound mixer, a monitor mixer, keyboard tuner and maintenance person, drum roadie, two truck drivers, lighting

designer and operator plus assistant, power distribution man, security man and Larry, the road manager. Naturally enough, all these people ensure that the gigs can function properly and with the least number of problems. But, of course, no artist performs without the proper tools, and the subject turned to guitars. At the gig I saw Frank was playing an SG-shaped instrument — was it an SG?

"It's not really an SG, it's a home-made guitar. I bought it from a kid in Arizona, he brought it around after a show, about four or five years ago."

There was an SG pictured on the cover of his live "Roxy and Elsewhere" album, was it the same guitar?

"No. That is an SG, but a different one. Both of them have shaved necks, but the Roxy cover one is my favourite, but there are some problems with that; the neck's been shaved so much that it's hard to keep it in tune, it flaps around



like a piece of cardboard. This SG that I was playing here has one extra fret, going up higher than a normal SG, so it means that all the rest of the fret scaling is a little bit tighter. But it's got an ebony fingerboard, which I find nicer. I bought the other SG (the Roxy cover one) second-hand, and it's really good. The frets were all beat up on it, it was broken in just right.

"Both the guitars I'm using now have 12-volt bi-polar pre-amps, and plus or minus 20dB volume and tone controls as well as different ranges for the EQ's — like the treble control's got a switch selector which gives you one of two ranges, the bass has a similar range selector, and there's a pick-up splitter switch that'll change it from humbucking to a single-coil, along with a phasing switch on it that gives you some really whistling harmonics."

As well as the SG's, Frank has a stack of other guitars, including three Strats.

"Each one of the Strats is wired differently," explained Frank, "one of them, for example, has a Barcus Berry at the end of the neck, which means that if I hammer notes on the neck, it's picked up as part of the picking sound. It also

has a special pick-up that was made by Rex Bogue — he was the guy that made that double-necked monstrosity for McLaughlin — he does most of the work on my guitars. I also have Martin, Guild and Gibson acoustics, I've got a bouzouki and a sitar, and two Acoustic Black Widows, made by the Acoustic Control Corporation, one of which has a special pick-up shaped like loops for the strings to go under, similar to what they use on the Condor. I've also got a Hofner bass, a Rickenbacker 12-string and a Fender 12-string, both of which are a little tweaked, and I have a Gibson Switchmaster."

Frank has also been involved with various types of guitar synthesizer, and started by trying Bob Eastern's 360 guitar synthesizer system, but eventually found that it didn't suit the way he plays. It's got a frequency follower connected to the output of each of the individual strings, and this six-channel frequency follower converts to a voltage and drives a synthesizer. So what was the problem with this system?

"Before the frequency follower identifies the pitch, it has to hear the pitch, so your picking technique has to

be exactly co-ordinated with the time your finger lands on the fret, otherwise you get a little chunk of white noise that precedes the actual pitch, and that chunk of white noise drives the follower crazy, it can't determine which pitch it's supposed to tell the synthesizer to play. What happens is that it doesn't do anything for a split second, so when I played this thing it always sounded like the synthesizer was talking late, because my technique relies a lot on the left hand.

The system really was six-channel stereo, each string was driving a separate oscillator, filter and bla, bla, bla, and if you panned it out, you had a six-channel spectrum, you strummed a chord and it would all happen in glorious technicolour.

"But there have been improvements in the guitar synthesizer line; there's one I'm getting when I return to the States that's made by Ampeg, and it's more suited to the way I play. It's a mono device; you've heard of the Vox Guitar Organ? Where the string touching the fret made the electrical contact? Well with this new device, the length of the fingerboard is divided up into the electro-mathematical equivalents of all the pitch





steps that you would produce from a synthesizer keyboard — press down this fret and it gives you the voltage that gives you, say, F. But you can't play chords on it. I tried it, and because I do so much stuff with my left hand, it's a lot better for what I'm playing."

Zappa's albums have nearly always included something recorded live amongst the tracks, whether it be a straight live recording or, as has happened more recently, a partly live track that has been added to in the studio. I asked him whether he liked this approach as opposed to recording straight away in the studio.

"Well, sometimes we wind up with a basic track from a concert that's not quite perfect, so I'll strip things off, and then overdub them back on until it's right. The important thing is to get the right version of it; doesn't make any difference to me whether it's live or studio, so long as everything's okay. Sometimes I think that getting a live track with all the frenzy of it as it happens in the show, and then stripping off everything but the rhythm section and putting the precise parts back on a little bit at a time gives me the best

results, because it's difficult to work up that same kind of enthusiasm in a recording studio. But then it works the reverse sometimes when you go out on stage, where you may be having some ground (earth) loop problems between the lights and the PA, and you can play a great version where 100% of it is perfect, but you can't use it because of all the extra noise on the tape.

"A good example of all this is the "Be Bop Tango" (from the "Roxy and Elsewhere" live album). On that, the drums are original, the bass is original, the piano is original, the trombone is original and most of the tenor is original, but the rest of the synthesizer stuff was put on at the studio. There's also some stuff that sounds like trumpets in there that are actually Bruce Fowler playing at half-speed. He can play the thing up to speed on the trombone, it just comes out an octave lower."

Reading is very important if you play in a band with Zappa. He showed me a violin part for Eddie Jobson, the track was called "The Back Page" and apparently has been recorded live in New York, and told me that Terry Bozio's

drum part doubled it exactly — the idea started from a drum solo and then develops into this violin/drum piece.

"Just wait till you hear it," he enthused. "I don't write out 100% of what we play on stage, but if I have someone that reads, it makes my job that much easier. Some people don't respond well to being told note by note by note what they're supposed to be playing, and yet with other people that's the only way they can learn. That's a very time-consuming process — try and imagine teaching somebody two-and-a-half hours of music, so they've got it down whole, you get yourself a sore throat in a hurry. With a new piece of music like what I've shown you, I'll present the sheet to them, that's how nearly everything we do originates.

"There is a new piece we're working on in the soundchecks at the moment, it's called "Lady," although I only have the first few words of it, it goes something like, "I've been looking for a woman I can treat like a dog/So I can call her lady, lady, lady/Lift her leg." It's one of those sort of things that suits Bozio's voice."

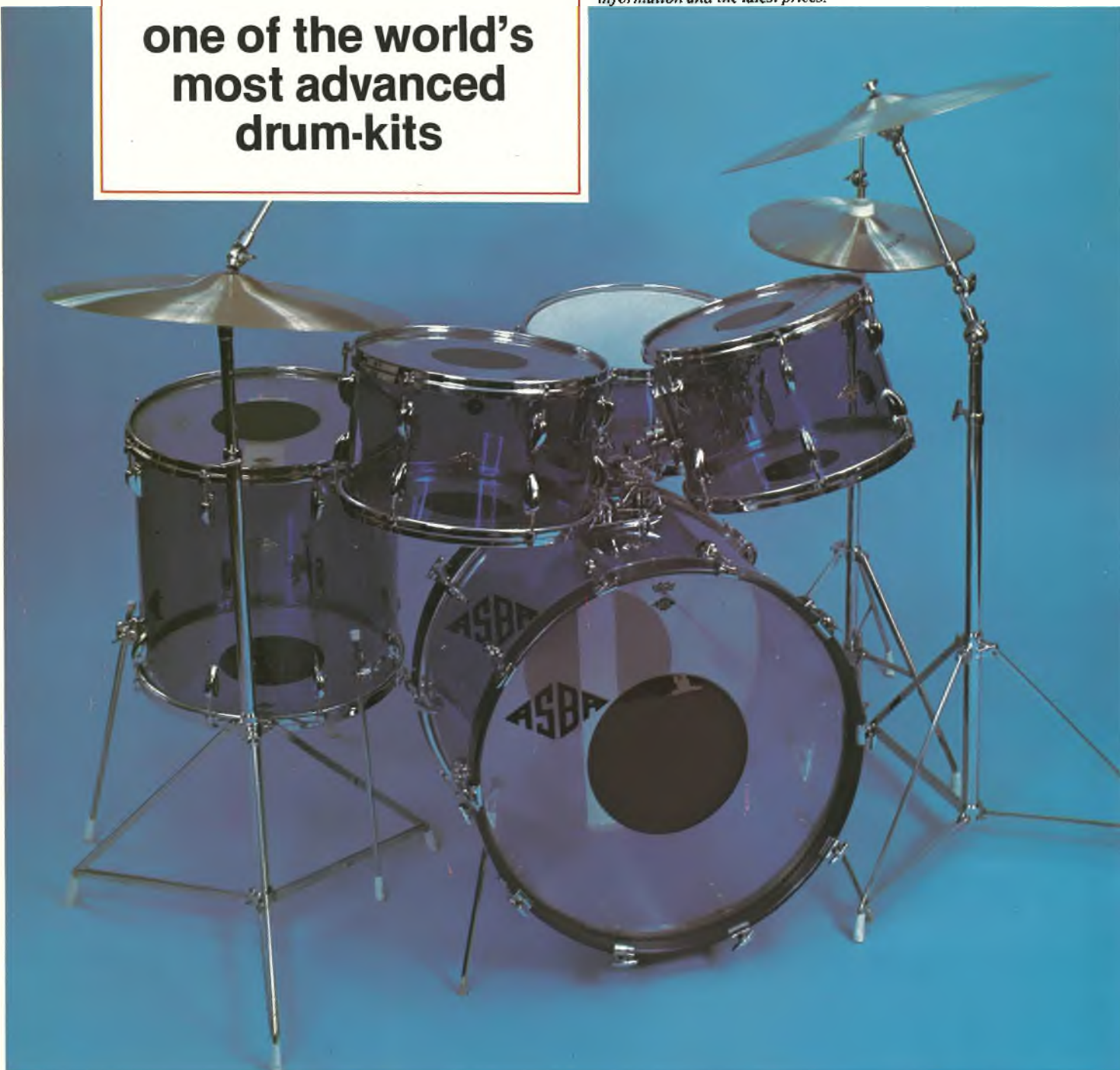
He never did finish the peach melba.



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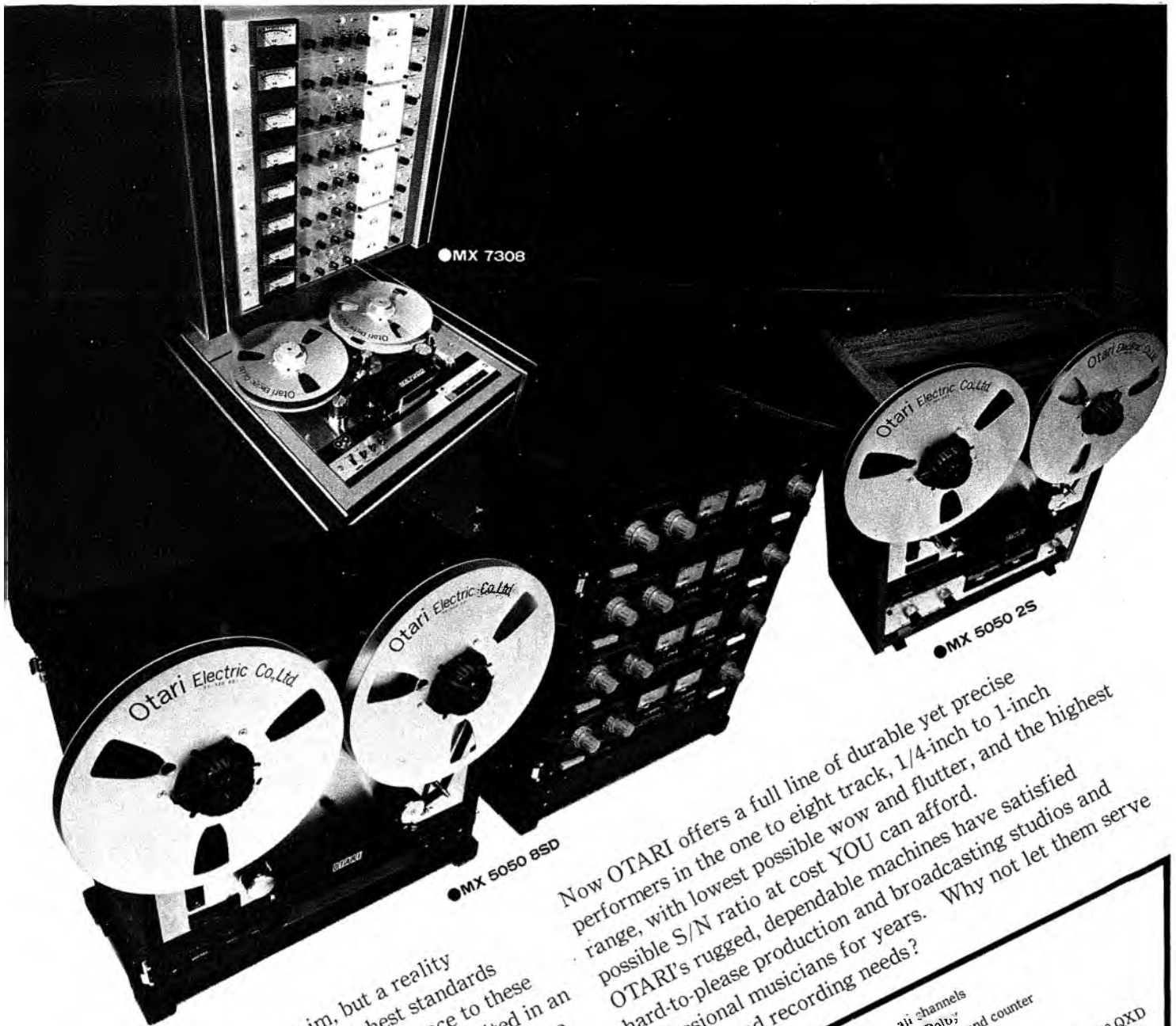
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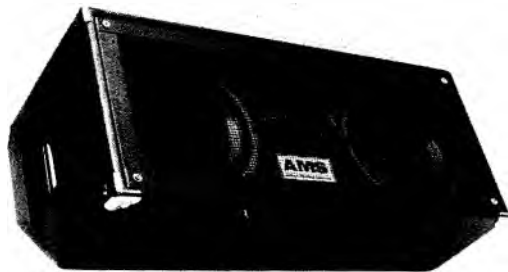
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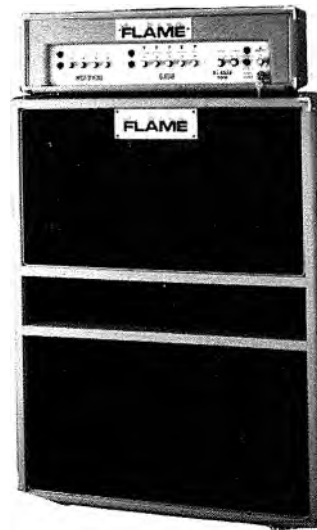


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making the truss rod and neck templates

by Stephen Delft

I prefer to make truss rods from 4mm diameter 'Stubbs' Silver Steel, threaded M4 by 0.8mm at the adjustment end. At the body end, it is brazed and riveted into an anchor piece made from 5/16 or 8mm Mild Steel rod. There is a considerable stress on the threaded end, and the rod should be made from high quality steel; any old scrap will probably do for the anchor. I used to use pieces cut from an ordinary ironmongers bolt, until I found a piece of bar from an old drum kit which happens to be the right size. You could just as easily use 1/2" bar; its dimensions are not critical, however you should notice from the plan the hole in the anchor is not in the centre of its length. It is also not necessary to rivet the end of the bar before brazing, however it is quite easy to produce an unreliable braze which looks satisfactory but will not take much stress.

If you follow the recommended method, the rivetting will take most of the strain, and the brazed joint only has to resist the turning force on the rod when you turn the adjustment nut. Belt and Braces perhaps, but a broken truss rod in a finished neck can represent a new fingerboard and about 10 hours work. Looked at in this way, a duff trussrod is a pretty expensive item! If you don't think you can cope with the brazing process, you could thread the anchor end of the rod, and the hole in the anchor, degrease both (for instance, by boiling for a few minutes in detergent and water, rinsing well, and then drying thoroughly over a gas flame) and screw them together with a smear of mixed Epoxy adhesive. This will work, but most rod fractures occur where the thread stops, and one threaded end is quite enough for me.

Alternatively, you could ask a local engineering firm to make the entire truss-rod assembly for you. Before you decide, I should explain that threading 4mm rod is not as easy as it appears. At one time I used to get every thread perfect, but over the last two years (since Metrication and the Great Steel Shortage), I have been lucky to get one in three really satisfactory. The die tends to wander sideways without warning, cutting into the bar on one side and leaving a half-formed thread on the other side. To use such a thread on a guitar

truss-rod, is asking for trouble! The most successful method I have found so far is to put the rod through the hollow spindle of a lathe, and clamp it in the chuck with about 30mm projecting. In this way one can hold the die-handle still, and rotate the bar by turning the lathe-chuck by hand. This seems to give straighter threads.

It also helps to put a taper of about 1mm in 10mm on the diameter of the end of the rod, and to run a larger die of the same thread pitch (in this case, 5mm by 0.8mm) over about 30mm before threading to the correct size. The lubricant used for this threading operation is also surprisingly important. The best is probably Tallow, followed by Holts 'Graphited Penetrating Oil.' If you find something better, let me know. Also, if there is somewhere a guitar playing engineer who is reading this, and who happens to know why I can cut 2BA threads, even on 3/16 rod, without thinking about it, and get them all perfect, but have so much hassle with M4 threads, using the same Stubbs steel and the same make of dies (Dormer), I should be most grateful to hear from him. I am presently considering that I may just possibly have a poor batch of steel. There is a successful (if unsophisticated) method of guaranteeing a good thread, which I use, and I suggest you follow. Cut the steel bar about 70mm longer than necessary. Follow the directions above, or do the best you can without the lathe, and see what you get. If the thread is crooked, roughly cut off-centre, cut it off, and start from the beginning again. (I average one in three without a lathe, and you will have enough spare rod for four or five attempts). When you get a good thread *through the whole of its length*, keep it and trim the plain end of the rod to the correct length. If the thread starts going wrong, don't think you can correct it, it is almost impossible. Start again, with a clean end and a fresh taper etc.

Now you will understand why I prefer to braze the anchor end of the rod. You can make life easier for yourself, by using a 10mm diameter anchor, and a 5mm diameter truss-rod with an M5 by 0.8 thread, as everything is larger, and the thread need not be quite so accurate. You will not need a larger die to start

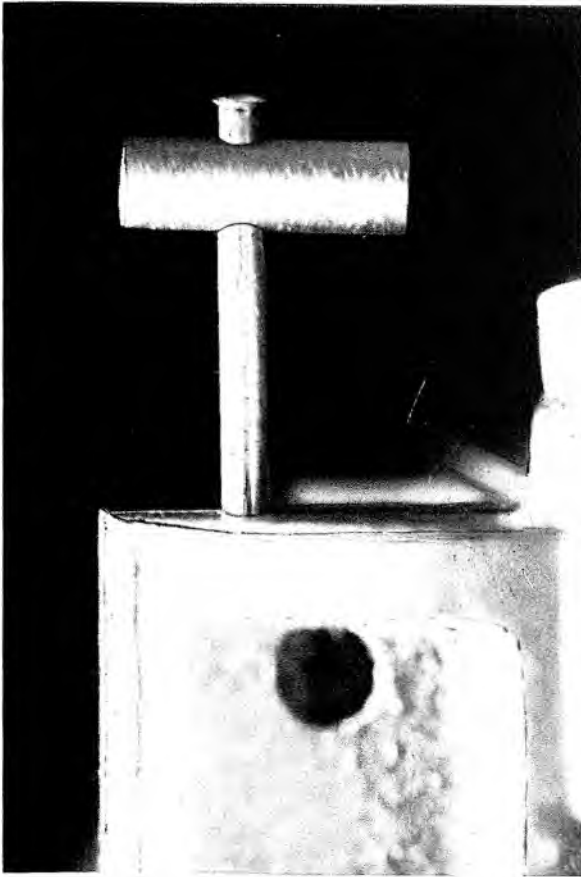
the thread, although a tapered end still helps. It will be necessary to increase the width of the truss-rod slot a little, and also the thickness of the fillet which goes in the slot on top of the truss-rod. No allowances are made for these changes on the plans.

I usually harden the thread and a bit of the end of the rod and then temper it to dark blue, for added strength, but it is probably safer to leave it alone, unless you have plenty of experience, and an oven or hotplate, to ensure even temperatures. **However you make the thread, any tapered part must be cut off, and must not be used as a load carrying part of the thread.** A couple of millimetres may remain to make fitting the nut easier. This nut is an ordinary full depth brass hexagon nut, threaded to suit the truss-rod. If you use a thick washer underneath with an accurate clearance hole, you can file down the nut to measure 1/4" across opposite flats, it will then fit Guild and Rickenbacker adjustment wrenches, (I think also Ovation); these can be found in most countries, if one should be needed in a hurry.

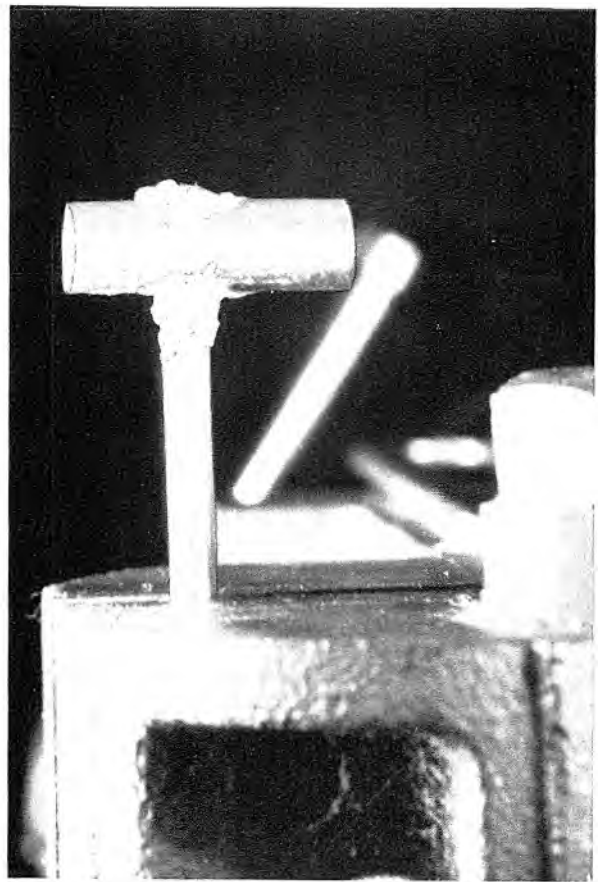
The photographs of the rod and anchor-piece show the sequence of brazing the joint. The anchor is first drilled 4mm and pushed over the end of the rod. If necessary, lightly file down the end of the rod, but an accurate sliding fit will give you the best joint. All surfaces around the joint must be filed bright and clean or you are wasting your time. Hold the rod in a vise, and rivet over the end by working round in circles with a light hammer. Spread Borax paste or Easi-Flow flux on about 10mm at the end of the rod, and push the anchor hard against the end. Wind a ring of 'Easy running' or 'Easi-flow' silver solder around the truss rod, push this hard against the anchor, and cover it with flux paste. Also put a collar of flux around the rivetted end of the bar and the nearby surface of the anchor. Dip a long strip of the same solder in flux and keep it handy.

You will need a decent sized gas blowlamp, such as the ones made by Primus, or Siefert, or Bullfinch (for town gas). Hold the truss-rod safely in a vise and start to heat it up gently. At one temperature range, the flux will bubble fiercely and it must be taken through this

Four stages of brazing the end of the truss-rod



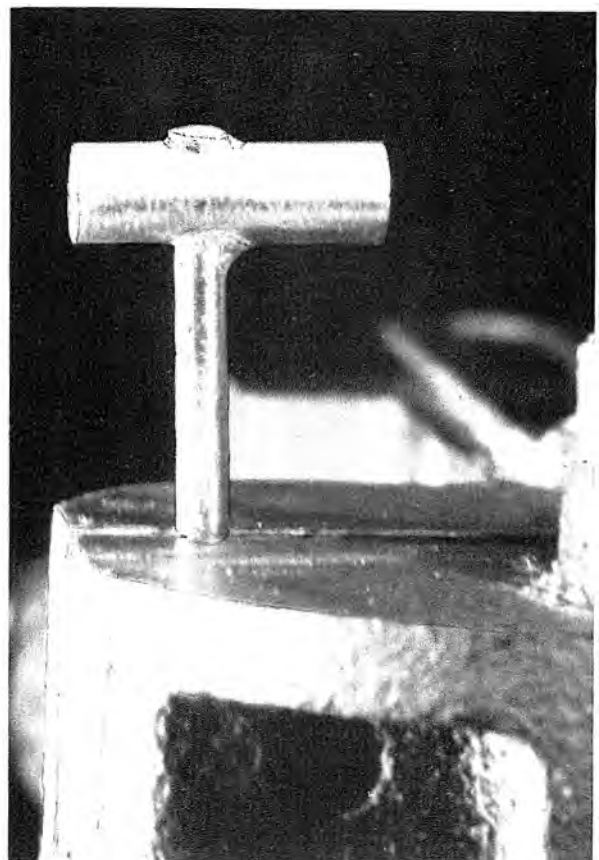
Riveted end of truss-rod before brazing.



Anchor pushed to end. Flux entirely covers joint.



At bright red, the solder "runs" and looks like this.



Finished joint after removing all flux residues.

Making a solid Guitar(continued)

range, with gentle heating so that it does not pull away from the joint. Once past this stage, the flux will melt, and you can turn up the flame until the anchor and the end of the rod have a faint dark red glow. Continue heating while watching the colour develop to bright red. If any part seems cooler, move the flame round to even out the colour. Somewhere between bright red and orange, the ring of solder should melt and run into the joint. If the bubbling flux has pushed it away during heating, you can push it towards the joint with the piece of spare solder. As soon as the solder 'runs,' I usually touch the spare solder strip onto the rivet side of the joint and turn the flame full onto it so that it quickly melts and runs into that part of the joint. At some stage of the process, the joint must reach between bright red and orange, but this is needed for only about ten seconds, and further heating at this temperature will weaken the joint. (If 'easy run' solder will not run at this temperature, something is probably wrong with your technique. Refer to an appropriate library book). You can have a second try at an unsuccessful joint, but only if it can be taken apart and everything cleaned bright again.

After the solder has run, turn down the flame and play it on the joint area for a while so that it cools down slowly. Please remember that hot metal will still burn you badly long after it stops glowing. Don't put the whole thing under the tap to cool it: this may make the metal brittle. Just leave it alone, safely away from children and friends, and it will cool itself nicely in half an hour. While I think of possible hazards, the flux and its fumes may be poisonous, try not to set fire to your house with the blowlamp, have a metal plate and an old pair of pliers handy in case you need to put the truss rod assembly down quickly, and please wear goggles or a face mask, to protect your eyes. I prefer a face mask, because it also reduces the chance of setting fire to your hair while bending over the job. Please remember that children will grab at things, and even parts of the blowlamp can get dangerously hot.

After the joint is cool, every scrap of flux must be removed, or it will eventually rot the joint, inside the neck. By now, the flux will be as hard as glass and stuck firmly to the metal, and sandpaper is not going to get you very far! The trick is to take a small pin hammer and file a sharp 90 degree angle along the edge of the thin, flat side of the hammer head. If you put on the goggles again, and tap the glassy flux all over with the sharp edge of the hammer, most of it will chip off. The rest can be removed by scraping with an old chisel followed by a hard rub with a 'file card'. This is a sort of sharp wire brush, sold for cleaning clogged files, and you should have one anyway.

You should now have a completed truss rod, ready for inserting into your neck. (Yes, you

could do it that way — I know a fellow who does similar things with a sword on Tower Hill — but it's less painful to put it in the guitar neck.)

Before I come to the neck construction, I feel some comment is necessary about the amount of detail I have given on making the truss rod. There are three main reasons for this. Firstly, I have received many letters asking for specific information on truss rods. Secondly, the truss rod is an important part of the guitar, which is particularly difficult to remove, should it need repairs or alterations. Lastly, because of this, I feel you should have enough information to do the job successfully, or perhaps, enough information to realise that you lack tools and experience, and it would be better to have the whole assembly made for you by a local engineer. Now before you go any further, sit down with the photographs and last month's plan in front of you and read this again slowly, *before* you start thinking about neck construction.

The early stages of work on the neck, divides roughly into three parts:—

(1) Making templates from the plan, and marking out the neck piece(s).

(2) Sawing out the section(s), gluing them together, if several pieces are used, and planing the neck blank down until it is clean and 'square'.

Only the side profile is shaped (roughly) at this stage. (This is the profile shown along the top of the plan). Don't try to shape the width of the neck or head, or to curve the back of the neck, until much later.

(3) Cutting the channel for the truss rod, and the pockets at each end, for the anchor piece, and for adjustment access. Preparing a wooden shim to take up any unused space in the slot, and gluing in the rod and shim.

No, you don't actually need templates, but they save time, even on one instrument, and they sometimes save you from making wrong measurements, wasting wood *and* time. The best templates I have, are made from Perspex sheet about 3mm thick, in that peculiar 'gloving' green-glass colour which is used for drawing instruments. Clear Perspex is second choice, but it is not so easy to use, and more likely to get lost or broken.

You will certainly find it useful to have templates for the side profile of the neck and head, and for the front of the head. If you plan to make more than one instrument, I would suggest you also make a template of the front of the neck and fingerboard which continues for the whole length of the fingerboard but has scribed on it the position and shape of the front of the neck joint, and the position of the truss rod and anchor. If you have the full size plans, most parts of these templates can be traced directly from the plans, scribing the perspex

with a sharp scriber, or an old fashioned gramophone needle in a suitable handle.

Even the best reproductions of plans may have slight distortions, and you should check the straightness of the plan line which identifies the joint between neck and fingerboard, and also the exact distance between the inside of the nut and the beginning of the body joint. This should be 386mm within ½mm. If either of these details is wrong, you should construct them directly on the template, by measurement, and then align them as near as possible with the rest of the plan, before tracing the less critical lines. Although only tracing, you can, and should, use a straight-edge to guide the scriber for all straight lines. Start the curved lines very faintly and gradually deepen them. You may find the curved parts easier with a sharp Stanley knife of the larger kind. For a really neat template, I cut little templates for the curved parts from heavy card, or very thin perspex, and file them until they fit the plan. Because they are thin, this is easy to do by trial and error. I then use these thin templates to scribe deep and exact lines on the proper template.

For cutting out the Perspex shapes, you could use a small bandsaw with a fine blade meant for Acrylic Plastics: a coarse blade will probably cause cracks. You could also use a traditional hand fretsaw frame, with what fretsaw makers consider to be a coarse blade. A sharp file, and 200 wet and dry paper on shaped sticks, will trim down to the scribed lines.

After cutting out the template shapes, there may be some slight distortion, although this has never happened to me. It should be sufficient if you check (and if necessary correct) the same line and distance I mentioned before. On the plan, you will see that there are two lines along the front of the head, and that the total thickness of the head is shown as 16mm. The double line represents the 2mm thickness of the decorative head facing. This is optional, if you decide to use such a facing, then you should cut the template to the lower line, making the head end of the template 14mm wide. If you do not want to use this sort of facing, you should follow the upper line, making the template the full 16mm wide for the head end.

Your alternatives include:— a natural finish head front, black paint facing or thin cabinet-makers' veneers. For various reasons, I do not find thin veneers very satisfactory on guitar heads, but you may like the easy availability of such veneers in a wide range of woods. (Art Veneers Co., Mildenhall Industrial Estate, Mildenhall, Suffolk.)

If you make the thicker, unfaced, head then the angle between head front and neck front, will be displaced to (roughly) the back of the nut. This could cause you to make neck and fingerboard measurements from the wrong place. Please see note on the plan about this.

Next month, cutting out neck and installing truss rod.



Jon Hiseman: (Colosseum II)

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SAWICKI'S SOUND CHECK

TEST ON: Fender Guitar/Bass 300 PS Amplifier

DATE: February 1977 PRICE: £472 Ex VAT



The wide range of Fender products is well-known on both sides of the Atlantic, due to their consistent standard of quality and reliability, and so I was interested to review the new 300PS guitar/bass amplifier, which had only recently arrived from the States. The 'special design' of this 100% valve guitar/bass amplifier reflects its enormous power potential compared with other traditional valve guitar amplifiers. Both modes of operation can be individually selected via a special front panel switch which activates the appropriate system circuitry. Apart from the standard valve facilities, the Fender 300PS is equipped with additional Equalisation, Harmonic Balance, Distortion and Output controls. The latter two provide a wide range of distortion effects and allow a uniform controlled distortion at any volume level. These effects can be cut in or out by means of two push-button switches on the foot pedal.

As mentioned earlier, the manufacturer provides (as an optional extra) bass or guitar enclosures — both containing four 12" heavy duty speakers. Each of these 32 ohm speakers have a 12½ pound magnet assembly and a heavy duty 2" aluminium voice coil. The total speaker enclosure impedance is 8 ohms — the recommended value. For connection between amp and cabinet, a 6 metre special jack-to-jack lead is

supplied. The cabinet measures 710mm x 310mm x 830mm and the amplifier forms an ideally matched system capable of producing extremely high levels of sound. To extend the amplifier's life and prevent any rattles, a strong chromed steel stand on castors is recommended.

Construction

The 300PS amplifier is basically a 300w r.m.s. unit possessing two input jack facilities and an 8 ohms speaker output, as well as 200 ohms output line/recording jack which permits direct connection to recorders, P.A. systems or additional amplifiers with input impedance of a rated 200 ohms or more. Physically, the complete unit is 295mm in height, 555mm in width and 330mm in depth and weighs 35kg so you need some heavy men to handle the thing!

The chassis itself is a semi-modular type with a strong construction and a sloping front control panel with 0.25 inch input jacks, volume, treble, middle, bass presence controls and the selector switch (guitar/bass). There is also a group of equalisation and balance controls consisting of a set of rotary pots operating at 2300Hz, 1250Hz, 485Hz, 235Hz, and 100Hz, and finally, on the right side of the control panel, we find distortion and output controls, and a red pilot light indicating On/Off positions of an AC mains switch.

Examination of the function of the band equalisation filters confirmed that this group of five controls can produce an optimum performance due to the boost/cut facilities of frequencies above and slightly below the indicated band frequencies. The equaliser can be controlled by the foot switch supplied with the 300PS, which allows you to switch from either the EQ or to the standard tone control mode.

On the rear panel are the output speaker/line recording jacks, distortion/output/equaliser jack pedal sockets, AC On/Off rocker and standby switches. An AC accessory outlet (250 watts max), output tubes matching and hum balance controls, (a very important point especially when output tubes are changed) and an 8A/250v fuse socket replaceable only by a Littlefuse No. 314008 or a Bussman fuse No. ABC8 (both of American origin, ceramic type and not the easiest to obtain in the UK, so a suggestion to potential buyers is to make sure you get a spare when purchasing from the dealer).

An examination of the internal electronics shows that, at the top of the chromed steel chassis, are two extremely large mains (Fender type 1028082) and output transformers (Fender type 011251), the power supply Filter Choke (Fender type 022699), a battery of two 490 uF/400v DC Mallory electrolytic capacitors, four 010309 output tubes — the 6550 type which were specially selected and designed for Fender and two ECC 83 (or 12AX7A US type) to be found in the pre-amp section. One 6V6 GTA can be found in the driver stage, and one 12AU-7A in the equaliser section, containing a simple and straightforward "RCL" filter design based on a small ferrite pot core matched individually for each "EQ" channel resonant frequency. The output stage anode voltage is approximately 700V, so be sure to disconnect the power supply before ANY servicing and allow about 1 or 2 minutes for bleeders to dissipate the "H.T." from the circuitry. At this point I must mention that I'm glad to see a product from the States with a power lead coded according to I.E.E. standards, which will be of invaluable help to engineers when wiring up, and you may remember that lack of the same was one of my favourite moans.

All the small circuit components are conservatively rated; for example, the capacitors are at least for 600 W.V.D.C. or more and the majority of the metal oxide resistors were 0.5w with a 10% tolerance. The power supply is protected

(in addition to the above mentioned 8A/250V fuse) by an internal thermal fuse device wired up in series with the primary coil of the mains power transformer.

The 300PS Fender has a twin US version which is basically the same amplifier but is converted for 120V: 60Hz operation and also incorporates an "A/Off/B" ground switch which gives the player control of polarity. The positions "A" and "B" ground to each side of the line respectively. The "Off" position disconnects all but the third line chassis ground. The manufacturer's

instruction booklet claims the possibility of minimising hum conditions when selecting one of the above positions.

Conclusion

The Fender 300PS amplifier is a well built unit - its performance is excellent, offering a very high output power level, frequency equalisation, effective control of distortion and an adequate dynamic range. The 300PS, due to its enormous power range, is ideal equipment for open air gigs. The amplifier costs £472 (ex VAT), but this does not represent an expensive outlay when compared with the cost of purchasing three 100 watt

valve amplifiers to obtain the same power performance. The quality of material, components and workmanship is the usual high Fender standard and I have no particular objection concerning the system's design. However, one small thing would be very useful - an additional 60/50Hz band in the equaliser circuit for 'guitar' operations for use with line/recording facilities. This feature, in conjunction with the proper setting of the hum balance, would be important for 'live' recording (especially at high power levels) and would prevent 'dirty' recorded material.

