



15P

INTERNATIONAL

**AUDIO**  
**FESTIVAL**  
**& FAIR**



### GROOV-KLEEN Modern automatic record cleaner.

- Removes and collects dust without using liquid.
- Improves reproduction.
- Reduces record and stylus wear.
- Counterweight minimises slower turntable speed.
- Operates silently.
- Armrest incorporated.
- Beautifully finished in Chrome, bright anodised Aluminium and shiny black.

£1.99 Model 42

### Stylus Balance

Precision built. Calibrated. Measures stylus pressure within  $\frac{1}{2}$  gramme. In plastic container. £1.74 Size 32



### Indexa Record

Gramophone record filing and index system. Finds 1-100 instantly. Luxury padded index book, 100 pairs of numbered sleeve labels. Pad of coded printed pages.

£1.63½ Size A



### Compact Tape Head Cleaning Kit

Non-flam Cleaner, 4 Head Tools, 10 sticks and cloth in wallet. Recommended by Ferrograph, Revox and Tandberg. 49p Size J



### 1" Recording Tape Splicer

Fitted with clamps for holding tape for diagonal or butt splices. On non-slip base, complete with tape cutter and instructions. 99p Model 20



### Cassette Head Cleaning Tape

For all compact cassette machines. Removes oxide and dirt from heads. capstan and pinchwheel. In plastic container. 51p Size 31



### Cassette Case

High quality black padded PVC case with carrying handle for home and car. Holds 12. £1.49 Size 34



### Cassette Tape Recorder Care Kit

To clean cassette tape heads safely and easily, and also for joining and editing existing tapes precisely. Packed in plastic box. £1.98 Size 26A



1" TAPE EDITING KIT £1.36 Size 23  
CASSETTE EDITING KIT £1.50 Size 24  
CASSETTE SALVAGE KIT 44p Size 29  
SPLICING TAPE DISPENSER 23p Size 33  
STYLUS AND TURNTABLE CLEANING KIT 33p Size B  
HI-FI FLEX AND CABLE TIDY 16p pack of 5 Size D2  
CASSETTE TRAY 49p Size 38  
CASSETTE WALLET 62p Size 39  
8 TRACK CARTRIDGE TAPE HEAD CLEANER 98p Size 41

Prices shown are rec. retail.

# A visit to Stand 22 will make you even choosier about stereo systems. And make your choice even easier.

Listen to Deccasound. Once you've heard our range, you've heard the lot. We can offer you 30 watts of pure hi-fi. Handsome 6 and 12 watt systems. Or the new 4 watt units below, if your tastes are more modest.

Choose a unit system: turntable and amplifier (separate or combined) and speakers, with a tuner as optional extra. All perfectly matched for sound, as well as good looks. Or choose a console model – our Compact 3, with its built-in AM/FM tuners and detachable speakers.

Whatever you're looking for in stereo, you'll find a visit to Stand 22 will get you right to the bottom of the problem. And that you'll go away with the top answer.



**DECCASOUND**

**No fuss stereo. For the very fussy.**

Decca, Neachells Lane,  
Willenhall, Wolverhampton,  
Staffordshire.

# This is superb equipment

When you see Ferrograph Tape Recorders or Amplifiers, you can be sure that you have found the very best equipment that is available. That is why it is used by major broadcasting stations throughout the world, in the sonar rooms of the nuclear submarines, and in many other places where only the best is good enough.

Ferrograph.

Superb not only when you buy it, but still superb years afterwards. And we back this claim with a three-year guarantee.

## Ferrograph Tape Recorders:

Mono or stereo with reproduction as good as from disc or VHF radio. Fool-proof deck operation. Simple to operate. Variable speed spooling for easy editing and tape protection: separate volume and tone controls on each track: track transfer by means of a switch.

## Ferrograph Amplifiers:

Special features include separate tone and volume controls on each channel to adjust for room acoustics: field effect transistors for low noise and distortion: push-button filters for old 78 rpm records or archive tapes: stereo phones output socket on front panel: for use with all types of pick-ups and FM stereo tuners.

## FERROGRAPH SOUNDS GOOD



F307 stereo amplifier.



Series Seven  
Stereo machine

Now available with the Dolby B noise reduction system.



"Dolby" and "DOLBY SYSTEM" are registered trade marks of Dolby Laboratories Inc.

Enquiries to the Ferrograph Company.

**International Distributors:** Elpa Marketing Industries Inc - New York/Leroya Industries PTY - Subiaco Western Australia/Cineco, Champs Elysees, Paris/Atlas Sound Co - Singapore/Hi Fi Installations (PTY) Ltd - South Africa/Record Rendezvous - Amsterdam/Henry Wells and Co KG - Danhausergasse 3 Vienna/S. Hoyem - Copenhagen/Harry Thellmod - Stockholm/Electrex - Zurich/The Radio People - Kowloon.

Please send me a leaflet on Ferrograph tape recorders or ferrograph amplifiers.  
NAME \_\_\_\_\_  
ADDRESS \_\_\_\_\_  
The Ferrograph Company  
Limited, The Hyde,  
Chiswick Road,  
London  
W4E

# When it comes to the test... this is it!

Now, for the first time, all the major parameters of a magnetic recording system can be measured on a single, inexpensive instrument. The Ferrograph RTS1 Recorder Test Set.

Consisting of 4 basic sections—variable frequency audio generator, millivoltmeter with associated attenuator, peak-to-peak wow and flutter meter, and distortion measuring network—this instrument will measure frequency response, distortion, crosstalk, erasure, input sensitivity, output power and signal/noise ratio.

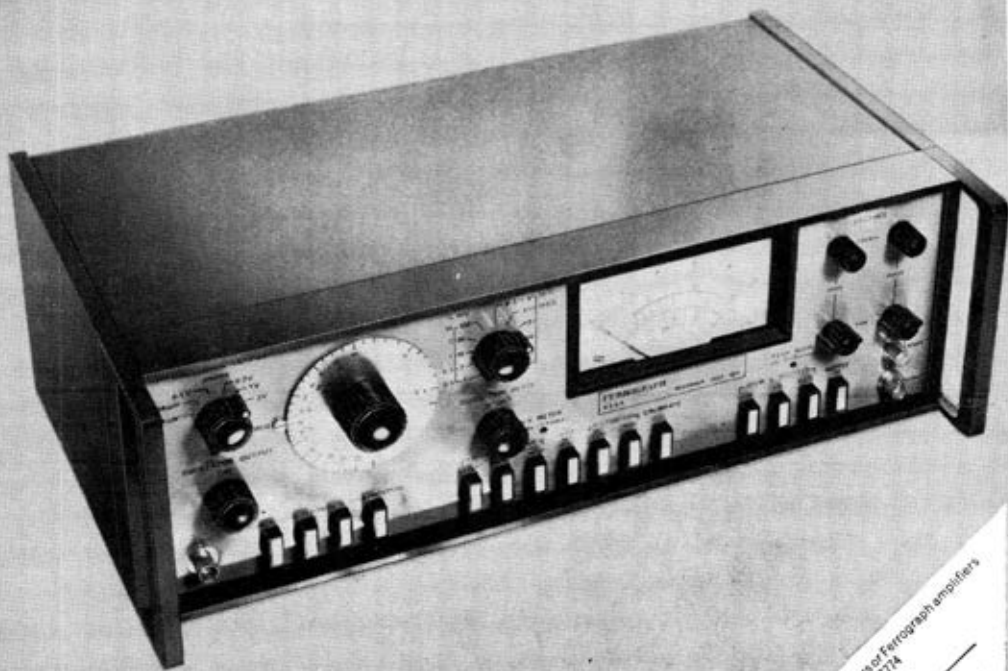
Completely solid state and lightweight, it may be used in the field

as well as the laboratory, operating on voltages of 100-120, 200-250 volts at 50 or 60 hz.

It is developed specially for those people who have to operate, maintain or service all types of tape recorders, sound-on-film equipment and audio apparatus.

The Ferrograph RTS1.  
Made to stand the test.  
Why not write for further details?

## FERROGRAPH SOUNDS GOOD



Please send me a leaflet on Ferrograph tape recorders or Ferrograph amplifiers  
or Telephone 01-255 2011 Telex 2777A

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SPEAKER  
SYSTEMS

New  
TUNER-  
AMPLIFIERS

New  
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CONSTRUCTORS  
LOUDSPEAKERS

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**Goodmans stand 59**

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Here's unbeatable quality of reproduction on our latest classical and light orchestral releases, reproduced under the Dolby system .....

**ARTHUR BLISS**  
Pastoral (Lie Strewn the  
White Flocks)/  
A Knot Of Riddlers



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SCHAEFER**  
Peter, Paul  
and Pianos

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Wigwam



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WESTMINSTER  
STRING BAND**  
Home Lovin' Hits



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STAPLETON AND  
HIS ORCHESTRA**  
**PLAY**  
Themes from  
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and other hits'



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Symphony No 1  
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..... as well as this magnificent music there is a host of top sounds from the worlds greatest recording artists in our enormous full price catalogue. Artists like Frank Sinatra, Herb Alpert, Mungo Jerry, Elton John, Judy Collins, and the Rolling Stones .....

..... our range of low price material is growing steadily and now includes a series of language courses .....

..... Precision Tape head cleaners are produced to enable you to give your tapes longer life and continued quality reproduction .....

..... then there's high performance Precision blank cassettes & cartridges .....

..... and the 'Soundguides' series — a guide at your ear to take you to and through some of the most beautiful and historically interesting places in Britain .....

..... that's what we've done in our first year. **See us at Stands 12 & 13**

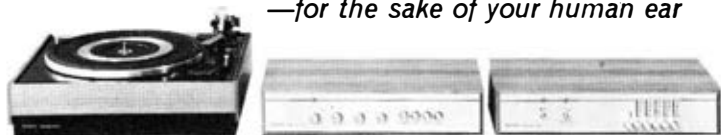


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THE AUDIO FAIR**  
or write to  
**Precision Tapes** ATV House,  
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London W1H 8AA.



# BUSH ARENA HI-FI

—for the sake of your human ear

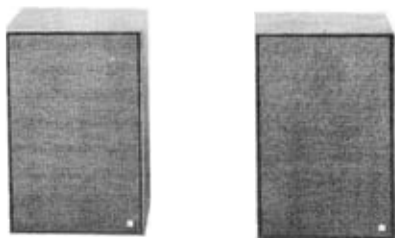
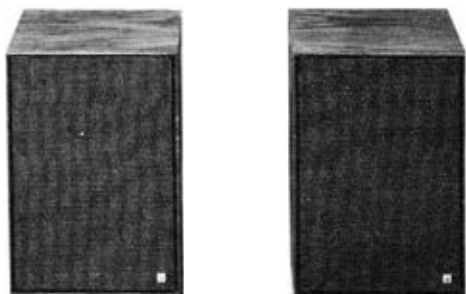


## BUSH Arena Hi-Fi Systems 1 & 2

A stereo record playing and VHF radio system featuring a Garrard SP25 Mk. III deck and Goldring G.800 magnetic cartridge, a 14 watts per channel stereo amplifier, a sensitive VHF radio tuner with push button selection and wide range speakers.

Price: System 1—as System 2 less the stereo VHF radio tuner—£103·71 in teak veneer

Price: System 2—£140·34 in teak veneer



## BUSH Arena Hi-Fi System 3

A high quality stereo record playing and VHF/FM radio system. It features the GARRARD AP76 transcription deck with the Goldring G800E high compliance magnetic cartridge. Power output is 15 watts per channel and the VHF/FM radio tuner has push button selection of 5 pre-tuned FM stations. The floor loudspeakers have a frequency response from 50–20 thousand hertz.

Price £189·29 in teak or rosewood veneer or white.





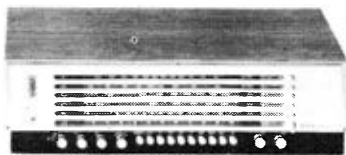


#### **BUSH Arena Hi-Fi System 4**

A de luxe three unit stereo record playing and VHF radio system. It features the Lenco B.55 transcription deck with the Goldring G.800E high compliance magnetic cartridge. The power output is 15 watts per channel and the sensitive VHF radio tuner has push button selection. The floor loudspeakers have a frequency response from 50-20,000 Hertz.

Price: £189.29

£20 stand shown £7.50 extra, available in teak veneer.