Performance

	RESULT	TEST CONDITION	COMMENT
Power Output (W. R.M.S.)	312.5W. r.m.s.	RMS - Power at 10% T.H.D. into 8 ohms. dummy load ref. 1KHz.	Slightly higher than manufacturer's claims of 300W.r.m.s. It has plenty of power.
	220.5W.r.m.s.	Power at onset of clipping; Into 8 ohms. dummy load ref. 1KHz.	To keep it this way - use original Fender 6550 output tubes only.
Total Harmonic Distortion (% T.H.D.)	5.94%	@ 200 W.r.m.s.	Mainly 2nd harmonic. Reasonable for a valve amplifier and very high power o/p level.
	5.14%	@ 150 W.r.m.s.	
	4.14%	@ 120 W.r.m.s. measured at	
	3.74%	@ 100 W.r.m.s. 1KHz; into	
	3.04%	@ 80 W.r.m.s. 8 ohms.	
	2.14%	@ 50 W.r.m.s. dummy load	
	1.32%	@ 30 W.r.m.s.	
0.38%	@ 10 W.r.m.s.	"Distortion" and "Output Level" controls allow any desired degree of distortion to be mentioned at any volume without readjustment.	
0.26%	@ 5 W.r.m.s.		
Input Sensitivity for 300 W. R.M.S. O/P Signal	15.5 mV.	Both channels practically possess equal sensitivity figures, for rated 300W.r.m.s. o/p into 8 ohms load; ref. 1KHz.	Satisfactory; will suit most guitars and electric basses
Tone Controls Range	21.72dB. swing	Treble at 10KHz.	Good; complemented by "bright" switch Very good, specially provided for middle registers. Good; very efficient control of bass response. Increases "H.F." by adding more "bite"
	39.10dB. swing	Middle at 500Hz.	
	27.30dB. swing	Bass at 50Hz.	
"guitar/bass" Selector switch range	7.04dB. swing	Presence at 10KHz.	This control doesn't interfere with F.Q. or distortions, which are functioned in other mode.
	14.40dB.	Boost at 5000Hz, when select "guitar" function.	
"E.Q." frequency equaliser range	38.41dB. swing	at 2300Hz.	Very efficient control for maximum "cut" and "boost" as well as harmonic emphasis at selected frequency bands.
	30.42dB. swing	at 1250Hz.	
	22.50dB. swing	at 485Hz.	
	27.33dB. swing	at 235Hz.	
21.54dB. swing	at 100Hz.		
Signal/Noise Ratio	Better than 60dB.	Gain, output - on max; All tone + EQ controls - flat position. Selector switch in "guitar" position.	Quite good (for valve amp.) but could be better!
Capacitive Load Test	OK; however a small overshoot observed	2 uF capacitor and 8 ohms dummy load	
Open Circuit Stability Test	OK	Gain, output - on max. All tone + EQ controls - flat position, dummy load removed	Very good
Short Circuit Test	1 min.		No ill effects. Worked when short was removed. Should a fuse blow there is no spare!

LISTENING PANEL (Stars out of 5)

FENDER 300 PS	Volume	Quality of Basic Sound Low Level	Quality of High Level Sound	Portability	Special Effects	Control Layout	Appearance	Reverb	Value for Money
Studio Engineer	****	*****	****	*	***	*****	*****	-	***
Bass Player	****	*****	****	*	*	****	*****	-	***
Guitar Player	****	*****	****	**	**	*****	*****	-	***



DELFT'S GUITARCHECK

TEST ON: Gibson L5S and Hagstrom Swede

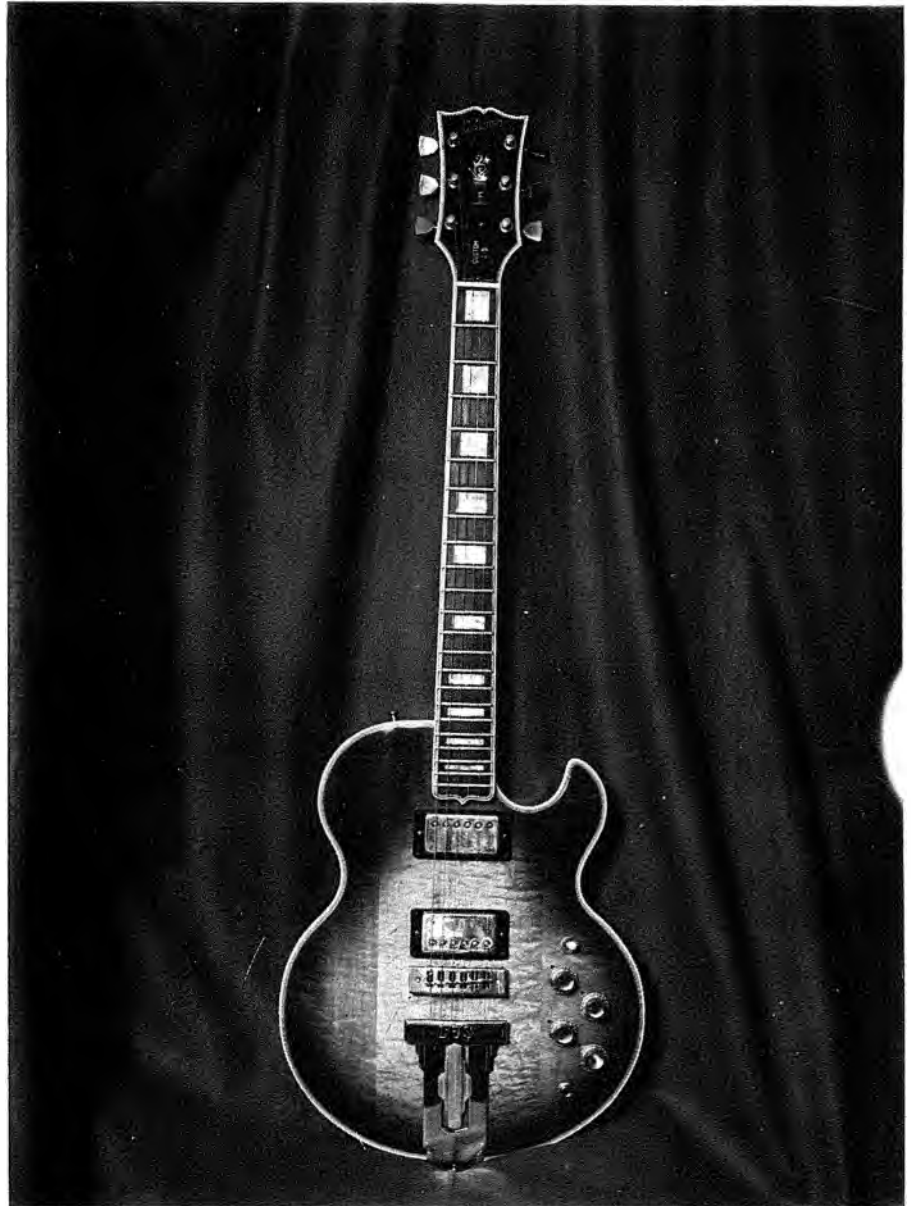
DATE: February 1977 PRICE: See Text

Gibson L5S (described on head-plate as L5 Custom). Price believed to be about £730 inc. V.A.T.

Regular readers of Guitarcheck may have noticed in the past that I have had one or two unkind words to say about certain famous American guitar companies — particularly when reviewing recently made examples of old established instruments, which I felt did not come up to the standard of their reputations. In view of this, I am particularly pleased to present a review of the Gibson L5S which I consider to be an example of good and intelligent workmanship, and a sensitive and reliable musicians' instrument. Apart from the operation of the tone controls, I can find little to criticise. Where I disagree with the design, it is generally on points of individual preference. It is expensive; you are unlikely to have any change out of £800, but this is not a 'conveyor-belt' guitar. It is made with selected timbers, (and presumably by selected craftsmen), and you must expect to pay that sort of price for a top quality American guitar these days. If this is the guitar of your dreams, and £800 is quite out of the question then you will have to watch the second-hand ads carefully, or have something similar made for you in this country.

The L5S, viewed from my angle, is a tasty bit of work. Apart from the ebony fingerboard, all the wooden parts are made from maple. The neck has a conventional three piece laminated construction and is attached to the body with the usual glued-in joint. The heel of the neck is rather less bulky than the style found on many Les Pauls and, together with the deeper body cutaway, this improves access to the top frets. This increased hand clearance also makes the corner of the guitar back behind the 17th fret seem sharper and more conspicuous, and one does wish that some of the sharp corner could be removed, but measurements show that you actually have more room for your left hand in most circumstances.

The head and fingerboard are inlaid with various colours of Abalone shell: the head inlay is rather stylised, and lacks the precision of pearl marquetry cut out with a jewellers' saw, but the difference is only noticeable on very close inspection. This review instrument has been played for some time and the surface of the fingerboard is beginning to polish nicely, but it was obviously rather rough when first made. On the other hand, the surface of the frets, which is rather more important, seems to have been polished adequately by Gibson, during their final adjustments. The back of the neck is slim, and shaped like the necks of later Les Paul models, but with a distinct inward step over the binding on each edge of the fingerboard. I do not know whether this feature is intentional, or not. There is also a rather sharp corner along the edges of the fingerboard bindings: I prefer a more rounded



edge as found on some other Gibson models, but this could easily be changed for you.

If I have got my homework right, the pick-ups on this guitar are the Gibson Super Humbucking type B. These are encapsulated in epoxy resin, and use powerful Indox VII (Ceramic) magnets. This relatively new design of pick-up gives the guitar a different feel and a different sound from similar designs using the standard humbuckers. While I would not wish to judge whether it is an improvement, I do think it is a valid addition to the musician's toolbox. However, there is bound to be a certain resistance to this new Gibson sound. I am willing to bet that in 20 years, someone will be complaining that "they don't make Samarium Cobalt like they used to." I like these Super Humbuckers, and prefer them to my memory of the sound of similar looking units on a recent

SG (my investigations suggest that there may be more than three versions of this pick-up), but I think it would be a mistake to consider the earlier types obsolete. There is still a place for most of the good pick-up designs which have appeared over the years, and there is still room for a few more.

The front of the guitar body is carved rather like a Les Paul front but, unusually, the back is also carved, so that most of the body is only about 25mm deep round the edge, although it is of normal depth in the centre, under the bridge and pick-ups. Because the guitar looks so thin at the edge and is made entirely from maple, it is a lot heavier than one would expect, and probably too heavy for me to enjoy playing standing up for any length of time. However, its weight and rigidity produce a long and very even sustain which is fairly constant over all the strings. Many players would

feel this justified the instrument's weight. Both the front and back of the review sample are made from very pretty flamed wood, with the sort of gentle sunburst which doesn't hide the wood grain.

The back panel, for access to the wiring, is made from a piece of maple closely matching the back, and is a pleasant change from the usual plastic 'lid.' The curved back shape and sunburst colouring continue over the back panel, and one is only aware of a small groove around the edge of the opening and 5 screw heads. Grumbles:-

(1) It is a pity that these screws are not sunk level with the back: they project just enough to snag on clothing.

(2) I find it very difficult to 'fit new strings into the hooks on the underside of the tailpiece: I think it should be provided with a more accessible string holding system. There is a considerable risk of fitting a string with the ball-end balanced on the edge of the hook, so that it may come off in the middle of something important!

(3) The machine heads are a bit imprecise with light strings. They have had some use, but they are made to a fairly advanced design and they should survive better than this.

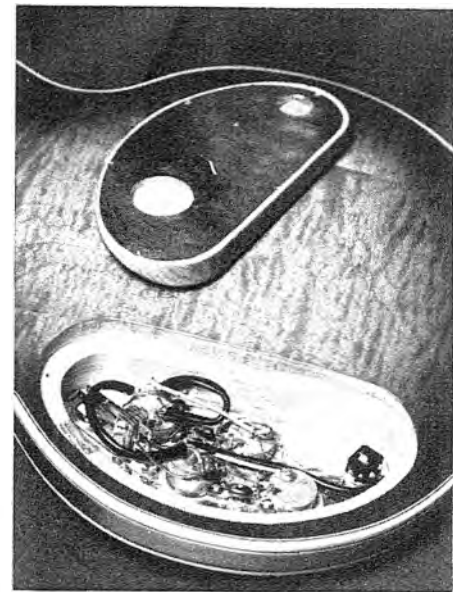
(4) The gold plating on the main casting of the bridge is blistered, not worn off, where the player's hand would rest on it. This problem is almost inevitable, particularly with Gold plate on light Alloy or Mazak. Thick 'Acid Gold' plate or a brass or iron casting for the bridge would help a little.

(5) Neither tone control works in a way which I find satisfactory (or even adequate!) I am tempted to say that this is inexcusable, but I feel it might be considered presumptuous. As I am frequently brought Gibson guitars with such tone controls for modification, I feel it would be more constructive to request an interview with the designer.

However, of the five points, the faults of bridge and machines relate only to Gibson's choice of suppliers; they are also easily replaced items. The other grumbles concern small blemishes on a fine instrument.

My thanks to Dave Davies of the Kinks for the loan of this guitar.

Scale length, 625mm; string spacing at bridge, 51mm; string spacing at nut, 36mm; fingerboard width at nut, 44mm, lowest possible action under standard conditions 1.3 treble, 1.7 bass.

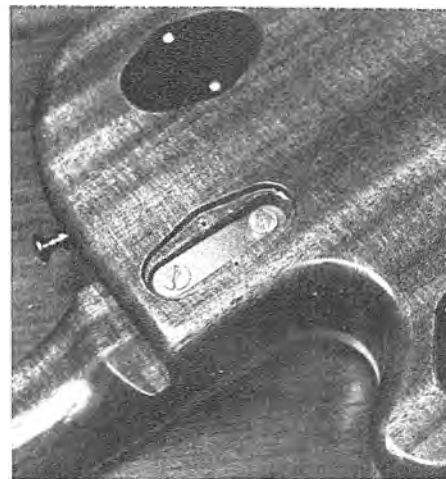


Hagstrom Swede Retail Price
£325.00 inc. V.A.T.

The Swede is the top of the line of electric guitars made by the Swedish Hagstrom guitar company. It is built approximately in the style of the Gibson Les Paul, but it is in many ways distinctly non-American. The general principle is roughly the same, but there are differences of detail and engineering which gives this instrument its own separate character. The Les Paul solid guitar is such an ageless classic, it was inevitable that other companies would attempt (with varying degrees of success), to produce direct copies. You may consider this as flattery or plagiarism according to your own viewpoint, but it would be a mistake to consider the Swede as a copy of a well-known instrument. If the Les Paul is a classic, then it is so, for good reasons. In particular, the proportions of neck and body suit the average human shape rather well, and the provision of two pick-ups with an 'A, B, or Both' switch, is one of the more successful compromises, between complexity, cost and ease of use on stage. Unless the average musician changes shape significantly there will always be a demand for guitars of this type, irrespective of who makes them. Hagstrom have taken these basic principles and designed a slightly different instrument.

Assuming that the designers and engineers have done their job properly in most respects, which I believe they have, it would be reasonable to assume that a slightly different guitar would be a little better for some things, a little worse for others; I think it would be fair to apply this principle to the Swede. There are things about it which I do not like. There are also features which I do not like in most other makes of this style of guitar. (Some people would consider that I criticise too many small details, but I think this is right. I remember the first few guitars I bought; one tends to recognise the better features of an instrument before purchase, and the worse features afterwards. I try to redress this balance a little).

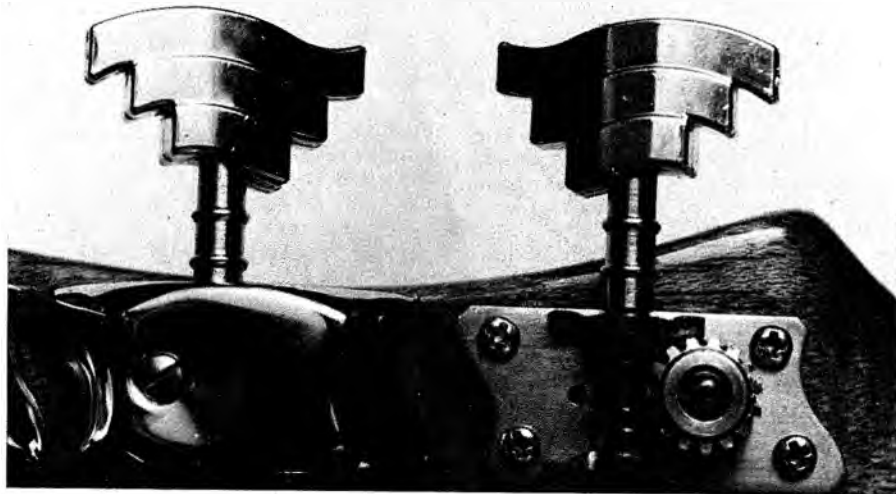
I have watched the development of the Swede over several years and, during that time, have noticed a steady refinement of tone and finish. The most recent development, of significance to the future of Hagstrom guitars, is the introduction of the new pattern humbucking pick-up. I remember thinking some years ago, that Hagstrom's guitars deserved better pick-ups. Now they have them! Once again, the superficial similarity to Gibson products is misleading. They are certainly humbucking, in the sense that each pick-up contains two balanced, hum-cancelling coils, but there is a much brighter sound, closer to acoustic guitar than to Clapton. That could be a problem but in the case of this guitar, the treble cut tone control work efficiently, and there is an additional switch which removes the bright end of the tone. Pick-up design used to involve a compromise between high output and shortage of treble. The classic 'humbucker' tone involves a considerable loss of treble, to which we have become accustomed. The Hagstrom pick-ups have a brighter tone than one expects from humbuckers. The difference is a small one, but I found it necessary to keep the tone controls set to 8 or below, to keep my ears and my prejudices



nappy. I also found that with the treble fully off (tone control at 1 on fingerboard pick-up), there was still a just-perceptible edge on the tone. The situation is more complex than just a different quantity of treble, and relates to the types of distortion which can be generated inside a pick-up. Technically, Hagstrom seem to be moving in the same direction as the Travis Bean unit and the Dual-sound Di Marzio (although perhaps by different routes). They are certainly in good company. Subjectively, the Swede's pick-ups produce a clean, slightly 'hi-fi' sound with the strings supplied, if one picks gently. If the strings are picked rather harder, there is a barely audible 'thump' at the beginning of each note: this effect could be caused by the pick-up, or by the mechanical construction of the instrument. I have encountered it on some other electric guitars, and I have a mixed reaction. I find it disconcerting when playing in quiet surroundings, but if there are other instruments playing or a other loud background sounds the 'thump' becomes unnoticeable in itself, while giving the impression of much better articulation at the start of notes. This is one occasion where it may be better to try a guitar in noisy surroundings. I have a suspicion that if the instrument was fitted with medium to light strings, the same 'thump' effect could start at lower levels, and the result might be pleasing to jazz players in a range of styles, because of the apparent separation of rapid runs of notes.

The neck and body of the guitar are made of mahogany, possibly Peruvian or Chilean, and finished in hard clear lacquer. There has been no attempt to tint the wood or the lacquer to one of the colours which most people expect from mahogany. I suppose this is consistent with a Scandinavian preference for natural finishes, but I prefer Chilean Mahogany with a slight brownish tint. You may not agree with me and, irrespective of the question of colour, the standard of finish is very high.

Unusually, for an instrument of this quality, the neck is bolted on to the body. I don't like this, and I particularly don't like the way the neck joint creaks occasionally. I find that the natural sustain of the instrument varies quite a lot between different notes, and as the rest of the construction is substantial, I suspect the neck joint. If this was my guitar, I would have the neck glued in, but one needs to choose the glue very carefully. The other effect of this bolted joint is that one can easily upset the tuning by putting a slight strain on the neck. No tremelo arm is necessary! At first I thought the neck was too flexible,



but closer examination suggests that the neck is fine, and most of the movement occurs in the joint. If my sample is typical, this really needs a re-think. It is no worse than the bolt-on necks of many Japanese copy guitars, but the rest of the guitar is so much better!

The neck and fingerboard are straight, and the frets seem to be well fitted, but I find the surface of the fingerboard and the tops of the frets a bit rough and uneven. I also think the machine heads deserve some comment. These successfully capture the appearance of expensive American machines but look rather less impressive with the covers removed. I think they are made by Van Ghent, in Holland, and they are not as precise as they may appear. However, they are built very solidly and should last longer than many Japanese types.

I have another little niggle -- about the selector switches. These are remarkably similar to the type offered by RE-AN Products, and I find their knurled knobs are rather good at tearing fingernails. If you use your fingernails for playing guitar, that can be trouble. The knob seems to be in one piece with the switch, and the only cure I know is to cover it with tape or plastic tube. Tape soon looks tatty, and plastic tube makes the knob inconveniently bulky. The switch mechanism is quite acceptable, though not as robust as the American Switchcraft pattern. On the other hand, some of the American switches need rebuilding from new, before they feel right: you take your choice.

The back edges of the body are without edge-inlays, and are well rounded for the players convenience. This feature, combined with the cutaway on the bass-side back edge, makes the Swede one of

the more comfortable instruments to play. All these curves and facets also emphasise the pretty grain structure of the wood used for the body. I would prefer the angle between the neck to lean back a little further from the body axis, with the bridge raised to restore the action, but I know opinions differ on this point.

One unusual feature of the Swede is the second selector switch. This is a form of tone control, affecting the signals from both pick-ups. In the centre position, the signal passes unaffected, with the knob downwards some bass is cut, and with the knob pointing up, most of the treble is cut. There is a similar system with two degrees of top-cut only on some Gretsch guitars. The Hagstrom tone switch is appropriate for the new pick-ups, which have rather more extreme bass and treble than most. The circuit of this switch is really very simple, and its operation will vary a little depending on what you connect the guitar to, (amp, fuzz, phaser, wah etc.) but it seems to work successfully in any normal circumstances. (Please do not write in asking for the circuit!)

It might be an improvement if the effect of the treble cut position was reduced a little: any good repairman could do this for you in a few minutes.

The bridge on this guitar looks like a lovely bit of work but, unfortunately, the sample on the review guitar has gone wrong somewhere. Some of the smaller holes for adjustment screws are out of place and the corresponding string bearers are loose. The tone and sustain of the instrument would be much better if this bridge was stripped down and re-fitted. I confirmed this opinion by putting temporary wedges in the unwanted gaps: there was a noticeable improvement in the guitar's performance. This is a new

type of bridge, which is basically well designed and well made. I think it probably has teething problems. There is nothing wrong which cannot easily be corrected.

This principle could probably be applied to the entire instrument. It is potentially an excellent instrument, but there are some small aspects in which either Hagstrom must continue further in their own way, and refine the production techniques, or they must revert to the conventional ways of doing things: I would prefer to see them persevere with their own ideas.

It is unfortunate that some of the small problems, such as the neck joint, and the slightly erratic frets, are in areas which noticeably affect the guitar's performance. I use the word 'unfortunate' because these are really very small problems from a production point of view, and could easily be fixed, either in this country or in Sweden.

If these little points are attended to, I think the Swede offers very good value for money. It is not a Les Paul copy, it is itself, and owners of Swedes tend to be just a little fanatical about them.

Scale length, 629mm; string spacing at bridge, 54mm; string spacing at nut, 36mm; fingerboard width at nut 42mm, lowest possible action under standard conditions 1.1mm treble/2.1mm bass. Careful fret-stoning would permit a slightly lower action, and eliminate residual fret buzzes.

The new importers of Hagstrom guitars, Fletcher, Coppock & Newman, expressed an interest in my opinions of the Swede. On hearing that I had certain criticisms, they immediately contacted the Hagstrom company in Sweden, who considered the problems and posted their reply to England within 24 hours.

Their letter makes the following points concerning future production of the Swede guitar:- Surfaces of the neck and body, facing each other in the neck joint, will be left free from lacquer, and the neck joint will be glued and screwed in future. Machine heads on other models of Hagstrom guitar have already been changed to Schallers. Hagstrom wish to retain the distinctive shape of the machine head buttons on the Swede, and there is some small problem in combining these buttons with Schaller mechanisms. When this problem is overcome, the Swede will be fitted with its own unique Schaller machines. I feel sure that, under the circumstances, Hagstrom will be willing to supply these new machines as a separate item, when they are available so that owners of Swedes fitted with the present machines can bring them up to date.

The string bearing inserts in the bridge are now fitted by a different method, with the intention that they should sit securely in place on the main bridge frame. The problem of loose inserts on the review model was probably caused by mis-aligned screwholes, and I cannot be entirely sure whether the proposed modifications will guarantee a cure on every instrument, but in view of Hagstrom's immediate understanding of my other comments, it is quite likely that the bridge now works properly, and I have misunderstood Hagstrom's reply.

It appears that Hagstrom have overcome all my serious criticisms of the Swede, and have done so very quickly. One could hardly ask for better customer relations!

On Test: Keynote Vortex 600 and 1550 Rotary Tone Cabinets: Retail price 600 £393.52. 1550 £514.35 ex. VAT.

The market in rotary tone cabinets, for so long dominated by Leslie, is still covered by only a handful of manufacturers. One of those is Keynote, a British company which was formed by experienced musicians with the philosophy of providing good instruments aimed specifically at the needs of musicians. As the first materialisation of this philosophy resulted in the excellent and reasonably priced Consort organ, I awaited the delivery of the rotary cabinets with interest. That the same principles of design and development had been carried through was obvious as soon as the van doors opened!

The first thing that I noticed was that, although the 1550 throws out 150 watts to the 600's 60 watts, both models are housed in the same sized cabinet — so that one man with a suitable trolley can, if necessary, manage the cabinet on his own. The actual construction is reassuringly sturdy. The side panels are made of fibreglass moulded onto plywood, and the middle panels are covered with thick grained leathercloth. They are bonded together with aluminium strips and the result is pleasing to look at as well as being tough enough, I should think, to withstand most of the rigours of the road.

Mechanically, both are identical. The difference lies in their respective amplification systems. The 600 is driven by a 60 watt r.m.s. transistorized power amp, which activates a 15" bass speaker and heavy-duty treble driver to feed the horns. The 1550 boasts a 125 watt amp to drive its bass speaker and a 30 watt amp to feed its R.C.F. treble horn driver. I'm told that Keynote has in fact been producing a rotary cabinet for quite a while, but that these latest models, the result of a lot of research and development — all carried out, incidentally, in Britain — are refined and modified versions, both mechanically and in appearance.

One feature which distinguishes the Vortex from some of its rivals is the use of one motor system only to drive both rotors. This means that no moving parts are involved in changing from slow to fast settings, and one of the operations most wearing to components is thus eliminated. Because of the one motor system, the cabinet makes use of inertial drive to the lower rotor. In practice this means the build-up speed of the lower rotor, as it is changed from slow to fast, may be adjusted. One of the characteristic sounds of a rotary cabinet lies in the difference in build-up speed of horn and bass rotor — the horn gains its fast speed almost immediately — and this adjustment potential is useful.

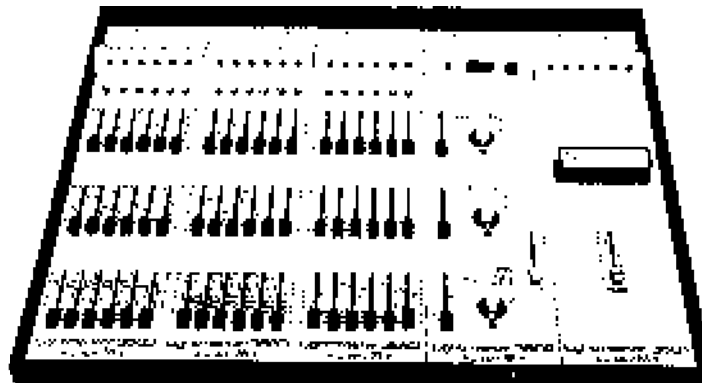
The bass rotor itself is of 1/4" plywood construction. The horns are made of plastic — which in this case gives increased quality over wood, the alternative — and incorporates a mute-like diffuser to aid the horn-like quality of the sound. The amplifier is placed on slide-in runners so that it may be serviced quickly and easily. Both models have built-in 2 channel pre-amps so that any portable organ may be connected via a simple jack plug socket. One control I was glad to see on the amp was the tone control. The lack of this on the Leslie, for example, has been a continual frustration, particularly in live situations. A knee

swell control is provided to effect the change between the two speeds the cabinet provides, but a footswitch is also available as an alternative.

The sound of both cabinets is very good but the 1550, with its greater reserves of power, is exceptional and packs a real punch. The manufacturers have obviously taken a lot of time and trouble in achieving a sound which is full but, at the same time, also has bite.

Keynote seems to me a company which embodies a fairly rare set of qualities — those of technical expertise combined with the experience and instinct to know what the musician really looks for and requires on the road. The ability to think like a performer is nicely shown in one small detail. The top front panel of the cabinet can be removed so that the horns are exposed. The horns, as I said before, are made of plastic — but they are coated in a metallic substance to catch and reflect stage lighting as they revolve. This sort of thinking isn't too usual! Rick Wakeman apparently has collared two of the first four Vortex cabinets. I think that he'll be followed by many others before long.

Rod Argent



On Test: Zero 88 Mobile Lightmaster. Retail prices varies according to specs.

Until recently, "lighting" hasn't really concerned smaller bands and on most gigs musicians get a simple choice of lighting — "On or Off."

After a ten-year flirtation period, professional bands are now considering lighting equipment as important as sound gear but there are very few manufacturers producing lighting control equipment suitable for road use. Zero 88 is, and their new Mobile Lightmaster is the nearest thing to a completely portable lighting control system yet devised.

The control console bears great resemblance to a conventional audio mixer and it feeds controls to slaves which develop the power and feed the lights. The mixer is modular in design and to assist in description I will outline one of the five modules which are included in a medium-sized package.

On the console we tested, three modules were identical. Each offered individual control over six separate lamps and the "mix" of the lamps can be pre-set three times allowing the lighting mixer to switch (or fade) instantly between them. The six fades are repeated three times on the module and the different mikes selected. Fading between the settings is made especially easy because the control module offers "Auto fade" facility which allows an infinite choice of fade speeds and carries that function out automatically. To give an idea of how the system might be used, imagine that the

first number of a band's set requires maximum lighting with a general blue background and white spots on the lead singer and the drummer. The second number is a slow dramatic ballad and requires a single blue spot on the singer and a white spot on the guitarist. By selecting the first lighting arrangement on the bottom group of faders and the second arrangement on the next group of faders, it is possible to switch instantly from "Lighting One" to "Lighting Two" at the beginning of the second number or, alternatively, to allow autofade to do a slow cross-fade between settings during the announcement between numbers. On each module, only six individual lights can be controlled so a more ambitious lighting rig needs more channels and, on the model we tested, 18 were provided. Each had three pre-set banks of faders. So automatic switching (or fading) between "Lighting One," "Lighting Two" and "Lighting Three" is possible.

In addition, Zero 88 offer a cartridge module which allows a wide variety of automatically created lighting effects to be used. Slipping in one of ten available cartridges and switching as many of the channels to "cartridge effect" as you

choose, it's possible to have part of the system (or the whole) reacting to sound-to-light, operating in a sequential manner or offering the operator a chance to "play" his own light. One cartridge available has a "touch-sensitive" panel which allows the operator to "tap out" any light sequence he chooses.

The lighting control system is very easy to understand and operate. It's large enough for even the most ham-fisted roadie to be able to operate but it requires different skills to audio mixing. It doesn't require nearly as much accuracy to mix sound as it does light, but if you forget to bring up a spot (for example) at the crucial moment — like when the singer returns to the mike — the effect is just as disastrous as the sound man forgetting to bring up his mike.

I felt that in some respects the mixer could have been made quite a bit smaller. Lighting operators might well argue that room is needed for accuracy, but I felt that smaller "miniature" faders might have done the job just as well. Each channel is equipped with small LED indicators showing the power running through a particular channel, and although I don't know how much extra this facility adds to the cost, I would question its necessity.

The recommended retail price of each module as described is £90 each. The master module is £121.50 and the set up, as described, would cost £1,000 approx with cases, cables etc. If you're interested try bargaining for a discount, it's always worth a try.

Ray Hammond



HENRIT'S DRUMCHECK

TEST ON: CAMCO C500 kit

DATE: February 1977

PRICE: £624.65 ex VAT

The Camco drum company have developed interestingly. Started first in the early Forties in Oaklawn, Illinois, by the legendary George Way, they have produced — with a short gap — excellent drums for over thirty years. George Way was a development engineer at the Ludwig Drum Company, before he decided to go it alone. His own brand drums (well known to aficionados) featured lots of the innovations we now attribute to Camco, like substantial rock-maple shells and completely machined parts, and were mechanically perfect in every detail. If there was something George Way felt didn't work right mechanically on any drum set, he would work at it until he got it right and, of course, with this enthusiasm, his playing and his engineering abilities, the results spoke for themselves.

Nothing he ever did was flashy (although, for me, he has always made the Rolls Royce of drum sets) but all his innovations used sound, and more often than not, simple, engineering principles. Anyway, the man died and his widow was forced to sell his patents and patterns. Eventually, his life's work was bought by the Kustom amplification people and moved lock, stock and barrel from Illinois to Chanute, Kansas. Now begins — as far as normally reliable sources in America tell me — the "short gap" I mentioned earlier. Evidently, although of reasonable quality at this time, they weren't up to the standard they had achieved before. So, for some time, they languished in Kansas and were eventually bought again by a drummer and moved once more to Los Angeles, California. It was 1975 by the time production started again, and it wasn't long before dealers — Frank Ippolito specifically in New York — enthusiastically decided that Camco drums were as good as they had been previously, before their first uprooting, and were definitely a force (and sound) to be reckoned with.

The C500, which I saw and played, had a 22 x 14 bass drum, 12 x 18, 13 x 9, and 16 x 16 tom-toms and a 14 x 5 snare drum. It was also replete with a pair of cymbal stands, an adjustable spring hi-hat, an expansion-spring bass drum pedal and an adjustable-basket-type, tripod-based spare drum stand.

BASS DRUM

The bass drum, with its comparatively thin six-ply laminated glue ring shell seemed more authoritative than the drums I played in the States some years ago. It has a bright sound, without too much thickness which would make it more suitable for live work than



recording since I feel it would have a really cutting sound.

The 22-inch bass drum was filled with 16 nut boxes, pressed steel claws and turned tuners. These timpani-type tensioners are traditional in their appearance and look great — extremely professional. The round nut-boxes are beautiful and much more interesting-looking than their emulators' which were fitted to Hayman. Mind you, the Haymans were cast, as are Camco's these days, but they used to be turned from solid brass. As usual, the lug castings on the bass drum are slightly larger than those used elsewhere. Camco's disappearing spurs were 'borrowed' by Ludwig but, as they say, imitation is the sincerest form of flattery. These are the ones which feature the square-section rod which is bent into an arc. This locates into a plate with a square-holed boss in its centre, which is fitted to the bass drum and is tapped to take a wing bolt to locate and fix the spur. As one would expect, the drum comes with a felt strip muffler. The hoops are something else; really solid wood without inlay. There is a slight problem with the bass drum's tensioners — since it only has 16 (most 22" bass drums have 23 these days), it means that there is not a comfortable or convenient place to slot sticks. Either they are too far round and down or too far up and horizontal. I realise I'm nit-picking, but this is a reasonably important point. You could, of course, buy a stick bag for your tom-tom to compensate.

TOM-TOMS

The three drums had an authentic sound with high overtones (rather like Gretsch but without their slightly "woody" sound, perhaps closer to Slingerland). They are (as are all the drums) loud because of two factors: Shell

composition and construction. They are made from very hard rock maple and have relatively thin shells. Don't get me wrong though, I'm not criticising them for this because volume has become, like it or not, a very important consideration. Also, as far as I can see, it's very much a question of "swings and roundabouts" because, to get volume, you inevitably have to sacrifice a little tonal quality.

The 13 x 9 has 12 tensioners as has the 12 x 8, and the 16 x 16 has the usual 16. The counterhoops are pressed steel but not quite normal triple-flange, since they have only a very slight stick-saving radius edge. Anyway, these too help the brightness of the sound. All the toms have internal, adjustable, under-the-batter-head operating dampers constructed ingeniously and sensibly from substantial metal (roughly 3/16mm thick) bent at an obtuse angle to the shells. It has a coiled flexible cable twisted at right angles, joining the control knob to the damper pad. This cable turns with the knob as does the felt pad which is attached to a screw thread. So as the knob turns, so does the cable and pushes up the damper on its thread up against the head. Eureka! It's absolutely the best internal damper I've ever come across.

Camco's tom-tom legs are solid-looking, bent-bottomed models with something we haven't seen since the heyday of Carlton; a series of a dozen grooves turned into them to locate the wing bolt which keeps the whole thing rigid. Three leg blocks, which are also cymbal arm blocks on single mounted tom-tom kits are fitted to the large tom-tom's shell, but are not sophisticated or strong enough for today's more powerful playing. They are just cast blocks with a thread tapped into them, so once the thread strips, you have to invest in a new block, like it or not. Nowadays, holders of this type have an eye-ring inside them to grip the leg. These, of course, are

replaceable very easily without having to buy a whole new block.

SNARE DRUM

The model 450 side drum, which is specified with this set, has a six-ply wooden shell with eight double-sided nut boxes with extra-long inserts to retain the tension screws. It has the same triple-flange hoops as the tom-toms and the same fabulous damper system. This mechanism can be heard to work to its fullest advantage on the snare drum and really deadens the sound. There's a cam-action snare strainer which matches the round nut boxes with a "spring" feel to its snare tension screw. I investigated and found that it was indeed sprung and gave the throw-off (and throw-on) a really positive feel. The other end of the snare is tied to your normal non-adjustable type jaw-butt end. The snares themselves had 20 strands and were cord-attached to the strainer.

This wooden drum had an extremely brittle sound, but then that is only to be expected from a thin 5" shell model like this — for all that though, it was extremely responsive. They do make a metal snare drum, which has all the modern innovations like 48 degree flanges but no centre bead, which I have played in America and they definitely have more balls. I almost bought a Camco snare drum last time we were in America, but blew it out on the grounds that it didn't have round nut boxes. The sixties' drums, made in Illinois, had ordinary double-ended bullet-type lugs although, strangely enough, only on their metal shell drums.

They make a 5" brass shell job with eight tensioners per head (like the wood shell I'm reviewing) or two 6½" models exactly the same in either material but with the added advantage of ten tensioners per side. I would plump for the deep metal shell drum (712M) but, fitted with C.S. heads, any of the alternatives would be really good. As standard, all Camco drums are factory-fitted with Remo Ambassadors which sound very strong and thick on the toms and bass drum but don't do much for me as far as the snare is concerned.

I've just noticed, in my catalogue, that the 5 x 14 snare drums can have either eight or ten tensioners per head, as can the 6½ x 14. So there certainly ought to be enough options right there even for the most fastidious of drummers.

ACCESSORIES

C500 comes with a pair of cymbal stands, snare stand, hi-hat and bass drum pedal as per other kits.

Their tripod-based cymbal stand is fairly sturdy but, as in the case of the Gretsch/Wallberg, is not as substantial as the present genre of stands. It has a reasonably wide spread tripod base with rubber feet, a three-stage telescopic height-adjustment with fiddly wing-bolts, and a quite large die-cast, ratchet tilter. I notice, in the beautifully-produced Camco catalogue, that this can easily be replaced with a swivel-tilter which has all its parts machined from solid, and is

probably worth budgeting for.

The Camco 5000 bass pedal is exactly the same as the Gretsch twin-bearing one. At one time, Camco were making all the stands for Gretsch when the latter's Brooklyn factory burnt down. I even unpacked a Gretsch set at that time with pedals stamped Camco — which was something of a giveaway!

OK, so it's a fixed cam-action model with a cast foot, separate heel-plate and a hexagonal rotating shaft assembly which locates the beater hub and holds the felt beater in position. This hub is moveable along the hexagonal pivot shaft and can change the beater strike position up to an inch to the right of centre. The strap is made from some sort of industrial webbing and, as far as I know, takes a reasonable amount of strain. The whole unit clamps by its base casting to the drum hoop and, with its adjustable expansion spring and two-position cam (it's not quite a fixed cam), it's a very easy and effortless pedal to use. It is definitely not a sophisticated pedal but very serviceable, and I've used one on and off for more than ten years without any real mishap, save for a few broken straps.

The Model 500 hi-hat has a direct centre-pull action with an adjustable compression spring, adjustable twin spurs, a tripod base (like the cymbal stands), and the same cast two-piece footplate as the drum pedals. This stand is surprisingly heavy since it doesn't have a particularly robust mechanism. Its action is reasonable to good but, since it doesn't have the sophistication of the newer, more up-to-date Japanese or American, not to mention European models, it simply can't be expected to have a particularly smooth action. Mind you, since it's not as expensive as these others, it's an extremely attractive alternative for the not too physically enthusiastic drummer. The unit extends to a reasonable height and the turned top cymbal clutch and bottom cymbal cup seating have just the right amount of adjustment for a positive sound. In common with most good hi-hats, a jubilee-type clip is provided fitted to the top tube to stop it sliding down through the bottom tube and also to ensure its set-up at the same height every time.

Camco's adjustable basket-type tripod-based snare drum stand is very like Ludwig's Atlas, although I have a sneaking suspicion from my approximately middle-sixties catalogue that George Way's came first. They have the basket retainer adjustment working on an external screw thread and a round "nut" with two rods sticking out diametrically, the original Buck Rogers made by everybody else has an internal thread up its centre attached to a thumb-screw which pushes up the rubber-tipped basket arms from the inside. Anyway, be that as it may, Camco's works well (as do most stands of this type) and they have the added advantage of a turned height adjustment boss at the top of their rubber-footed tripod bass.

The machined double tom-tom holder works well within certain limitations. Basically, it's a plastic ball and socket principle, with the ball mounted in a

turned cage joined to a substantial plate at the top of an equally substantial tube. It is locked into this cage by a large bolt with a hexagonal head which squeezes the ball into two concave cups, one inverted at the bottom. I presume you get a box spanner with this. I used a stay set. This is one of the limitations I mentioned since the one I was tightening sheared off with very little torque being applied to it. In the side of the cage, is bored a hole slightly smaller than the diameter of the ball and through this protrudes a metal rod which is inserted and fixed into the ball. This thickish rod has a flat machined on it and goes into a female holder fixed to the side of the tom-tom. It's a plate with a boss on it like the spur holder's, except that it has a round hole in the centre and the spur's has a square one.

The tom-tom can now move along the rod laterally and can also be turned horizontally or vertically on its ball. Another large hexagonal bolt (to match the angle arrester) retains the lateral position of the drum. Another cage is positioned alongside for double tom-tom mounting. The aforementioned tube fits into a boss-plate mounted on the bass drum and the mouth of this boss is slightly oval. This mouth is split, and can be closed by tightening a pair of hexagonal nuts. This stops the drums from turning unintentionally. I prefer the completely round tube instead of the one with a flat on it, since it gives an alternative of placing the mounted drums closer together by turning the top of the holder away from the player.

APPEARANCE

The set I saw was in a black spray-lacquered finish which, arguably, would give the set a slightly brighter sound since it wouldn't serve to deaden the drum as much as a plastic finish which was glued on. However, it's up to you, but Camco really make twelve professional and tasteful finishes. Their natural wooden ones — Maple, Walnut, Stradivarius and Ebony — are absolutely without equal and even their white Marine Pearl looks up to date for a change. Also if it's your whim, you may specify lacquer finishes entitled "Alice Cooper white" and "Alice Cooper blue"! All of these finishes set off the interestingly-shaped traditional white and gold Camco badge (it's the same shape as the original George Way one) to great effect.

Anyway, here is a drum set which I have always fancied but never got around to buying. I once went so far as to put a deposit down on the first one to be seen for sale in Britain. It belonged to an American serviceman. However, marriage intervened, and I chickened out.

Their amazingly good catalogue says it all as far as I'm concerned. It could become a collector's item. Notwithstanding a couple of not-insurmountable faults, which have already been mentioned, Camco is really "some drum".



ARGENT'S

KEYBOARDCHECK

TEST ON: Fender Rhodes pianos

DATE: February 1977 PRICE: Suitcase 73 £1255.50.

Suitcase 88 £1419.80. Stage 73 £818.40. Stage 88 £981.15.

as they arrive, and to offer some sort of evaluation of their qualities and possibilities. Exactly because of this, the photograph which accompanies each article will often provide a reader's first glimpse of a particular model, and the description of its sound is the only thing he can go on until he has a chance to hear it for himself.

The case with the Fender Rhodes piano couldn't be more different. One of the most widely used electric keyboard instruments in the world, it can be heard on every other record and the player who isn't aware of what it looks or sounds like must be a rare animal indeed. However, it isn't cheap and a close look might be appreciated by both those contemplating purchase and those who can't afford but are interested just the same.

The instrument was the idea of an American, Harold Rhodes. During the 2nd World War, Rhodes held a post in the Air Force and, at each new posting, started to teach piano to the wounded soldiers. His great problem, however, was to find a working piano which could be used while a soldier was propped up in bed. With all piano production at a standstill, he decided that the only solution was to make his own, out of whatever materials were at hand. Thus, the prototype Rhodes piano was born, with hammers cut from scrapwood and notes fashioned from hydraulic tubing taken from aircraft wings!

Needless to say the instrument had to attain a little more sophistication before

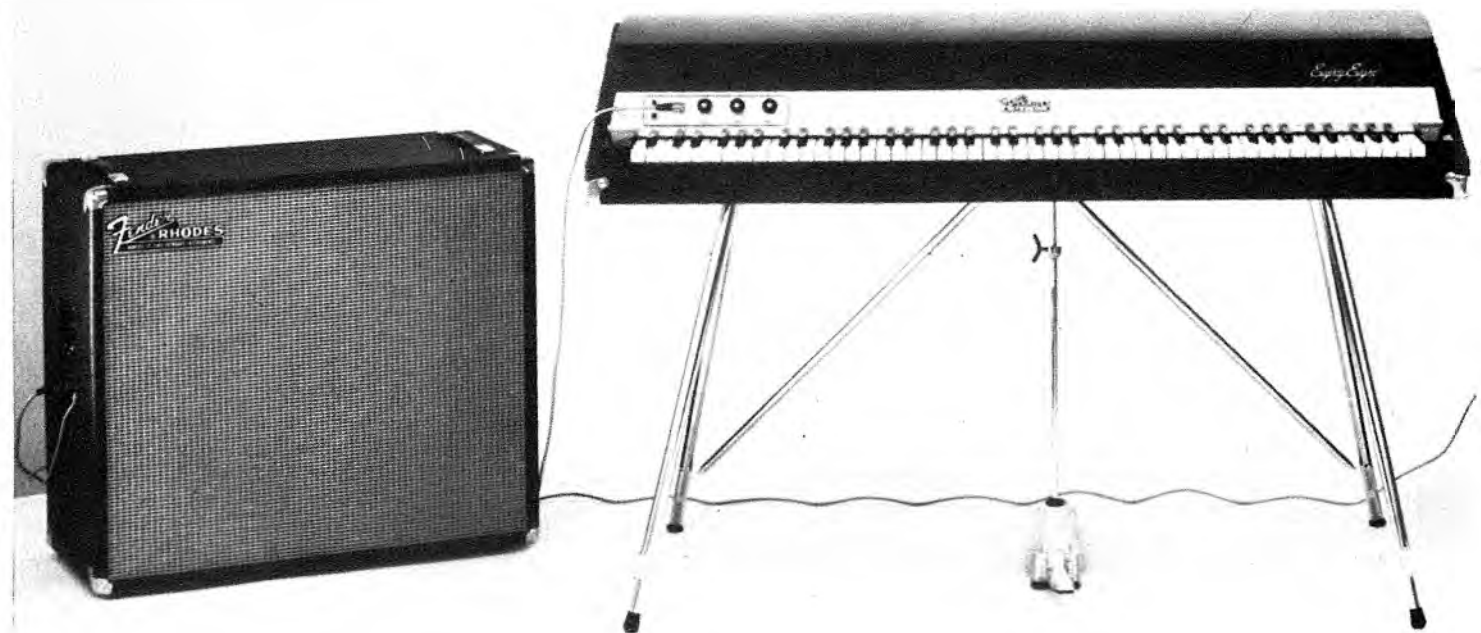
it could be marketed commercially, and it was when Harold Rhodes joined forces with Leo Fender that the piano as we know it today began to take shape. It finally became available in the U.K. in the mid-60's and rapidly began to gain popularity until, in the 70's, it became generally regarded as the undisputed leader in its field.

Actually, the internal construction of the Rhodes piano has remained surprisingly simple. Rhodes' original inspiration came about while he was fiddling with a teaspoon — the action revolves around a simple fulcrum movement similar to that of rolling a teaspoon on a table. In fact there are only three moving parts involved in the action; the key itself which hits the fulcrum of the hammer, which then strikes a tine (a small piece of wire). As the hammer is hit a damper is simultaneously pulled down. It's the act of the hammer actually hitting the tine which produces a note and a much thicker tone bar placed above the tine vibrates in sympathy — rather like the second arm of a tuning fork. A pick-up is placed in front of each tine to amplify its basic sound, but the colour of the tone is determined by the tone bar.

Several adjustments to this basically simple set-up are possible and, as a result of these, the potential sound difference is astonishing — a fact I found out for myself on receipt of my first Fender. I had heard many such pianos on record and when I bought one, it was delivered to an 'Argent' gig and set up alongside



Most of the instruments I have to review in these pages are new or recently developed, because part of the function of International Musician is to present some of the latest additions to the market





my other keyboards. In my naivety, I thought that all Fenders were alike and didn't appreciate how important the adjustment of sound – and indeed action really was. In fact, that night, my piano was virtually unplayable and it wasn't until the guy who looked after my keyboards – who was fortunately something of an expert – had spent a few hours with the instrument that I was finally satisfied with it.

There are three possible adjustments. The first consists of an alteration of distance between the tine and the adjustable pick-up. The nearer the pick-up is to the tine, the 'funkier' the sound becomes. However, the major alteration potential lies in two spring-loaded screws attached to the tone bar, by which the angle and height of the tine's relationship to the pick-up can be changed. The scope here is considerable, and many variations of sound from a full and 'plummy' tone to a thin, percussive, almost bell-like sound may be achieved. I think I should say, at this point, that the true function of these controls is to remove unwanted harmonics and the unpractised hand can produce a result which no-one wants to hear! So if you do want to change the tone qualities of your Fender, it's probably worthwhile to enlist some expert help.

This brings me to what many regard as the most contentious point about the

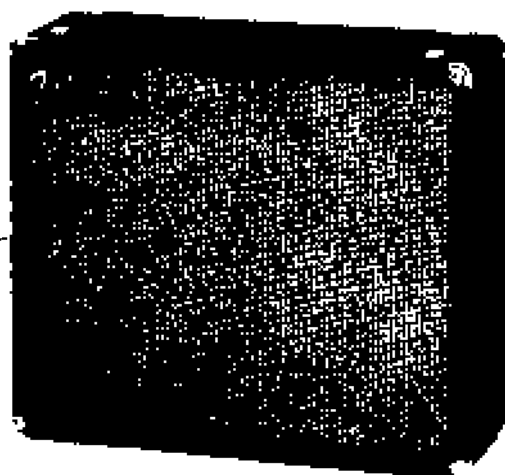
Fender Rhodes piano; the toughness of its action. It's certainly true that most of the earlier instruments need a lot of playing, and on some it's just not possible to play quick runs. The tension of the action is, in fact, governed by the angle at which the key hits the hammer and, until recently, the only remedy for a bad action was to stick bits of cardboard under the wooden action bar! I'm glad to say that Fender have overcome this problem and installed an aluminium action rail which makes adjustment a simple matter. This has remedied what was, for me, the only major drawback in the instrument's design.

The piano can be bought in four forms; the Stage 73 and 88 and the Suitcase 73 and 88. The numbers refer to the amount of notes on the keyboard. The Suitcase model differs from the Stage in that it comes with its own 100 watt amplifier and speaker cabinet which, at the same time, form the base of the piano. The cab contains four 12" speakers, two facing forward to throw the sound out and two facing towards the player. The model also has a built-in stereo pre-amp which not only gives more 'guts' to the basic sound but provides the characteristic stereo vibrato effect whereby one pulse is sent to the left hand speaker and one to the right. This effect, particularly when used in conjunction with the sustain pedal, can be really beautiful, and for me is an essential part of the Rhodes sound. Both the rate and depth of vibrato may be adjusted by a two tier knob on the front panel of the piano. Other controls on the Suitcase front panel include a dual treble and bass tone control, a volume knob and an accessory input whereby effects such as phasing can be introduced without affecting the stereo capacity of the instrument. The system may alternatively be connected to two external amps by means of a special lead which CBS/Arbiter can supply.

The Stage piano has no internal amp and speaker set-up, and its front panel offers an output jack, single tone control and volume knob. It can, however, be fitted with a stereo pre-amp for an extra cost of £89.59.

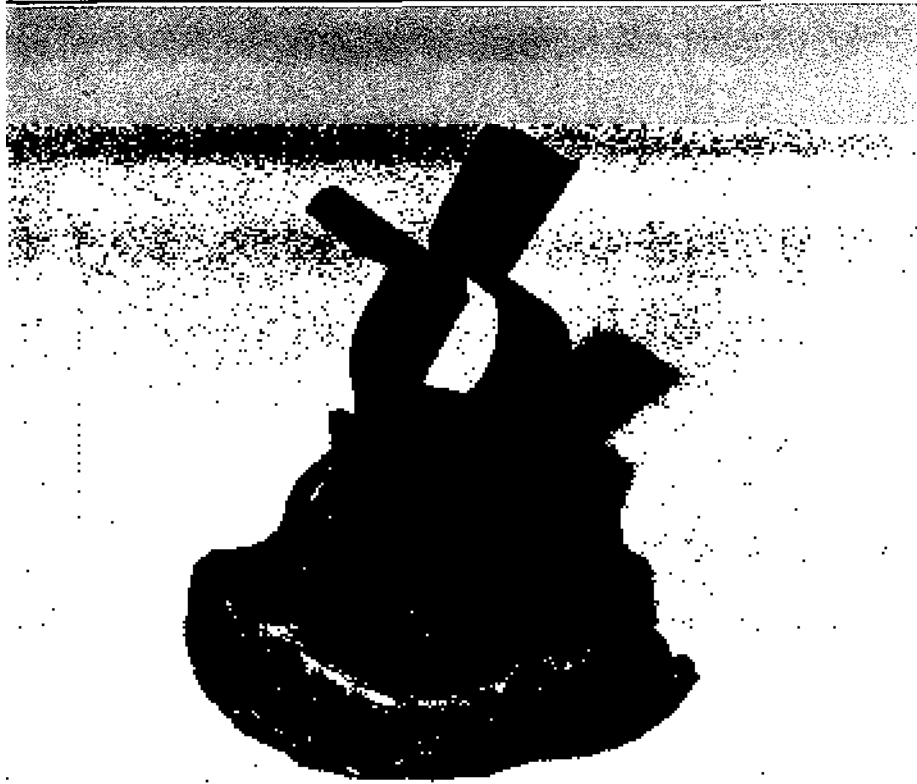
In conclusion I would say that, for my money, the Fender Rhodes is still the best electric piano one can buy, and the inclusion of the aluminium action rail – incidentally the only modification since the piano was introduced – has obviated the one flaw in its make up. It is, of course, now very much established as an instrument in its own right rather than just another electric piano – a fact that is attested to by the many credits one finds on album covers: "Fender-Rhodes" is almost always prefixed to "piano" or "electric piano."

Finally, if any of you have Fender pianos and require advice or help in solving any problems that might arise, Jon Hunnisett (the service manager at CBS/Arbiter Ltd) has offered to deal with your queries personally. You can contact him at Dallas House, Vanguard Way, Shoeburyness, Essex.



SMALL THINGS

By Stephen Delft



In the last few months, I have had several round-backed electric-acoustic guitars in for assorted repairs, and all of

them had additional problems concerned with occasional 'reedy' buzzes on certain bass notes. In all of these cases, I traced the buzzes to the component shown in

the accompanying photograph. This, would you believe, is glued to the underside of the soundboard, with an enormous blob of Epoxy adhesive. It is intended to hold the cables between pickup, preamp and jack socket — to prevent them rattling! Unfortunately, it is several sizes too big and the cables rattle against the inside of its clip. Because this plastic 'thing' is glued to the soundboard of the guitar, the rattles sound louder and appear to come from a loose strut — except, of course, that there is no loose strut! The simplest solution is to (gently) remove the cables from this plastic support, and stick them to the back or side of the body with black Gaffer tape. One must take great care to avoid pulling on the cable connections while doing this: it is probably safer to get a repairman to do it for you. Incidentally, it is not worth trying to remove this plastic clip — you won't improve the tone, and it can't rattle by itself.

I sometimes feel that in spite of my attempts to cover more than just guitars, players of some of the rarer instruments may occasionally feel neglected. In an attempt to redress this balance, and for those who already have the first record of this series, may I bring to your attention a record from Hohner's new Music catalogue; No. 5 B, 'More Austrian Folk Tunes for the Jaws Harp.' If this is not quite your style, you might try No. H. S.25, 'How To Play In D Major Without Caring About It.' Seriously though, this catalogue does also contain a wealth of records and sheet music for Accordion, Harmonica, and Autoharp, which you are unlikely to find anywhere else.

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The instrument that was banned for being too sexy

by Alan Holmes

In some states of America it was thought that a certain newly-invented instrument might be a corrupting influence on the populace, so its use was forbidden in public places. The saxophone had arrived.

Patented in 1846 by Adolph Sax in Paris, it combined the conical body of the brass band instruments with the mouthpiece of the clarinet. Its distinctive 'S' shape is due to the fact that a tenor sax would be nearly six feet long straightened out and you would need the arms of a chimpanzee to reach the bottom keys.

It soon became popular, first with military bands, then with dance bands. Later it was to be written for by classical composers. Ravel wrote the melody in his famous 'Bolero' for the Soprano saxophone, but it was the 20's and 30's that made it popular. This golden era is difficult to imagine without suave, brilliantined chaps, smearing wide vibrato from under pencil moustaches, through pearl-keyed saxes to packed, admiring ballrooms. The Roaring Twenties might well have been reduced to a mumble without it!

Styles change, and the seductive mooring of the large bore sax from this era

with its soft leather pads and large chambered mouthpiece had to take on a harsher, meaner tone. More of the square wave grittiness of the guitar was needed if saxes were to hold the listeners' interest amidst the electric blast of the 'sixties. This resulted in the latest designs having steeper taper bores with metal reflectors in the pads and the use of metal mouthpiece with narrow interiors to project the sound.

This sound, unlike that of the plucked, struck, or electric instruments is almost entirely due to the performer. Holding the mouthpiece between the lips in the manner of a baby sucking its thumb, the reed takes the thumbnail's position and with the teeth resting lightly on the top, the lips are formed round it making an air tight seal. The control of the reed comes from the lips too, using muscles that normally only control facial expressions. No wonder it takes about a year to strengthen these up to the 'Charles Atlas' power required to make sounds more like music and less like a rampaging bull elephant.

The voice is the reed. This specially cut and shaped piece of cane grows only in the 'Var' district of France. An attempt was made to transport it to California without success and just like the grapes, there are good and bad years for cane. If the crop should be attacked by bugs or the equivalent of Dutch Elm disease it would silence all the saxophones, clarinets, oboes and bassoons in the world. A sobering thought.

This single wafer of flapping wood has to vibrate at all the notes between the range of 100 to 5000 times or cycles per second. Some parts of the reed are going at a different speed to the main bit to create overtones, so its not surprising that in the average box of ten reeds three could be useless, four playable and three good.

It is much easier for the reed to do this tricky flapping if it is of the right strength. If it is too hard, not enough of it moves, so the lower notes become strangled grunts. If it is too soft, too much of it tries to move with the result that the high notes crack and slip down to lower ones. A medium strength reed has the best chance of hitting all the notes with some consistency but this depends on whether the player is capable of hitting all the notes and not turning red in the face over an unsuitable mouthpiece.

If the reed is the voice then the mouthpiece is the voice box. It is the resonator on which the reed beats and is designed to shape the sound and produce a specific tone whilst keeping the instrument in tune from top to bottom. The material from which it's made also gives a characteristic 'ring' to the tone and can be very hard rubber called Ebonite, stainless steel or bronze which has to be silver





Ex-Roxy Music saxophonist Andy MacKay on soprano.

or gold plated to stop it going green.

The facing has a window cut in it for about half the length of the reed and this provides entry to the chamber for the vibrating air. There is a gap between the tip of the reed and the mouthpiece rim tip, from about 1/32 to 1/10 of an inch, depending on the size of the instrument, this is the distance the reed travels while it is vibrating and it's called the 'tip opening.' For about a third of its length, it is also curling against a very slight radius which stops it sounding like a comb and paper. This radius and the length of reed free to move, are called the 'lay.' The bottom half of the reed is clamped to this facing by a metal strap rather like a tourniquet with thumb-screws, which could be used as an instrument of torture should you feel that way inclined.

The behaviour of the reed on the mouthpiece is altered by the various combinations of size of top opening, length of lay and the shape of the interior chamber. Quite a few patent designs are produced, but the makers each have their own code to express these three variables. A mouthpiece for the Alto sax having a tip opening of .080" and having a medium lay is variously described by them as follows; 80/1/sms, steel, 6*. 5*. 4, 7, B model to special order, E jazz metal. Baffling for the mail order Customer in the Outer Hebrides puzzling over catalogues by the light of an oil lamp in a crofters hut wondering which one will sound more like Charlie Parker and less like Charlie Coroli.

Which brings us to the red-faced chap straining over a hard reed and wide open mouthpiece. What he really needs is the compression of a pneumatic drill to blow that combination and all he's got is a pair of lungs. Diaphragmatic breathing helps of course, in which the lungs are worked by moving the powerful abdominal muscles whilst the shoulders and chest are held still, but what he hasn't realised is that blowing a sax should be easy and, for

the expert, effortless. As long as the reed is moving far enough at the top to sound the bottom notes properly, any further increase in the distance the reed has to travel only makes it harder to blow. The tension in the body caused by the strain of setting the reed in motion also makes the fingers stiffen, so not only can he not hold a note long, he can't move his fingers quickly enough between breaths to play anything.

A medium tip opening, length of lay, and medium or medium soft reed make mastering the saxophone far more likely. Many players waste years battling away and blaming themselves, when the combination they had would never work. This doesn't just apply to the sax either!

Buying a saxophone is a bit like buying a car — if you are not an expert you need an expert opinion although, unlike a car, it is not enough that it works, but how it does its work. It is an extremely finely adjusted precision machine. The thickness of a piece of cigarette paper under one of the pads is enough to cause a leak, and 1/16" difference in the height of the pad above its seating can cause that note to be out of tune and different in tone. Like most wind instruments examples from the same make and batch can be very different. In some cases, enough to have come from another maker, so the opinion of an expert is essential when considering a purchase.

The modern saxophone comes in four sizes, the smallest being the Eb Soprano, closely followed by the Bb Soprano. These are short enough not to require bending, although older instruments were sometimes made 'S' shaped. Larger and definitely bent is the Eb Alto, and from this size on, the weight of the instrument is supported on a sling round the neck. Larger still is the Bb tenor while the Eb Baritone is enormous and, including the extra nine inches of the low 'A' model, would measure over eight feet long if stretched out straight. There are larger

ones — the bass and the towering Contra Bass. Though these are not made any more, some still survive.

The Alto and tenor are the most common and easiest to get to grips with for the beginner. The Baritone is the most expensive in the range, costing up to £1000 and its size and weight make it's discouraging to learn on. The Soprano, because of its very narrow bore, is difficult to play in tune even by top professionals. It often falls into the wrong hands where it displays a curious oriental effect complete with quarter tones, which are as far out of tune as you can get. Even in skilled hands, only the most expensive and sophisticated stand much chance of avoiding the snake charmer's job. Tuning on all saxes can be a problem. The fact is that if the finest and most modern saxophones were blown by a computer so that each note got the exact same treatment, some would be a bit sharp and others slightly flat. The ability to overcome this (by pitching to compensate) is what separates the gifted from the merely competent performer.

A word of warning. Saxophone playing can be addictive and one puff could lead to being hooked for life. Who knows, it might change the course of musical history. There has to be a Charlie Parker and John Coltrane in the 'eighties somewhere!



Alan Holmes is a British brass player of exceptional standard with instruments played to his credit including soprano, tenor and alto sax, flute and alto flute, piccolo, oboe, clarinet, and Cor Anglais. Although trained and qualified as an engineer, Alan took up the clarinet on leaving school and joined his first band, as saxophonist, at the age of 18. This band became Sounds Incorporated. The band toured with the Beatles on several occasions even playing the Shea Stadium gig. When Sounds Incorporated finally split up Alan went on to join The Kinks. He stayed with The Kinks for 4 years, leaving in April 1976, and in November 1976 he joined the J.A.L.N. band, a seven-piece funky outfit with a recently released album "Life Is A Fight."

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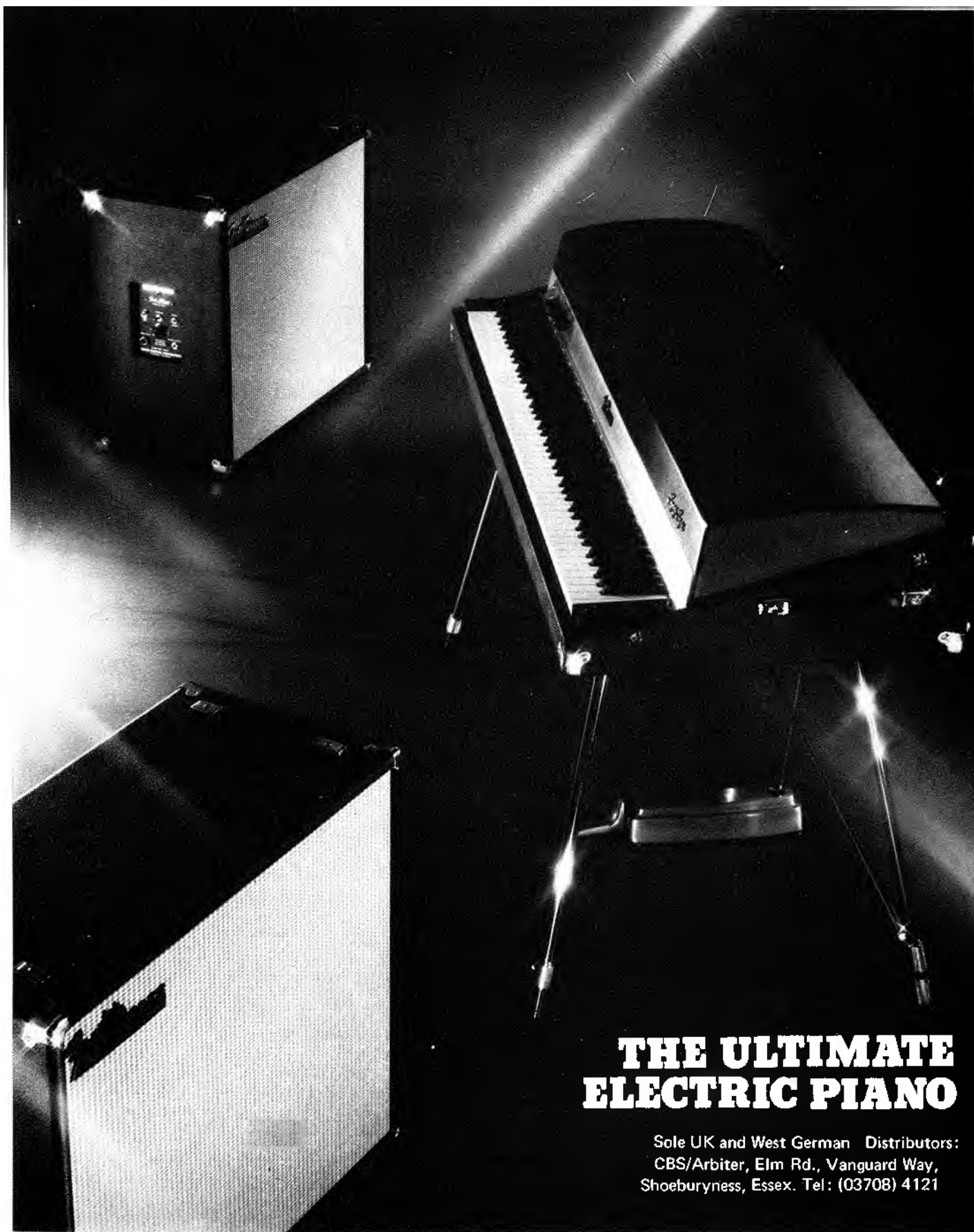
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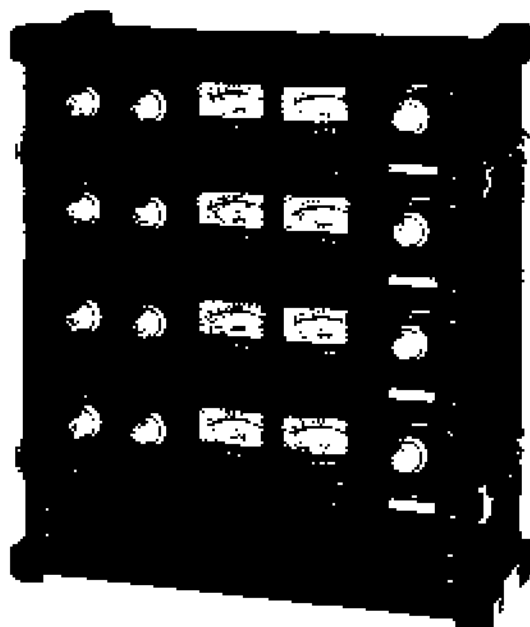
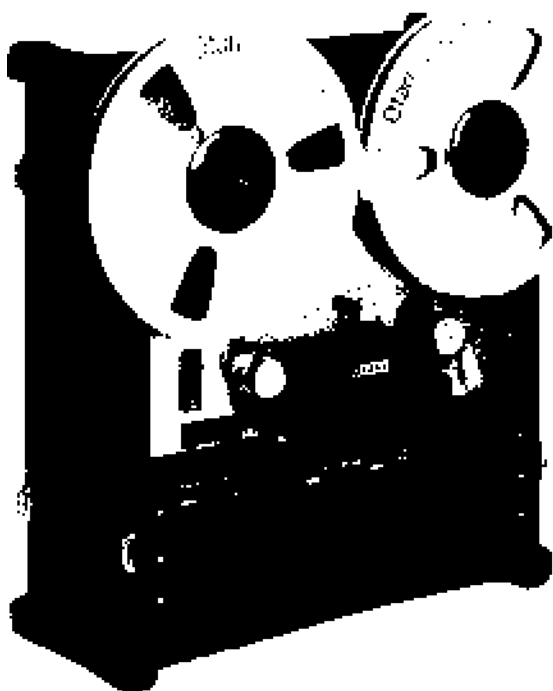
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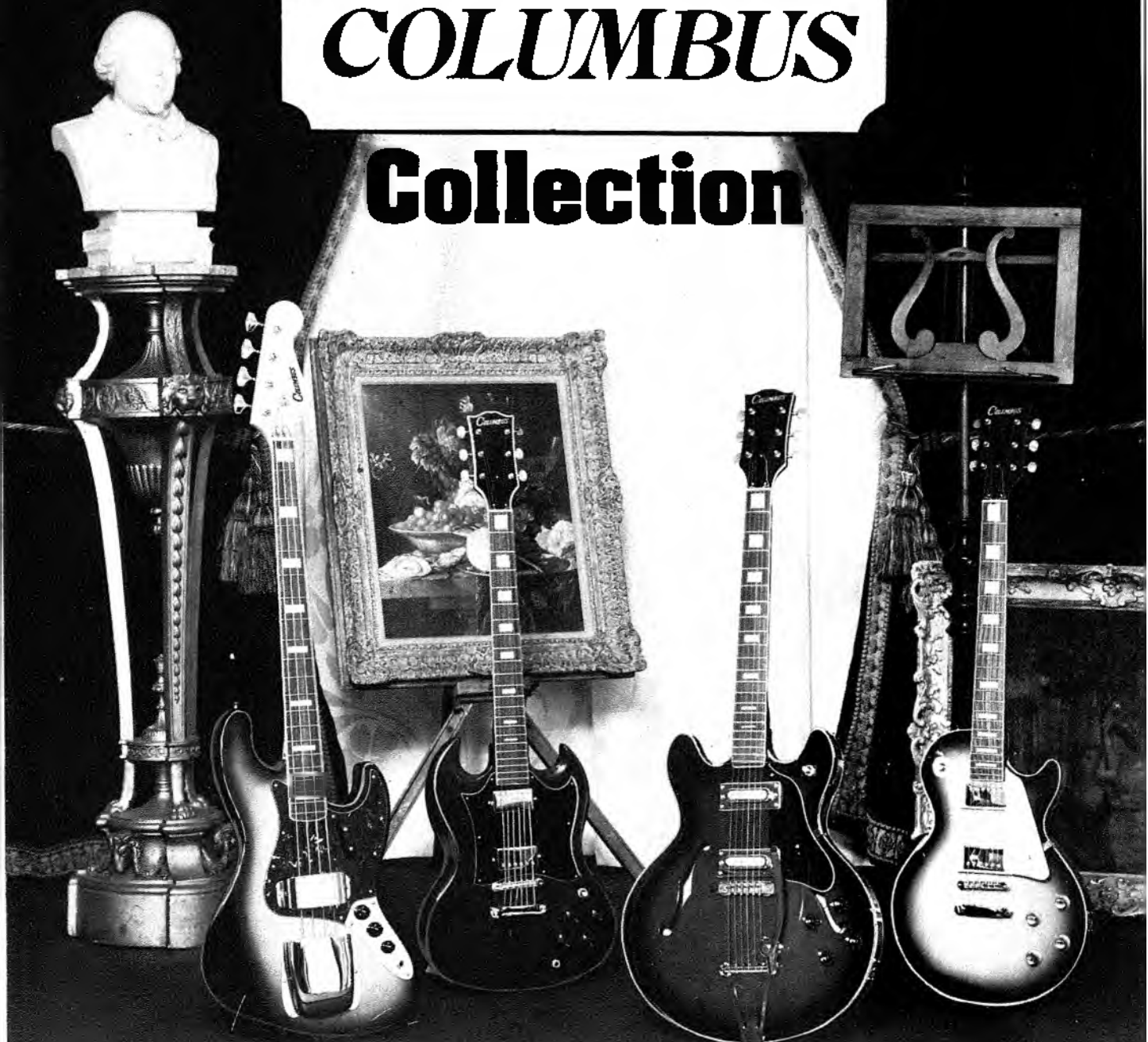
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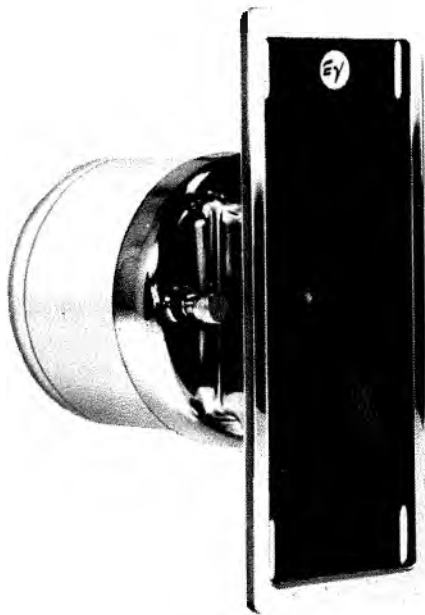
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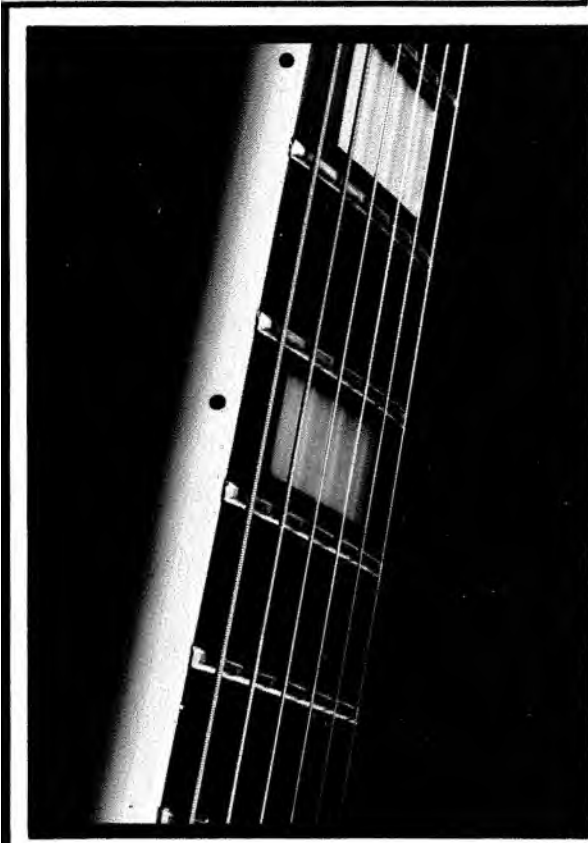
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with electric instruments it's different, but I don't think you can mass-produce a high quality acoustic guitar." Renowned luthier Phillip Petillo should know what he's talking about. Yet as mass-production of acoustic guitars increases, master guitar craftsmen are quickly becoming a vanishing breed. Petillo, however, couldn't be busier as he receives requests from all over the world for customised work.