#### **BUSH Arena Hi-Fi System 5**

A de luxe record playing, VHF and multiband AM radio system. It features the Garrard AP76 transcription deck with the Goldring G.800E high compliance magnetic cartridge. The tuner-amplifier gives 15 watts per channel power output and offers the alternative of high quality VHF local and national reception or worldwide reception on MW, LW and 2 short wavebands. The floor loudspeakers offer extended bass response from 50-20,000 hertz.

Price: £196.04 in teak veneer



## **RANK BUSH MURPHY**

A DIVISION OF THE RANK ORGANISATION

**POWER ROAD, CHISWICK, LONDON W4**

Phone 01-994-6491

# The new BSR McDonald 810 transcription turntable. A sound reason for spending £45-51.



This transcription turntable weighs 17 lbs – diecast dynamically balanced turntable is  $7\frac{1}{4}$  lb. 4-pole dynamically balanced synchronous motor compensates for any mains fluctuation and record load.

Pitch control gives accuracy of turntable speed using a stroboscopic centre plate. Low mass gimballed pick-up arm produces virtually friction-free movement in both planes.

Slide-in cartridge carrier, decoupled one-piece counterbalance for minimum tracking pressure, arm length over  $8\frac{1}{2}$  inches to reduce tracking error to less than  $0.5^\circ$  per inch.

Viscous cueing and unique anti-skate device are two other important features.

Umbrella spindle interchangeable to rotating stub gives automatic single play versatility. Push buttons operate start-stop, record size control.

BSR Limited McDonald Division, Monarch Works, Cradley Heath, Warley, Worcs.  
Tel: Cradley Heath 69272.

**Stand No. 63 First Floor**

**BSR** McDONALD

It's a sound start.

Agfa-Gevaert presents you  
with a dramatic visual display.  
And an exciting new adventure  
in sound clarity.

We want you in on it.  
Inside the module you can  
sign in sound.

Enter a stimulating sound

identification competition, with  
lots of prizes to be won.

And hear something new.  
The sound of silence.

Agfa-Gevaert stand 34.  
Sounds exciting.

## Agfa Magnetic Tape



Has to be seen to be heard  
**STAND 34**  
Has to be seen to be heard



AGFA-GEVAERT



# SME

The best pick-up arm in the world

SME precision pick-up arms offer a standard of design and engineering which has earned them many distinctions. Throughout the world thousands are used daily by enthusiasts, professionals, and broadcasting and recording companies, who appreciate a specification that is eminently suited to the needs of modern high-quality sound reproduction.

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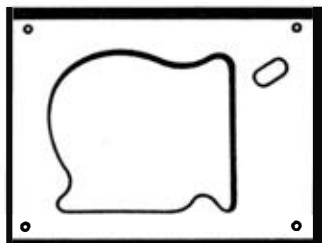


# SME

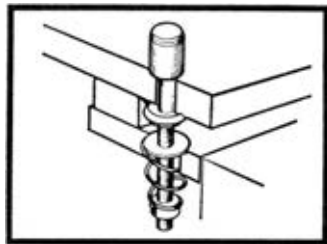
## MODEL 2000

### PLINTH SYSTEM

The SME model 2000 plinth system is more than a handsome and convenient housing for your turntable and SME precision pick-up arm. It meets the mechanical requirements under which the best performance will be obtained. High-quality workmanship is combined with ease of assembly. The basic unit is finished in selected veneers of teak, straight-grained walnut, or rosewood. A one-piece hinged lid in heavy acrylic is reinforced with a polished stainless-steel trim.



*Motor boards in matching veneers are ready cut and drilled for screw-driver assembly with the appropriate pick-up arm and turntable. An uncut board is also available.*



*Four-point spring suspension adjustable for height and damping protects the motor board from acoustic feedback and external vibration.*

Write for details to:  
**SME LTD · STEYNING · SUSSEX · ENGLAND**

# FOUR!



Four is the sound of the future, the incredibly life-like sound of 4-channel stereo. And it's yours today in the MCA-V7E, a revolutionary 4-channel integrated amplifier from JVC NIVICO.

For less than you'd pay for many conventional 2-channel stereo amplifiers, this single component opens the future for you in four big ways.

**ONE**, as a full-fledged 60 watt 4-channel integrated amplifier, the MCA-V7E prepares you for all the discrete 4-channel stereo tapes, records and FM broadcasts of the future.

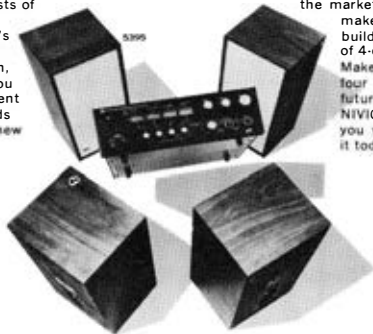
**TWO**, with JVC NIVICO's exclusive Sound Field Composer (SFC) built-in, the MCA-V7E allows you to convert your present 2-channel stereo records and tapes into the new 4-channel format.

**THREE**, it incorporates a BTL (Balanced-Transformer-Less) circuit which enables it to be used as a 90 watt regular 2-channel stereo amplifier. So in one inexpensive component you have a 90 watt 2-channel amplifier, a 60 watt 4-channel amplifier with a 2-channel to 4-channel conversion capability, and a 60 watt 4-channel amplifier with a capability of reproducing tapes, records and broadcasts especially prepared for 4-channel reproduction.

**FOUR**, No other 4-channel system now on the market offers so much. Or

makes it so easy to start building for the new age of 4-channel stereo.

Make no mistake about it, four is the sound of the future in stereo and JVC NIVICO's MCA-V7E makes you very much a part of it today.



**JVC**  
**NIVICO**

**SEE US ON STAND 65 AT THE AUDIO FAIR**

FROM THE SUPERB RANGE OF JVC NIVICO HI-FI & AUDIO EQUIPMENT

VICTOR COMPANY OF JAPAN, LIMITED

**DENHAM & MORLEY** (OVERSEAS) LTD., 453 CALEDONIAN RD,  
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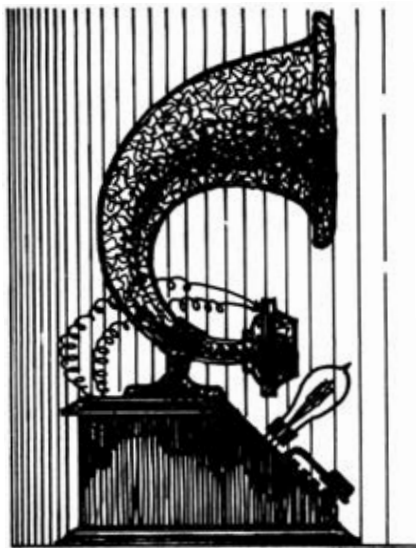
# See ZERO-100, the world's most sophisticated turntable, on stand No.41

Plus a big range of other high quality models  
that offer today's finest in hi-fi.

**Garrard**   
A PLESSEY QUALITY PRODUCT

Garrard, Newcastle Street, Swindon, Wiltshire

 635 & PLG

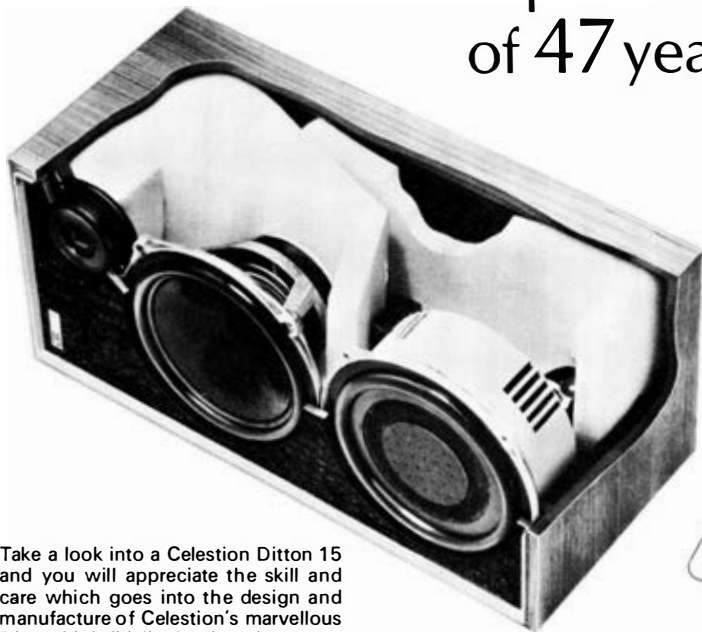


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**Celestion** Studio Series

**Loudspeakers for the Perfectionist**

you enjoy  
the sound  
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of 47 years



Take a look into a Celestion Ditton 15 and you will appreciate the skill and care which goes into the design and manufacture of Celestion's marvellous Ditton high fidelity loudspeakers.

Meticulous attention to detail, from the superb furniture finish right through to the precision engineering at the heart, ensure the quality for which Celestion are world renowned.

For the sheer enjoyment of your favourite music the Celestion Sound Experience has no equal. Just send your name and address and full details will be mailed at once.

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**ROLA CELESTION LIMITED**

**DITTON WORKS, FOXHALL ROAD, IPSWICH, SUFFOLK IP3 8JP**



# WHAT'S NEW FROM CELESTION?

You are invited to hear a demonstration of the NEW Celestion 'DITTON 44' monitor system – Stand 55.



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2-channel stereo signals transformed by a unique reproducing matrix circuit into exactly duplicated sound waves—the multi-dimensional sound field. Obviating the need for and surpassing 4-channel stereo. Yet achieving reproduction so precise it defies comparison. Due to the remarkable technique of 'Phase Modulation'. Another amazing breakthrough for Sansui—makers of quality amplifiers, tuners, speakers, turntables and stereo headphones.

## the Sansui QS-1 synthesizer

Also available—  
**SONOTONE** pick up cartridges, the climax of 40 years experience. One of the most widely sold cartridges in Europe.



Both marketed exclusively by:  
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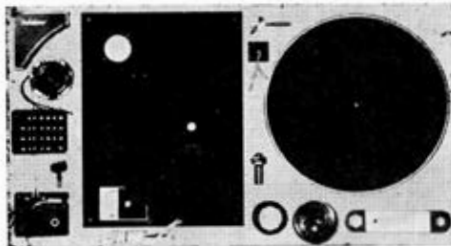
# Connoisseur Precision in Sound

## THE BIG 4-FOR THE ENTHUSIAST

### B.D.2 COMBINED TURNTABLE AND PICKUP QUALITY PERFORMANCE AT A REALISTIC PRICE

Featuring:

- \*33½ and 45 rpm
  - \*Virtually silent
  - \*Anti-vibration springs
  - \*Available as chassis only or on teak plinth.
- from £30.23



### TURNTABLE KIT

Something new from Connoisseur— a Kit of the world famous B.D.1 Turntable. Construction is simplicity itself—the only tools required being a small screw driver and a pair of pliers apart from the special spanner which is included. No soldering is required.

The B.D.1 Turntable operates at 33½ and 45 rpm incorporating a flexible belt drive system, virtually eliminating vibrating and transmission noise and giving a performance that will meet the requirements of the discerning enthusiast.  
Rec. Retail Price £12.82

### S.A.U.2 PICK-UP ARM

This is one of today's most advanced pick-up arms and has:

- \*Auto-bias compensator
- \*New head shell with lateral adjustment
- \*Hydraulic lowering device
- \*Precision balance and many other features



Rec. Retail Price £14.31  
Fulllest details of all

Connoisseur Equipment on request to:

### S.C.U.I STEREO CARTRIDGE

This is the cartridge for the person who really cares about his equipment.



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See us on STAND No. 61

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# RESLO



## Just walk and talk!

No messy leads to hamper or hinder. Complete freedom of movement with studio quality reproduction. The Reslo Radio Microphone provides the

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Come and see for yourself on **STAND No.39**

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## **NATIONAL PANASONIC IS THE LEADER!**

**SS.7020L** Complete audio system in matching wood finish. System comprises 4 pieces:- 2 speakers of unique design; separate record plinth; 12" turntable; 2 speed player, balanced tone-arm with cue-ing facility. Tuner-

amp has decoder with NATIONAL'S easy-to-use slide controls for volume, individual channel balancing and tone. Frequency range, MW/LW/FM with stereo decoder. Power output 10w per channel.