Offering an explanation for his uncommon success, Phil explains. "Everything we do here is tailored for the player. We don't want people leaving just happy, we want them to go jumping for joy."

Some customers who have done just that are Bruce Springsteen, Melanie, Tal Farlow, Tony Gottuso, Chuck Wayne and the late Jim Croce (who was a close friend of the Petillo family).

The New Jersey craftsman works out of the basement of his modest home at 1206 Herbert Avenue in Ocean, N.J. His studio looks very much like one would expect a traditional luthier's studio to look; with guitar molds, wood scraps, instruments-in-process and tools of the trade laying about. But Petillo is more than just a traditional luthier - he is an innovator. Using tried and true formulas as a base, he adds the Petillo touch for which he has become noted. One example is the Petillo Fret (patented and included on all Petillo guitars).

"Traditional frets are rounded," explained Phillip in his basement studio. "When the string is depressed, it doesn't rest directly in the centre of the fret, but slightly off-centre (see fig. 1). This creates inaccurate intonation. In addition, more of the string rests on the fret, creating a fuzzy tone."

Petillo's frets are also rounded at the top, but are more pointed

than the normal fret. The result is a string which is centred, assuring true intonation and a tighter connection (see fig. 2).

To a master craftsman, using excellent materials are essential and Phil comments on the problem facing today's luthiers who demand only the best materials.

"Many materials are becoming harder to come by. Nigeria, for example, has an embargo on Ebony and Brazil has an embargo on Brazilian Rosewood. Indian Rosewood is now cut in India instead of being shipped in bulk. In addition to this, certain countries, such as Japan, are buying up and stockpiling precious materials to the disadvantage of other countries."

Phillip still considers vintage Brazilian Rosewood as the prime wood to work with. Comments Phillip, "I have some Brazilian Rosewood I use, which was cut over 100 years ago." Other woods he utilizes are Curly Maple, Bird's Eye Maple and African Rib in Grain Mahogany.

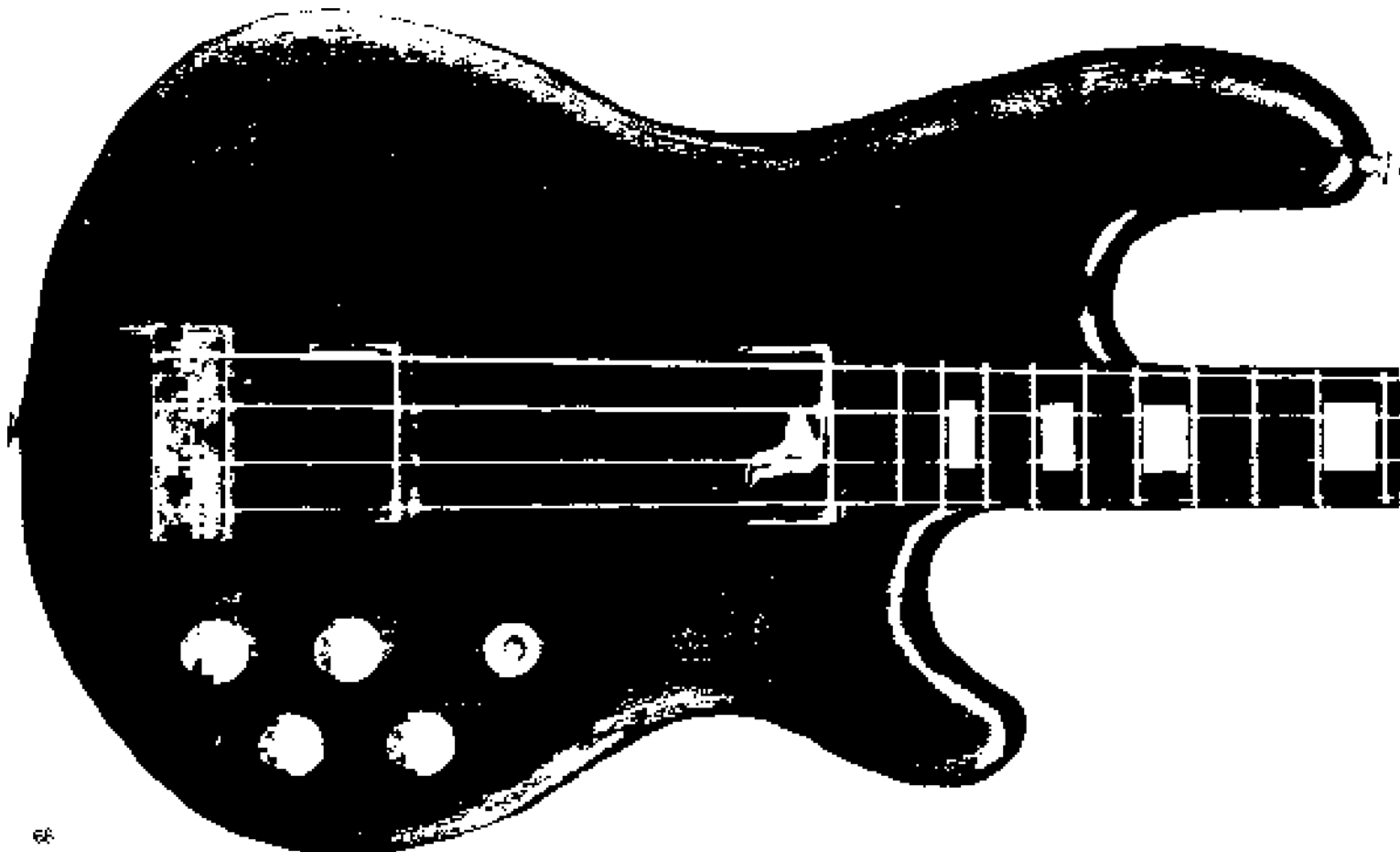
His most ambitious project to date is the designing of the new Kramer guitar. For Kramer, it was an uncommon opportunity to get the services of Petillo, who along with being a mechanical engineer, an electronics consultant, a professional draftsman and a musician, was as a luthier, able to use his great knowledge of materials. Phil is responsible for the guitar's futuristic and elegant look as well as its unique composition material-wise.

"I wrote to every forging company in the world to find the best one for the Kramer aluminium neck." Unlike other aluminium neck guitars which have aluminium exteriors, the Kramer guitar has an aluminium interior and a wood finish exterior. Explains Phil, "I felt it was important for the player to have

Phillip J. Petillo

Luthier and guitar maker extraordinaire

by Gary Graifman



the feel of wood instead of aluminium. Aluminium also has a tendency to turn black. In addition, people using metal necks have been known to complain of electrical shocks."

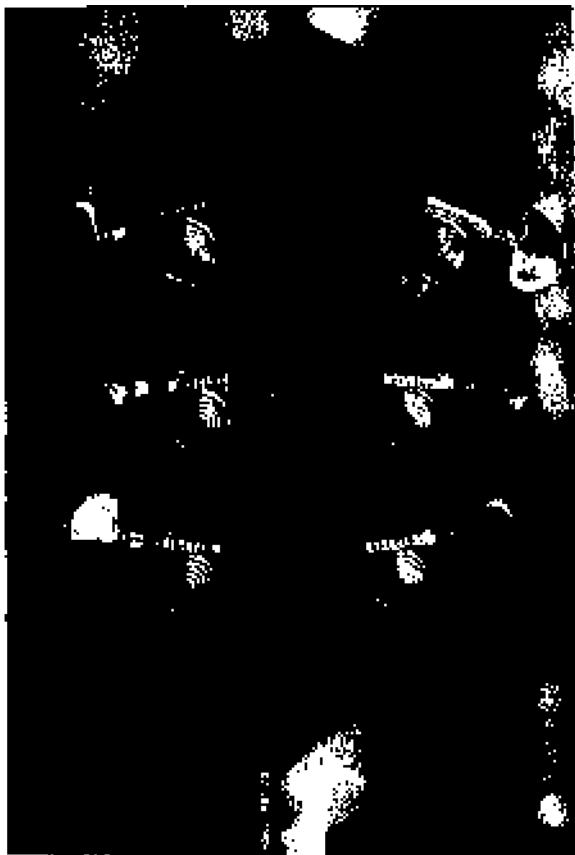
Besides building custom-made guitars, Petillo renovates old instruments, repairs backs, fronts, necks, tuning pegs, bridges, does maintenance work on any model guitar and does beautiful custom inlay work on guitars.

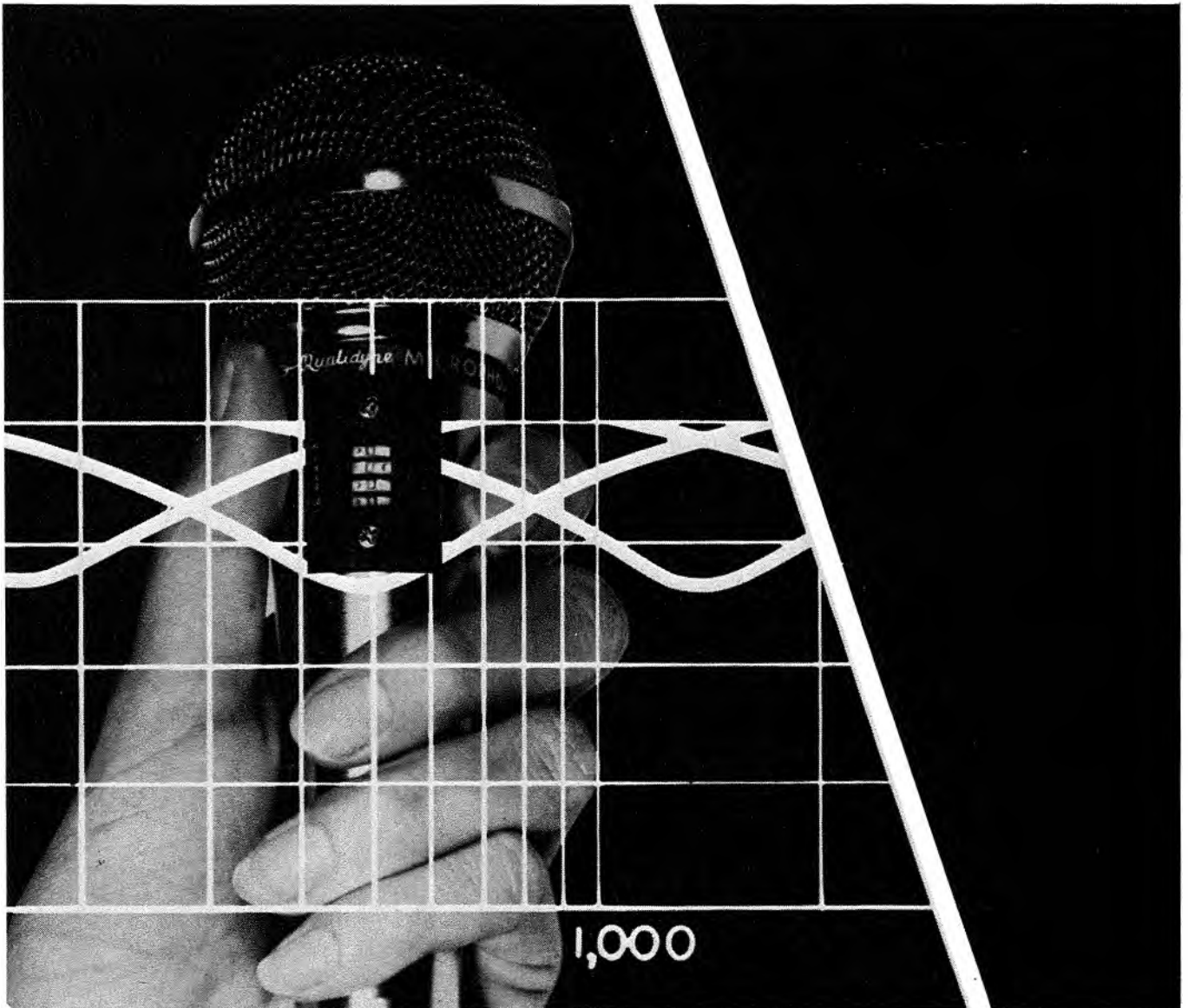
Phil began making guitars at the age of 15, deciding to become a musical instrument craftsman instead of a professional musician. "I found more enjoyment in making them than playing" he mused, "besides, I don't like travelling and playing the night-club circuit."

After making his decision, Phil began apprenticing and experimenting with his craft. Of invaluable help was the period of time he worked with the godson of John DeAngelico, of the world's greatest guitar makers. DeAngelico's godson, Jimmy DiSeri, lived in New York and Petillo visited him frequently until his death in 1973.

Petillo's wife, Lucille, has been one of his strongest supporters despite the long hours his craft requires. They met when she brought her guitar to him for repairs. "I love to play and my guitar was broken," she remembers, "I had heard of him, so I brought it in and the next thing I knew, I married him."

Both Petillos still love to play guitar and an impromptu demonstration, which developed later, proved they can still whip a mean jazz tune. But then, of course, both play custom-made Petillo guitars.





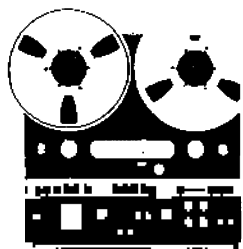
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HOME RECORDING- TAPE DECKS

You can't record at home on a Neve mixer or a pair of Tannoy monitors, but you can record at home with a £30 tape recorder from Woolworths. The tape machine is the thing — get that right and everything follows.

We all start recording on crappy machines and we all get discouraged because of crappy results. But when we are ready to take on the next bit of loan money do we buy a mixer or new mikes, or monitors, or do we upgrade the tape recorder? The question is central to your long term happiness in home recording. Pitch that wrong and you'll be unhappy.

To decide whether you need a Revox or whether you can get by with an Akai depends on what you want to do "long term" with your home recording. That, in turn, probably depends on other factors.

One of the things hardest to change is the studio. If you're living in a flat you don't own and which isn't rented to you by a local government authority you're likely to buy "temporary." If so, you have to work within these guidelines. If you're living at a more permanent address you have to decide whether, if you should want to do so, you can make the studio acoustically good enough to reach high standards. If it's out of the question because of lack of space, or basic building design, then you shouldn't really waste your money buying the best machine available. One of a reasonable standard will do. If you can see that you might be able to develop the studio semi-professional, you need to ask yourself if you're prepared to make that kind of investment in your music.

Over a period of time, a good quality semi-pro studio is going to cost anything from £2,000 upwards (at today's prices). If you think that, over a period, you might be prepared to invest that kind of money, then start off by buying the best tape recorder you possibly can — even if it means putting up with crappy mixers and mikes for another few months.

The choice of tape decks isn't that wide, despite the vast number on the market. If you want it for recording at home, you need certain specifications. Number one: you don't want a model with built-in amplifiers and speakers (unless you are planning to do a lot of mobile work and even then, you'll find them of limited value). So you want a tape desk, not a tape recorder. The next question concerns the quality of recording envisaged. If you want to record to near-master standard, you'll certainly need a tape machine with the

"professional" tape speed of 15 inches per second. Often, studios run tape at 30 i.p.s., but I'm not aware of any ¼" machines that have this facility, and I'm pretty sure that none of the semi-pro multi-track machines offer it either. If you're running tape at 15 i.p.s., you'll probably need more tape than you can get on to a 7" plastic reel, so you're likely to need a machine that can take 10½" metal spools (often referred to as "NAB" spools). This narrows the field considerably.

You're going to pay quite a bit extra if you want a 10½" spool capacity and only you can decide whether this is worth it or not. The machines available at this end of the market include Revox, Brenell, Ferrograph, Amcron, Dokorder, Leever-Rich, Ampex, Studer, Sony, Uher etc.

The fully-pro machines like Studer, Leever-Rich and Ampex are very expensive and aren't really necessary for the average semi-pro studio. If you're going to run your machine 24 hours a day, then you should certainly consider these, otherwise the semi-pro equivalent will serve.

We've tested a Revox for this Home Recording feature, so we'll avoid passing comment here. Of the others, the best known names are probably Brenell, Amcron and Ferrograph. The Brenell is a British machine made in London, and the company have carefully pitched their products to fall in a very special position in the market. All Brenell equipment is solidly made — in fact many 20-year-old machines are still in use in radio stations — and by simplifying some of the functions, the company manages to gain a cost advantage on the more exotic recorders like Ampex and Studer. This is achieved without any sacrifice in performance, and many studios function very happily on new Brenell machines. I owned one for a few years and found it thoroughly reliable.

Ferrograph have changed their image very slightly in recent years. I always use to think of them in the same bag as Brenell, but today the machines have taken on more of a "hi-fi" look (as have Revox), and they're basically a high-quality, domestic machine with semi-professional performance characteristics. I've still got an old valve Ferrograph Series VI mono machine I used for copying, and I would be very loth to part with it. Some of the new Ferrographs are able to take 10½" spools and have Dolby facilities built in, and these would undoubtedly be of interest to musicians recording at home.

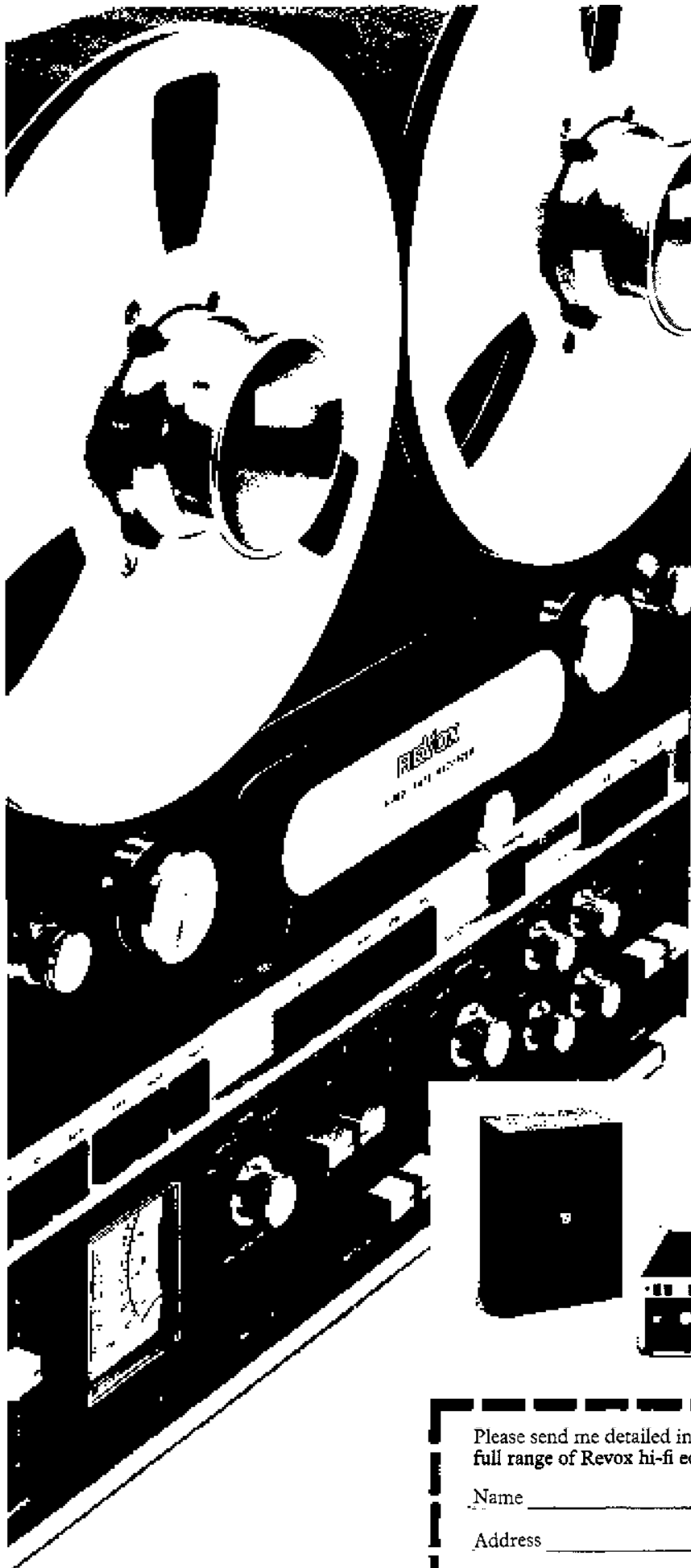
Amcron tape machines are virtually professional models housed in semi-domestic cases. All models accept 10½" and 15 i.p.s. is standard throughout the range. Two main ranges are available, the 800 and 700. Both have the facility for using the record heads as replay heads allowing "self-synch."

Self-synch is a very useful feature on machines intended for home recording. On most domestic stereo machines, you may record on track one and then record onto track two transferring the recording from track one onto track two at the same time as you are recording the second signal onto track two. This results in both signals being "in synch," but the original signal is "mixed" automatically with the second signal and it has also suffered one "generation loss," having been recorded twice. On good semi-pro and pro machines, there is a facility called "self-synch." This allows the user to record onto track two in synch with the information recorded on track one.

When listening to playback on a domestic tape-recorder, the signal is taken off the tape by the playback head which is the second head the tape crosses as it runs through the tape gate. But the record head is the first head the tape meets. This means that, in most domestic tape machines you are listening to the track you have put down on track one from the replay head and you're recording via the record head which lays the second tape slightly behind the original track. This is because you're monitoring track one at a different place to where you're laying track two. Only recording track one again with track two via the record head will give you synch. Then you have both tracks mixed together in synch on track two.

On good semi-pro and pro machines, there is a facility for using the first head the tape meets (the record head) as a playback head also. This means that when the tape crosses the first head, the top half of that head (the left channel or track one) temporarily acts as a replay head so that when you record via the bottom half of the same head, you're getting your second track onto tape at exactly the same point that you're listening to your first track.

This isn't really a feature about multi-track machines — they deserve a feature to themselves — but some of the better names offering these machines include Brenell, Dokorder, Teac and Amcron. In addition, there is a vast range of fully-professional machines offering up to 24 tracks.

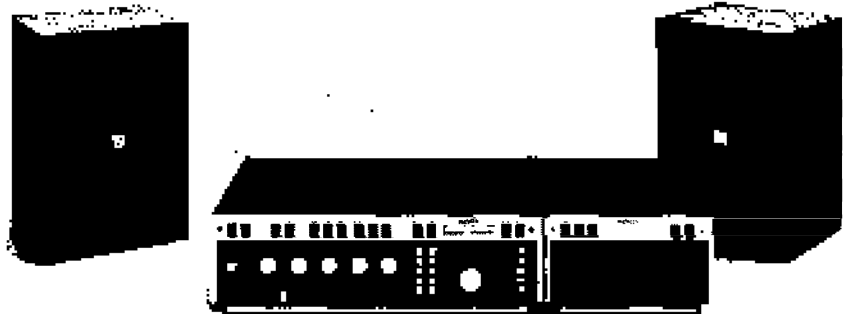


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These and the many other outstanding features built into this unique equipment make the A700 probably the finest recorder on the market today. Your Revox dealer can arrange for a demonstration or you can send the coupon for full information on the A700.



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HOME RECORDING TAPE DECKS

TEST ON: REVOX A77 PRICE: £586 ex VAT



Revox have just about had the semi-pro stereo market sewn up for the past 15 years. They've got more competition today than ever, but the product remains solid and it enjoys a famous name.

Revox machines are made by the Studer company in Germany and are basically a domestic-type package of the professional Studer machines. Despite this, the machines reveal their professional specifications. Two versions are available, the high-speed and the low-speed (15 i.p.s. or 7½ i.p.s.).

We tested the high-speed version. To be truthful, it wasn't so much a test as a re-acquaintance for me as I've been familiar with Revie (or whatever the plural for Revox is) for quite a long time. I owned a Revox for a few years and it gave faithful service despite terrible neglect, so I was interested to discover how much this later model had changed.

Revox machines are now imported by F.W.O. Bauch of Potters Bar whereas in my day the importers were C.E. Hammond, in Datchet. It makes sense that Bauch should have the agency as they also distribute Studer, but they're omitting one facility that the old importers used to offer. Most Revox machines knocking around in studios had been adapted for self-synch — i.e. a minor modification had been made so that the record head could be used to listen to playback whilst recording on the other channel. The result was that it was possible to record in synch. The present importers do not offer this facility and I think that's a pity. It's fairly easy to get this modification done from an independent source, however.

Revox have had the market sewn up because it's a portable machine with professional performance characteristics. It's as quiet as any

studio recorder, and the tape in transport is exceptionally good. The controls are well laid out and easy to operate.

All motor function controls are servo-assisted push-buttons that are very precise. It's possible to go direct from "fast-forward" to "fast re-wind" without going through "stop," but you can't go instantly into "play" from either fast-wind.

The principle area the Revox scores in is versatility. On the input stages, you can hook in high or low impedance mikes and the full input facilities are duplicated on a phono-plug panel on the top of the machine. The machine has all sorts of pre-set possibilities. It's possible to record on both channels at once from a single input, it's possible to use one channel for echo, it's possible to automatically "jump" recordings from one track to another.

The A77 takes 10½" spools as a standard feature and tape tensioning may be adjusted to suit the type of spool in use. In operation, the recorder gives a "solid" feel and the user is aware of genuine ruggedness. It's the type of machine which encourages the engineer to get the best out of the other links in the recording chain.

The VU meters were astonishingly accurate and, depending on what tape stock was used, the recorder was capable of putting some very high levels onto tape before "break-up" occurred. Headphone monitoring is offered on the machine via a low-level pre-amp stage, but it is low-level and it's better as a reference source than a real monitor.

I like the Revox. It's become quite expensive, and there are now serious competitors in the market. But if I were to set up a home studio all over again, I wouldn't feel really equipped until I had a Revox.

R.H.

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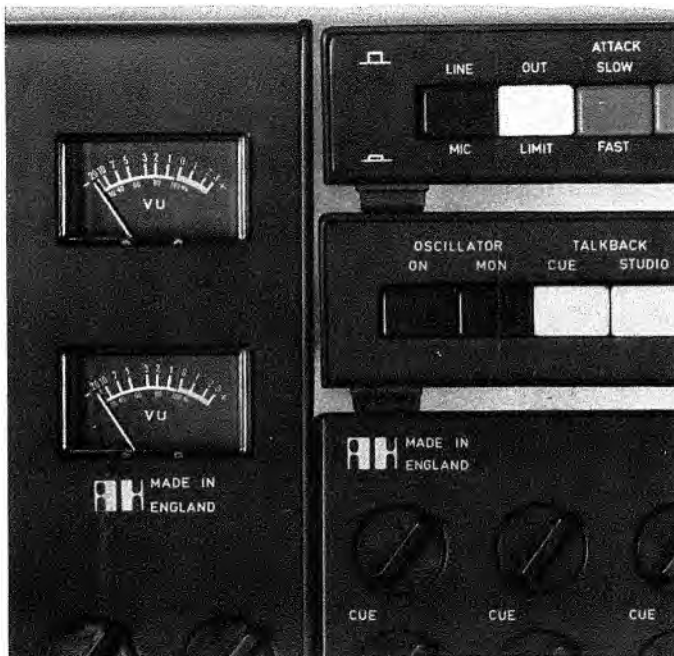
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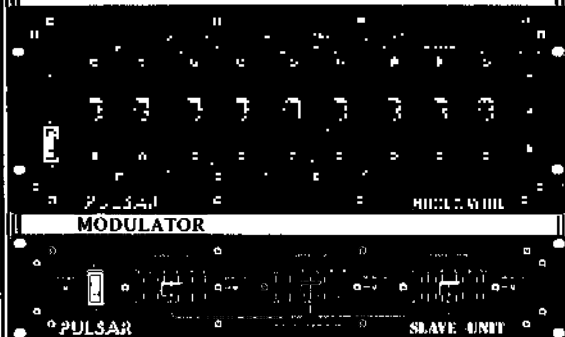
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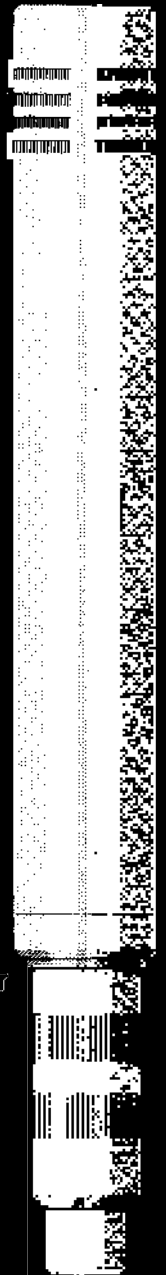
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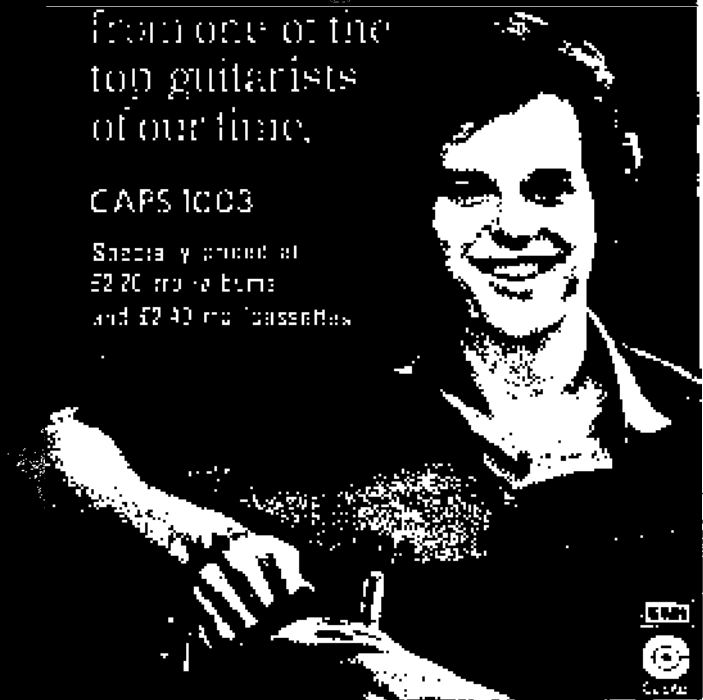
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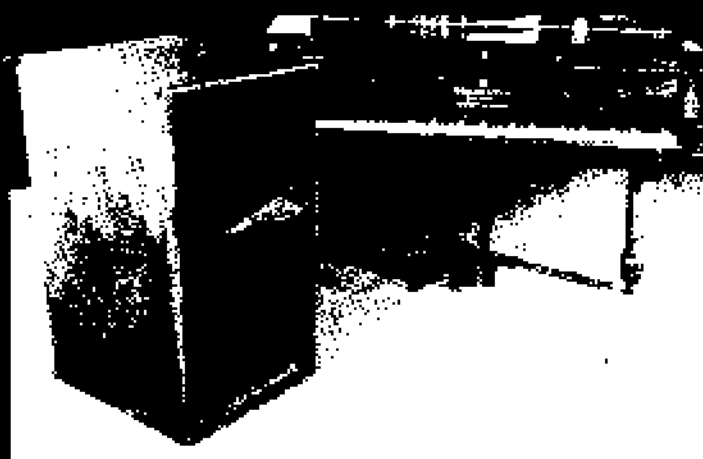
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Streetwalkers' Vicious But Fair. (Vertigo 9102 013).

Streetwalkers continue their excellence into the new improved line-up with this latest album and, put at its simplest, if you liked the previous Streetwalkers stuff, I reckon you'll like this one even more. In terms of instrumentation, the main addition is that of a permanent keyboard player in the form of Brian Johnstone, and he certainly makes his presence felt.

Perhaps the 'major' track on the record is "Dice Man" — a familiar Chapman Whitney theme, the gambler — and the dynamics of instrumentation available to the band are used to their fullest on this track. The atmosphere is created perfectly for the guy who gambles away anything, "Rolled out a number, low and crapped out/The crowd around me are starting to shout/Demanding some blood, a price for my head/I feel I'd be so better off dead." The piano, along with the string arrangements (courtesy Wilf Gibson), help to build a tension and atmosphere that complement the song perfectly, a superb track.

The openers on both sides, "Mama Was Mad" and "Can't Come In" are both good rockers, whilst "Chilli con Carne" would make a good single, with a good twist at the end of the song, and additional sax from Mel Collins. There's another gambling song in "Sam (Maybe He Can Come To Some Arrangement)" — the bass and drums are particularly tight on this track, and we also get what turns out to be a rare vocal exhibition from Bobby Tench on this one.

The album does have one weaker track in "But You're Beautiful"; the song doesn't seem to work too well, revolving mostly around the repetition of "We were only friends/But it's all over . . ." but Louise and Eunice do a good job on backing vocals and Mel Collins plays more fine sax. On balance the record is well worth having, best tracks seem to be "Cross Time Woman" and "Dice Man"; it leaves me very excited about seeing the band live on the current tour.

Recorded at Scorpio Sound. Engineered by Ray Hendriksen. Produced by Streetwalkers.
Tony Bacon

David Bowie: Low. (RCA. PA 12030).

Ch-ch-changes! Mr. Jones changes direction once again, and has come up with a most fascinating and listenable record. At its most basic, the album splits fairly logically into its two sides — Side One opens and closes with instrumentals, "Speed Of Life" and "A New Career In A New Town," with five songs (I use the term 'song' advisedly) interspersed, whilst Side Two is a rather different kettle of fish altogether. But more of that in a minute.

Speaking of the record as a whole, produced as it is by Bowie and Tony Visconti, it's a very modern album. Modern music. Music, in fact, that has previously been the speciality of mostly European musicians, with a few notable

British exceptions, Brian Eno (who contributes widely to "Low") and Robert Wyatt amongst them. There's a lot of tape used on the record; by that, I mean prepared tape sections — mostly by Bowie himself, eg. tape horn and brass on "Speed Of Life," tape cellos on "Always Crashing In The Same Car," tape sax section on "A New Career In A New Town," 'pre-arranged' percussion on "Art Decade," and plenty of synthesizers and electronics. But somehow the whole thing manages to sound totally warm and real, something that rarely occurs with music of this sort.

To begin at the end, "Subterraneans," the last track, completes Side Two, on which there aren't any lyrics to any of the pieces, although two pieces, this and "Weeping Wall," have 'vocals' — using the voice as an instrument really. I was totally entranced by "Subterraneans" on the first hearing; on the second I tried to count the beats of the underlying riff that bassist George Murray plays — and couldn't. It seems to vary between 12, 13, 14 or 15 beats, and there doesn't appear to be a readily obvious pattern. On the third listening, I found myself more interested in the development of the theme, played mainly on guitar (Carlos Alomar), piano (Bowie) and Arp. And so it goes on — it's that sort of record, every listen revealing something new, peeling off another layer.

Probably the most conventional track is "Sound And Vision" from the first side which, compared to the second, is altogether more conventional anyway, though hardly normal. "Sound And Vision" starts with a rather 50's sounding sequence, but with synth farting away on the left and the drums sounding as strange as they do on most of the first side — certainly the word 'percussion' on the information sheet is a more accurate description than 'drums.' Bowie, Eno and one Mary Visconti (Mary Hopkin to you) supply vocals.

The musicians involved are all very sympathetic with the music, guitarist Ricky Gardner offering some particularly fine solos and rhythmic work, and George Murray's bass always well-played and prominently placed in the mix (seemingly a Visconti trait). Young Eno has obviously had quite an effect on our David. In fact "Warszawa," which opens Side Two, is all Eno (piano, mini-moog, Chamberlain and EMI synths) with Bowie merely overdubbing some vocals toward the end of the track. The result is a beautiful piece of music, a fine tune, classical in its approach to melody and, to some extent, structure, and with much of the electronics sounding as warm as an orchestra at times. There are tracks where the use of electronics is different, harsher, more biting; for example, on the opener "Speed Of Life," but the musicians always sound like they're in control of what's happening, and not just using sound for its own sake — a trap several performers in the electronic genre have fallen into on many a hapless occasion.

The album takes a lot of listening, but is eminently worth every play, and it's good to see a 'star' like David Bowie pushing his musical horizons ever forward, not content to stay in one place.



Long may you run.
Recorded at The Chateau and Hansa by the Wall. Produced by David Bowie and Tony Visconti.
Tony Bacon.

Justin Hayward: Songwriter. (Deram. SD115).

I like this album despite myself. I don't really like the "type" of songwriting displayed here, it seems neither fish nor fowl; it's not typical of a "songwriter's" offering, nor is it typical of the solo album we've come to expect from a severed group member.

Except in the presentation and packaging, Jus has avoided going over the top. Knowing how incredibly important this solo step is, must make the decision about the type of thing to do very hard. Sensibly, Jus has just pulled together the best of his new songs and recorded them with no other comment, concept or continuity link. On that basis, it's fairly easy to be picky. I liked several of the songs without reaching that rare state of reviewer's orgasm, I was indifferent to several and I couldn't make my mind up about a couple.

The album has been produced with considerable care by Tony Clarke, and it's a tribute to his skill that the producer's

role can not be heard on the vinyl. Finally, the album left me with less satisfaction rather than more because of my patchy likes and because I didn't find any one track good enough to hang the whole project on. But even as I write this, there's a warning bell ringing. "Nights In White Satin" was, to say the least, a sleeper and I've got a suspicion that something in that category could be lurking here.

Produced by Tony Clarke, who also engineered it at Threshold Studios. The album was mixed down by Gary Ladinski at Westlake, L.A.
Ray Hammond

Spirit: Future Games. A Magical-Kahauna Dream. (Mercury SRM-1-1133 import).

A difficult album to talk about, really. Tracks fade in and out all over the place, interspersed with bits of "Star Trek," CB radio conversations and much more. The influences that go into this sort of presentation are wide, though Randy California's unreleased "Potatoland" project presumably spawned many of the ideas that reach vinyl stage here. Along with interludes and suchlike, there's a total of 22 tracks listed, but it's difficult to split the record into divisions — it really flows as one complete entity. In a way, it's like a long, but more melodic, version of "Revolution No. 9." TV features heavily as a subject — "Star Trek" characters discuss other worlds etc. between musical bits, and Kermit the Frog even manages to introduce one track with his classic "Hi, Kermit the frog here . . ." One of the larger musical chunks that emerges from the backdrop of sound is a fairly strange version of "All Along The Watchtower" — very neat guitar from Randy and a pleasing vocal mix commend the track to further investigation.

It comes across very much as a Randy California album, rather than Spirit; for example 'tis he alone who graces the cover with his natural Les Paul Standard slung low — we even get to see an operation scar on the back cover. Guitar and vocals are usually most prominent in the mix — bass only emerges now and then, for example on "Detroit City" — it's really Mr. California's show.

All I can do is suggest that you get to listen to this record — at the very least it's interesting, beyond that, well . . . Unfortunately it looks destined to stay an import for quite a long time. Not too long I hope.

Recorded at Studios 70-Tampa.
Engineered by Blair Mooney, Randy California. Produced by Dr. Sardonicus, Tony Bacon.

Charlie: No Second Chance. (Polydor 2383 422).

This is Charlie's second album and represents their move from "just a support band" to a band strong enough to tour on their own name. Their trademark is smooth, close vocal harmonies and this trademark is perhaps best displayed on a track called "Don't Look Back." The song is a slow to medium

pace number in 3/4 and also features a lovely aggressive guitar solo from Terry Thomas who, coincidentally, sings lead throughout the album and wrote all the material.

Charlie's vocal gymnastics are well to the fore on the title track, which is an "almost-funky" number with soft, breathy harmonies on the chorus, the last line of which has three suspended 4th's descending in semitones — not particularly easy in three-part harmony. The backing, too, is tight. At some points, bass guitar and bass drum are almost indistinguishable — probably a combination of the dexterity of the rhythm section and the excellence of the production.

"Pressure Point" is another goody. An interesting melody line is overlaid across acoustic guitar and synth for the verses, while the chorus again features strong harmonies. As the superbly tasteful guitar solo comes in, it is answered with double handclaps a la early Beatles.

One of my favourite tracks on this album is what would appear to be a tribute to Steely Dan. The song is called "Johnny Hold Back" and, in terms of chord sequences, is an amalgamation of three or four Dan numbers. The harmonies are identical in structure to Steely Dan's "Rikki Don't Lose That Number" and the guitar solo is too close to the "My Old School" solo for comfort — influences apart, it's an excellent cut. Produced by Terry Thomas and John Anderson, engineered by Peter Kelsey and recorded at Trident, London.
Eamonn Percival

Rufus Featuring Chaka Khan: Ask Rufus (ABC, ABCL, 5203).

It's still Rufus and Chaka Khan, but the band members have shrunk to tiny figures behind their singer on the sleeve photo, and the old interplay of band and singer has similarly faded as the dreaded strings sweep in, muzzing over the band's old urgency. It's a while since Rufus moved from Chicago to Hollywood, and it's beginning to show.

At their best, Rufus were jerking but sinuous, accomplished but still raw, and the interplay of Tony Maiden's lead and Bobby Watson's bass created a taut line for Chaka's vocal gymnastics to hang on. "Ask Rufus" is particularly lacking those bumping bass lines, though Watson is presumably still there (he's pictured but uncredited). Deprived of its firm anchor, much of the album degenerated into an exercise in style. Though the Khan voice swooping over octaves, switching easily from slow sensuousness to strangled desperation, is still eminently listenable, there's not much material on this album that can stand much attention on its own merits.

"Better Days" comes nearest to the standard of the best Rufus songs from around the period of the "Rufusized" album. At least it has imaginative production, with an unusual use of background voices, and something like the extrovert feeling that Rufus' best work used to possess.

Maybe it's some pointer to future

directions if the band is to stay together. If they do, I can only hope that for the next sessions, string arranger/conductor Claire Fischer is busy on other projects, and that Rufus get the chance to be a band again.

Produced by Rufus. Engineering by Gary Starr, assisted by Michael Schuman. Recorded at Kendun Recorders, Burbank, California.
Rob Mackie

Leo Kottke: Leo Kottke (Chrysalis 1106).

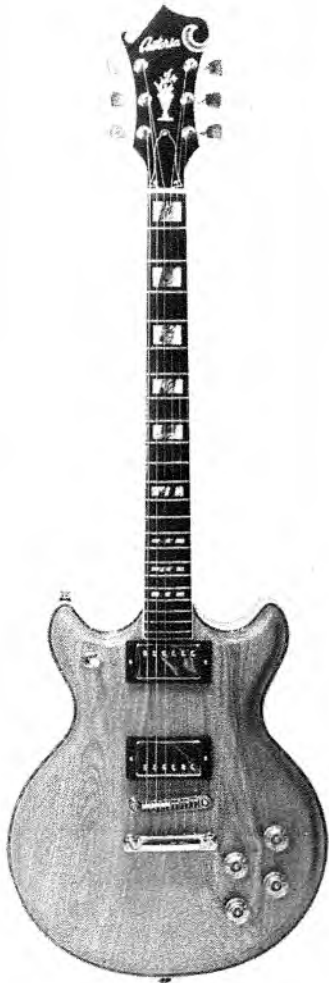
Leo plays the guitar, and he plays it so well I feel I want to start investigating his past by digging up all the albums I've missed. His playing is "rhythmic" and by that I don't just mean he plays with the beat. I mean that every flick and down-stroke of the pick forms rhythmic patterns within and across the main time he's laying down on the off-beats. This album is a reference work for readers who struggle to record acoustic guitar. Listen to the scrape of the strings, the jangle of the frets, they're all part of the sound of the guitar and in so many recordings they're all but filtered out. Here you can hear the guitar for the instrument she is.

My favourite track of this album is "Range" on Side One. This is a number that reveals the 12-string to be an instrument so far removed from the country sounds it is inevitably associated with, it's a different instrument. On this, Leo plays harmonic counterpoints way outside of the physical chords he's using. Most guitarists of this type pick their passing notes from within the selection of those easy to hand, Kottke ignores such dictates with the ease of a true master. But then the next track, "Airproofing," is precisely the opposite. There's probably no musical experience more compellingly rhythmic than a good guitarist picking hard, and on this track Leo works precisely within tight chord patterns pulling tricky little rhythms out of graceful chord changes good enough to make a guitarist's heart soar.

Produced by Denny Bruce, arranged by Jack Nitzsche.
Ray Hammond



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The one thing for sure is that there's no love lost between the American musical instrument conglomerates and 35 year old Hartley Peavey, the outright owner of the typically American piece of free enterprise, Peavey Electronics Corp.

Hartley started Peavey because he had to. As a local musician in Meridian, Mississippi he was luckier than most because his family owned a general music store and he spent quite a few years gigging with various bands in the area.

In the middle sixties Britain invented the "power" craze. Bands like The Who and The Beatles started using amps with an output of 100 watts r.m.s. and more and suddenly every guitarist in the world wanted 50 and 100 watt amps. The problem was that there weren't any available in Meridian.

For years America has rated amplifiers at "Peak Music Power" wattage, a figure totally different to the Root Mean Square (r.m.s.) figure used by British makers. So different was it that a 100 watt r.m.s. British amp could truthfully offer over 200 watts of "Peak Music Power" and the big Super Twin American amps with a PMP rating of 120 watts only delivered about 60 watts r.m.s. This meant that the big British amplifiers took over the professional amp market briefly in the USA and imports were so scarce, they were virtually unobtainable to a power hungry player in Mississippi. So Hartley decided to build his own.

Today Hartley stresses that he has never received any formal training in electronic design. This is despite the fact that the Peavey Electronics Corp. has one of the highest qualified design teams in the world and despite the fact that the company may make a firm claim to have the most advanced musical instrument electronics plant currently operating.

So with his "little knowledge" Hartley moved into a room above the family music store and started building "tube" amp circuits more powerful than anything else in production on the American continent. Even to describe the early Peavey operation as "small time" would be boasting; at the beginning Hartley shared a room with a company making optical glass and if they had to put up with an amp delivering 100 watts on test, he had to put up with an atmosphere full of ground glass.

But things did begin to change. Every time a musician came into the shop Hartley would nip down and demonstrate and after a while he started to get the

bugs ironed out and the amps began to develop an individual sound. Then he started making sales. His individual care in hand making the amps beat all the mass-produced competition into the ground — there was no way they could compete with either reliability of power. The trick was transferring those qualities into a Peavey amplifier not made by Hartley Peavey's own hands — more of that later.

In addition to demonstrating his amps to musos calling by the shop, Hartley also reversed the tables on the travelling salesmen who would call into the shop and sit them down and sell them on Peavey amplification.

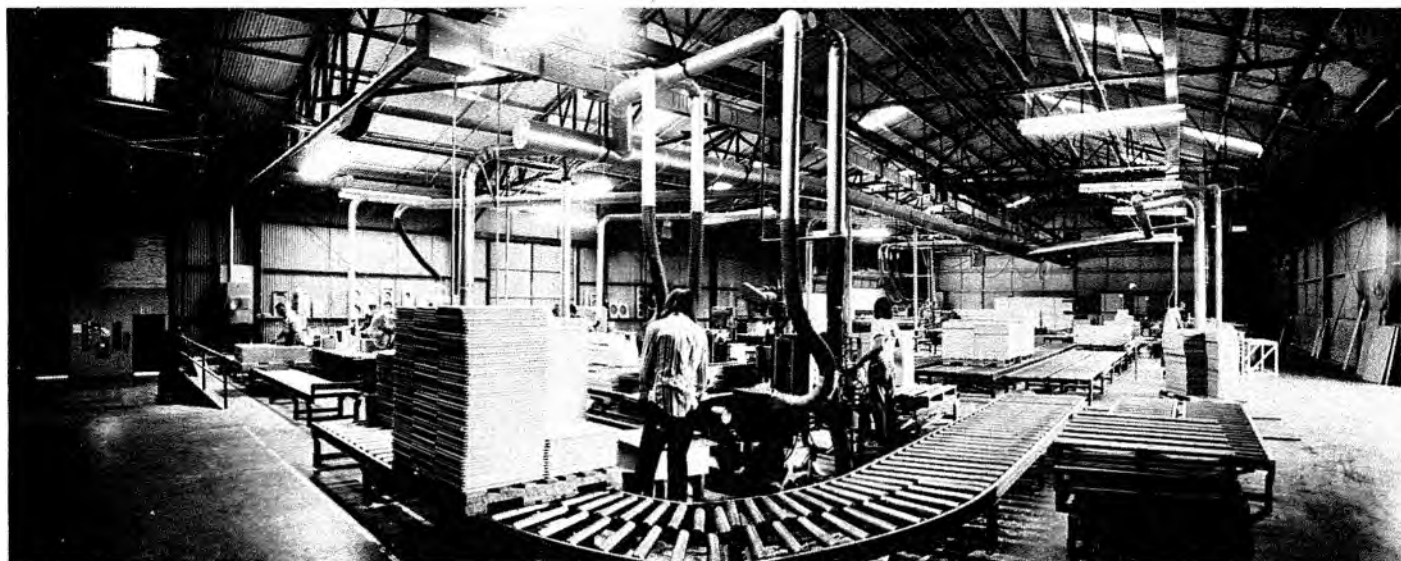
Just how many experienced professional salesmen abandoned their "famous" lines and went to work on Peavey isn't recorded, but for those that didn't, Hartley took away their product confidence.

Things started to snowball. Rock bands wanted Peavey equipment in the south, the trade started to hear about the new line, but as with all snowballs, the options are few. After the initial momentum it can melt away to nothing or it can career onwards ever gathering greater strength. It gathered strength. The wisest move Hartley ever made was

continuing his attention to detail. Perhaps it was the fact that every amplifier that was sold bore his personal name that spurred him on, but one thing is for sure, Hartley Peavey managed to make each one of 100 amps produced a day as good as when he was able to produce one a month. In many ways they've got one hell of a lot better. Bulk buying of components and advanced construction technology has allowed Hartley and his team to improve immeasurably on the designs and performance of Peavey amps, but the ingredient more important than any of these was maintained. That ingredient is "Care."

Peavey care so much they have opened a "school" for musical instrument dealers that sell Peavey equipment. The school is situated in the small plant that Hartley moved into from the room over the shop in 1969. Today courses for Peavey dealers are being held continually and if a store owner wants to sell Peavey anywhere in the USA he has to attend a course and sit for a qualification from Peavey to allow him to become enfranchised. The result is that the company are able to control the degree of service the musician gets from both the retail outlets and the manufacturer and it's this degree of caring that has helped push Peavey to the top.

Continued on page 84





The Peavey plant is vast. Expansion has taken place several times and now many amp making processes are automatic. Even the wiring of printed circuits and the mounting of components is done by machine. This means that music electrics are achieving the same sort of total reliability enjoyed in the mass markets of solid-state hi-fi and TV. Human error is removed from the construction and as more and more areas of human time is set free, so Hartley diverts human control on to after care of the product. Ensuring that quality control is good isn't a matter of testing samples. Usually a company of this sort test one in ten items — at Peavey every unit is tested.

The result of this marketing attitude is that Peavey is one of the "growth" companies in the US. Hartley has almost become a God in the music industry and walking into a Peavey franchised store in New York, Chicago or Los Angeles (and most other town in between) is an experience in total commitment. The stores are filled with Peavey. It may be that another amplifier is in the back of the shop. If so it will probably be English or something in as a trade-in against Peavey. As you may imagine the reaction to this success has been strong.

Other amplifier makers also make guitars (you can guess who) and they've been suggesting to dealers that stocking up on Peavey isn't a good idea and supplies of famous guitars could dry up in response. For a while that bothered Hartley and the team, but the answer was simple. This spring music stores across the world will be stocking Peavey guitars. The design brief was clear. A Peavey guitar had to be a match for the famous name guitars being used as a threat, and then it had to be still better. The guitar's taken three years to produce and it's cost the company over half a million dollars to develop. Automation has again been used in production and it's a first again. The result is that every Peavey guitar is identical. Automatic machines cut the necks, fit the fingerboards and the frets. Everything's aligned with computer accuracy and the design team defy any musician to find a difference between a Peavey guitar from a store in Nashville and a Peavey guitar bought from a shop in Scotland.

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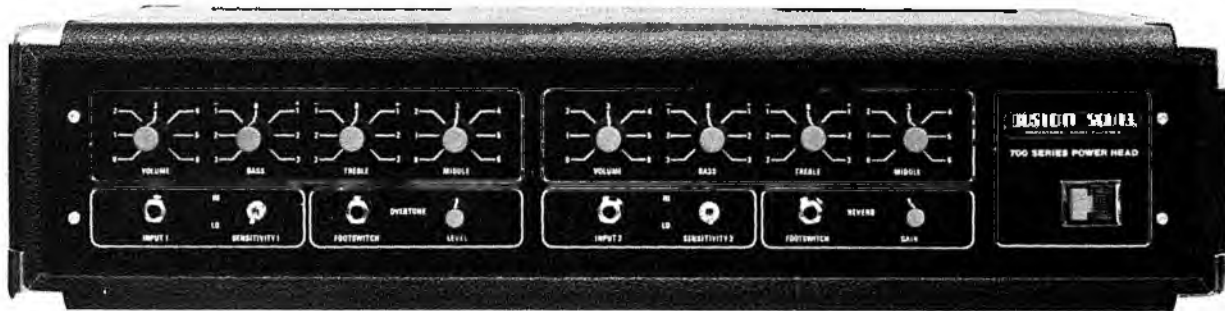
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1. Cassette Recording including mono/stereo small home-type applications.
2. Professional Hi-Fi quality mono/stereo recording, including professional studio systems, as well as amateur home recording studios.
3. Other non standard recording applications.

Even with just a brief look at this incomplete classification — and one which is under a continual process of development, the nature of the problem's depth and complexity is obvious.

In order to find the right microphone for the right application it is necessary to analyse their individual performance and various other important facts:-

1. Polar characteristics and frequency response problems. (discussed previously)
2. The character of sound source in comparison with microphone directivity i.e. type of instrument, human voice male/female, special effects, mono/stereo — mode of operations etc.
3. Associated accessories (wind-screens, shockmounts, type of floor stands, adaptor bars, length of cables, connection type — plug/socket etc.)
4. Proposed place of work (studio, public concerts, indoor outdoor etc.). However do not overlook an important range of electrical parameters:-
5. (a) Microphone impedance at 1KHz. (for proper matching to the amplifier/recorder inputs). (b) Effective output level (specific sensitivity which is the ratio in Db of the power available from the transducer relative to 0.001 watt of the sound pressure of 10 dynes/cm²). (c) Equivalent noise (measured to DIN 45.405 and selecting

the hearing threshold of 2×10^{-4} ubar, which allows comparison of different type without regard to the microphone's sensitivity).

(d) Other figures such as signal/noise ratio, attenuation at constant frequency (1KHz), insensitivity to magnetic fields, operating voltage (condenser types only) etc.

To my knowledge the most common error regarding the proper use of microphones occurs when sound engineers try to set up mikes without having any basic information about the particular microphone's characteristics or performance. As a result they tend to use a high number of mikes where the number could be easily reduced without affecting the performance; in fact not only would enhance it, but would also work out much cheaper. Unfortunately this practice is fairly common, and usually generates several other problems in addition, such as the possibility of acoustical feedback, and a higher noise level due to feedback loops occurring. It is not always necessary to keep the amount of mikes at a minimal level, and obviously there are exceptions; for instance, where the situation requires improved system dynamics, or when one sound source is covered by a group of mikes connected to a multi channel mixer for full frequency response and special emphasis. At this point, I must emphasise that it is quite difficult to give comprehensive advice regarding this as each situation demands its individual audio equipment and service, since you never encounter two identical sets of room acoustics, despite using the same voice or music material.

Every practical microphone arrangement for pick-up of sound material, both for amplification and recording, depends on many facts — number of musicians, type and acoustical quality of location, number of electric and non-electric instruments, and so on. As each instrument carries a different set of characteristics — a direct result of its specific design and construction—it is useful to collect some basic information concerning the instrument's acoustical properties.

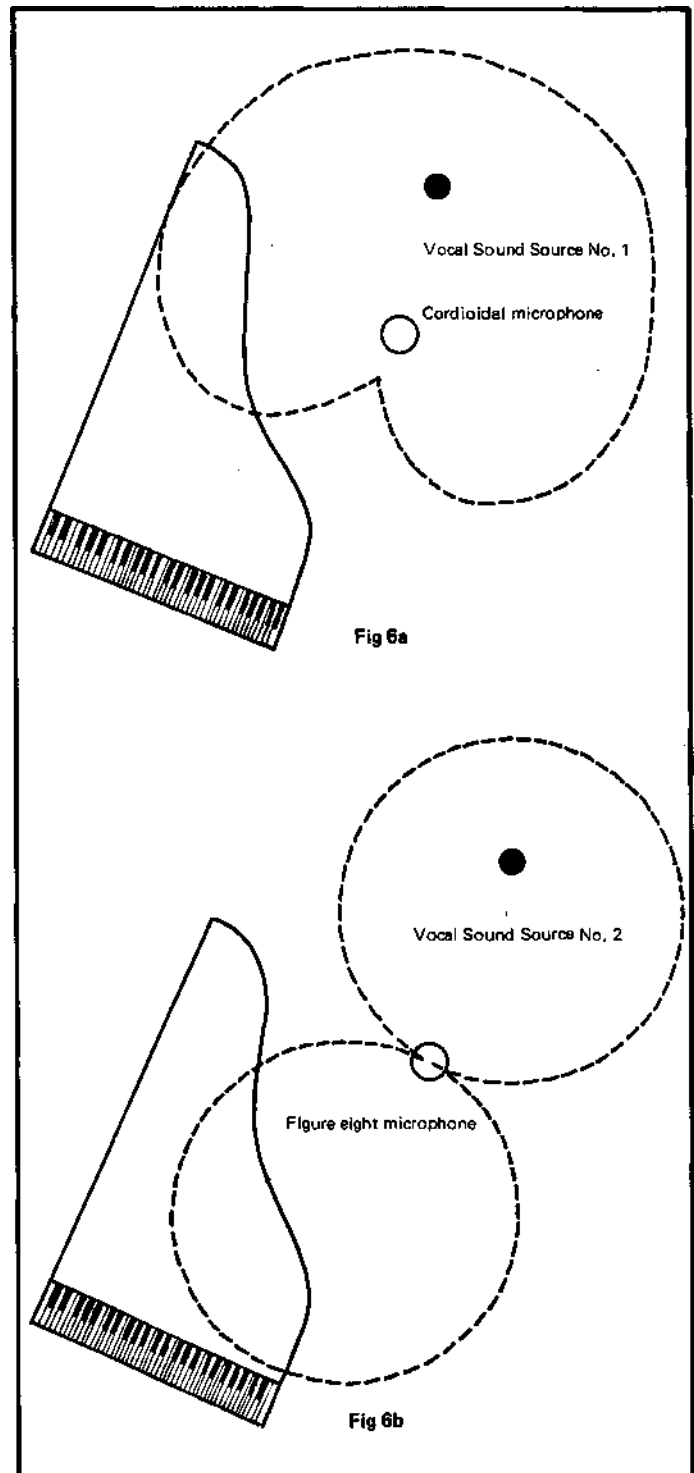
This individual characteristic can be easily observed by analysing frequency ranges of fundamental as well as overtone ranges of the different instruments. (See Bibliography Lit. 1 P. 203, 204, Fig. 6.1. 6.2.). The pitch, timbre and overtone structure is one of the main characteristics that distinguish the various instruments and voices, the second is the dynamic aspect, which depends

on the instrument's intensity, (see Bibliography Lit. 1 P. 231, Fig. 6.34) and of course, the directional character of the instruments, the magnitude of which is the relative sound output expressed as a function of the angle with respect to the main axis of the system.

If we turn to the non-electrical instruments, we find a large family, traditionally divided into the following classes: String, Wind, Percussion, where wind instruments can be subdivided into 5 groups:- Single mechanical

reed, Double mechanical reed, Lip reed, Air reed, and finally vocal/cord reed, and where percussion instruments consist of definite and indefinite pitch.

Individual sound pick-up arrangements for selected groups of musicians or orchestras will depend on the character and genre of music played, varying from the large Symphony Orchestra where large numbers of different mikes can be used compared to a small three man rock band using perhaps three cardioid mikes and a simple





PART 2

by Mark Sawicki, MSc. (Eng) Assoc. MIEE

mixing system. The problem naturally is magnified when employing multiple microphones for stereophonic reproduction. It does not follow that a multiple microphone technique is always desirable with larger groups of musicians. With orchestras in particular, off-miking using a stereo pair is a traditional way of recording a more special sound utilising direct and reflected sound waves. Close miking (on-mike) is employed a great deal in rock music recording. In concert, the microphone arrangements provide the correct definition of particular instruments and voices and the correct balance is determined finally by the mixing engineer often way back in the auditorium. Interesting arrangements covering this problem can be found in Lit. 1, Lit. 2, and Lit. 3 which give theoretical and practical samples of sound reproduction. A well-known fact for audio engineers is the difficulty of using microphones for recording/amplifying pianos — perhaps the most acoustically difficult instrument for the audio engineer to record — human speech being the easiest. As far as the piano is concerned, the main difficulty is that the area of strings producing sound is fairly large and so the range of sound is extremely wide. More often than not there is also a vocalist standing in close proximity to the instrument and in such a situation there are two alternatives open to us — application of a cardioid mike or a Figure Eight mike. The basic arrangement is shown in Fig. 6. (a + b).

Where a large number of instruments are involved in a musical production, it is fairly reasonable to group them according to the classes that I mentioned previously and record or amplify with wide angle cardioid microphones. Such a proposed arrangement is shown in Fig. 7. In some big jazz bands a couple of additional mikes would be helpful for emphasising soloists, but in many cases highly directional transducers are required and one professional trick is to use large parabolic reflectors with a centrally mounted microphone. (See Lit. 4 P. 48), but nowadays modern microphone production covers directional transducer needs and so it is best to forget about parabolic reflectors, using them only for special purposes. Frequently where loud rock bands are concerned it is necessary to provide a uni-directional transducer for the vocalist — as it only picks up acoustical sound pressure from

the front of the mike and has a critical distance — necessary to obtain the best performance. In stage conditions and whenever facing the audience it is a very useful feature as any other unwanted sound/noise sources are automatically eliminated. A simple arrangement for a standard middle size entertainment band is illustrated in Fig. 8. Unidirectional mikes when properly located will also prevent acoustical feedback — enemy No. 1 in any microphone practice. Due to limited space, only a very brief guide can be given on this

problem, but a further reading list is supplied which will prove helpful for those who wish to examine the problem in depth. Note that all the books are chosen for their easy accessibility, either in your local library or bookshop. **Next month:** Microphones in practice, applications, accessories etc.

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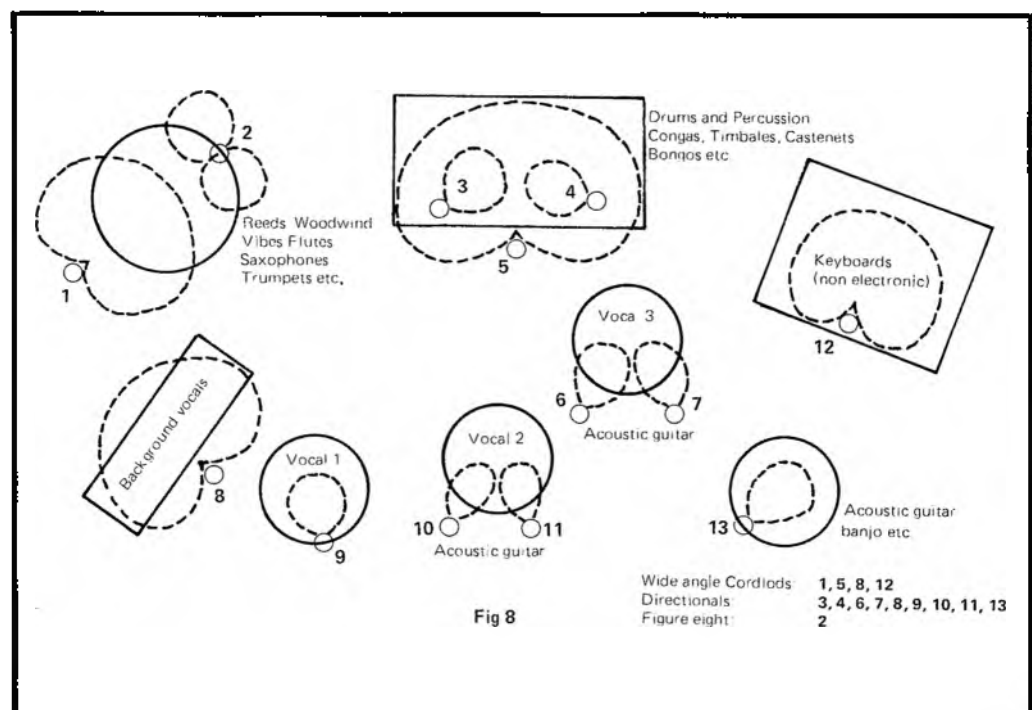
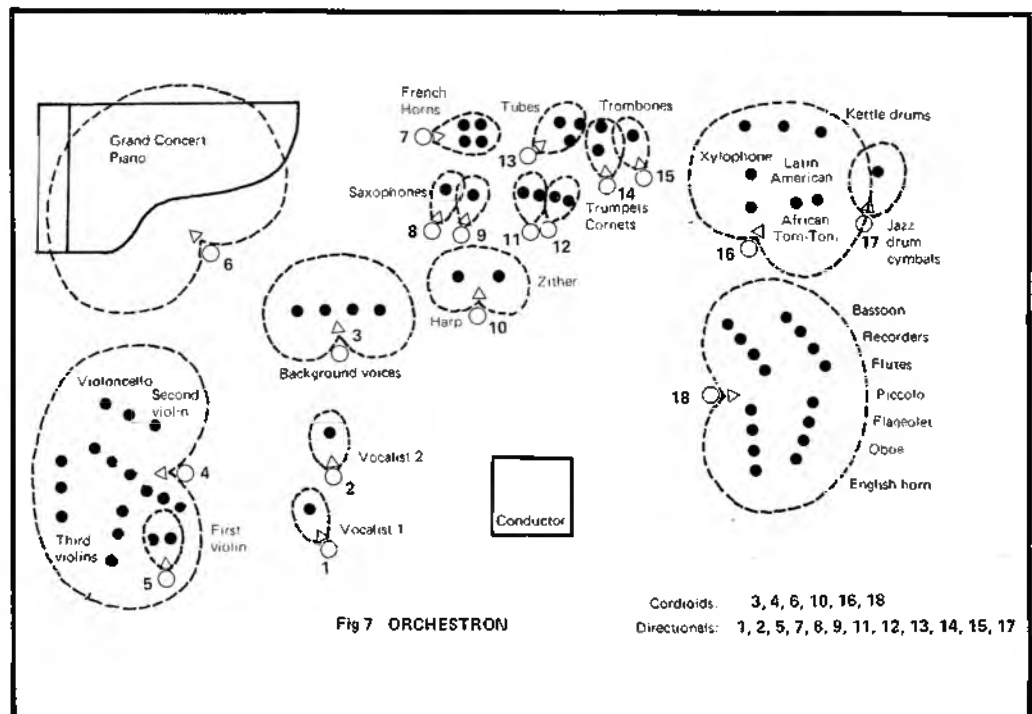
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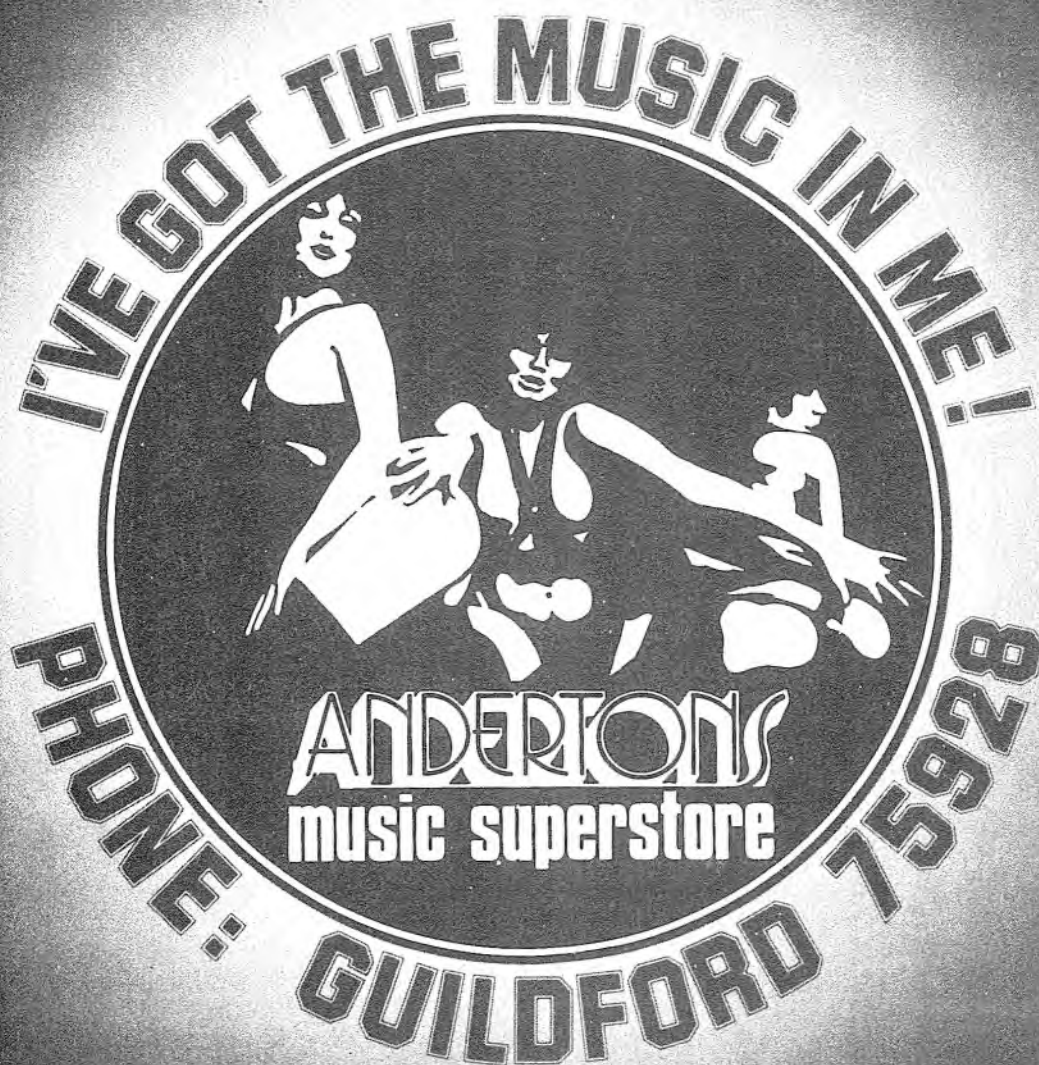
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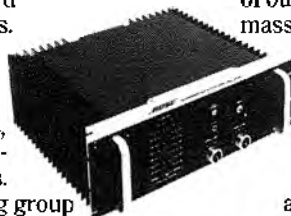
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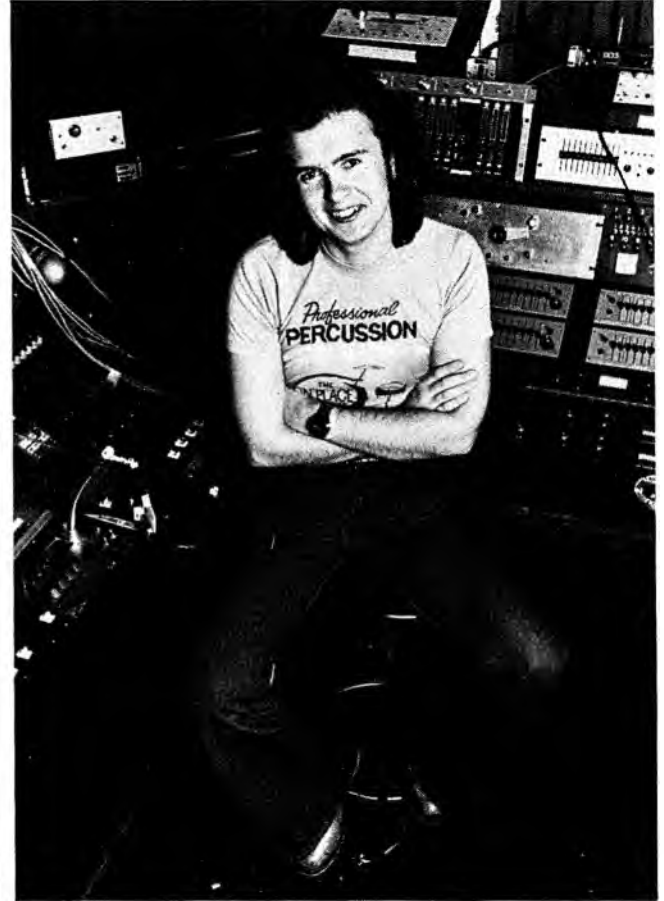
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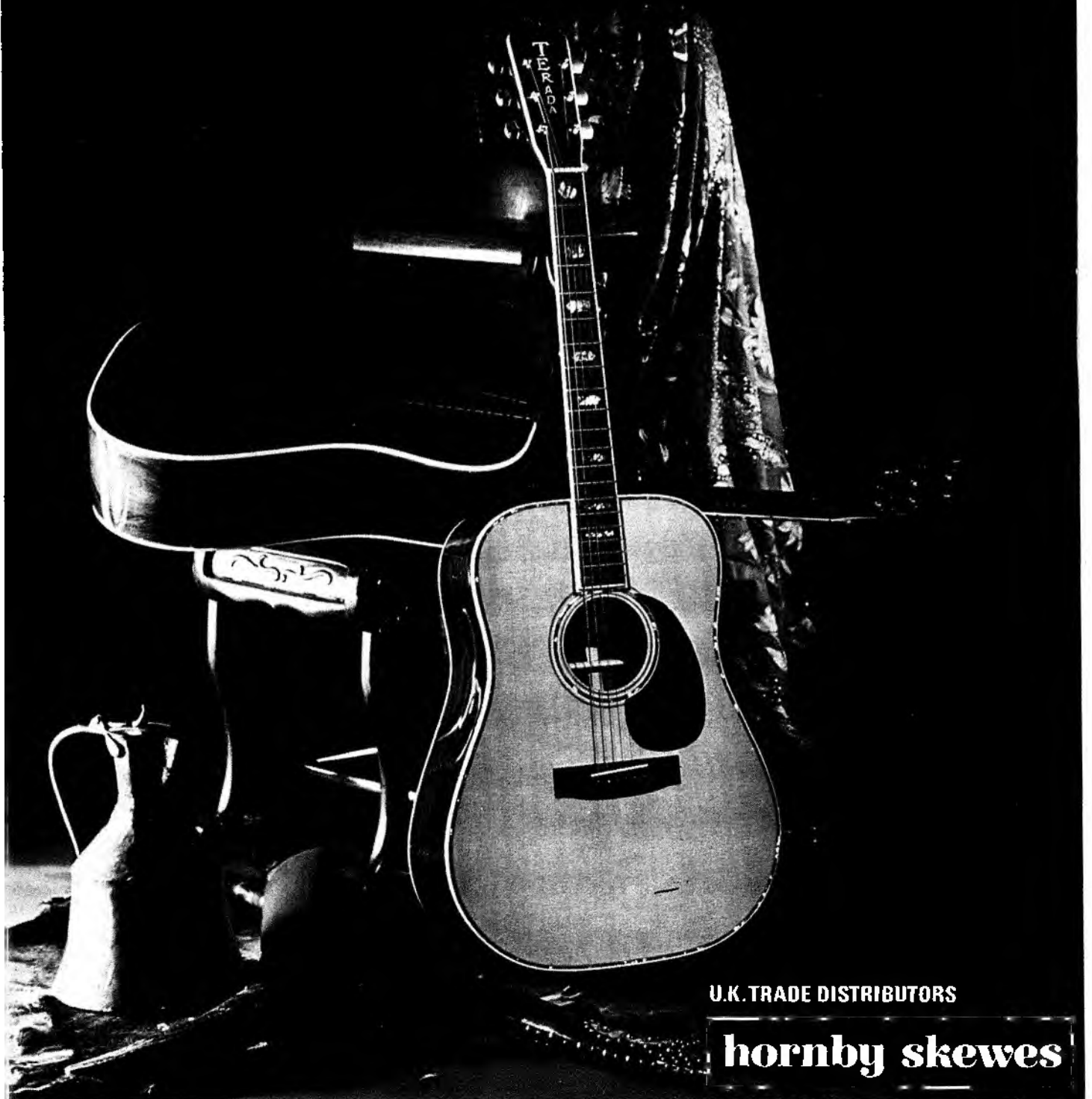
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Musitronics Corp. Twig Holland and Gerry Dey.