Just one of the exciting models to be seen on Stand No. 33 Ground Floor

United Africa House,  
Blackfriars Road, S.E.1.  
(Tel: 01-928 2070)

**NATIONAL**  
**PANASONIC**







**SONY®**  
STAND 51

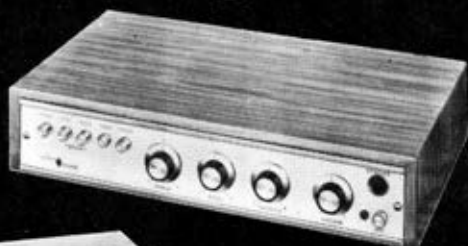
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RESEARCH MAKES THE DIFFERENCE  
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# Choose your Hi-Fi from the Metrosound range.

## ST20E STEREO AMPLIFIER

10 watts rms per channel.  
Frequency response 30Hz to  
30KHz. Inputs for Magnetic and  
crystal phono, tuner and tape.  
Stereo headphone socket.



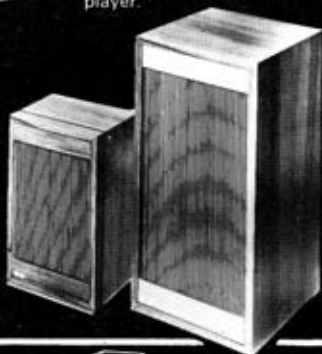
## SS30E COMBINED STEREO AMPLIFIER & CARTRIDGE PLAYER

Same features as ST20E  
plus 8-track stereo cartridge  
player.

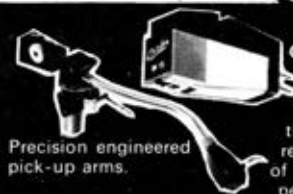
## HFS 103 & HFS 202 LOUDSPEAKER SYSTEMS

Teak finished speakers, ideal companions for  
use with Metrosound and any other amplifier.

Other Metrosound products include  
8-track tape cartridge players  
and replay units plus the largest range of  
tape and audio accessories in Great Britain.



**THORENS** Precision transcription  
turntables offering top perform-  
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**ORTOFON**  
Stereo  
cartridges  
famed for  
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reproduction  
of the original  
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**KOSS** *hearing is believing*

# Sanyosonic

(or how to double your listening pleasure with a single quadrasonic unit).

A Sanyo quadrasonic amplifier will add a new dimension to your stereophonic sound. It can be built into any existing system or used as a basis for a Sanyo system.

Sanyo are now entering the enthusiast Hi-Fidelity field with a complete range of products, each one offering a high standard of performance and giving excellent value for money.



## Model DCA 1700X

70 watts solid state stereo pre-main amplifier with quadrasonic stereo synthesizer. Total music power 70 watts at 4 ohms (THD 0.8%) 56 watts at 8 ohms (THD 0.8%).



## The Perfect Combination Model DCA 1400 and FMT 1400K

70 watts solid state stereo pre-main amplifier with a total music power of 70 watts at 4 ohms (THD 0.8%) 56 watts at 8 ohms. (THD 0.8%). FET-IC solid state AM-FM automatic stereo tuner, with a frequency range of 88 Hz to 108M Hz.



## Model DCX 2300K

Superbly presented FET-IC solid state tuner amplifier giving a total music power of 45W, with AM/FM and FM stereo radio, with fitted multiplex. See also, Model DCX 2500K.

A brand new tuner/amplifier just introduced into the Sanyo range.



See and hear the complete range on Stand 26

**SANYO**  a world of difference

**Our most expensive bargain.**



It costs far less than other high quality stereo magnetic cartridges that in no way approach its superb performance.

All the other cartridges in our Series 800 stereo magnetic range offer the same value even the G850 which gets the best out of budget Hi-Fi systems.

Seems we have world-beating magnetic bargains here at all levels. Full details on request.

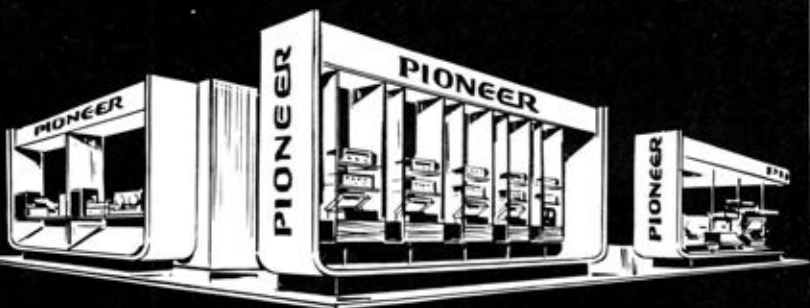
**Goldring**   
**Series 800**

Stereo Magnetic Cartridges

Introducing  
the Pioneer  
**four channel**  
system 

Visit Stand 50 and listen to the exciting new world of four-channel sound. A new sound system creating a more brilliant concert hall atmosphere than ever achieved in the past.

This fourth dimension sound system can be attained by a simple addition to your present 2-channel stereo system.



**demonstrated on Stand No. 50**

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East House, Chiltern Avenue, Amersham, Bucks. Telephone: 02403 5511





**TIDY**  
Fully Patented

**RECORD STORAGE SYSTEM**

**HOLDS RECORDS FLAT AND UPRIGHT BETWEEN CUSHION SPRUNG SUPPORT PANELS ALL THE TIME—PRESSES OUT WARPS**

**TRIED AND TESTED  
FOR MORE THAN TEN YEARS**

Hundreds of letters from delighted customers repeating orders are written proof.

**PROVED IN THE TROPICS**

PADDOCK "tidies" are in use all over the world—from NORWAY to the FALKLAND ISLANDS, from the U.S.A., HONG KONG and SINGAPORE to AUSTRALIA.

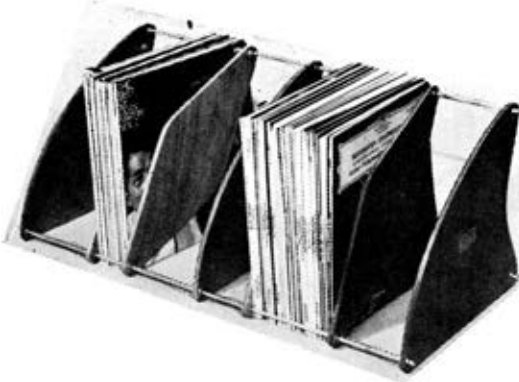
**MIRACLES ?**

Many of our customers have claimed that their PADDOCK "tidies" have corrected badly warped records. In October 1969 we received this letter . . . "it has corrected four records which I carelessly left in my car to bake in the sun."

**SPRINGS CANNOT COLLAPSE**

Specially designed cone-shaped springs provide cushioned pressure to hold one or 100 records at the right pressure. Springs under compression are always kept centrally guided along axis of control rods and never collapse.

**PERFECT STORAGE AT LOWEST COST PER RECORD at 2·90p. EACH**



**200 RECORDS COMPACTLY STORED FOR LESS THAN £6·00.**  
**12-in. Double Shelf Model 12C4, £5·80**  
(29½" x 11¼" x 13¾") incl. purchase tax and Polythene Dust Cover.  
Add 37p postage in U.K.



**12-in. Shelf Model 12C2. Holds 100 Records** (15½" x 11½" x 13¾") **£3·48 incl. purchase tax and Polythene Dust Cover. Add 28p postage in U.K.**

These superbly designed and attractive pieces of furniture are sturdily constructed with self-adjusting conical-spring loaded supporting panels in resin-bonded mahogany ply to prevent warping. Allow easy removal and replacement of records. Bottom rod prevents unwanted records being pulled out.

**THEY WILL FIT INTO MOST DRESSERS, CUPBOARDS OR CABINETS IF REQUIRED.**

In world wide use by Schools, Universities, Public Libraries and Broadcasting Services. Reviewed in the past by all the leading Magazines including UNSOLICITED RECOMMENDATIONS from some, such as *Illustrated London News* and *The Music Teacher*.

Send now for details  
and reviews of these  
and other designs.



NAME .....

ADDRESS .....

**To POWER JUDD & COMPANY LIMITED**  
**94 EAST HILL, LONDON SW18, ENGLAND (Dept. AFC) Phone 01-870 3304**



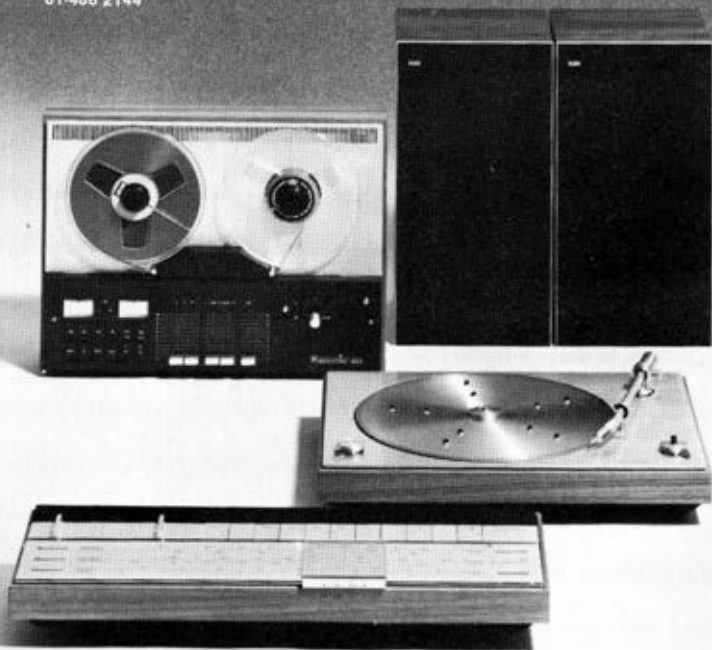
## Have you heard it yet?

The Bang & Olufsen Beosystem 1200. Four individualists, one family group - all bearing a unique and valuable guarantee of excellence. A planned programme of demonstrations will be presented throughout the day on Stand 27.

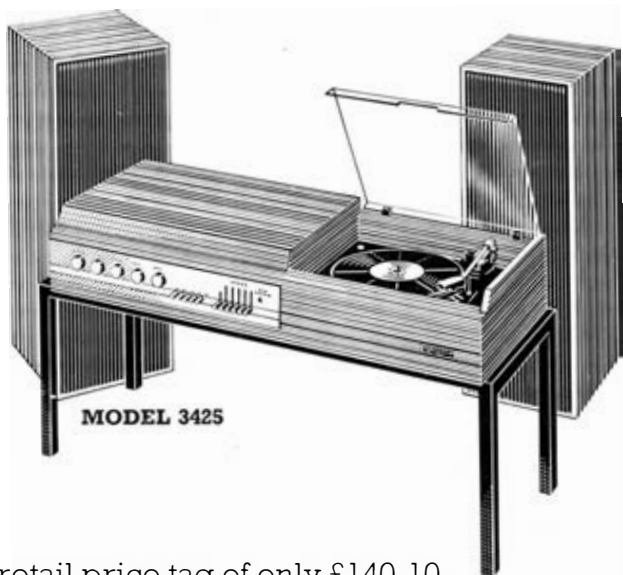
For further information or literature  
write to:

**Bang & Olufsen U.K. Limited**

Consumer Advisory Service  
Merica Road Gloucester 0452 31491  
London Office and Showrooms  
70/71 Welbeck Street London W1  
01-498 2144



# Now hear this!



A retail price tag of only £140.10 makes the Ferguson Unit Audio Model 3425 system something well worth listening to, so we'll be putting it through its paces on Stand 15.

Specification includes Garrard SP25 MkII S4-speed single record player, separate bass, treble and full range balance controls, 3-band VHF radio tuner and three unit teak finish loudspeakers. Makes it a real sound saleswinner . . . like the rest of the Ferguson Unit Audio range we have on display.

# FERGUSON

## Unit Audio on Stand 15



British Radio Corporation is a member of the Thorn group  
BRITISH RADIO CORPORATION LIMITED 284 SOUTHURY ROAD, ENFIELD, MIDDLESEX

# TRIO

## kaleidoscope of sound on stand 57

All the magnificent range of Trio High Fidelity equipment combining technical perfection with imaginative design and superb finish - can be seen and heard on stand 57.