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A Different Kind of Show

BY GARY GRAIFMAN



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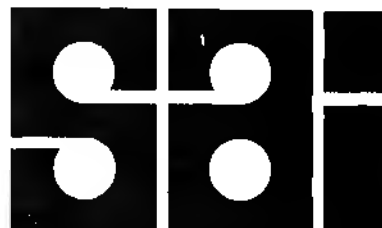
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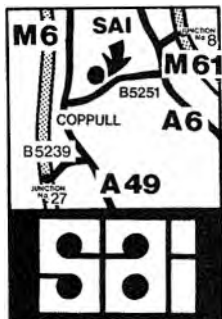
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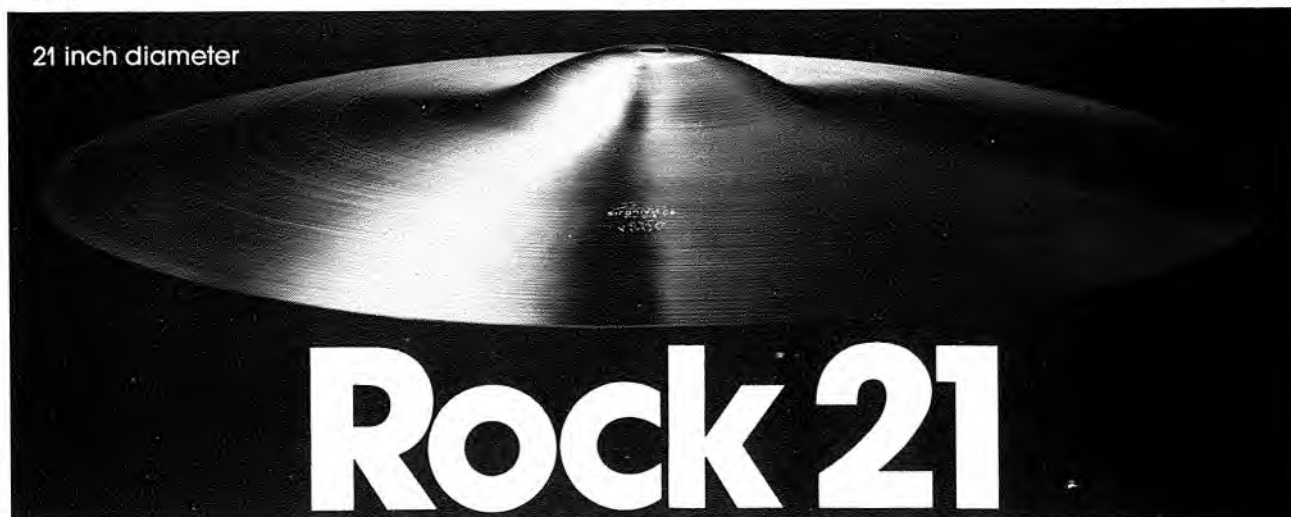
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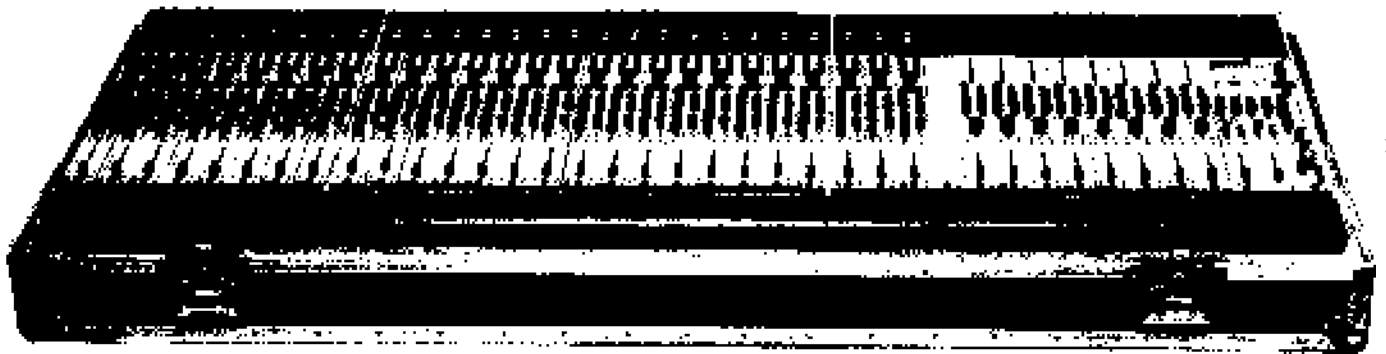


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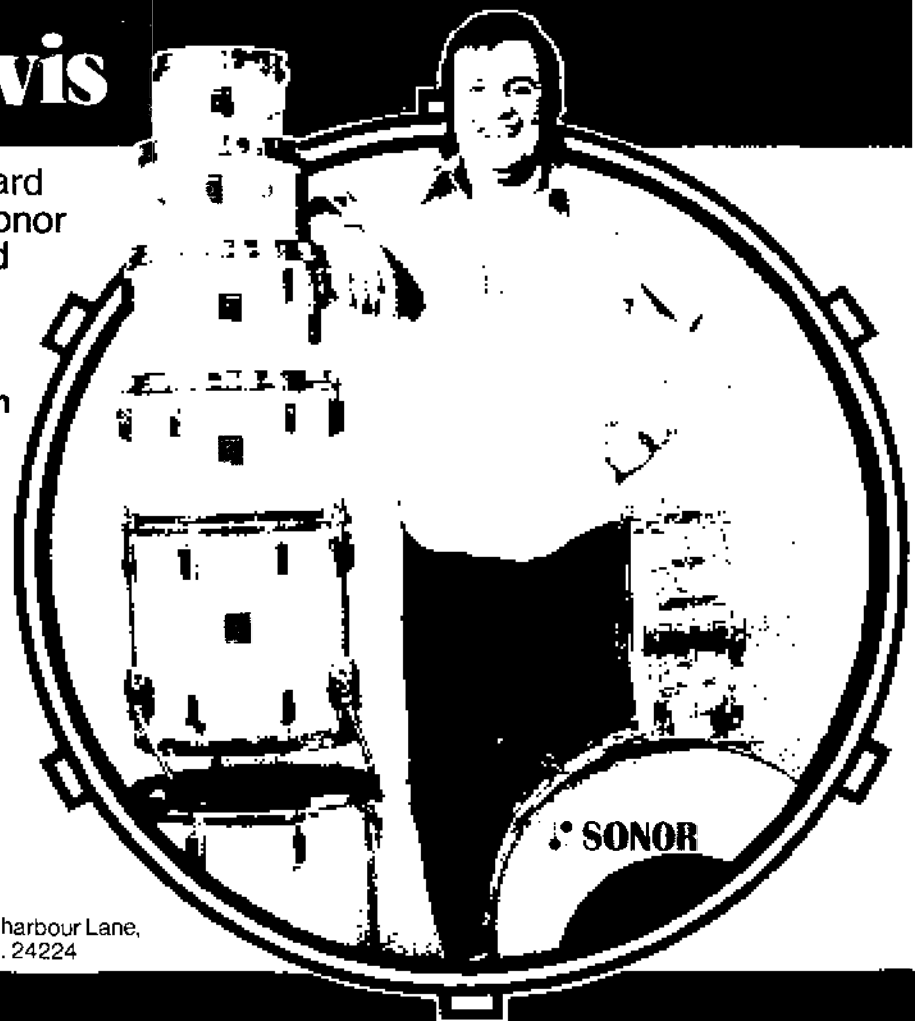
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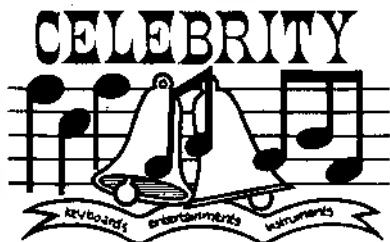
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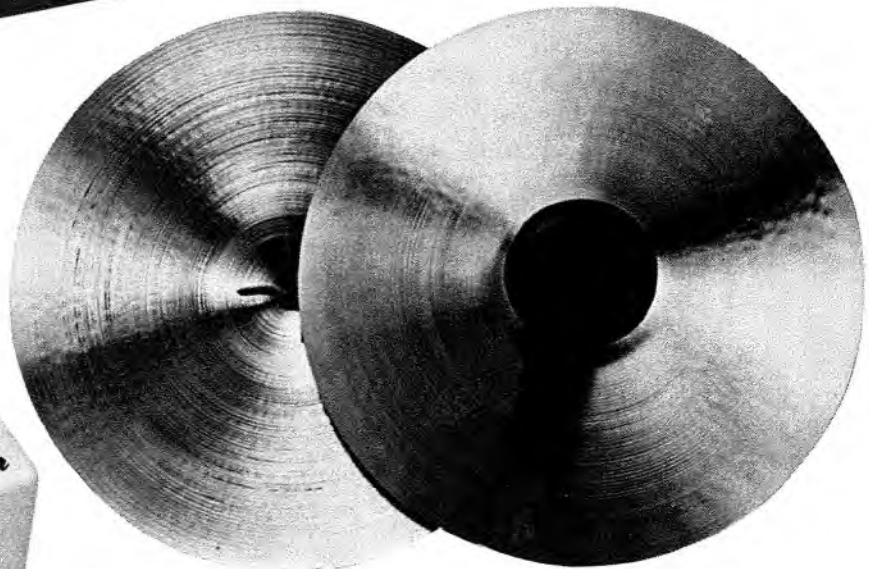
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MARKET REPORT



MARSHALL

	How long selling Marshall	Valve Amps	Transistor Amps	4x12 Cabs	Combos
John Barclay, 332 King St., Aberdeen	18 months	1	—	2	1
Blanks, 273, 279 & 281 Kilburn High Rd., NW6	8-10 years	8	10	2	3
Cascade, 42/44 Upper Tooting Rd., SW17	Since beginning	STOCKS VARY WIDELY			
Celebrity, 12 Fitzalan Rd, Horsham	1 year	6	4	4	6
Centresound, 20 Caldicott Street, Rugby, Warwicks	1 month	2	2	1	3
Curly Music, 58 Stanley St., Liverpool 1	Just over a year	1-2	1-2	2	1
Custom Amplification, 25 Nantwich Rd, Crewe	4 years	3	3	6	2
David Electronics, 208 York St., Belfast	5 years	2	—	2	2
Dawsons, 65 Sankey St., Warrington, Lancs.	Since beginning	2	2	2	To order
Evans Bros., 53 Bridge St., Lisburn, County Antrim	14 years	1	1	2	2
Farnsworth, 134 Radford Boulevard, Nottingham	1 year	4	—	3	—
Forth Valley Music Ltd., 3/7 Cow Wynd, Falkirk, Scotland.	1½ years	2	2	—	2
Peter Gray, 212A Welling- borough Rd., N'hampton.	9 years	—	1	—	2
Frank Hessy, 62 Stanley St., Liverpool.	Since beginning	15	24	6	12
Holiday Music, 579 High Rd. Leytonstone.	1 year	6	—	4-6	2-4
J.S.G., 108B Main St., Bingley, Yorks.	1½ years	2	6	1	2
Keyboard Harmony, 82 High St., Redhill, Surrey	4 years	2	1	Plenty	Full Range
Kitchen's, 26 Queen Victoria St., Leeds 1.	Since beginning	1	3	1	3
Matthews Music, 20 The Broadway, Maidstone, Kent	7-8 years	6	2-3	3	2

Average monthly Sales	Reliability	Good points	Bad points	Rose-Morris Sales Service	Difficulty getting Spares	Do you discount Marshall
4	reliable	—	—	Very good	Not lately	For cash
20	Absolutely	Dependable	Could be more attractive	Improved lately	No	No
Varies	Pretty good	Master volume good	Not really	Great	Yes, various things	For cash
8	Excellent	Quality and price	—	Very good	No	Negotiable
8	Average	Popular sound	—	No problems	No	10% cash
Varies	Valve amps good	Name, meaty sound	None	Pretty efficient	No	10% for cash
10	Very good	—	Overpriced	Reasonable except transformers	—	No
4	Super, Most reliable on mkt.	Bass amps better than lead for small amps.	PA Amps lacking in tone,	Very good	None	Student discount of 10%
2	Generally reliable	Reliable	No	Could be better	No	No
6	Very very good	Getting spare parts	Not really	3 weeks	No	Yes
4	Pretty good	The price	Not for the price	No complaints	None at all	For cash
3-4	Excellent	Robust, quality of workmanship	Styling — a bit traditional	No complaints	None	For cash
6-8	Fairly reliable	Good value	—	Quite good	None	Yes
20	Excellent	Dependable -- esp. valve stuff	Too expensive	Only average	None	A little
4-6	Pretty good	General sound	Some small design faults.	O.K.	Real problems	Small
5	Yes	£99 amp. got to be a winner	None	Very good	None	Yes, 10%
12-13	Valves extremely good	Combos very good value for money	Transistor tops limited	Good NOW	No	10% for cash customers
4	Very reliable	Valve modes powerful	Transistors low	Pretty good	Not as yet	Yes, for cash
12-15	Good	Unique sound	Covering not as good as used to be	O.K.	No	For cash

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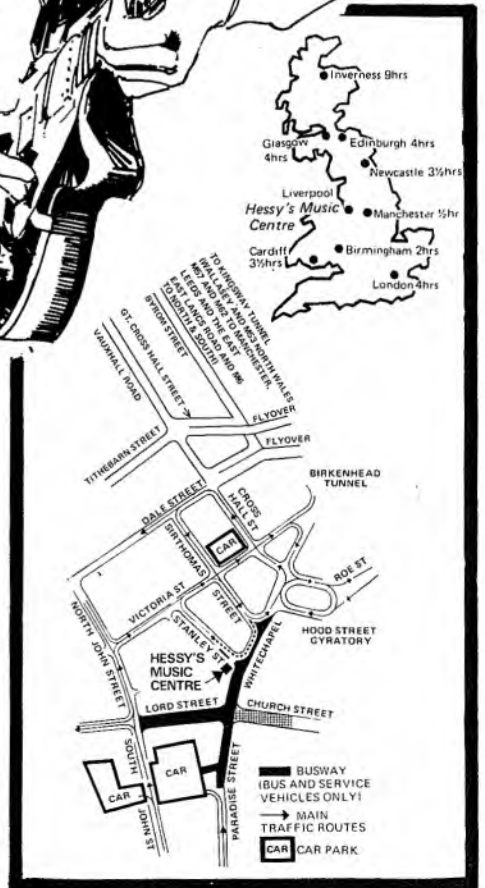
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MARKET REPORT



MARSHALL

	How long selling Marshall	PRODUCTS IN STOCK				Average monthly sales	Marshall reliability	Good points	Bad points	Rose-Morris sales service	Any difficulty getting spares	Do you discount Marshall
		Valve amps	Transistor amps	4x12 cabinets	Combos							
McCormacks, 33 Bath St., Glasgow	From the beginning	5	2	4	2	4-5	Valves very good	Quality sound	Weight	Very good	Don't think so	For cash
Musical Sounds, Sheffield, 274 London Rd., Sheffield	3 yrs	-	2	-	-	Rare	-	Robust, speakers are good	Overpriced	Not used	No	On occasion
Organ Loft, 18a Market St., Huddersfield.	2 yrs	3	8	4	1	3 or 4	Very good	-	-	Yes	No	On application
Pall Mall Music, 58 Pall Mall, Chorley, Lancs.	1 yr.	1	-	1	2	Varies - done very little	Valve amps good - transistors poor	Every one wants s/h gear	If you took away valve top and 4x12 cabs, what would be left	Average	Difficulty obtaining quickly	Yes
Power Music, 124c Green Lane Road, Leicester	2 yrs	4	1	2	1	3	The best	Reliability & saleability	None	Fair	No difficulty	For cash
Rock Shop, 201 Stourbridge Rd., Holly Hall, Dudley, West Midlands.	18 mths.	2	-	1	-	2	Very good	Generally good	No	Very good	Not as yet	For cash
John Savage, 71-72 Norfolk St., Kings Lynn.	2½ yrs.	1	1	1	1	3 or 4	Very good	-	-	Not particularly good	Reasonable	Yes
Session Man, 163 Micham Rd., Tooting.	2 yrs.	4	2	3	3	4	Very good	Good sound	-	Generally good	Improved lately	With cash, a little
Soodi Music, 9 The Friars, Canterbury.	5 yrs.	2	2	2	3	Varies	Very good	The Name	None	Good	No	Negotiable
Sound Centre, 129 High St., Bangor, Wales.	5 yrs.	5	-	2	2	6	Good	Dirty sound for rock guitarist	No	Good	With transformers	5% for cash
Soundwise, 27-29 Norwich Rd., Ipswich	2 yrs.	2	1	1	2	Varies	"I use it myself"	Reliability	Nothing general	Usually pretty good	Good back-up	Cash discount
Southern Music (Exchange Co.), 34 Waterloo St., Hove, Sussex.	1 yr (s/h 3 yrs)	1	1	1	1	Varies	Very good	Transistor combo	Weight, price	Pretty good	The valves	For cash
Sports & Music Centre, 1-3 Strand Coleraine.	4/5 yrs.	4	3	2	4	Varies	Pretty good	Valve amps - good sound	Tend to be a few valves broken in transit	Improved vastly	Very good on spares	Yes
Sun Music, 110-111 Oxford Rd., High Wycombe.	5 mths.	2-3	4	2	4-5	3-4 at present	So far about average	Transistor good value for money	None	Pretty good	Yes, some problems	For cash 10%
Supersounds, 2 Highgate Rd., London NW5	4 mths. (since shop opened)	3	3	3	1	3	Very	-	-	Excellent	No	Yes
Swindon Music House, 22-3 Victoria Rd., Swindon.	3 yrs.	3	1	4	3	4-6	Terrific	Very good sound	-	Quite good	Little need for them	Special circumstances
Telecomms, 189 London Rd., North End, Portsmouth.	1 yr.	7	6-7	5-6	3-4	9-10	On old stuff, very good	Stuff sells itself	-	Good	None whatsoever	Yes, for cash
* David Vane, Music Centre, 47 Exeter Rd., Exmouth, Devon.	3 yrs.	1	-	1	-	Not many	O.K.	Sound	A bit flutulent at times	O.K.	Not as far as I know	For members of M.U.

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EODA Elects New President

BILL GREENHILL was elected President of the Electronic Organ Distributors Association at their Annual General Meeting held last month at the Connaught Rooms in London. He was nominated by "Jock" Robertson and was seconded by "Dickie" Wren of Farfisa. Mr. Denzil Jacobs was elected Vice President.

Upon taking up office Mr. Greenhill thanked the outgoing President, Mr. Wren, for his hard work for the Association and said he hoped to live up to the high standards set him.

Much discussion about the value of a form of credit indemnity insurance occurred during the meeting and a decision was reached calling on a finance committee to continue investigating ways in which the members of the Association might be able to protect themselves against a proportion of potential bad debts.

The meeting was followed by the annual lunch after which the guest speaker was Mr. Bellamy from the Federation of Wholesale and Industrial Distributors who explained the work of the Federation and pointed out that trade associations are best able to decide themselves the most useful size and strength of associations within their own industry.

After thanking the guest speaker, the retiring President, Mr. Wren, made a presentation of a photographic lens to Mr. Frank Cardew who left the electronic organ industry last year after a long association.

Norlin Boss Visits UK Plant

NORLIN'S BIG boss, Mr. H. Norton Stevens, President and Chairman of the American Holding Company visited the Norlin works at Braintree, Essex last month. His visit was brief (he wasn't available for interview) and he looked over major alterations that have been made at the UK plant. A "Flow line" system of dealing with orders has been set up and Mr. Stevens is reported as having expressed his pleasure with the operation of Norlin UK's M.D. Ivan Steele.

Custom Sound For Holland

CUSTOM SOUND have appointed a new Dutch distributor. He is Kees Bakker of H.B. Electronics and the deal was finalised in February.

The address of HB is Postbus 208, Huizen, 1340, Holland.

Andertons New Rental Scheme

ANDERTONS — the Guildford retail centre — has recently set up a "different kind of rental service." Under the direction of Peter Anderton, the store is offering over 200 musical items for hire on daily, weekly or long-term basis.

"We did a survey and discovered that the individual musician wasn't being offered the right sort of hire service," explained Peter Anderton. "On one hand, the big hire companies are really only interested in renting out giant PA rigs. On the other, hire companies only want to deal with studios or companies. The individual musician finds it hard to get what he wants. On top of that, a lot of the gear that is available for hire is tatty, we make sure that everything we have on hire is new and well looked after. We have found that a musician will look after equipment if it's good when he gets it."

Typical charges for Anderton's rental are £4 per day for a 100 watt HH amp and £7 a day for a Les Paul Deluxe fitted with Di Marzio pick-ups. The weekly rate is four times the daily rate. An interesting facet of the service is that full insurance cover is available to musicians on the gear they hire at only 2 per cent of the daily rental charge. Thus, insurance on the above named guitar would be 14p.

Whirlwind Cable

MICHAEL LAIACONA, the man associated with MXR's development, is now producing a wide range of cables and stage accessories with his own company, Whirlwind Music in Rochester N.Y. State.

Products include jack-to-jack cables, speaker protection systems and stage input boxes.

New Elka-Orla Organs

ELKA-ORLA (UK) Ltd. have announced four new console organs they were due to be showing at the international Frankfurt Music Fair. Called the Preludio 22/L, The Crescendo, The Artist 606 and the Artist 607, the new models bring Elka's home range into competition with other "home" organ manufacturers much more strongly. A portable version of the Artist 707 will be available with identical specifications.

On the Preludio, pre-set tabs include Full organ, Mandolin, Clarinet and Harmonica and 16-rhythm unit is incorporated. Pre-sets on the 707 include Full organ, Theatre, Beat, Brass 1, Brass 2.

AMII Meeting

AT THE Annual General Meeting of the Association of Musical Instrument Industries held at the Russell Hotel during February, Mr. John Hornby Skewes was elected President and Mr. Michael Doughty elected Vice President. Mr. Skewes had been Vice President for the past two years.

A slight break with tradition occurred when the AGM was chaired by the outgoing President Mr. Roy B. Morris — previous new Presidents took over the meeting upon appointment. This year it was felt that the investiture should take place at the end of the A.G.M. Mr. Morris used this opportunity to thank the members of the Association for their support during the two years he was President. A presentation of a cassette storage cabinet was made to Mr. Morris at the end of the meeting.

Towards the end of the meeting, the question was asked "Can the Association define what is a bona fide retailer?" and, whilst much concern was shown over the matter, Mr. Morris pointed out that it would be illegal for the Association to lay down any sort of guideline for its members regarding which type of company or individual should be supplied with merchandise.

After the meeting, the usual banquet was held after which a meeting took place to consider the allocation of space for the British Musical Instrument Trade Fair in August.

NAMM Show Successful

WE HAD another chance to meet with American readers and members of the trade at the NAMM Western Show which was held in Anaheim, California last month. Representing I.M. on our stand at the show was our US General Manager Julius Graifman, and our joint Managing Director Richard Desmond who made the 12-hour flight from our London office.

Reports reveal that the trek was worth it, and we welcomed the chance to extend our growing penetration into the US market. The show is particularly important to West Coast dealers and musicians who can't get across country to the mid-summer NAMM show, and several manufacturers take the opportunity to launch new products.

British visitors who made the show include Roger Horrobin and Eddie Haynes of Premier Drums; Dave Roberts of Norlin, Ron & Craig Bradley of "The Bradley Organisation," and Barry Denton of AKG Vienna.

Light And Sound Show

A MAJOR exhibition of Light and Sound equipment is to be held in Chicago in June. Called ILS '77 the show is to be staged at the Hyatt Regency O'Hare Hotel near the airport of the same name, and it runs between June 5th and 8th. The organisers expect over 10,000 visitors.



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New Carlsbro Gear

Carlsbro's new list shows nine new items. These are:

The Stingray bass — A new single channel 130 watt amplifier specifically designed for bass guitar. Special feature is a push button band pass filter which provides instant selection of a wide range of bass sounds.

Stingray bass combo — The Stingray Bass fitted to a portable front loaded reflex horn enclosure and driving a new 100 watt Powertone Bass 15" speaker.

2 x 12" Flare bass 120w. — A ported flare cabinet matching the new amplifier. It features two C12 60 Powertone Bass speakers having ventilated coils and extra low resonance.

Full range flare — A 3-way speaker system with variable horn attenuator for P.A. and disco applications. The ported flare cabinet contains two C12 60 Bass drivers plus a mid range RCF horn and two Piezo electric tweeters.

4 x 12" Lead 240w. — A new guitar cabinet, which contains 4 x 12" Powertone 60w speakers rated at 240 watts wired for 4 ohms.

The Scorpion has been superseded by the Scorpion II which is a 35 watt combo with Hammond reverb plus sustain and fitted with two Celestion G12S 20 W speakers.

John Holmes Celebration

SWINDON MUSIC Centre celebrated 12 years in the music trade, with an evening at the Sheraton Suite, East Street, Swindon. Staff from the Bristol and Cheltenham showrooms within the John Holmes chain were also present.

Guests of honour included the Mayor of Thamesdown, Councillor L. Gowing, and Bob Miller of the Miller Men. Presentations were made to Mr. and Mrs. John Holmes, Alec Shorland and Tony Pegler and other members of staff for loyal service.



New Stingray bass amp

New Electrovoice

ELECTROVOICE UK, a completely new division, is now in operation from Brighton to distribute Electrovoice products, principally microphones, speaker components and speaker systems, throughout the UK.

There are three men at the heart of the new division, John Cook, Bernard Bibby and Ray Standen, and they aim to create a totally new sales distribution network for Electrovoice.

The range of products is wide enough to interest most musicians, examples include: the Variable-D cardioid microphones such as the RE16. With PA speaker systems, Electrovoice have the well-known and much-imitated Eliminator 1A bins. For instrument amplification, the TL606 vented bass speaker system is a well-proven cabinet and, in the speaker component field, the new EVM speakers, available in 12", 15" and 18" formats should win many new friends now that they'll be available more readily in the UK. Musicians will be pleased to note that several new products are planned for future manufacture.

Ray Standen is the person at EV to contact for more information, and he can be reached at Electrovoice UK, The Hyde, Brighton, SUSSEX BN2 4JU. Telephone (0273) 66271.

Custom Sound Mixers

CUSTOM SOUND Equipment have asked us to point out that they make mixers

for stage work. A couple of months, when we looked at the mixer market, we omitted that fact.

Hagstrom for F, C&N

FLETCHER, COPPOCK and Newman have taken over the UK distribution of the Swedish guitar brand, Hagstrom. In recent years the guitar has suffered from disjointed UK distribution, but despite these troubles, has managed to become something of a cult among British guitar players. Now that F,C&N have taken over national distribution, the guitar is assured of total coverage to dealers, and musicians can be sure of a stable and reasonable price in the future.

Initially F,C&N are only distributing the electric models, but these include the Patch 2000 synthesizer guitar. Pricing of the electric guitars varies between £225 and £365, and this range represents a development for F,C&N who, until now, have concentrated their efforts on down-market merchandise.

The company are at the moment examining the market to see if the introduction to the UK of Hagstrom sound equipment is a viable proposition but, in any event, one of the world's famous guitar names is again represented in Britain.

Models available are the Swede, the Scandi, the Jazz Bass, the Viking and Special. A major feature of Hagstrom advertising concerns the fact that the truss-rod has a highly individual "rail" type section which, claim Hagstrom, stops necks twisting.

President Speaks

"THE INDUSTRY musn't lose sight that it exists to sell musical instruments and to encourage more people to play musical instruments," said John Skewes, the newly elected President of the Association of Musical Instrument Industries speaking to International Musician.

"I'm a marketing man myself, I'm still a member of the Institute of Marketing and I think we must remember the commercial aspect." Presidents of the Association are traditionally able to focus attention on particular areas of the industry during their term of office, but Mr. Skewes told I.M. that, as a servant of the Association and the general committee, any particular ideas he had needed to be put through committee before publication.

He did indicate that he is particularly pleased that the Association's Annual Dinner is no longer to be a "gentlemen only" event and as Chairman of the Dinner Sub-Committee he has obviously been instrumental in this decision.

New Elgam Organs

J.T. COPPOCK LTD., of Leeds, has two new instruments on the market, the Elgam Melody and the Elgam Symphony, both portables available with or without internal amplification.

The Melody has two 37-note keyboards, a 20 watt RSM amplifier and, two 8" speakers. The rhythm unit has 12 rhythms linked to automatic bass chords, and it has chord decay control.

The Elgam Symphony has two 49 note keyboards and 20 watts of amplification through two 8" speakers. The rhythm unit specifications are the same as for the Melody.

Future arrivals of new Elgam models will include the Broadway, which was displayed as a prototype at the London Trade Show, and a programmable rhythm unit called the Carousel.



New Polymoog

NORLIN HAVE introduced their new Polymoog, the first fully polyphonic synthesizer — all 71 notes can be played simultaneously. Making polyphony both affordable and portable has been enabled by the development of an electronic chip. There is one of these in each key: it consists of two voltage-controlled amplifiers, two waveshapers, a voltage controlled filter and a contour generator.

The chips give every key its own musical identity — attack, volume, response and brightness. Additionally, Moog have built a "piano-touch" into the keyboard.

Like other synthesisers, the Polymoog is programmable. It also offers eight carefully engineered pre-set sound modes — strings, piano, organ, harpsichord, clav, vibes and brass. Each pre-set voice can be modified by four sliders, making 32 instant sounds. The sliders may also be combined to give still more fast sound changes, and the synthesizer controls can modify the pre-set modes.

The Polymoog also possesses intermodulating frequencies, that give acoustic instruments their rich sound. It has a 90dB signal-to-noise ratio.

The musical purpose of the Polymoog is to become the complete electronic keyboard instrument. Chick Corea, Herbie Hancock, Patrick Moraz, Keith Emerson, Rick Wakeman and Garth Hudson were among many keyboard artists who aided its development, during eight years of work on the instrument.

Head for Hohner

WHEN MEDICINE Head look for new sounds they demand the best. To start 1977 off, they popped into the Hohner showrooms to try out a few ideas and ended up staying for five hours. "There is just so much to see" said John Fiddler while Peter Hope-Evans just played on. The net



New Polymoog from Norlin



New D'Addario bass strings

result was that they will be featuring Sonor drums, a Hohner Planet T, a Korg Synthesiser and more harmonicas.

New D'Addario Bass Strings

J. D'ADDARIO AND Company has broadened its line of Half Round and XL Round Wound electric bass strings to include short and medium scale sets. These sets were created to fit short and medium scale basses such as Fender Music Master, Fender Mustang, Gibson EB-2DM, Hagstrom 901, Hagstrom Swede, etc. Now there is a D'Addario bass string set to fit virtually every bass on the market.

Hammonds Reorganisation

HAMMONDS OF Watford announce the appointment of Vic Morris as Music Division Manager. He has been with Hammonds since November, 1971, and was previously keyboard salesman and manager of that department.