### TRIO draw '71

Once again you can win an outstanding TRIO high fidelity system in our great FREE ENTRY draw. Prizes totalling over £170.00 in value include a complete stereo amplifier and tuner system. . . two amplifiers and ten sets of stereo headphones. The draw will be made on stand 57 by a leading audio personality at 8 p.m., on the 30th October. Full details and entry form from the TRIO girls on STAND 57 (1st Floor).



exclusive United Kingdom distributors  
**b.h. morris and co. (radio) limited.**  
84-88 Nelson Street, London E 1  
TEL: 01-790 5011



**HACKER**AUDIO

**STAND 44**

**SUPREME  
SOUND**

*(continuous demonstration)*

# The 15,000 sq.ft reason why B&W electronics aren't at this year's Audio Fair

15,000 sq. ft. is the size of our new factory at Worthing. We built it because the demand for our three monitor loudspeakers has grown so much and so fast that we desperately needed more room for production, more room for research.

We move on a date that's painfully close to the Audio Fair.

So with such a Herculean task on our hands, we hope you won't begrudge us not showing you our speakers in the accustomed manner.

But at least our new factory means we'll always have speakers available when you really want one.



**Model 70 Standard**



**DM3**



**DM1**

## **B&W** electronics

**Littlehampton Road · Worthing · Sussex Tel. 66830**  
*Grams 'Monex' Worthing*

# THE INSTANT IMPROVER

**Come and listen** to new sounds from BASF on Stand No. 64. See the CrO<sub>2</sub> Chrome Cassettes with the new patented mechanism and collect a free sample of LH Tape.



Special  
Mechanics  
**SM**  
Spezial  
Mechanik

BASF United  
Kingdom Limited,  
P.O. Box 473,  
Knightsbridge  
House,  
197 Knightsbridge,  
London, S.W.7.  
Tel: 01-584 5080

In all  
the kerfuffle  
of hi-fi stereo  
Armstrong  
have quietly  
taken over.

"The overall performance of the 521 is impeccable and I could find no fault" wrote F. C. Judd in his review for Hi-Fi Sound.

And who makes the 521 – Quad, Leak?

The answer is Armstrong – independent, pioneering and now impossible to beat.

For performance alone, the 521 25-watt per channel, hi-fi stereo

amplifier is a front runner in any choice.

For price, it's way out in front. £56.

Doesn't it sound like the one for you?

(Come and see us on Stand 70, and we'll give you full details of the 521 and Armstrong's range of impeccable tuners and tuner amplifiers.)





**Armstrong**  
REGISTERED TRADE MARK

you'll only hear good things about us

# the great U.K. home of High Fidelity



Now that you've been to the 'Fair' and seen all that's new in High Fidelity don't feel too disappointed because they wouldn't let you take the latest model home with you, they're just not allowed to – but at Lasky's things are different! We pride ourselves on always being first with all the latest makes and models. You'll find them ready and waiting for you to see, hear and compare – and what's more, when you have made your final choice, we'll let you take it with you – right away, we'd simply hate you to be disappointed. Visit Lasky's own international audio show at the Great New Home of High Fidelity.

The home of High Fidelity

**42-45 Tottenham Court Rd, London, W.1. 01-580 2573**

Branches :

**207 Edgware Rd, London, W.2. 152/3 Fleet St, London, E.C.4.**

Tel: 01-723 3271

Tel: 01-353 2833

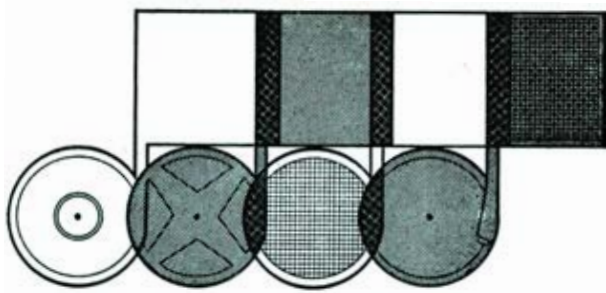
**33 Tottenham Ct. Rd. London, W.2. 109 Fleet St, London, E.C.4.**

Tel: 01-636 2605

Tel: 01-353 5812

## Choice in sound

# Laskys



# 17th International Audio Festival and Fair

*Festival Director: C. REX-HASSAN*

# OLYMPIA

Organised by:  
INTERNATIONAL AUDIO  
FESTIVAL & FAIR LTD  
DORSET HOUSE • STAMFORD STREET • LONDON SE1

**Welcome . . . . . to this Exhibition of Home Entertainment.**

**The Fair** is staged on three floors with easy access to all floors by escalators.

There are more than eighty Audio Studios where demonstrations and **concerts** are being held, given by experts . . . in some cases the Inventors or the Managing Director of the Manufacturers.

Interspersed with the Audio Studios are displays showing different accessories and some of great interest put on by magazines and periodicals allied to the Audio Trade. **A most comprehensive cross-section of the Audio Industry of the World is represented.**

In this catalogue is a complete Index of the Exhibitors and a description of the goods they are showing.

In the Hi-Fi Theatre which is located on the second floor a comprehensive programme of lectures and demonstrations has been arranged. Full details pages 50 to 53.

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*This Catalogue gives a complete guide to the Fair. First there is an INDEX of Exhibitors — after which there is a Technical write-up under each Trade name — arranged alphabetically. It also contains plans of each floor. All stands are clearly numbered and also have the Exhibitors Trade name. This is readily viewable as you walk along.*

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# **GUIDANCE OF VISITORS**

**HOURS OF OPENING** — 10a.m. to 9 p.m. daily October 26th-30th.

**ENQUIRIES** — The Information Bureau is directly in the Entrance. with receptionists to give any guidance that is needed.

**CLOAKROOM** — Ample facilities are available situated immediately to the left of the Hall entrance.

**LICENSED BARS** — Licensed buffets are open, on all floors.

**RESTAURANT** — The Empire Restaurant, on the ground floor is open for luncheons from 11.30 a.m. to 3.30 p.m.

**TELEPHONES** — Public telephones are sited in the centre of the ground floor behind the escalators.

**BANKING** — Full banking facilities are available through the National Westminster Bank, stand number 40 on the ground floor.

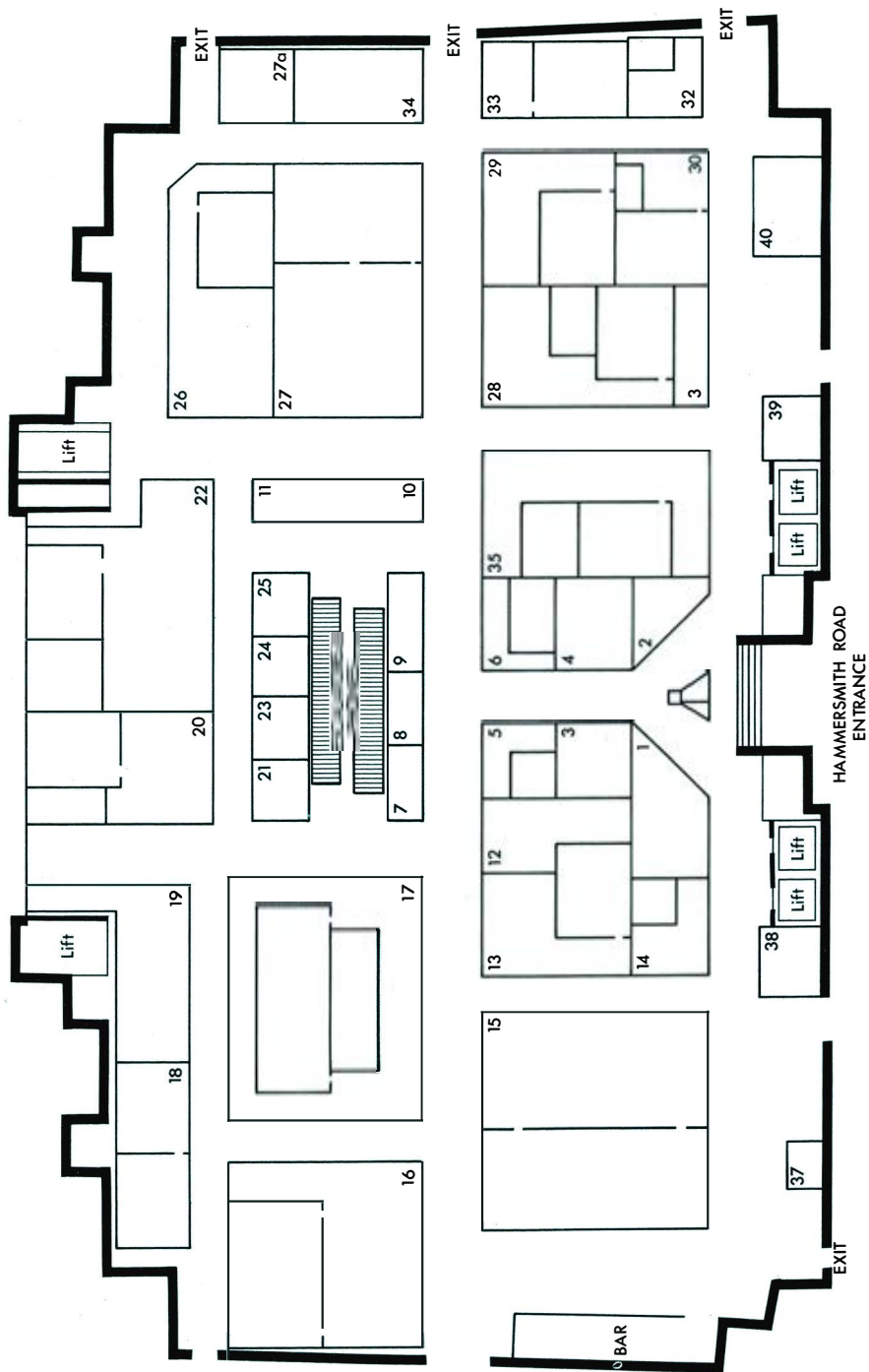
**FIRST AID** — There is a first aid post with qualified nurses in attendance in Hospital Avenue which is to the rear of the Hall.

**POSTAL SERVICE** — A stamp vending machine is available in the Hall.

**TRAINS TO EARLS COURT** — A regular Underground Service is provided between Olympia and Earls Court Station.

**OVERSEAS VISITORS** — The Information Bureau will assist with enquiries and there is an Interpreter available. An Overseas Visitors Lounge is incorporated with the Exhibitors Lounge.

**ORGANISERS AND PRESS OFFICES** — are on the first floor.



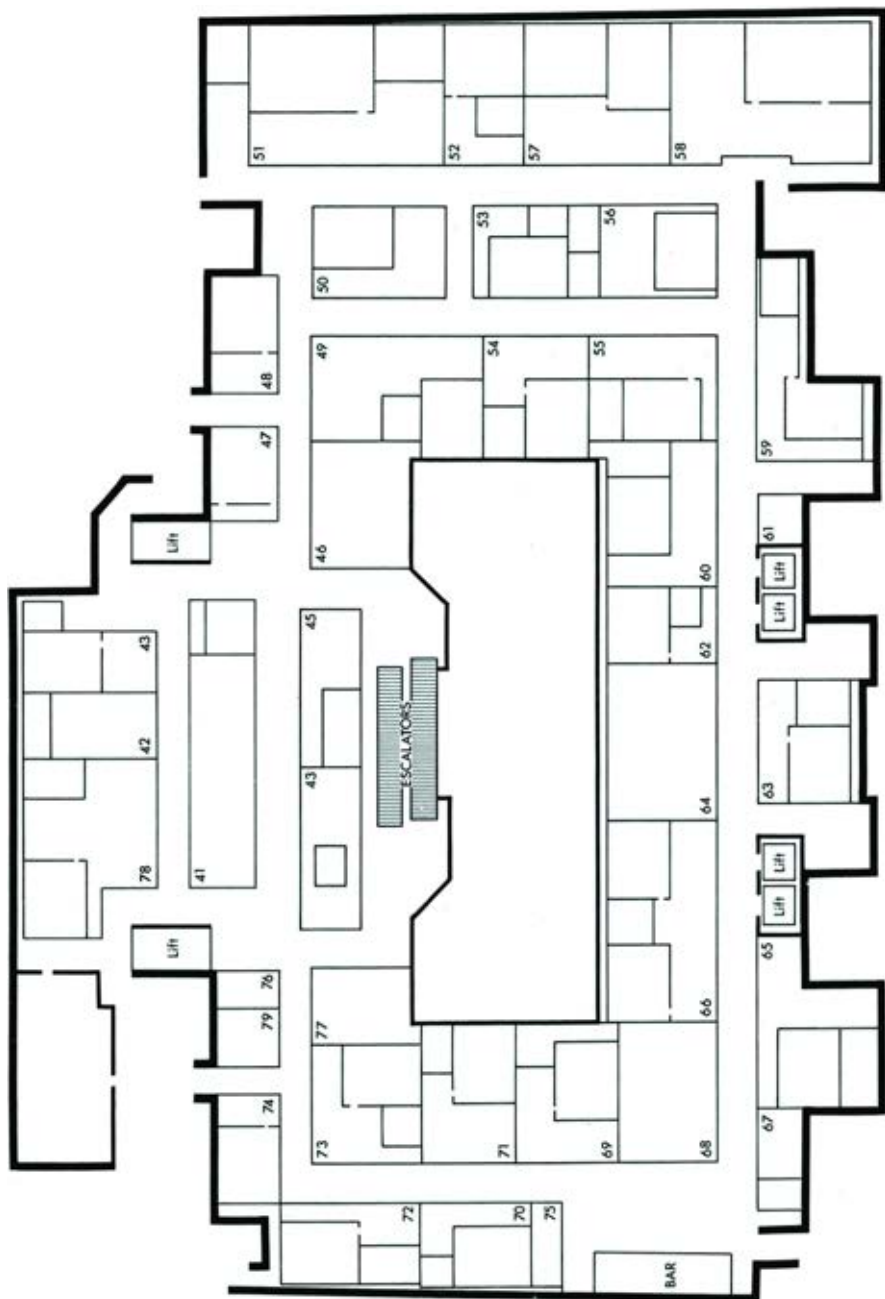
LAYOUT OF GROUND FLOOR

# Alphabetical List of Exhibitors

*This Index of Exhibitors is followed by a Products Guide containing a description of exhibits. Exhibitors are listed alphabetically by their Trade names, their full title and address, and the type of products manufactured.*

*In some instances Exhibitors have Display Stands only and are not themselves demonstrating, although their goods may be heard in conjunction with the demonstrations of other Exhibitors.*

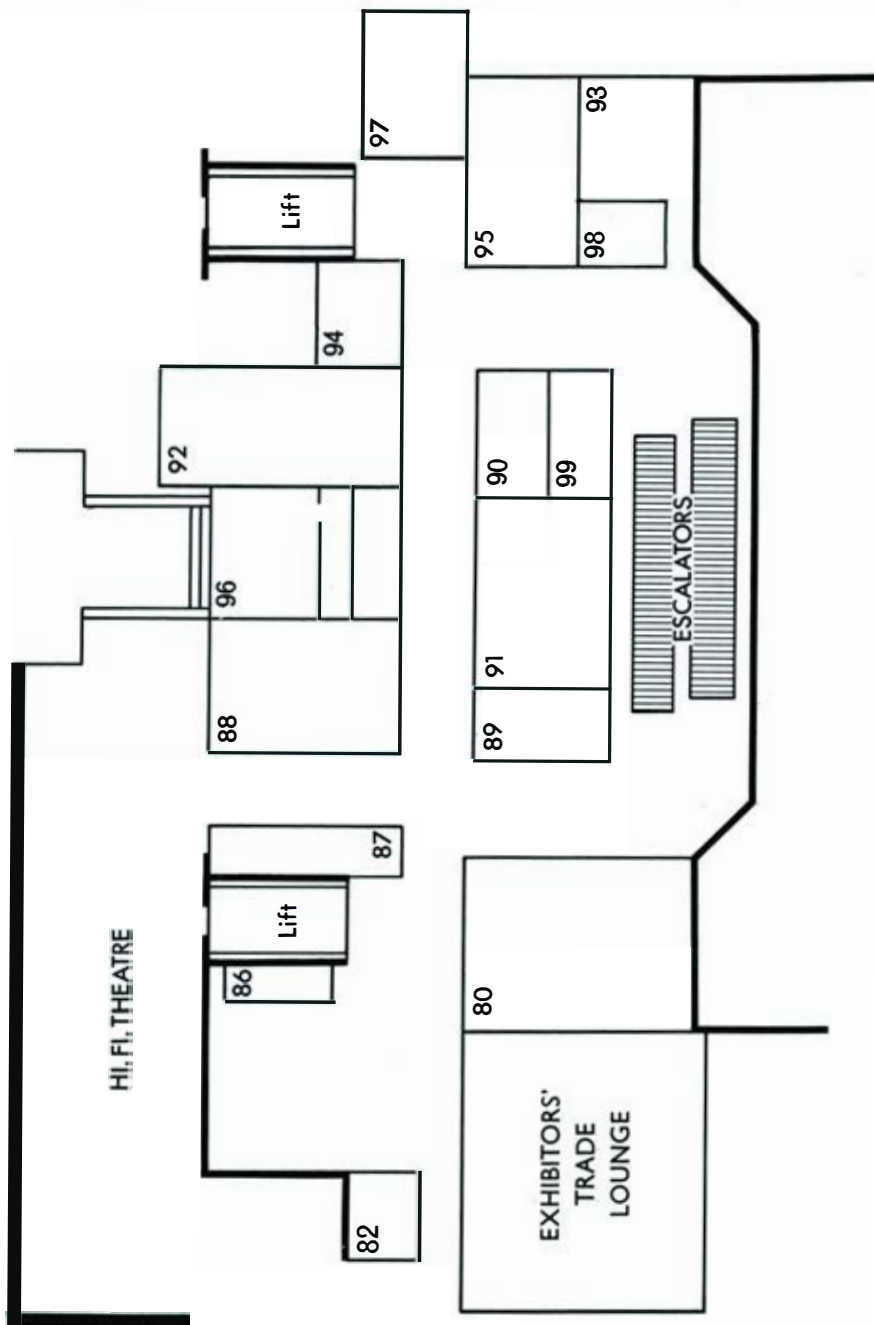
TRADE NAME	STAND No.
ADC	96 Second Floor
ACOUSTIC RESEARCH	71 First Floor
AGFA-GEVAERT	34 Ground Floor
AKAI	58 First Floor
AKG	75 First Floor
ALPHA BY HIGHGATE	14 Ground Floor
AMSTRAD	67 First Floor
ARMSTRONG	70 First Floor
AUDIO DEVELOPMENT	57 First Floor
AUDIO TECHNICA	50 First Floor
BANG & OLUFSEN	27 Ground Floor
B.A.S.F.	64 First Floor
BBC	38 Ground Floor
BELL & HOWELL	71 First Floor
BIB	31 Ground Floor
BSR McDONALD	63 First Floor
BROOK HOUSE FINANCE	23 Ground Floor
BUSH ARENA	16 Ground Floor



LAYOUT OF FIRST FLOOR



<b>TRADE NAME</b>	<b>STAND No.</b>
CELESTION . . . . .	55 First Floor
CONNOISSEUR . . . . .	61 First Floor
DARBY . . . . .	94 Second Floor
DECCA . . . . .	22 Ground Floor
DUBREQ . . . . .	95 Second Floor
DYNATRON . . . . .	49 First Floor
EKCO . . . . .	69 First Floor
EMCO . . . . .	62 First Floor
EMI . . . . .	78 First Floor
ELECTRICAL & ELECTRONIC TRADER . . . . .	2 Ground Floor
ELECTRICAL & RADIO TRADING . . . . .	2 Ground Floor
EMPIRE . . . . .	58 First Floor
F.B.T.R.C. . . . .	98 Second Floor
FERGUSON . . . . .	15 Ground Floor
FERROGRAPH . . . . .	77 First Floor
GARRARD . . . . .	41 First Floor
GOLDING SKANDIA . . . . .	100 Second Floor
GOLDRING . . . . .	53 First Floor
GOODMANS . . . . .	59 First Floor
THE GRAMOPHONE . . . . .	5 Ground Floor
GRUNDIG . . . . .	60 First Floor
H.M.V. . . . .	15 Ground Floor
HACKER . . . . .	44 First Floor
HEATHKIT . . . . .	18 Ground Floor
HECO . . . . .	72 First Floor
HI-FI NEWS & RECORD REVIEW . . . . .	6 Ground Floor
HI-FI SOUND / POPULAR HI-FI . . . . .	1 Ground Floor
HOWLAND-WEST . . . . .	42 First Floor
ITT-KB . . . . .	29 Ground Floor
JBL . . . . .	80 Second Floor
J. V. C. NIVICO . . . . .	65 First Floor



LAYOUT OF SECOND FLOOR

<i>TRADE NAME</i>	<i>STAND No.</i>
KEF	96 Second Floor
KELETRON	52 First Floor
KELLAR	91 Second Floor
KOSS	68 First Floor
LEAK	28 Ground Floor
MB MIKROFONBAU	65 First Floor
MARCONIPHONE	15 Ground Floor
MARKOVITS	37 Ground Floor
MEDWAY	79 First Floor
METROSOUND	35 Ground Floor
MICRO SEIKI	57 First Floor
MUSONIC	21 Ground Floor
NATIONAL PANASONIC	33 Ground Floor
NATIONAL WESTMINSTER	40 Ground Floor
ONKYO	47 First Floor
ORTOFON	35 Ground Floor
PADDOCK TIDY	25 Ground Floor
PHILIPS ELECTRICAL	17 Ground Floor
PHILIPS RECORDS	19 Ground Floor
PIONEER	50 First Floor
PRACTICAL ELECTRONICS	4 Ground Floor
PRACTICAL WIRELESS	3 Ground Floor
PRECISION TAPES	13 Ground Floor
PYE	69 First Floor
Q.A.S.	90 Second Floor
QUAD	43 First Floor
RCA	89 Second Floor
RADIO LONDON	86 Second Floor
RECORDS & RECORDING	9 Ground Floor
RESLOSOUND	39 Ground Floor
REVOX	11 Ground Floor

<i>TRADE NAME</i>	<i>STAND No.</i>
ROTA . . . . .	52 First Floor
ROTEL . . . . .	58 First Floor
SME . . . . .	76 First Floor
SANSUI . . . . .	66 First Floor
SANYO . . . . .	26 Ground Floor
SATURN SOUND . . . . .	99 Second Floor
SCANELTRA . . . . .	52 First Floor
SENNHEISER . . . . .	87 Second Floor
SCOTCH . . . . .	45 First Floor
SHARP . . . . .	30 Ground Floor
SHURE . . . . .	73 First Floor
SINCLAIR . . . . .	56 First Floor
SOHO RECORDS . . . . .	12 Ground Floor
SONOTONE . . . . .	66 First Floor
SONY . . . . .	51 First Floor
SOUND & PICTURE . . . . .	7 Ground Floor
STAX . . . . .	24 Ground Floor
STE-MA . . . . .	52 First Floor
STEREO INTERNATIONAL . . . . .	8 Ground Floor
STUDIO SOUND . . . . .	6 Ground Floor
TANDBERG . . . . .	46 First Floor
TANNOY . . . . .	54 First Floor
TELEFUNKEN . . . . .	74 First Floor
THORENS . . . . .	35 Ground Floor
TRIO . . . . .	57 First Floor
UHER . . . . .	48 First Floor
ULTRA . . . . .	15 Ground Floor
UNLIMITED SOUND . . . . .	32 Ground Floor
WHARFEDALE . . . . .	20 Ground Floor
WIEN . . . . .	88 Second Floor
WIRELESS WORLD . . . . .	2 Ground Floor
YAMAHA . . . . .	92 Second Floor

# HI-FI THEATRE

Second Floor, Empire Hall, Olympia

The Festival Director

Cyril Rex-Hassan

presents

## “Realisation of Sound”

A programme of twenty varied items comprising talks, demonstrations, discussions, concerts and lectures, all on the subject of **SOUND**. These Sound happenings are held daily at 2 p.m., 4 p.m., 6 p.m. and 8 p.m. on Tuesday 26th, Wednesday 27th, Thursday 28th, Friday 29th and Saturday 30th.

The Hi-Fi Theatre is on the **Second Floor** of the hall. Entrance is free to visitors, but they must obtain Tickets beforehand—from either the **INFORMATION KIOSK** on the Ground Floor, or through an exhibitor who will book for you.