Another new appointment is that of Ron Pettie as Marketing Manager. He joined the music side of the company nine years ago and has participated fully in the

growth of Hammonds over the years.

Alec Leader, who has been UK demonstrator for many companies, has joined the Watford branch keyboard department.

New Guild Bass

THIS IS the Guild B-301 solid body electric bass, first instrument in Guild's new generation of solid body electrics.

Besides a shape never before seen in the Guild lineup, the B-301 has the wide frets, curved fingerboard, and full 34" scale that rock



Guild B-301 bass

bassists are using. A new pick-up and a new bridge tailpiece that allows extensive adjustments are among the features.

The B 301 has Schaller M-4 bass machines. It is equipped with a single jet-black Guild bass pick-up having new wiring and coil placement, as well as two pole-pieces for each string. The instrument has a white-edged black laminated guard-plate. It is available fretless at no extra charge.

New Rose-Morris Steel Drum

THE NEW West Indian steel drum now available from Rose-Morris is particularly suitable for school and junior players. A feature of this drum is that numbers as well as notes are painted on the surface to assist percussion class teaching.

The drum is supplied complete with sticks and chromium-plated three-legged stand.

The low initial cost of these smaller steel drums makes them ideal for schools who are thinking of forming steel bands, or indeed for pupils themselves to purchase for practising at home.

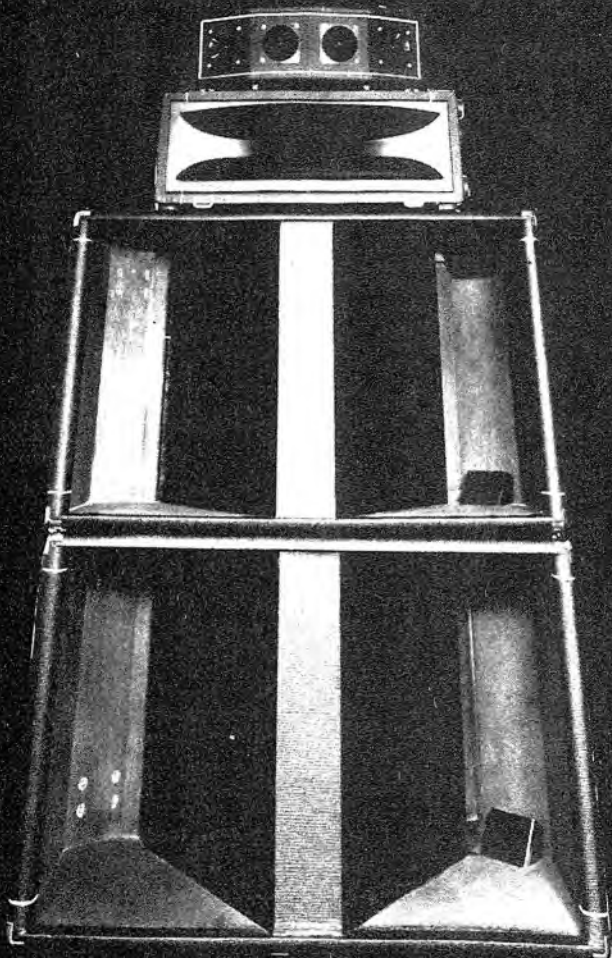
New Audio Consultants

ROGER FAUST has resigned his position as International Marketing Manager of Altec Corporation and has formed his own firm FIMC International Marketing Consultants in Natick, Mass.

The firm will specialize in International Marketing of U.S. Manufactured Audio Products to overseas markets. FIMC will consult and assist U.S. and Canadian manufacturers in establishing and developing their overseas distribution.

Mr. Faust has travelled extensively overseas during his five year tenure with Altec's International Division. He has been involved in all levels of Audio Marketing, both Domestic and International, over the past twenty years, eleven of these years with Altec Corporation.

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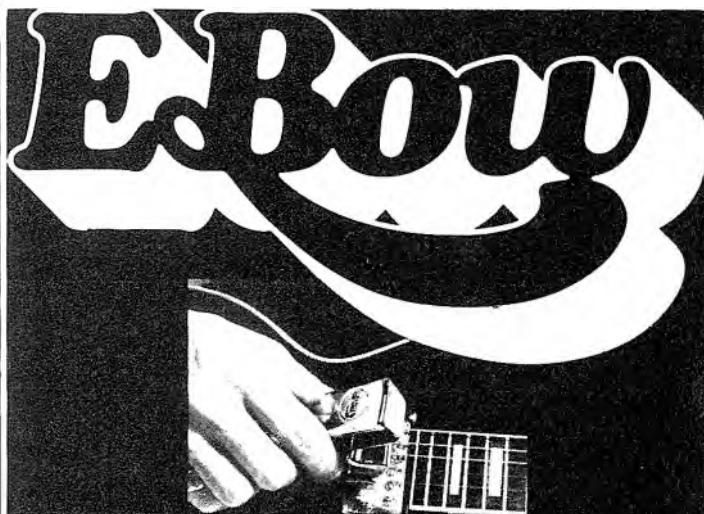
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For more information contact your nearest music store or write to: Heet Sound Products, P.O. Box 3312, Los Angeles, CA 90051. Telephone 213/687-9946

★ STUDIO DIARY ★

CBS (LONDON) . . . Busy time for CBS. Lesley Duncan was recording an album for GM with Jimmy Horowitz producing as usual, and Bernie O'Gorman engineering the session . . . Classical guitarist John Williams was in the middle of an album for CBS records, produced by Paul Myers, and engineered by Mike Ross . . . In for singles were Polydor hit group Our Kid, produced by Barry Mason, and new DJM group Hrtach, produced by Mike Smith . . . Backing tracks for TV appearances have been done for The New Seekers, David Essex and Sutherland Brothers and Quiver among others . . . Barry Mason Record Productions have recorded a single with a group called Rosy Glo, and noted session man Jean Roussel has turned producer to do a single for Magnet with Chris Rea as artist . . . Hudson-Ford are putting together a first album for CBS, and Albert Hammond is doing one for CBS-Spain . . . Work is still being done of the musical for Cat Stevens' company, Madcat . . . Frankie Vaughan has been in doing some overdubs . . . at the end of February, Peggy Lee is expected in to record for producer Ken Barnes . . .

R.G. JONES (LONDON) . . . R.G. Jones has been mainly concerned with albums lately,

though Johnny Wakelin has been in recording a single as well as an album for Pye produced by Steve Elson and Keith Rossiter . . . Producer Ken Gibson is recording Jessie Green, and Lena Zavaroni celebrated her 13th birthday with a new album produced by John Fiddy . . . Frank Purcell and his Orchestra are doing a double-album for Pathe-Marconi . . . Flintock did some work on their album 'Live At The Lock' . . . Leo Sayer and Scrounger recorded "Supersonic" sessions . . . Roberto Danova recorded Kelly Marie and Joe Dolan, both big sellers on the Continent . . .

MANOR (OXFORD) . . . Gryphon have been doing an album for EMI with engineer and co-producer Mick Glossop . . . Pip Williams produced a Polydor album for Misty, and will be back to produce Catherine Howe for RCA during March . . . Strawberry Fugitives Kevin Godley and Lol Creme are finishing off an album . . . Mike Stone engineered and produced a Polydor album for Easy Street, while John Punter was in control for a single by Sad Cafe . . . The Manor mobile has been around and about, recording some of the Genesis tour, some dates for The 'O' Band, David Bedford's orchestral 'Odyssey' at the Albert Hall, David

Essex's Palladium gigs and Quantum Jump . . .

CARIBOU (COLORADO) . . . Caribou doesn't have too many names around in a month, because it's a little out of the way, and bands tend to go there for two weeks or a month to soak in the atmosphere and take their time getting things right . . . Chick Corea, producing, recording and mixing his own album, was there in January through to mid-February for his latest Polydor album . . . The Sons Of Tamplin with producer Chris Bond was also in during January and Supertramp spent Christmas there recording for A & M . . . Also for A & M, The Ozark Mountain Daredevils are expected in April or May . . .

CENTRAL (LONDON) . . . Dana was in doing a new single with her producer/jarranger Johnny Coleman . . . Colin Blunstone did some rough tracks . . . Brotherhood Of Man did a single, as did ex-Deep Purple vocalist David Coverdale and Billy Howard . . . Status Quo offshoot Young and Moody were in the studios for the first time, and other names in this month included Tania Spencer, Roger Greenaway, Tony Macaulay, Miki Antony and Vince Edwards . . .

★ DEALER GUIDE ★

Rose-Morris London

Rose-Morris has been busy both pre- and post-Christmas . . . one obvious best-seller has been Marshall, with five 100 watt stacks sold to new group The Babies, and The Who also taking a 100 watt stack . . . Marshall equipment has also been sold to the Blue Jays . . . Ovation and Acoustic amps are becoming big business at the moment, and Ludwig drums are picking up very well . . . In addition there has been a big increase in interest in synthesizers, with Korg doing particularly well . . . There's nothing in particular proving to be a low seller at present, but Rose-Morris are having some trouble finding sufficient second-hand equipment to meet the demand, particularly drums and amplifiers . . .

D.M.I. Music Centre London

A particularly strong seller at DMI has been the American-made Electro-Harmonix phasers, and the Electric Mistress flangers, made by the same company. The present order of 50 phasers was, at the time of writing, sold right out, with further supplies expected shortly. The success of these items suggests a definite gap in the British market . . . DMI's own custom-made amplifier was



Pete makes flying visit to Rose-Morris

bought by a new band Dragon Milk, and Sheer Elegance, who hire their PA from the shop, were in buying equipment, as were the Cimarrons . . .

Custom Amplification Crewe

David Parton, who recently had a hit with Stevie Wonder's "Isn't She Lovely," has bought quite a few guitars here, and has been back to celebrate his success with

a couple of old guitars, a Kalamazoo and a 335 . . . A famous name from a few years ago is Billy J. Kramer and his (New) Dakotas, for whom Custom is currently building a PA. The group has also purchased a new Precision bass and a couple of Les Pauls . . . Strats, as ever, are selling well, the older the better, and Gibsons and other Fenders are also going almost as fast as they arrive . . . A lot of Ludwig drums have gone fast, and around 10 mixers have been sold

in the last month . . . The only thing tending to stick around a bit is some of the Japanese product, particularly around the £150 mark and higher . . .

The David Vane Music Centre Exmouth

The Ashworth Transducer has been a particularly strong-selling item in Exmouth . . . Antoria guitars and Music Man amplification have also done particularly well . . . one customer has had a John Birch Les Paul . . . local band Horizon often use Vane for equipment, and a number of other groups in the area, many of them still nameless at present, have been kitted out there . . .

Pall Mall Music Chorley

Old Tennis Shoes, a local band (presumably playing funky music) picked up a Canary mixer and Peavey slaves . . . The Romantics bought some drums and are having a custom-built PA made, a growing aspect of Pall Mall's services . . . Heritage also had a monitor system custom-built . . . There has been a general sales swing here to more careful buying of amps, rather than just getting a stack, and the Roland Jazz chorus amps have been a notable success . . . In general, a switch from quantity to quality is apparent . . .



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★ DEALER OF THE MONTH ★

Sound Pad

When I.M. visited Leicester's Sound Pad the staff were all suffering a bit from the night-before, the "firm's do" as Paul put it. But it didn't stop everyone being friendly, efficient and helpful. As Sound Pad mainman Graham Pell told us, "All the staff are good lads, they're efficient, not in that 'stiff' way, but able to help you whatever it is you want."

The lads are Phil Pell, Graham's brother and assistant sales manager ("so he tells me," says Graham), shop manager Denis Stansall, who's spent all his life in the music business one way or another, plus assistants Paul Fairall ("a talented musician" commented Graham) and Martin Potter, a recent addition who is, it seems, good at making tea (something to do with a Fender Blender). The team is completed by Graham's wife Evelyn.

The shop, in Leicester's London Road, is easily accessible from the M1, and the mainline station is two minutes up the road. On the first floor there's a veritable election of musical goodies; guitars and amps everywhere as you enter, the counter on your left and, on further exploration deeper into the shop, drums, keyboards and more guitars.

"With amplification," explained Graham, "we're now an HH dealer, that's been happening since the summer. It'd be great if all makes' failure rate was as low as the VS gear. Carlsbro equipment sells well too, and we have a very quick turnover in Fenders, especially the combos." Almost any worthwhile amp can be found at Sound Pad, the range includes Ampeg, WEM, Custom Sound, Peavey, Hiwatt and Amcron.

The array of guitars is particularly pleasing at Sound



Pad, and we asked Graham how the guitar market felt at the present. "Well, ever since the VAT rate went down from 25 to 12½% sales have

picked up. With the replica situation there are one or two choice ones in everyone's catalogue, but generally speaking "Japanese Copy" is

not a nasty word any more. Replica guitars that don't sell well are those that the originals of don't sell either. The Fender range sells well, and we're a Gibson Star Dealer. With second-hand guitars I just can't get enough. We keep a book, what we call the 'Customer Order Service.' That way if somebody wants something we haven't got, they leave it with us, and then when, say, a second-hand Strat turns up we may have, oh, 25 names for one. I go down the list ringing people up and whoever wants it, gets it. So we normally know where something's going before the deal's done! Of course we wouldn't buy anything second-hand if we weren't convinced it was absolutely right — there's no way we'd do any of this neck-swap or electrics-change business that you hear about, people know they'll get a good'un when they come to Sound Pad. As a guitarist I get very tempted by some of the stuff that comes through our hands — a beautiful three pick-up original 1955 Les Paul, a Super 400, an original pink Strat that was a good 15 years old and looked as if it had just come out the box — some really amazing stuff."

Sound Pad's been at the





London Road premises for nearly two years now, having outlived a smaller King Richard's Road shop in July 1975. Since then business has been booming, and even a casual glance round the shop reveals a vast assortment — Yamaha guitars, the newest 1500 and 2000 included,

Crumar keyboards, Color-sound pedals, Rogers drum kits, Premier vibes, MXR effects, Maine amplification, Martin acoustics, and much, much more.

Leicester is a very healthy music centre, and the past has seen bands like the Farinas (to become Family and, now, Streetwalkers) emerge from it. But the present is equally productive, and Graham naturally has his finger on the pulse of the scene. "There's the De Montfort Hall and the Granby Hall not far away for the big bands, all the roadies know where the shop is and there's always somebody in. Locally we have the Baileys bands in regularly for bits and pieces, and there's a very lucrative area in the surrounding workingmens and social clubs for bands to work in. Also the better local bands can get support gigs at the University and the poly, and there are five or six strong pub venues in Leicester. Dry Ice are a particularly talented local band, and they're very young — the guitarist is only fifteen, but when I saw them

last he was great! A lot of the bands are getting into very technical things — synths are proving very popular." The shop reflects this with a good stock of most of the better synths, electric pianos and string machines — Moog, Roland and Rhodes amongst others.

Also included in the shop, downstairs, is a wide stock of disco equipment and, also on the basement level, a separate repair shop — Croxford Custom Equipment — run by

Phil Croxford and aided by George Morley. A look inside reveals a busy, friendly workshop — "Every workshop's untidy, isn't it!" apologises Phil for the organised chaos within.

"We've built the business up virtually from nothing," concluded Graham, "and it's been getting better all the time. We offer a fast, efficient, friendly service, and we're still going strong. Which must mean we're doing it right." They certainly are.



They were delighted when their own shop put them out of business.

5 years ago there was a band called the 'Golden Hammers.'

They were getting frustrated with badly organised, stuffy music shops.

No one seemed to know how anything worked. Or even what it did.

And everyone seemed a bit too desperate to get their hands on the readies.

So a couple of the lads in the 'Hammers' decided to do something about it.

And they started their own shop "Sound Pad Music" as a side-line. They decided the 'Pad' would be different.

For a start, the staff would all be musicians. (Right now there's 4 guitarists, a bass player and a drummer). And the shop would be a friendly, relaxed place where musicians could feel free to call in for a chat if they wanted. Well, it worked.

It wasn't long before the 'Pad' was doing so well that there wasn't enough time to keep the 'Golden Hammers' going too.

So the band broke up. Two of them stayed

with the shop. And two of them made up part of a band called 'Showaddy Waddy.'

The shop got bigger and bigger. And we all know what happened to 'Showaddy Waddy.'

Naturally, everyone was delighted.

Today the shop is run by Graham Pell and Dennis Stansall.

It occupies two floors at 64 London Road, Leicester. They have their own servicing department. And there's a wide range of gear available.

Graham and Dennis do a lot of business with Rose-Morris. Because they find that the staff at Rose-Morris really know what they're talking about.

Besides, they're distributors for most of the best ear around. Like Marshall, Ovation, Ludwig, Eko, MXR, Holton, Shaftesbury.

So if you're in the area, nip in to the 'Pad'. Grab a coffee, and have a look round.

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Drummers We have now opened a percussion room in our Darlington shop. We have a huge selection of Kits plus Cymbals, sticks, brushes, skins all available for demonstration.
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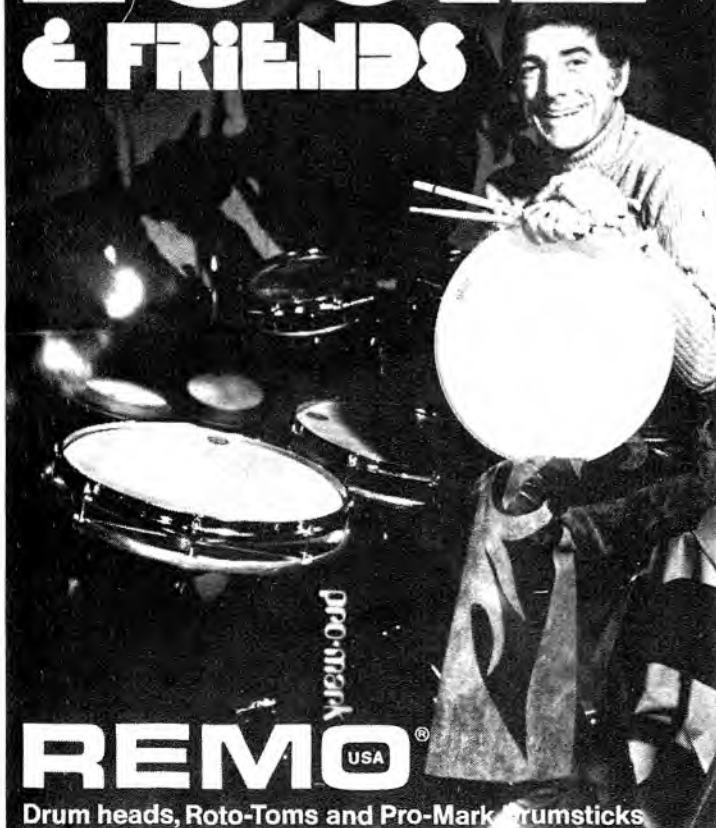
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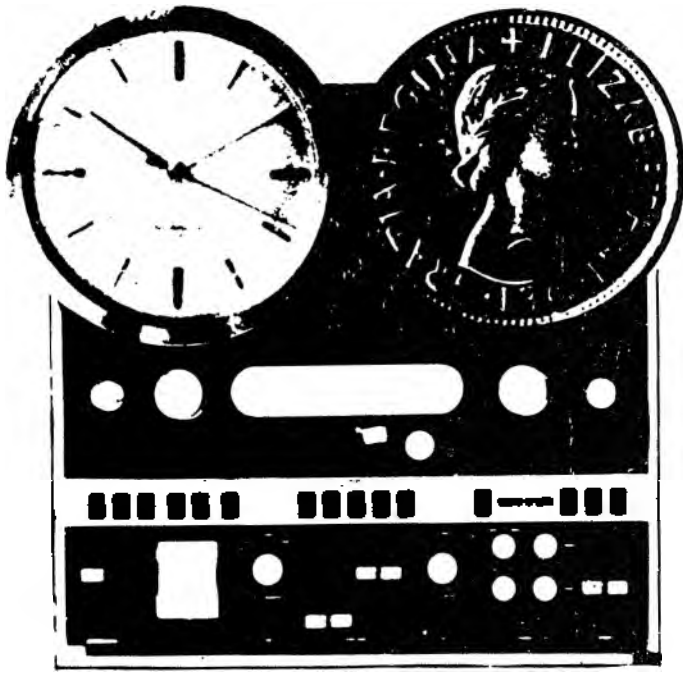
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Name _____

Address _____

Include Zip if USA.

How much to make a record?



When the time comes in the development of your band to record, be it a 4-track demo or the full works, the choice of studios where you'll spend what may well be a limited sum is confusing, to say the least. In an effort to help you in this task, I.M. have assembled what amounts to a package, consisting of the following:

*8 hours recording.
3 hours mixing/reduction.
Purchase of all tape used, i.e. Master tape (4, 8, 16 or 24 track) plus 1/4" copy tape.*

We feel this would be about the right amount of time to get down at least a

couple of tracks, and it's important that you should own the master tape, in case the need to re-mix arises at some future date. We've also included information as to what additional facilities like amps and instruments you can expect to be included in the price. Whenever you book a session remember to find out exactly what you're going to get charged for in addition to the flat hourly rate.

Obviously we have had to be selective, and have tried to offer as wide a range of studios as possible. Finally, remember that you'll have to add VAT to the figures we've quoted in the text.

At these studios, it will cost under £150

Tony Pike, 31 Dryburgh Rd., SW15. Tel: 01-788-4928.

Tony Pike's studio has two four-track machines. Their basic rates are £10 — £12 per hour, but if more than three hours are being booked, the rates drop to £8, so that the 11-hour session would cost only £88, plus the master at £9.50. Piano, bass, drums and accessories and a Vox organ are available free of charge, and tea, coffee and sandwiches are not charged for either. If you want a full meal, one of the two local pubs provides one. Parking's not difficult either — no meters around, and a spacious forecourt should take all your vehicles.

Spaceward, 19 Victoria St., Cambridge. Tel: 0223-64263.

Spaceward is a 16-track studio where the kind of deal we are talking about is often done. They are normally hired by the day for £75, although the basic rate is £36 for the first three hours and £9 per hour thereafter. The full-day rate means that you can spread the hours out a bit, starting at 10 a.m., and going on until the small hours if you want to. A Hammond M100, and Mini-Moog are normally available, and an HH combo is often there for use as well. Parking is not difficult, with room for one car in the front, and a car park nearby. Lots of cheap restaurants in the area too.

Anemone, D'Arblay House, 10 Poland St., W.1. Tel: 01-439-9611.

Anemone could provide you with the whole deal for only £100 in eight-track, and provides a variety of instruments, including a Mini-Moog synthesizer, Rickenbacker bass, Fender/Gibson guitar and a Premier drum kit. Restaurant facilities and coffee (on the premises) are easily available, and there's a parking area just 50 feet away. Anemone also does reel-to-reel copying and tape copying.

Music Junction, 15 Dalston Lane, London E.8. Tel: 01-254-3744.

Music Junction, who opened in November last year, is used mainly for demos, and is ideal for bands who are still a little short of being entirely sure how they want to treat a few numbers. Music Junction is a four-track studio recording on to cassette or tape. The hourly rates are £3 in the morning, £4 in the afternoon, and £5 at weekends, but the 11 hour session could well come out as low as £25, including free tapes and the use of a wide variety of instruments (there's a music shop upstairs). They can even provide a drummer/bass player/pianist most of the time, if you're one short. Lots of local pubs and restaurants, and parking just over the road.

Summa, 90 Lots Rd., London SW10. Tel: 01-352-7359.

Summa's four-track facilities would total around £51 for the 11-hour stint, plus £16 or £20 for the tapes. The studio uses an Ampeg bass and lead stack, plus the sometime use of a Wurlitzer and Hammond. Meals and drinks are not too easy — buns and pies can be bought in the road, but otherwise you'd have to go into Kings Road. Parking's no problem, though.

Wessex, 106 Highbury New Park, London N5. Tel: 01-359-0051.

Wessex's 24-track facilities are available at £45 for the recording part, and £35 for the mixing (there's a 20% surcharge after 6 and at weekends). There is generally an hour left between sessions for bands who want to set up their own gear — this is not charged for. Customers in the past have included Rory Gallagher, Queen, and Steeleye Span. Tapes cost £43 for a 2", and £10 for a 1/4". Piano, electric piano, Fender, Wurlitzer and Hammond organ generally available free of charge. Drinks and meals are pretty easy around Camden Passage, and Wessex has its own parking facilities.

Hazel Studio, 20 Morton Gardens, Wallington, Surrey. Tel: 01-647-3510.

A studio for the band that wants to put rough demos down, Hazel would charge about £45 for our package, with 8 hours at £3, three hours at £2 and around £14 for tape. You can make use of a drum kit, a Fender Rhodes piano and Fender guitar, and recording equipment consists of an A & H mixer and AKG and Shure mikes. Charges don't start until you actually start recording, so there's plenty of time for setting-up.

Mortonsound, 13-15, Carlisle Square, Newcastle-upon-Tyne. Tel: 0632-26902.

The studio is in the centre of Newcastle, so surrounding facilities like cafes and pubs are plentiful. Our package at this 4-track studio will set you back £77.50, a very reasonable figure indeed, and broken down into 11 hours at £6 an hour, a reel of 4-track tape (207) at £9, and your 7" reduction reel at £2.50. In addition to these very low rates, you can also have free use of a Bechstein upright piano and a couple of amps (Marshall and Selmer), and you're allowed around half an hour setting-up time.

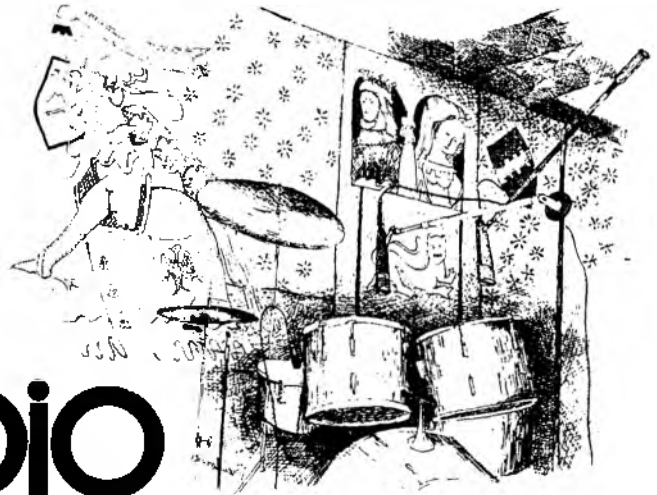
continued on page 133



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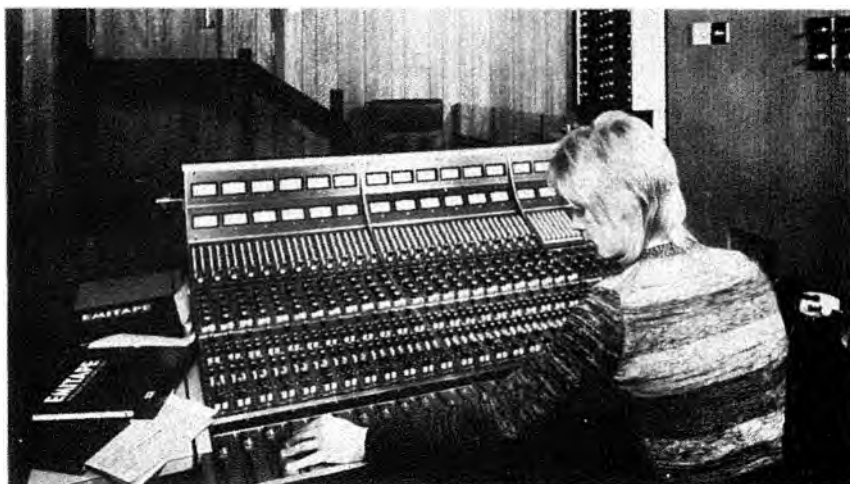
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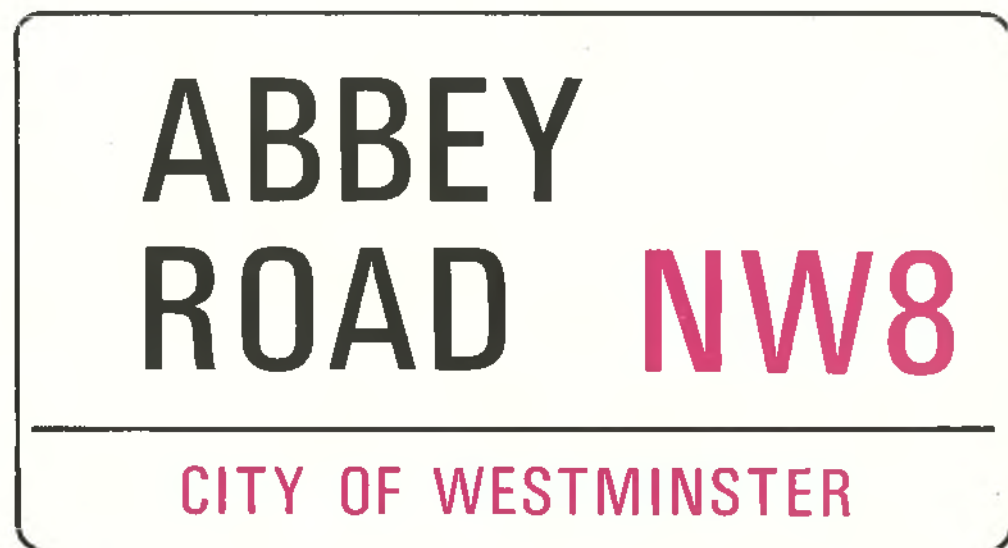
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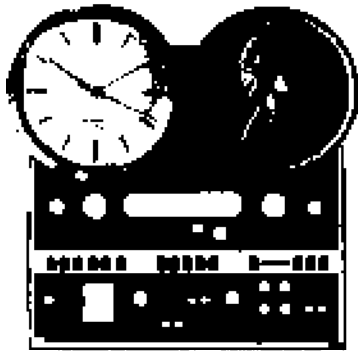


Pluto[®] Studios

3 WATERLOO ROAD, STOCKPORT, CHESHIRE. TEL.: 061 477 0434

How much to make a record?

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Piper Sound Studio, 50 Cheapside, Luton, Beds. Tel: 0582-605875

Piper Sound is a relatively new studio, situated right in the centre of Luton. Their flat rate is normally £6 per hour, but every sixth hour is free, so block bookings work out extremely economical. Eight hours of recording would cost you £42 plus an extra £18 for three hours reduction. Piper also offer a special rate of £60 for twelve hours, which seems pretty good value. At the moment they are four-track, but by April they should have sixteen and, naturally, eight-track facilities. The flat rate for eight-track will be £8 per hour or £80 per day if you want to book from 10 a.m. until midnight. A day's recording on sixteen-track will only cost you £100. These prices also include a ¼" tape. Resident instruments include an upright

piano, a Carlton drum kit, a Fender Precision bass, an Eko 12-string and various amps and cabs. Free tea and coffee are provided throughout the day and, within 200 yards of the studio, there are three pubs, a cafe, a restaurant and a chinese restaurant. Parking isn't too much of a problem as there are two multi-storey car parks less than 200 yards away.

Mushroom, 18 West Mall, Clifton, Bristol. Tel: 0272-35994.

A fine little studio in Clifton the "Chelsea of Bristol", as studio manager Dennis Ackerman put it; our package at this 8-track studio will cost you £143, including your master tape on Ampex 406 at £22 a reel. Included in the price is the use of an upright piano, a Fender twin reverb, an

HH 100 watt and a JLB bass amp — if you need anything else then hire can be arranged. Setting up time is allowed; Dennis says it depends, naturally, on how heavily the studio's booked, but you'll get a minimum of 30 minutes. If the studio's vacant you can take four hours! There's a good cafe round the corner, and two pubs, apparently 24 and 32 seconds away. Parking's very easy, with a back entrance available too, so you can take your vehicle right off the road.

Pathway Studio, 2a Grosvenor Avenue, London N5 2NR. Tel: 01-359-0970.

Pathway person Barry Farmer advises bands that maybe haven't had all that much recording experience to give him a ring before a session at Pathway, so that both parties know what's going on — sensible advice. Our package works out very reason-

ably here, coming to £120.50 in this 8-track studio. The only fixture is the piano, so you'll need your own amps and drums, although Barry finds DI'd bass easier to control, and if you think about it before you book, you can get about an hour's setting-up time. There are three pubs within striking distance, along with various kebab-houses and a chip shop and there are no parking restrictions in Grosvenor Avenue.

Radio Luxembourg Studio, 38 Hertford Street, W1. Tel: 01-493-5961.

The flat rate at Radio Luxembourg is £12 an hour (the studio should be 8-track by the time you read this). A reel of ½" tape will set you back £8 (the 8-track machine will have 1" tape but no charge has been fixed for this at press time), and your ¼" NAB reduction tape will come to £5.50. So, our package will cost you £145.50; you'll only get discount at Radio Luxembourg if you're a regular user. However, on the plus side, there's a Steinway and an ARP 2600 for your free use, and there's no charge for loading and setting-up time, providing it's reasonable.

Telecomms, 189, London Rd., Portsmouth. Tel: 0705-60036.

Telecomms is a new eight-track studio, which charges £8 per hour for recording and mixing, and £15 for a master tape. A master tape would cost £15. So far, Telecomms studio has been open for just two months, working almost exclusively on demos. One of the main advantages of the studio is that it is situated over a music shop, and any instruments you might want to use can be included as part of the normal price. Telecomms also has its own kitchen, in addition to being just 100 yards from a shopping centre that includes cafes. Setting-up time is flexible, and parking is free just outside the premises.



Dennis Ackerman of Mushroom



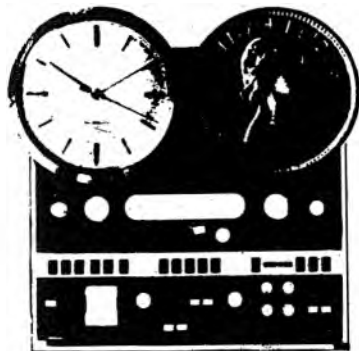
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The Manor

For all the details ring Barbara on Kidlington (08675) 2128.

How much to make a record?

continued from page 133



At these studios it will cost between £150 and £450

Majestic, 146 Clapham High St., SW4. Tel: 01-622-1228.

Basic rates for this 24-track studio are £28 per hour, but studio manager Roger Wilkinson reckons he might knock a couple of quid off for an 11-hour booking, which would make it £286 for the studio time, plus £40 for a 2" tape. You'd need all your own equipment, although there's a piano provided of course, but Majestic has its own bar and colour TV on the premises, and a nice restaurant handy. Parking is downstairs from the studio, and Majestic normally aims to leave a blank hour or so between sessions for setting-up.

Surrey Sound, 70 Kingston Rd., Leatherhead. Tel: 53-78855.

Surrey Sound is a big (2,000 sq. ft.) studio 45 minutes from central London, down the A23. The basic rates for the 16-track studio are £12.50 per hour, but if you book the studio for a day, you get 12 hours for less money — £120. Tape is £10 per reel to hire, but £40 to buy. Equipment, apart from a grand piano, is not provided, but can be hired in for normal hiring rates. Surrey Sound has its own kitchen, and there's a fish and chip shop next door and a pub over the road, so most culinary tastes can be met with easily enough. There's a big car park near at hand, and setting-up time is allowable.

Regent Sound, 4 Denmark St., London WC2. Tel: 01-836-6769.

Regent Sound is 16-track and charges £16 per hour as a basic flat rate. The studio is open only between 10 a.m. and 6 p.m. at normal rates. The tapes will cost around £30. A piano is the only instrument provided. Parking at the back courtesy of NCP costs £1.20 per day. There's no discount, but half an hour is allowed for bands to set up in

Riverside, 78 Church Path, Fletcher Rd., London W4. Tel: 01-994-3142.

Riverside's 16-track studio has a flat rate of £16 per hour, but the I.M. 11-hour deal just extends into the block-booking rates, which begin beyond 10 hours. The block booking means that the 11 hours of studio time would cost £154, at £14 per hour, plus £41 for the tapes: £195. Amps and a grand piano are provided, there's a pub with a garden just up the road (particularly good for summer sessions). Parking is no problem in this residential area. TV and shower are provided, and a band is given an hour's setting-up time.

Pluto, 3 Waterloo Rd., Stockport, Cheshire. Tel: 061-477-0434.

The 11 hours of studio time at Pluto, on the outskirts of Manchester, would cost you £176, and if you wanted a 2" and a ¼" tape, that would be an extra £47 the pair (Pluto is a 16-track, but if you required 24-track, Strawberry is just downstairs). Facilities available free of charge include a piano, congas and amps. Parking is easy and unrestricted and there are two friendly pubs nearby. There's no set discount, but you could plead poverty.

Studio G, 145 Wardour St., London W1. Tel: 01-734-5784.

Studio G is mainly concerned with advertising work, but has recently instituted a special rate for bands to use the studio at weekends, at a reduced rate of £12.50 per hour, plus £30 for a 1" master tape. Studio G is a compact 8-track studio, big enough for 12 musicians to use it in comfort. G provides the use of synthesizers, percussion, and a baby Grand. Drinks are readily available, food is about five

minutes away, and parking is no problem, with an National Car Park very nearby.

Acorn, Church Road, Stonesfield, Oxford. Tel: 099-389-444.