TAKE THE ESCALATOR TO THE  
SECOND FLOOR

### TUESDAY, 26th OCTOBER

**2 p.m.**

#### **Acoustics of rooms**

*by Roger Driscoll (Polytechnic of North London)*

This lecture will explain, with some simple demonstrations, the behaviour of sound waves in closed rooms. It will show how and why factors such as absorption, reverberance, size and shape of the room are important for good listening conditions, whether in concert halls or domestic listening rooms.

**4 p.m.**

#### **Processing of Gramophone Records**

*by E. B. Pinniger (Technical Manager, British Homophone Ltd.)*

An illustrated account of the physical and chemical processes and overall quality control involved in gramophone record production. All the manufacturing stages from the original cut lacquer blank to the final moulded record will be described.

**6 p.m.**

#### **‘Wireless World’ presentation :**

##### **The musical value of synthesisers**

*by Professor Tristram Cary*

What effects can a synthesiser produce? Since a machine cannot itself create music, how does a composer actually make use of a synthesiser?

**8 p.m.                    Live, recorded, dead or alive ?  
                                  —Some Audio Experiments**

*by Adrian Hope (Freelance writer for Hi-Fi News & Studio Sound)*

Experiments intended to try and evaluate the relative value of full and not so full frequency range recordings. Also some experiments intended to give the audience a chance of trying to distinguish between live and recorded sounds. All the experiments fraught with problems and quite likely to prove disastrous in practice, but hopefully worthwhile in one way or another, whatever happens.

**WEDNESDAY, 27th OCTOBER**

**2 p.m.                    Producing Classical Recordings**

*by Christopher Bishop (EMI, International Artists' Department)*

Some of the problems—musical and technical—that have to be solved in the creation of classical records will be discussed (with recorded illustrations) by the speaker, who was responsible for the superb HMV Angel recording of Verdi's *Don Carlo* and the Vaughan Williams' Symphonic Cycle, by Sir Adrian Boult, among many EMI releases.

**4 p.m.                    Tape Troubles**

*by H. W. Hellyer (Tape Recorder and Hi-Fi Centres, Bristol/Cardiff)*

Service engineer of wide experience, and prolific technical writer on tape and audio topics, this speaker will tackle the special problems of tape equipment and design, arising from commercial factors and the need to keep the cost of the final product at a reasonable level. Practical illustrations.

**6 p.m.                    'Wireless World' presentation:  
                                  The progress of sound reproduction**

*by Ralph West*

Audio engineering has several landmarks in its less-than-100-years history. Is there a realizable ideal just around the corner, or has the best already been achieved?

**8 p.m.                    Women and Hi-Fi**

An informal group discussion by the distaff side of hi-fi households to examine the effects of hi-fi and other home entertainment systems on personal relationships and domestic order and decor. Among those ladies participating will be Gwen Crabbe, Psyche Pirie and Wendy Jefferson, and others. The chairman will be male, and questions will be invited from the floor.

**THURSDAY, 28th OCTOBER**

**2 p.m. The development and practical use of dynamic and electrostatic headphones**

*by Mr. Howard Souther*

*(Vice President Engineering, Koss Electronics Inc., Milwaukee, Wisconsin)*

Mr. Howard Souther has been directly concerned with the development of stereo headphones for amateur and professional use since the first model was marketed in 1959, culminating in the latest electrostatic and 4-channel headphones. Mr. Souther, author of the article entitled 'An Adventure in Headphone Design', which has been reprinted in many leading high fidelity journals throughout the World, will provide a rare opportunity to hear at first hand the latest developments in respect of headphone design taking place in the USA and other countries.

**4 p.m. 'Wireless World' presentation:  
Loudspeakers—why the weakest link?**

*by Dr. Arthur Bailey*

Frequency response, transient response, polar distribution, efficiency—how do these requirements conflict in practical designs?

**6 p.m. An eccentric look at the record repertoire**

*by Donald Aldous (Hi-Fi News & Record Review)*

Delving deep into his collection of recorded curiosa, humorous and hi-fi recordings, our speaker presents in his inimitable style a programme of records which—he says—'you love to hear but seldom buy!'

**8 p.m. Silence and Music**

*by R. Berkovitz (Head of Advertising & Information, Dolby Laboratories Inc.)*

Silence is an important part of music. Since the best recording systems in use today add an unacceptable amount of noise, new electronic and psycho-acoustic means are needed to enable recording technology accurately to reflect musical practice. The Dolby noise reduction system will be explained and demonstrated.

**FRIDAY, 29th OCTOBER**

**2 p.m. Multi-channel recording**

*by Robert Auger (General Manager, Granada Recordings Ltd.)*

This widely experienced engineer will state the case for the use of multi-track tape equipment for the recording of classical music, from the professional engineer's point of view, and will endeavour to show the flexibility of control available at the subsequent dubbing session, following the recording session proper. Demonstration.

**4 p.m. Record Rejuvenating**  
*by A. C. Griffith (EMI, International Artists' Department)*

The special techniques involved in transferring historical 78 r.p.m. discs to LP format will be explained by the speaker, who has unique knowledge and experience in this field. The re-creation of mock or pseudo stereophonic records from mono masters will also be touched on. Demonstration.

**6 p.m. 'Wireless World' presentation :**  
**Design problems in audio amplifiers**  
*by John Linsley Hood*

How much further is there to go in amplifier design? Are the best class B amplifiers really good enough for critical ears? Can amplifier performance be fully objectified by measurement?

**8 p.m. Feed-back-chat**

Under the chairmanship of John Gilbert (technical consultant, 'The Gramophone'), well known audio personalities will answer and discuss questions raised by the audience, with comment from the floor. The panel will include: Donald Aldous (Review Editor, 'Hi-Fi News') John Borwick (Technical Editor, 'The Gramophone') Clement Brown (Editor, 'Hi-Fi Sound') John Crabbe (Editor, 'Hi-Fi News') John Greenbank (Assistant Editor, 'Wireless World') Geoff Shorter (Assistant Editor, 'Wireless World') Jonathan Vickers (Assistant Editor, 'Popular Hi-Fi').

The event will be recorded by a team from BBC Radio London, and broadcast in the 'Sounds Good' series on November 17th, 1971.

**SATURDAY, 30th OCTOBER**

**4 p.m. Audio tape cassettes and cartridges**  
*by Walter Woyda (Precision Tapes Ltd.)*

The new 'shapes of sound' will be described and illustrated, including the latest noise reduction techniques, with recent material in both media.

**4 p.m. 'Wireless World' presentation :**  
**Recital of Recorded Music**

Two small corner-horn loudspeakers will be used to provide a high standard of fidelity. The design is based on Toneburst's 'Low-cost horn loudspeaker system' published in *Wireless World*, May 1970.

**6 p.m. From all directions**  
*by R. H. Fisher (Acoustic Products Specialist, ITT Components Group)*

A lecture with demonstrations, illustrating some common problems in sound pick-up and possible solutions. The characteristics of principal types of microphones and their uses will be covered.

**8 p.m. A Great Sound Happening—A Jazz Concert**

**SPECIAL EVENT**

On Saturday 30th at 11 a.m. there is the Prize Giving and Presenting of Trophies for the 1971 British Amateur Tape Recording Contest.

All are welcome—particularly Tape enthusiasts.



# Description of Exhibits and Products

## **ADC**

**Audio Dynamics Corporation**  
Pickett District Road  
New Milford,  
Connecticut, U.S.A.

## **STAND 96**

**Second Floor**

### *Pick-up Cartridges*

Audio Dynamics Corporation is one of America's leading high fidelity manufacturers, producing a complete chain of equipment cartridges, amplifiers, tuners, receivers and loudspeakers. It is for cartridges of superlative quality that ADC are best known in Europe.

ADC marketed the world's first commercially available high compliance cartridge in 1961. It was an instant success for at that time the sweetness with which it reproduced complex orchestral works and highly modulated transient sounds was outstanding. A few years later ADC scored another instant success with the invention of the induced magnet principle which dramatically reduced the effective moving mass at the stylus tip by getting rid of the heavy moving magnet still used in most other designs of cartridge. During the ensuing years this design has been refined and incorporated in a wonderful new 'X' series of cartridges. These range from the 220X using a spherical diamond tip and costing £6.54 right up to the fabulous ADC 25 which costs over £80 and comes equipped with three interchangeable playing points covering all known groove geometry. This latter cartridge is of course intended for the serious enthusiast with a large collection of records. With it, he can be confident of hearing his discs reproduced with top quality no matter what their age or source might be.

In between exists a range of six single stylus cartridges in a well graded price scale and with top grade mechanical and electrical characteristics in each class.

Reviewers have consistently remarked on the excellent performance of ADC cartridges which are regarded as competing in the world's best three brands.

The importance of choosing a good cartridge cannot be overstressed. Unless the pickup can extract from the record a clean, faithful and undistorted signal, no amount of money spent on subsequent items in the reproducing chain will result in a satisfactory overall performance. No amplifier, however complex can replace missing information which the cartridge has overlooked, nor can it reject distortion resulting from mistracking. A reliable high compliance cartridge with low moving mass and carefully engineered geometry is an indispensable starting point for any high quality reproducing equipment choose well by selecting ADC. Our cartridges range from the very good to simply superb.

ADC cartridges are fully guaranteed and serviced in Great Britain by HISONIC LIMITED a wholly owned subsidiary of KEF Electronics Limited.

**Sole Agent: Hisonic Ltd., Tovil, Maidstone, Kent. Tel.: 57258.**

**AGFA-GEVAERT**

**STAND 34**

Agfa-Gevaert A.G.,  
Leverkusen-Bayerwerk,  
W. Germany.

**Ground Floor**

*Magnetic Recording Tape*

After an absence of 2 years, Agfa-Gevaert return to The International Audio Festival & Fair with a spectacular demonstration to promote their Low Noise Magnetic Recording Tapes.

Visitors to the demonstration will be able to see the complete range of Low Noise tapes, which include: PE 36 (Long Play), PE 46 (Double Play), and PE 66 (Triple Play). The exhibits will also include Agfa Compact Cassettes, types C.60, C.90 and C.120.

On show for the first time and of special interest to the enthusiast will be the Agfa Compact Cassettes types C.60 and C.90 containing the new **chromium dioxide tape**.

Technical staff will be available on the Stand to dela with visitors' enquiries.

★ SEE ADVERTISEMENT ON PAGE 9

## **AKAI**

**Akai Electric Company Ltd.,**

12, 2-Chome,

Higashi-Kojiya, Ohta-Ku,

Tokyo, Japan.

**STAND 58**

**First Floor**

*Tape Recorders, Tape Decks, Amplifiers, Tuner/Amplifiers, Loudspeakers, Accessories.*

Once again, Akai, leaders in the field of Hi-Fi Tape Recorders and Tape Decks have proved themselves to be one of the foremost technical innovators with the introduction of many new machines to maintain the consistent high standard of their product range.

Since the last Audio Fair, the 1720L has been introduced and has become very popular at a price of £83.73. Also selling well, at new prices are the X1800SD at £153.00, (which is a combined 4 track Reel to Reel, and 8 track Cartridge Recorder/Play back machine) and the X200D Stereo Tape Deck at £145.95.

Akai introduced for the first time, at this exhibition, the GX 220D Stereo Tape Deck, and the GX 280D Stereo Tape Deck, (both of which incorporate the new GX-Head, which is dust free and guaranteed for 150,000 hours of service) with significant features such as 3 motors, 3 heads, continuous reverse and improved frequency response, to mention but a few.

Akai have also made great advances in the Cassette Recorder field, and are introducing the new models CC-60 and CC-60D. These machines have two outstanding features:- the Auto-changer which holds 6 Cassettes and the Invert-o-matic, which automatically inverts the tape for reverse recording and play-back. These two features combine to give 12 hours continuous playing. These machines also have a Cassette Discard Rack, which holds discarded cassettes after the second side of each cassette has been played.

Akai have also entered the 4-channel field, and are exhibiting the 1730DSS, which is a 4-channel Tape Deck, although this works perfectly well as a normal 2-channel Stereo System. To combine with the 1730DSS is the Akai AA 6100, pre-main amplifier, which produces 4-channel amplification.

The Akai accessory line has also been extended to include the ASE 22 Head-phones and the popular compact CSS8 Speakers, which retail at £23.13 per pair.

To see all these models and many other current lines, come to stand 58 where Studio demonstrations of Akai Equipment are scheduled every half hour. Unfortunately, space is limited, so to avoid disappointment, please ask for admission tickets in advance from the Stand Receptionist. There may also be some exciting new products, details of which were not available at the time of going to Press.

**U.K. Distributors: Audio Products, Rank Audio Visual, P.O. Box 70, Great West Road, Brentford, Middx. Tel.: 01 568 9222 Ext. 378 or 382.**

**AKG**

**AKG Akustische-u. Kino-Gerate GmbH,**  
15 Nobilegasse 50,  
A1150 Vienna,  
Austria.  
Tel: Vienna 921647

**STAND 75**

**First Floor**

*Microphones and Headphones*

The main emphasis of the AKG exhibit will be on stereophonic headphones.

**K120**—Robust construction, comfortable earpads. Our least expensive headset, yet offering good quality reproduction.

**K60**—Our top selling headset in both the professional and amateur fields, introduced about two years ago very smooth response, light, comfortable to wear, double headband soft, large ear pads, which are detachable and can be replaced easily.

**K150**—Looking very similar to the famous K50 but with improved performance a professional quality headphone ideal for those who prefer a lightweight unit.

**K180**—The most recent addition to the range and also the most sophisticated. Still lightweight and comfortable to wear. An important feature of this headphone is that the volume between the transducer system and the ear drum can be varied by the turn of a knob. This feature allows you to select your 'seat in the concert hall'.

AKG microphones which are extensively used professionally in the U.K. will also be exhibiting the models for home and semi-professional use.

**U.K. Distributors: A.K.G. Equipment Ltd., 182/4 Campden Hill Road, London, W8 7AS. Tel.: 229 2695**

★ SEE ADVERTISEMENT ON PAGES 198 & 199

## **ALPHA BY HIGHGATE**

**Alpha by Highgate,**  
184-188 Great Portland Street,  
London, WIN 5JB  
Tel. 01-636 2901-4

## **STAND 14** **Ground Floor**

### *Composite Audio Equipment*

Alpha by Highgate has originated from a joint British-Danish development (after the Arena factory burned down and was taken over by another organisation) to market quality high fidelity equipment made in Britain, Denmark and Japan to the highest high fidelity specifications to the joint design and development of the Anglo-Danish organisation. The new range comprises of the following components:

Four Amplifiers from 20 watts RMS (total) to 50 watts RMS (total) retailing from £29.50 to £44.50.

Five Tuner/Amplifiers, e.g. AM/FM tuner/amplifier multiplex with latest styled front, in teak case, slide controls and filters, retailing from £59.00 to £99.00.

Two Combination Units, one of 2 × 6 watts RMS and one of 2 × 18 watts RMS with the Lenco turntable and Pickering Cartridge.  
One AM/FM Tuner.

A full range of speakers, developed and made in Denmark.

Danish bases and covers for the full range of Garrard equipment.

A stereo cassette tape deck of the highest standard, including filter, retailing at £59.00.

The newly developed Dolby Noise Reducing System, Alpha DB5, which has already proved itself as one of the best noise reducing systems available on the home and European markets.

**Alpha by Highgate and Highgate Acoustics** in their range incorporate the following brands:—

Luxor of Sweden in quality and durability of equipment are like the well-known Swedish firm of 'Volvo' cars and are presenting their latest high fidelity range in the 'Low & Lean Scandinavian' look. To view this beautiful range, please visit our Stand Number 14.

From Harman Kardon—America's leading hi-fi manufacturer, we bring a selection of the most advanced merchandise, the Citation 11 pre-amplifier and Citation 12 amplifier 2 × 60 watts RMS; the Harman Kardon CAD-5 professional cassette deck with Dolby noise reducing unit, claimed to be the best on the market, at the new price of £145, as well as the Omnidirectional speaker HK50.

Pickering—the world's largest and most experienced manufacturers in magnetic pick ups presents a most reliable range of magnetic cartridges—the XV15 and V15 series 3, as well as the new additional range of V15 Ultra Mk. 5.

The latest Kalimartronic headphones with slide controls.

The revolutionary Poly Planar speakers presents the P40 replacing the P20 at the same price with extra power handling capacity of 25 watts RMS and a frequency range from 20 to 20,000 cycles. This is now regularly available with and without cabinets, as well as in table form, with omnidirectional characteristics.

Perpetuum-Ebner high fidelity turntables to be used either as single players or fully automatic low mass pick up arms and tubular alloy constructions, the PE2020L, PE2018 and PE2016L.

## **AMSTRAD**

**Amstrad Electronics Ltd.,**  
35/35 Gt. Sutton Street, London EC1

**STAND 67**

**First Floor**

*Amplifiers, Loudspeakers, Stereo Systems*

### **New to an Audio Fair**

We are exhibiting the popular Amstrad 8000 Mk II Stereo amplifier which retails at a competitive £27·95. This has a 7 watts per channel (RMS) output and has sockets for Magnetic, Ceramic and Crystal inputs. Also facilities for tape, tuner, and scratch filter.

Also amongst our new products is the **1000 Unit Stereo**. A competitive stereo system giving a true 10 watts (RMS) output through twin 8in. x 5in. elliptical speakers. Input sockets for both tape recorder and radio. The Garrard automatic turntable is housed in a beautiful teak cabinet with flip-top perspex lid. Combined with matching speaker cabinets this unit's smart appearance will appeal strongly to the newcomer to stereo. Unbeatable value at £48·00 retail.

### **AMSTRAD IC 2000 Stereo Amplifier**

This latest amplifier incorporating integrated circuits Output 20 watts (RMS) per channel and features include: Rumble filter, scratch filter, loudness control, sliding balance switch, etc. etc. In other words, an amplifier to satisfy the most discriminating enthusiast, but offered at an economic £39·00 retail.

Amstrad are one of the first UK manufacturers to use integrated circuits at such high output level.

## **ARMSTRONG**

**Armstrong Audio Ltd.,**  
Warlters Road,  
London, N.7  
01-607-3213

**STAND 70**

**First Floor**

### *Tuners, Amplifiers, Tuner-Amplifiers*

Armstrong, one of the best known names in British Audio are showing and demonstrating their complete series 500 range as follows: 521 stereo amplifier, 523 AM/FM tuner, 524 FM tuner, 525 FM stereo tuner amplifier, 526 AM/FM stereo-tuner amplifier, and optional with any of the tuners and tuner-amplifiers, is the M8 stereo decoder.

#### **Series 500**

##### **Amplifier 521, 525, 526**

Power output: 25 watts per channel.

Power bandwidth: 20-25,000 Hz.

Frequency response: 20-20,000 Hz  $\pm$  1 dB.

Harmonic distortion: Less than 0.5 per cent. for all power levels up to 25 watts and at all frequencies throughout the audio range. Typically 0.1 per cent. at 1 kHz at 15 watts output into 8 ohms.

Loudspeaker matching: Any impedance between 4 and 16 ohms.

Inputs: Magnetic and ceramic pick-ups, tape playback, radio.

Controls and other features: On/off, volume, bass, treble, balance, rumble filter, treble filters, loudness, headphone output, tape monitor, stabilised power supply.

##### **FM Tuner 523, 524, 525, 526**

##### **AM Tuner 523, 526**

Coverage: FM 86-109 mHz. AM Medium 510-1625 kHz: Long 150-300 kHz.

Sensitivity: FM 1-5  $\mu$ V for 30 dB signal to noise. FM 5  $\mu$ V for 20 dB to noise.

FM limiting: Full limiting at 5  $\mu$ V.

FM Stereo: Optional Stereo Decoder M8.

Controls and other features: Inter-Station noise suppression, flywheel tuning, automatic mono-stereo FM switching, stereo indicator, tuning meter.

The full specification of Series 500 is given in the full-colour **Armstrong** catalogue.

An eight-page booklet containing press reviews is also available together with a list of stockists and Main Dealers.

★ SEE ADVERTISEMENT ON PAGES 38 & 39

## **AUDIO DEVELOPMENT**

**STAND 57**

**T.T.C.,**

**First Floor**

2-4, 1-Chrome,

Komagata, Daito-ku,

Tokyo 111, Japan.

### *Cartridges*

Audio Development products offer the High Fidelity enthusiast (and audio industry) the most remarkable quality and value currently available. The AD-76K stereo magnetic cartridge—recommended retail price only £4.35 (including purchase tax) has, since its introduction three years ago, become the most popular cartridge in its class. Reviewers and satisfied audiophiles are united in their praise of its excellent channel separation and balanced reproduction coupled of course with its amazingly low price. Now Audio Development breakthrough the quality price barrier again with the higher compliance AD-96K stereo magnetic cartridge, and the AD-309K precision counter-balanced pick-up arm supplied fitted with the AD-76K cartridge.

**AD-76K** — Specification. Type: stereo magnetic. Frequency response: 20-20,000 Hz. Output voltage: 5 mV (1Kc, 5cm/sec.) Stylus: Diamond LP 0.7 mil, mono compatible. Channel separation: 20 dB. Compliance:  $10 \times 10^6$  cm/dyne. Tracking force: 2gms + 0.5gm. Mounting: Standard  $\frac{1}{2}$ in. centres. Recommended retail price £4.35 (including purchase tax). Replacement stylus type JS.P1 £1.97.

**AD-96K** — Specification. Type: Stereo magnetic Frequency response. 20-20,000 Hz. Sensitivity: 5 mV. Stylus: Diamond LP, mono compatible. Channel Balance:  $\pm 1$  dB. Channel separation: 20 dB. Compliance:  $12 \times 10^6$  cm/dyne. Tracking force: 2 grammes. Mounting: standard  $\frac{1}{2}$ in. centres. Recommended retail price £5.93 (including purchase tax). Replacement stylus type Y.960S. £2.58.

**AD-309K** — Precision counterbalanced pick-up arm ready fitted with the outstanding AD-76K stereo magnetic cartridge. The arm is constructed of brass throughout heavily chrome plated, using needle and miniature ball race bearings, coarse and fine balance adjustment is provided. The fixed head has standard  $\frac{1}{2}$ in. mounting centres and is finished in black enamel with chrome lifting handle.

Technical details: Overall length 285 mm: needle to pivot length 223 mm: offset angle 24 deg., overhang 10 mm. Requires single 7/16 in. dia. mounting hole. Completely wired, with all fixing nuts and washers. Arm rest also supplied. Recommended retail price £9.56 (including purchase tax).

Audio Development is stocked by only recognised franchised dealers, backed by full service and technical facilities in the U.K.

**Sole U.K. Importers and Distributors: B. H. Morris & Co. (Radio) Ltd., 84-88 Nelson Street, London, E.1. Tel.: 01-790 4824/5011.**

★ SEE ADVERTISEMENT ON PAGE 34



## **AUDIO TECHNICA**

**Audio Technica Corporation,**  
2206 Naruse,  
Machida,  
Tokyo, Japan.

**STAND 50**

**First Floor**

### *Cartridges*

Audio Technica are one of Japan's leading Manufacturers of Hi-Fi cartridges and tone arms. The cartridges include both high and low compliance models.

There are three different models with alternative stylus assemblies. These are the AT55, AT66 and AT21.

The AT55 has either 0.0005in. or 0.0007in. stylus whilst the AT66 and AT21 not only have 0.0005 and 0.0007 but an elliptical version. A 75 rpm stylus is made to fit the AT66.

**AT55:** Frequency Response: 20Hz-20KHz ( $\pm 2$ db); Separation (1KHz): 25db; Output (@ 1KHz, 5cm/sec): 4; Compliance: 22; Tracking: 2-3 grams.

**AT66:** Frequency Response: 20Hz-20KHz ( $\pm 2$ db); Separation (1KHz): 25db; Output (@ 1KHz, 5cm/sec): 4; Compliance: 30; Tracking: 1-2½ grams.

**AT21:** Frequency Response: 10Hz-25KHz ( $\pm 2$ db); Separation (1KHz): 30db; Output (@ 1KHz, 5cm/sec): 4; Compliance: 30; Tracking: ½-2 grams.

The **AT1005 mk II tone arm** is a universal static balanced arm with many refinements, among which are the following:-

**Straight Line Slide Weight:** This is a mechanism for rapidly adjusting stylus pressure. A teflon seat-loaded fine adjustment sub-weight is also incorporated to allow for zero balancing.