There's a deal available at Acorn whereby if you use the studio for over 20 hours, the rate is £18 an hour for 24-track recording or mixing, and it seems that most bands doing demos in the confines of our package would probably come back soon to use the remaining 9 hours. Assuming you do that, then the package will cost you £252, including tape charges of £45 for a reel of 2" and £9 for your ¼" reduction tape. These prices will be effective around March/April time, and you can bank on facilities like micro-wave oven meals, light refreshments being available all through the day and night. There's a pub in the village, and parking for the studio will be very easy, Acorn being situated in a very pleasant rural area.

DJM Studios, 71-75 New Oxford Street, London W1. Tel: 01-836-4864.

DJM Studios charge a flat rate of £36 per hour for either recording or reduction which, according to our calculations, would make the package work out at £312 for recording and mixing plus tape charges — a reel of Scotch 250 works out around £50 and a ¼" copy tape would be about £5. DJM have 24-track facilities for that inexpensive, expansive sound. They don't charge bands setting-up time when they bring in equipment, nor do they charge for break-downs. There is free use of a Steinway grand in the studio and, although there is no other permanent equipment, DJM usually hire-in gear for a band either before or during a session,

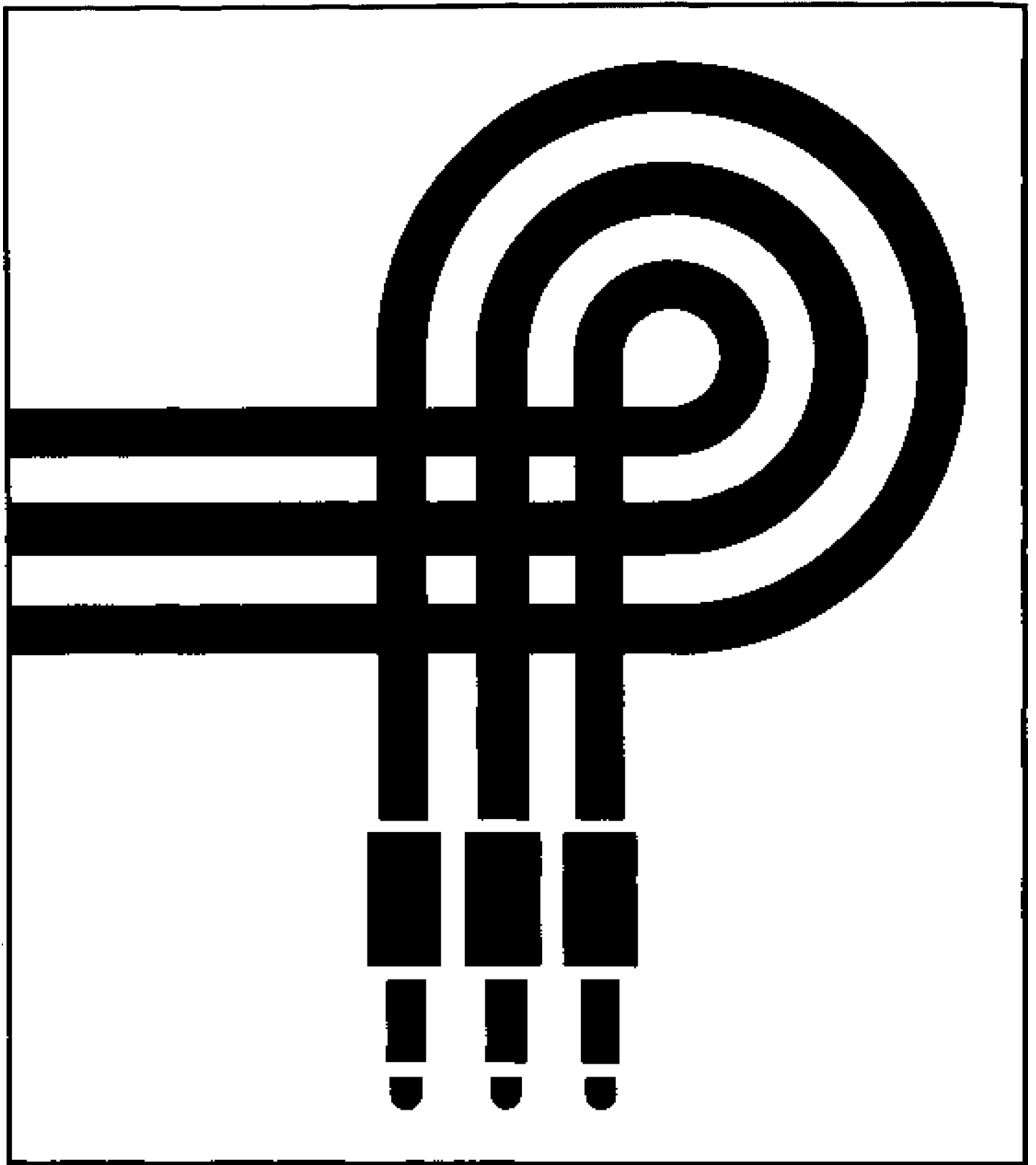
as they deal with a hire company who offer a 24-hour service. Situated right in the heart of London's West End, there are plenty of places for refreshment — you might even find a willing tape-op to send out for food.

Magritte, 15 Holloway Lane, Harmondsworth, West Drayton, Middx. Tel: 01-897-9670.

A good thing about Magritte is that, included in our package terms you'll get a lot of equipment included free: Fender Rhodes 88, Wurlitzer piano, Clavinet, B & D grand, Davoli synth and various amps including Marshall, Vox and Fender, plus half-an-hour allowed for setting-up. The flat rate at Magritte is £20 per hour (16-track), and the package price is worked out assuming that you use one reel of master tape (half an hour) and one reel of ¼" reduction — it all comes to £240. That includes "taking a couple of quid off for the right people."

Radio Edinburgh Studio, 7a Atholl Place, Edinburgh EH3 8HP. Tel: 031-229-9651.

Our package would work out at £197 all told, which breaks down like this: the 11 hours would come to £198 (at 16-track), although studio manager Neil Ross reckons this would come down to £170 with discount. Tape would then add another £27 to the bill, assuming that you come away with half a reel of Ampex (at £23) along with your reduction tape (£4). There's a Bechstein piano in residence, and this is the only equipment you'll get — Neil Ross said "If a band's quick unloading their gear that'd be fine — we usually give about half an hour for that, any more would be getting uneconomic. The mikes are set out in advance of the session, so there's no wastage there, the thing that usually takes time is the drum sound."

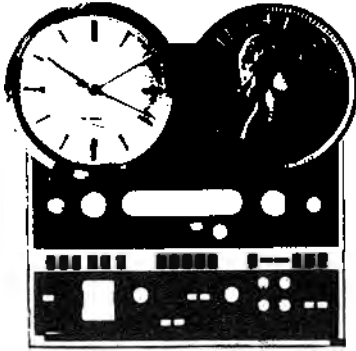


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TELEPHONE 01-402 8114/7

How much to make a record?

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At these studios it will cost over £450

Ramport, 115 Thessaly Rd., London SW8. Tel: 01-720-5066.

At Ramport, the 11 hours plus tapes in 16-track would cost you in the region of £450-480, depending on the time you began at — the rates are £30 between 8 a.m. and noon, £40 from 12 — 6, and £45 in the evening and night. Ramport has a brand new Neve desk, and they have all the equipment you would be likely to need, with the exception of guitars. In addition, TV, darts, pinball, coffee and milk, and magazines are available for your leisure time, and setting-up time is not included — if the studio isn't being used you can set up well in advance of the booked session, if it's good enough for The Who, it should be good enough for you.

Phonogram, Stanhope Place, London W1. Tel: 01-262-788.

The rates (for bands not signed to the record company) are £45 per hour for recording or mixing, so an 11 hour session would come out at £495. A reel of 2" and a reel of ¼" would add an extra £48 to the bill. Piano and Mini-Moog are provided, as is free coffee. The area has so many restaurants that there's hardly much point including food facilities. Parking presents a slight difficulty, as the studio is just off Bayswater Rd., but there are a couple of council car parks within five minutes. Block bookings are negotiable, but are only normally considered over a much longer period of time than we are considering. Setting-up time is allowed.

Roundhouse, 100 Chalk Farm Rd., London NW1. Tel: 01-485-1031.

Roundhouse has 24 and 16-track facilities. On 24-track there is a flat rate of £40, which has an additional 20% overtime surcharge after 6 p.m. and at weekends — an extra £88 over the whole. With the price of the tapes as well, you could reckon on spending something in the region of £650. Roundhouse block bookings are only available for longer periods of time but they have a wide variety of instrumentation available, including organ, Fender piano and Mini-Moog. In addition, a kitchen with deep freeze is on the premises. A TV lounge and table-tennis are also there for leisure time, and parking is easy: the Roundhouse has its own park, and there is a large car park within easy reach as well. An additional, and almost unique feature of the Roundhouse studio is the facility for recording a live appearance at the adjacent Roundhouse theatre, which can be mixed and ready before you can say 'Digital delay system.'

Sarm, Osborn House, 9 Osborn St., London E1. Tel: 01-247-1311.

Sarm only has one studio, and tends to be fully booked: discounts would only be considered if a band pulled out of a booked session at short notice. Basic rates are £42 per hour, a 2" tape costs £50 and a ¼" tape comes at £12, so you would expect to pay around £525 here. You could avail yourself of a Grand piano and some percussion instruments for free, and you could also hire a Strat or a Guild. Bloom's Jewish restaurant is right next door, and if you're not religious, there's a Wimpy Bar.

Car parking's easy too, and Sarm always allow for an hour between sessions, so you won't have any problem rushing to set up.

Trident, 17 St. Annes Court, London W1. Tel: 01-734-9901.

Trident are having a price review in April, which will bring their recording and remix prices into line. At present, the 24-track studio costs £39 per hour for recording, and £35 for mixing, so that the 11 hour package would come to £417 without the additional cost of tapes (£50 for a 2", £9 for a ¼"). Being in the heart of Soho is a great advantage for meals, and a great disadvantage for parking — always aim to get there early and avoid the possibility of cutting into your paid-for time. There are a few multi-storeys around this area. It's best to check where they are first. Trident have their own tea-boys who will maintain a flow of refreshments as desired, and Trident possesses an ARP and a Hammond organ as well as the traditional grand piano. Any other instruments can be hired at fairly short notice. The surcharge for evenings and weekends is higher than usual — £7, and discount is only entered into for regular customers. Setting-up time is allowed.

Scorpio, 19-20 Euston Centre, London NW1. Tel: 01-388-0623.

Scorpio's 24-track facilities are available at a fixed rate of £44 per hour, which rises to £50 per hour after 6 p.m., and at weekends. Tape would cost £40 per reel. Any facilities you might want are likely to be available, on the musical side, and although there's no bar, the free coffee is reported

to be very good. A soft drinks machine is resident and meals are available nearby. Parking is free, and there's no charge for setting-up.

Abbey Road (EMI), 3 Abbey Road, St. Johns Wood, London NW8 9AY. Tel: 01-286-1611.

The flat rate at EMI during normal hours is £44 an hour, and you could expect to spend £40 on a reel of 2" master 24-track tape and £8.50 on a reel of ¼", bringing the package total to £532.50. There are pianos and organs for your use included in the charge, and a Steinway is available at an extra hiring cost, although the man we spoke to at EMI didn't seem to think that pop (sic) groups would be interested in that sort of thing. There's a restaurant in the building where you can get a three course meal should you wish, and parking is reasonably easy at the front of the building, with about 24 spaces reserved for "musicians and producers."

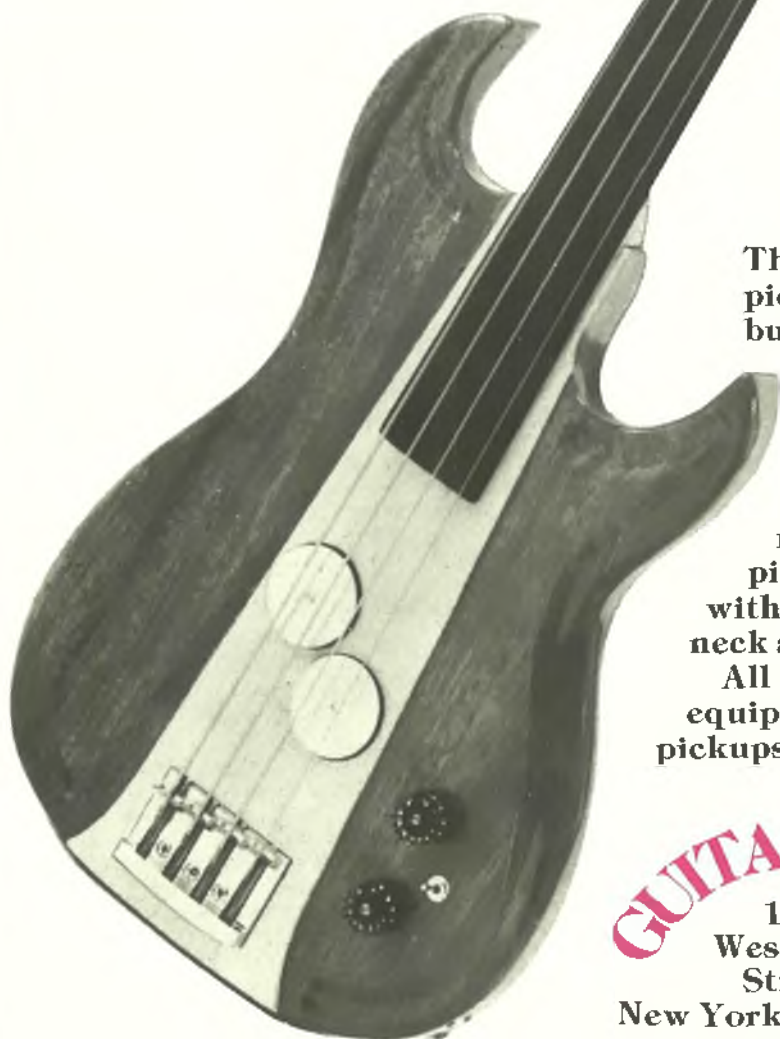
Air Studio, 214 Oxford Street, London W1. Tel: 01-637-2758.

The I.M. package will set you back a mere £520 at Air's 24-track studio, which will include the use of a grand piano, a C3, a Rhodes or Wurliitzer piano, and amps including Vox and Fender. You'll get free setting-up time before the session of course, and there's a food machine on the premises. Also, there'll be a stream of free teas and coffees. There's no free parking available the Oxford Street area not being the easiest of places to park. However, there is someone who'll park vehicles for you, but it'll cost you.

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NEWS

Executive Turntable

Chris Newburg joins Smack Records as Corporate Director of Industrial Relations from Market Planning at Costello/Pasta Records . . . **Mike Morose** has been appointed Midwest Regional Sales Manager at Zimmerman Music Inc. Chicago. Previously he was with Crazy Records as Sales Manager.



Dolbie

Maurice Dolbie upped to Studio Manager. Basing St. Studio's Managing Director, **Muff Winwood**, announced today that, effective immediately, 6 year old Dolbie will be active in all Departments, especially on the Studio Floor. Dolbie, who has worked in the Basing St. area for the past five years, was unavailable for comment, however Winwood felt that this new addition to his staff would certainly keep things up to scratch . . . **Ray Pizza** has resigned as Vice-President of Sales and Marketing at Jukebox Discs after 10

years with the Company . . . **Gabby Blackwell** is promoted to National Customer Service Manager at Bubble Sound Products, Los Angeles . . . **Si Schulman** of Boulevard Inc. is transferred as West Coast General Manager from similar post with Out West Records in Dallas . . . **Margo Ritzy** has been promoted to National Promotional Director at Ricochet Records, New York . . . **Dave Andy** appointed East Coast Manager at Round Records from similar post at Music Inc. . . . **Karl Wraikoff** promoted to



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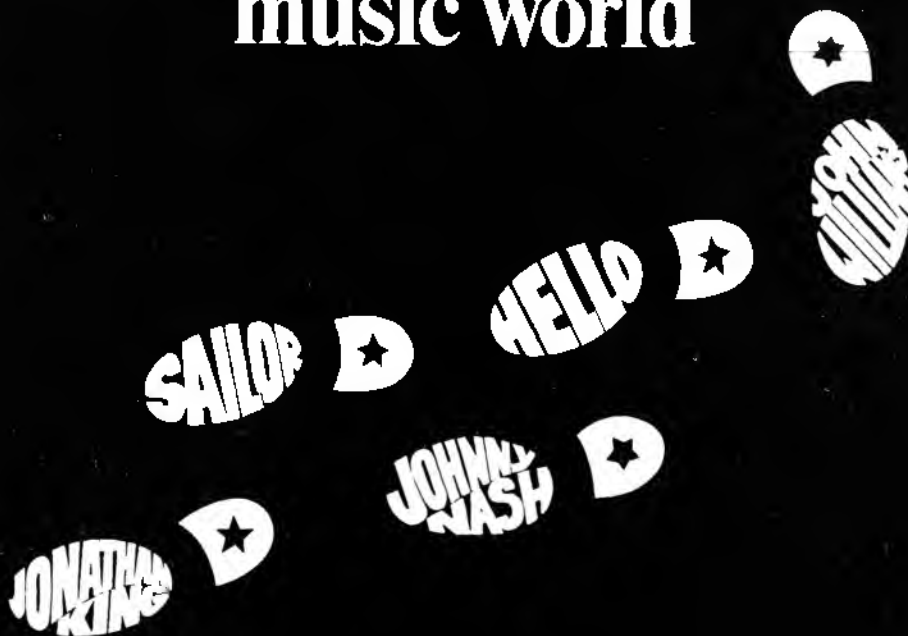
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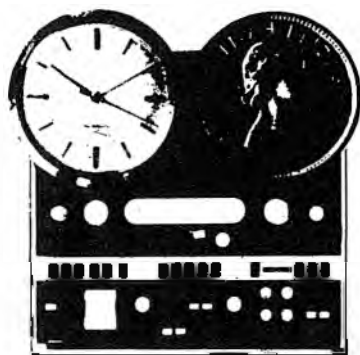
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**People make tracks for the
music world**



...via the CBS Studio  Whitfield Street, W.1. 01-636 3434

How much to make a record?

continued from page 137



Pye, 17 Great Cumberland Place, London W.1. Tel: 01-402-8114.

Recording our package 24-track, you can expect to part with £550 at Pye Studios, and you'll only get free use of a piano, although Pye assure us they can arrange hire of most other instruments you may need for a session. As far as setting-up time is concerned, a spokesman at Pye told us, "We're fairly lax with groups when it comes to setting-up before a session, we usually think in terms of about an hour." There's a reasonable cafe across the road for hungry bands, and the parking is mostly metered, so bring plenty of change.

The Manor, Shipton Manor, Shipton-on-Cherwell, Kidlington, Oxford. Tel: 08675-2128/5851.

The Manor could be described fairly accurately as a somewhat 'up-market' studio, and charges for recording revolve around the basic £600 per day figure. Tape will cost you from £9 for a reel of ¼" Ampex 456, to £95 for a reel of 2" Ampex 406. As for facilities, you could almost forget the place was a recording studio — to quote from their brochure, "When a band is not recording or rehearsing the Manor provides, apart from good food and comfortable rooms, tennis courts, a swimming pool, a full-sized billiard table . . . colour TV and limitless walking . . .".

Basing Street (Island), 8-10 Basing Street, London W.11. Tel: 01-229-1229.

The package at this 24-track studio will cost you £526, assuming that you record during the day, and mix the same day, after 6 p.m. The cost breaks down as follows: £336 for 8 hours recording (at £42 per hour), £144 for 3 hours mixing (after 6 p.m., £48 per hour), £38.50 for a reel of 2" tape and £7.50 for the reel of ¼" reduction tape. Included in the charge: the use of an organ and a Bechstein piano, plus an hour allowed for setting-up. Basing Street now have their own bar serving food, hot snacks and drinks, and parking poses no problems; there are studio spaces along with plenty of non-metered space in the surrounding area.

CBS, 31-37 Whitfield Street, London W1. Tel: 01-636-3434.

Recording at CBS on 24-tracks, you're going to need around £545 to complete our package with the flat rate being £45 an hour, your 2" tape working out at £40 for a reel and the ¼" reduction setting you back some £10. In the studio you'll get free use of piano, organ and celeste, and there is coffee and snacks available in the building. There's a small car-park attached to the three-studio complex it's really a case of first come — first served.

STOP PRESS

Maison Rouge, 388-396 Oxford Street, London W1N 9HE. Tel: 01-408-2058

Maison Rouge is a rather special set-up. They are a very classy mobile studio with an amazing array of equipment headed by a Helios 32 in 24 out desk. There is the facility for simultaneous quadrophonic and stereo mix-down, making Maison Rouge the only quad mobile in Europe. All the machines are by Studer and monitoring is JBL and Tannoy. Recording rates will, of course, vary and are negotiable but they are based on a charge of £350 per day with mixdown rates at £30 per hour. Our "package deal," as such, does not apply where a mobile is concerned, as most tend to base their rates on a 24-hour session. However, by early May, Maison Rouge will have opened a new 24 and 16-track studio in Fulham. It will include a new Helios automated desk and, fully air-conditioned, will accommodate up to 36 musicians in comfort. All machines will be by Studer and the new studio will be equipped with quadrophonic facilities. No rates have been fixed yet, but they, according to General Manager Bob Wilson, will be "incredibly low." Additional facilities will include a TV room, bar, coffee shop and, perhaps best of all, Youngs beer. A Steinway grand and Hammond C3 will be permanent residents, and the premises also include a car park for easy loading and parking.



Pye's No. 2 control room

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	Fitted with Garrard 125SB decks.	£546.00
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	Fitted with Garrard 125SB decks.	£417.00
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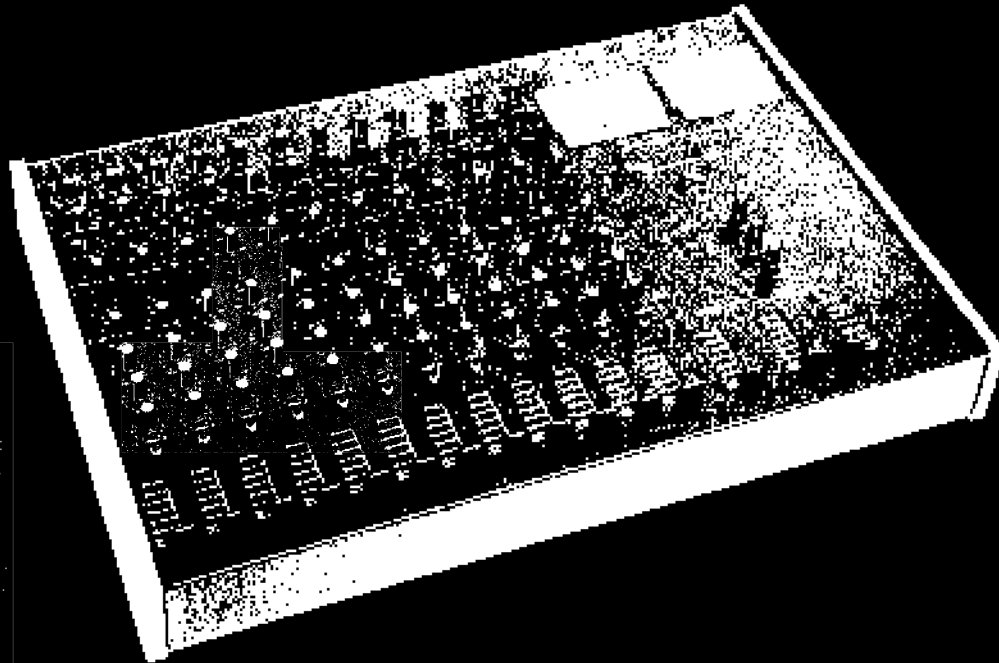
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Our new 12 into 2 mixing console



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Input Channels: Electronically balanced input and gain control 30dB input pad. Input impedance greater than 6Kohms. Minimum input for 0dBm through channel -60dBm. Maximum input for 0dBm through channel +15dB. Equivalent input noise less than -120dBm (unweighted). 20KHz bandwidth, input loaded with 200 ohms.

Tone Controls: Treble + 16dB at 10KHz. Mid + 16dB at 400Hz to 8KHz (continuously variable). Bass + 16dB at 30Hz to 300Hz (continuously variable). Foldback (prefade) send. Echo (post fade) send. Linear motion fader. Pannop, 3dB down at centre. PFM button allows signal level through channel to be monitored on meter. Headroom 20dB eq. flat.

Outputs:

Left and right output master faders
Foldback output master fader
Echo send master (rotary pot)
Maximum output level +20dBm
Over all frequency response
+0-3dB, 20Hz - 25KHz.
Residual output noise less than
-70dBm.
Output level controls at 0dB,
channel faders and sends fully
down, 20KHz bandwidth.
10dB gain after faders and echo
send.
Maximum gain through mixer
equals 70dB.
Illuminated output meters 0V
- 0dBm.
Meter select switch 1. Left and
right outputs. 2. Foldback and PFL
Echo return line level input
Echo return level control and pan-
pot, pans across left and right out-
puts.
Regulated internal power supply
110/120v, 220/240

All signal inputs are Switchcraft D3F and outputs are D3M. Mains input is via an IEC mains socket, a 2 amp fuse and an on/off switch. The mixer is fully screened in a rigid steel case with wooden end cheeks, measuring only 18" x 28 3/4" x 3".

The metalbox has a very durable black stoved finish and the legends are printed with white epoxy paint.

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When my turn came I was a jibbering idiot. My knees made more noise knocking together than any of the other guitarists had managed through the amp.

And God knows what I played. It sounded like nothing on earth. The tap came about three bars after I started. So I thought disaster. I went home. Turned on the budgie. And talked to the telly. I was a wreck.

But it all worked out in the end. And within a week I was off on tour with Tull. The rest is history. But I do know that I sound a lot better now than I did then.

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The 2199 30W Solid State Combo also has the Master Volume feature. And use of the "Mixture" channel, to combine the characteristics of the bright and normal inputs, produces a whole range of mellow bass and searing trebles. 30Watts of Marshall power driving the 2x 12" Speakers leaves many rival 50W Combos standing.

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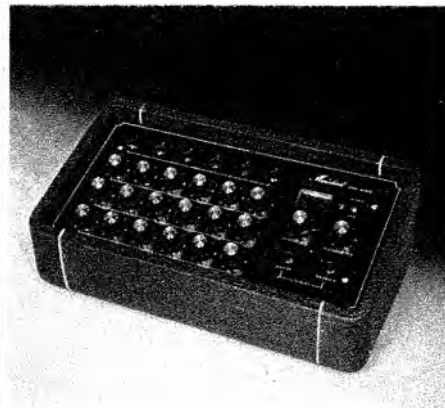
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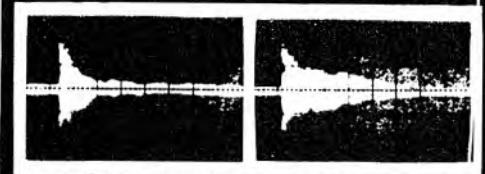
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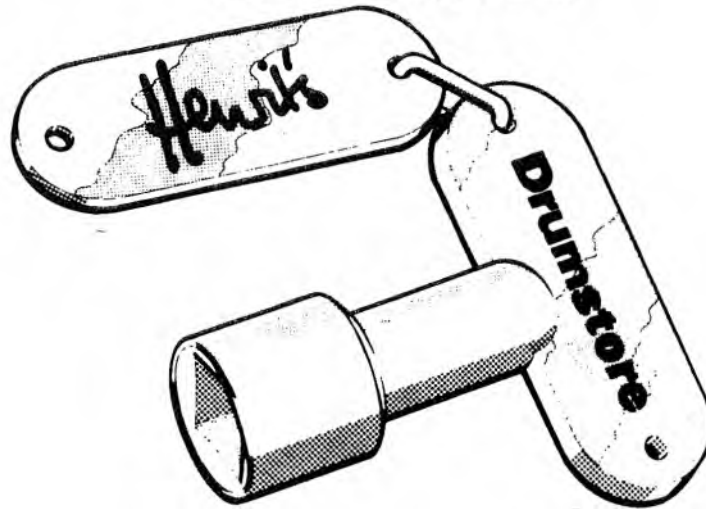
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KEY FOR STUDIO GUIDE

T Track
Cap Capacity
p/h per hour
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D Dolby
if Transfer facilities
R-R Reel to Reel
CP Copying
iba to be advised
Ka Keyboards available
R-C Reel to Cassette
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Dc Disc Cutting
d-t Disc to tape
Q Quad
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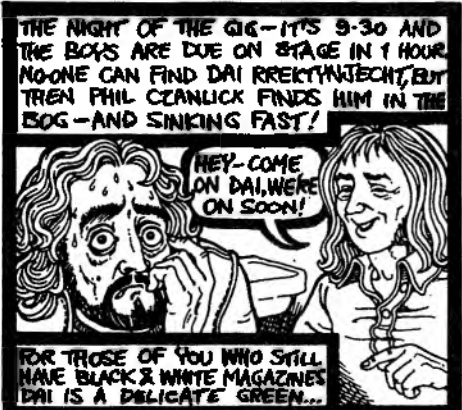
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PEARL DO THINGS PROPERLY

When Pearl decide to launch any musical item, they do it properly. Take last month's announcement of the new guitars for example.

Many companies launch guitars without really committing themselves to either the musician or the musical instrument trade. They bring out one model and they don't really think about the spares situation until they absolutely have to. With Pearl, it's different. When they launched Pearl guitars, they launched 27 new models alone and that's no mean feat!

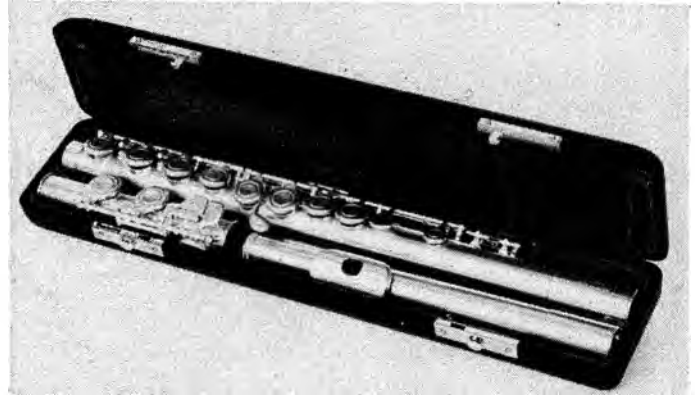
We carried the background details on the new instruments in Pearl Family No. 2 recently, but we'd like to take this opportunity to show

you some more pictures and let you see the details.

Having done that we'd also like to let you see the incredible list of drummers who are currently using Pearl. In the rush of putting together Pearl Family No. 2 we missed some out, misspelled some and generally got it a bit wrong. Here's the details: On Pearl are Roger Willis of Crazy Kat, Richard Burgess of Landscape, Dave Mount of Mud, Tim Whittaker of Deaf School, Jeff Allen with Barbara Dickson, Paul Varley of Arrows, Andy Ward of Camel, Art Morgan with Bob Sharples' TV Orchestra, Bob Henrit of Phoenix, John Gilston with Heron, Martin Drew - Ronnie Scott



All Pearl flutes are built to similar designs...



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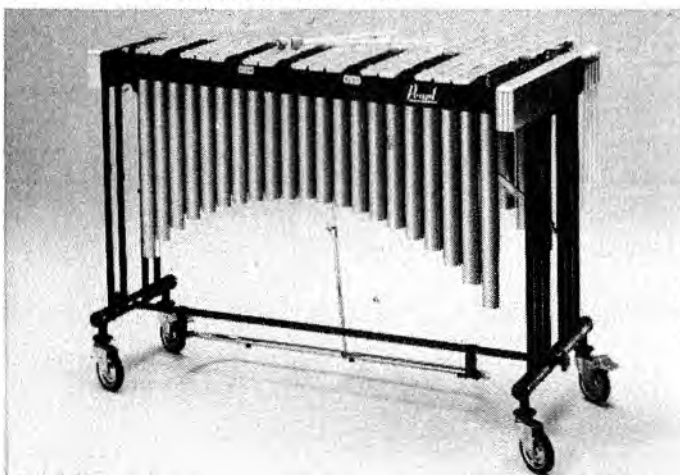
Some of the new electrics from Pearl.

Hislop of Slik, Rat Scabies with The Damned, Simon King with Hawkwind, Peter Van Hoek of Rock Follies, Gerry Husband with the Syd Lawrence Band, Chris Karan, Bob Jenkins of The Surprise Sisters, Bobby Worth at the Talk Of The Town and many other drummers to whom we apologise for not mentioning because of space restrictions.

We've also had hot news of a new set of Pearl vibes - more news of them will follow - for now, here's a picture!

Pictures of the fabulous new Pearl effects pedals have now reached us and are four important models. The Vorg Phase shifter, the Vorg Warp Sound, the Vorg Equaliser and Vorg Wah-Wah pedal. The Graphic Equaliser offers control over six separate frequencies in one little foot switch!

News of new Pearl products is arriving every month and we'll be letting you know all the details the moment they arrive. In the meantime watch out for these important new Pearl items in your Pearl dealer now!



Pearl Vibes

Quartet, Russ Bryant, -- Acker Bilk, John Burnip and Vic Chaulk with Mr. Big, George Burr of Deuce, Brian Hudson of Sparrow, Pete Meritt with Lonnie Donegan, Terry Jenkins with Tom Jones, Tony Crombie with Georgie Fame, session man Andy White, Bill Eyden with Joe Loss, John Richardson of the Rubettes, Robert "Congo" Jones of Sassafra, Gerry Evans with Freddie and The Dreamers, Rod Coombes with The Strawbs, Kenny

A yellow electric guitar with a black pickguard and two humbucker pickups is positioned vertically on the left. To its right is a black Music Man amplifier with a silver grille and a logo on the front panel. The background is a dark, gradient brown.

*We came
to PLAY!*



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THE DIFFERENCE BETWEEN HAGSTROM AND EVERYBODY ELSE IS THE DIFFERENCE BETWEEN A ROD AND A RAIL.

Hagstrom is the only one to support the neck with a rail. Everybody else uses a rod.

So what? So plenty. Because that's what it costs to replace the neck if it twists.

A rod can correct warping. Just like our rail can. But a rod is powerless over twisting. It's round. The wood rolls around it.

But a rail stops twisting in its tracks. A simple idea. As most great ideas are.

So why don't the others use a rail like we do? They can't. Hagstrom has a patent on it.

Hagstrom knows you don't buy a guitar just because it has a neck that won't twist. And we wouldn't ask you to invest in a guitar for that reason alone.

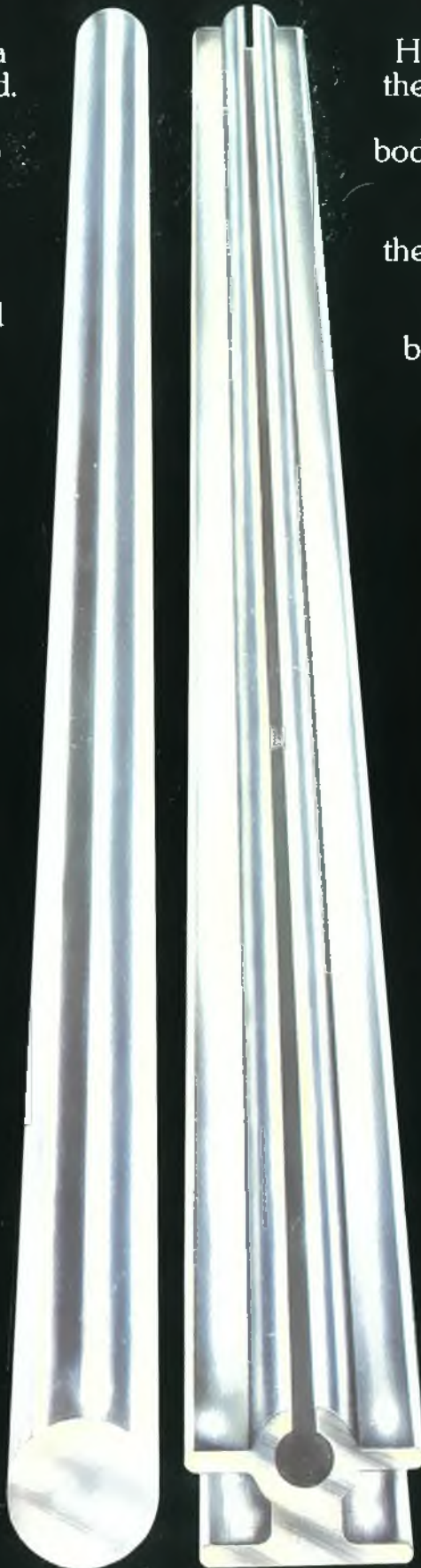
So examine each of the five electric guitars in the Hagstrom line. Compare them to any other guitar. Even those costing £200 more.

Run your fingers down the ebony fingerboard of The Swede,

the most popular of the Hagstroms. Take a close look at the hand craftsmanship. And the beauty of the solid mahogany body.

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