**Anti-Skating Bias Mechanism:** In the form of a thread and weight is standard.

**Direct Reading Stylus Pressure Gauge.**

**Special Light Weight S Type Shell:** This offers easy cartridge mounting, plus the ability to effectively prevent resonance.

**Hydraulic Arm Lift:** Specially designed for the AT1005 II, is also available as optional equipment.

**Tracking Error:** 1 deg. 30in. or below.

Distributed in the U.K. through **SHRIRO (U.K.) LTD., Electronics Division,** 42 Russell Square, W.C.1. Tel.: 01 580-6996.

★ SEE ADVERTISEMENT ON PAGE 29

**BANG & OLUFSEN**

**STAND 27**

**Bang & Olufsen A/S**

**Ground Floor**

Struer,  
Denmark.

*Cartridges, Turntables, Amplifiers, Tuners, Tuner/Amplifiers, Tape Recorders, Speakers and Complete Systems.*

Bang & Olufsen are introducing a complete new range of high-fidelity loudspeakers. There are six new models in the range, each built to the highest standards of Danish design, and each exceeding the DIN 45,500 high-fidelity requirements by a wide margin. Beovox 1700 and 2700 are both pressure chamber speakers whose modest dimensions make them ideal for bookshelf mounting. Beovox 1800 has equally high performance specifications but is a wall-mounting speaker with a sleek, flat profile. Beovox 3700 and 4700 are larger, floor-standing models. Beovox 5700 is a new departure in Bang & Olufsen loudspeakers, and it has been developed in co-operation with Rola-Celestion of Great Britain. The new Beovox 5700 is a studio quality speaker, using the ABR principle—a system which effectively improves the frequency response and transient reproduction while reducing distortion and cabinet size.

A special feature of the Bang & Olufsen stand will be the “Strobophone”—an audio/visual demonstration of the Auxiliary Bass Radiator system used in the Beovox 5700. Visitors are welcome to take part in this presentation.

Other models on their first major public exhibition include the new Beocord 1600, Beocord 1200 and Beogram 1200, which will also be demonstrated in the Bang & Olufsen studio. As in previous years, all seats for demonstrations are bookable in advance, and in view of the usual very heavy demand for places, visitors are advised to book early to avoid disappointment.

**U.K. Distributors: Bang & Olufsen UK Ltd., Eastbrook Road, Gloucester GL4 7DE  
Tel. (0452) 21591. Consumer Advisory Dept., Mercia Road, Gloucester, Tel. (0452) 31491. London Office & Showroom, 70/71 Wellbeck St., London W1.  
Tel. 01-486 2144.**

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**B.A.S.F.**

**Badische Anilin- & Soda-Fabrik AG,**  
6700 Ludwigshafen Am Rhein,  
Western Germany.

**STAND 64**

**First Floor**

*Magnetic Tape, Compact Cassettes, Cassette Recorders & Tape Accessories*

1971 is a historical year for BASF since it marks its entry into the Cassette Recorder Market.

Two models are on show to the public for the first time, these are the C9200 and the C9300 the latter being a radio cassette recorder.

No less important is the introduction of a completely new compact cassette the Cr O<sub>2</sub> SM. This cassette incorporates chromium dioxide tape and the exclusive BASF SM (Special Mechanics) system which ensures constant free running and elimination of irritating wow and flutter caused by variable tape tension.

The full range of BASF LH tapes will be made complete by the introduction of Long Play, Double Play and Triple Play LH Tape on 3" and 4½" reels.

Members of the public are invited to make a copy tape or cassette on the stand, which they may take away free of charge, carrier bags will also be available.

BASF personnel will be in attendance at all times to discuss any problems.

**U.K. Address: BASF United Kingdom Limited, P.O. Box 473, Knightsbridge House, 197 Knightsbridge, London, S.W.7. Telephone No.: 01-584 5080. Telex No: BASF London 267574/5**

★ SEE ADVERTISEMENT ON PAGE 37

**BBC**

**STAND 38**

**The British Broadcasting Corporation,**

**Ground Floor**

Broadcasting House,

London W1A 1AA.

Tel. No. 01-580 4468

*Broadcasting*

The BBC is providing an information bureau at which technical information about all the BBC's services is available. Engineers in attendance will be pleased to discuss new developments in broadcasting and to advise on reception problems.

The VHF radio services have continued to develop, with the opening of a new relay station at Windermere and 12 more local radio stations, making 20 in operation.

Stereophonic transmissions have started from Rowridge, which serves a large part of southern England. Two new stereophonic studios have been brought into service at the new Birmingham Broadcasting Centre. The number of stereophonic programmes broadcast in Radio 3 has continued to increase and they now average more than 50 hours a week.

Work is in hand to install a new programme link from London to Sutton Coldfield and Holme Moss using pulse code modulation—this will give improved performance and will be capable of carrying up to three stereophonic services. It is hoped that it will soon be possible to extend stereophony into Radio 2 and Radio 4, and eventually to extend these services to other parts of the country.

**BIB**

**STAND 31**

**Bib Sales Division,  
Multicore Solders Ltd.,  
Hemel Hempstead,  
Herts.  
Tel: 0442 3636**

**Ground Floor**

*Audio Accessories*

Included in the range are:

**Bib Compact Tape Head Cleaning Kit—Size J.** Cuts repair costs, ensures better recording and reproduction with either reel or cassette recorders. Kit comprises, bottle of Bib Tape Head Cleaner (non-flammable), 2 Blue Tape Head Applicator Tools, 2 White Tape Head Polisher Tools, 10 Applicator and Polisher sticks, Cleaning Cloth, all in plastic wallet. 49p.

**Stylus and Turntable Cleaning Kit—Size B.** Essential for maintaining stylus and turntable free from dirt. Kit contains, special cleaning brush on free-standing base, absorbent cleaning cloth, bottle of approved, non-flammable, anti-static cleaner, with full instructions. 34p.

**Bib Recording Tape Splicer—Model 20.** For use with  $\frac{1}{4}$ in. 6.3 mm. recording tape of any thickness. Invaluable for accurate tape editing. Chrome finished clamps for holding tape for diagonal or butt splices. Special non-slip base, complete with razor cutter and instructions. 99p.

**Bib Cassette Tape Editing and Joining Kit—Size 24.** A complete kit to enable cassette tapes to be edited easily, quickly and accurately. The kit comprises, cassette tape splicer ( $\frac{1}{8}$ in. 3.2mm.), 2 precision tape cutters, tape piercer, 10 self-adhesive cassette and container labels, reel of splicing tape, 3 tape winders and removers (2 spares), instruction leaflet, in handy plastic wallet. £1.50.

**Bib Cassette Head Cleaning Tape—Size 31.** Incorporated in a cassette for cleaning tape heads, capstan and pinch wheel in one quick operation. Suitable for all compact cassette recorders and players. 53p.

**Bib Stylus Balance—Size 32.** Precision built and manufactured from non-magnetic alloy and fitted with non-scratch base. Calibrated to be accurate within  $\frac{1}{4}$  gram to 5 grams. Simple to operate and supplied with full instructions. Supplied in presentation 'jewel' case. £1.80.

**Bib Luxury Padded Cassette Case—Size 34.** Luxury padded cassette case to hold 12. Designed so that the cassettes can be easily withdrawn and replaced. Fitted with special easy opening fastener and carrying handle. £1.58.

**Bib Record Dust-Off—Size 36.** Removes dust from records easily to improve reproduction and reduce record and stylus wear. 14p.

★ SEE ADVERTISEMENT ON INSIDE FRONT COVER

**BSR McDONALD**

**STAND 63**

**BSR Ltd.,**

**First Floor**

Monarch Works,

Cradley Heath,

Warley, Worcs.

Tel. Cradley Heath 69272

*Transcription Units, Record Changers, Turntables, Pick-up Cartridges, Plinths and Covers.*

**BSR ANNOUNCE TRANSCRIPTION UNIT**

The long predicted entry of BSR Limited, the world's largest manufacturers of record changers, into the transcription field is announced for The International Audio Fair at Olympia.

BSR present a new unit, styled the BSR McDonald 810, which is indisputably first choice at its price of £45.51 for the basic unit, and incomparable in quality within the price range. Features include push button operation, a pitch control for absolute accuracy of turntable speed and a virtual friction free pick up arm movement which is gyroscopically controlled with a concentric gimbal mount.

Twelve months ago, BSR Limited launched the BSR McDonald consumer range, a range which has received enthusiastic acclaim from the discerning hi-fidelity enthusiast. The 810 is the culmination of design expertise and production efficiency which has successfully produced in succession the wide selling MP 60 and HT 70 single play units. In presenting the 810 BSR have honoured the promise made when BSR McDonald first became established as a quality brandname coupled with reliability and sheer value for money. The promise was to produce an outstanding transcription unit at an outstanding price. The 810 is the result.

The technical data for the 810 is impressive. It is a two speed player, 33 $\frac{1}{3}$  and 45 rpm., utilising as its heart a 4 pole dynamically balanced synchronous motor driving a 7 $\frac{1}{2}$ lb. diecast balanced turntable. A stroboscopic centre plate when coupled with the pitch control ensures absolute turntable accuracy. A low mass pick up arm, in length over 8 $\frac{1}{2}$ " , has less than 0.5° per inch tracking error and pivots gyroscopically in a concentric gimbal mount. Traditional BSR McDonald quality features are also present with viscous damped cueing and the unique BSR McDonald antiskate device.

Although primarily a single play unit, versatility comes with an interchangeable umbrella spindle giving true automatic function if required.

The 810 can be mounted in a polished wooden plinth and fitted with a rigid smoke tinted styrene dust cover (supplied as optional extras). The design features are all those which have made the BSR McDonald Series one of the country's top sellers.

★ SEE ADVERTISEMENT ON PAGE 8

**BROOK HOUSE FINANCE LTD.**

**STAND 23**

**Brook House Finance Ltd.,**  
The Hyde,  
London, N.W.9.  
Tel: 01-205 6591.

**Ground Floor**

*Credit Sale Finance for the purchase of Audio and Music Equipment.*

Brook House Finance Ltd. is one of the United Dominions Trust group of companies. The company specialises in the provision of credit sale finance for the purchase of a wide variety of goods. Balances of £40 upwards can be financed, but the company only accepts business through appointed retailers who have suitable premises and who can provide an assured after-sales service. For these retailers Brook House prepares a special credit plan and, in addition, provides leaflets and point-of-sale display material to encourage the development of business on credit sale terms. No stipulation is made about volume of business, but facilities for isolated transactions are not available.

By buying their audio and musical equipment from retailers who operate the Brook House finance plan, enthusiasts can enjoy its immediate use, and without having to disturb their savings convenient monthly repayments can be made over a period of one to two years.

Brook House Finance Ltd. operates from a large, modern office block at The Hyde, London, N.W.9.

★ SEE ADVERTISEMENT ON PAGE 176

## **BUSH ARENA Hi-Fi**

**Stand 16**

**Rank Bush Murphy Ltd.,**  
Power Road, Chiswick,  
London, W.4.  
Tel. 994 6491

**Ground Floor**

### *Hi-Fi Systems*

One of the big attractions of this show is the appearance of the new Bush Arena Hi-Fi range. This equipment is engineered, designed and manufactured by Rank Arena in the new factory in Denmark, and there will be comprehensive demonstrations of the five systems which will be offered.

Each Bush Arena system has been selected from a range of high quality units including decks, tuner-amplifiers and shelf and floor speakers.

In all there are five systems. Each system was created for Bush by the Danish designer Hans Olsen. Of them he says: "I have tried to create a simple, beautiful design".

### **Systems**

Bush Arena 1 is a stereo record player system to give full hi-fi stereo affect at the lowest possible price.

Garrard provide their well-known record player deck SP25 Mark 3; Goldring 'Free Field' magnetic cartridges are provided. The compact amplifier gives 10 watts per channel, for pure, clear reproduction at minimal distortion. It's easy to use too with range bass and treble controls selected by push buttons.

Bush Arena System 2 is a stereo record player and VHF/FM radio system. It has the same record player, amplifier and loudspeakers as System 1 with an added tuner for stereo VHF/FM radio reception with Automatic Frequency Control (AFC), which locks in on the station.

Bush Arena 3 is a high quality stereo record player and VHF/FM radio system. It offers high performance and de-luxe features.

The record player has a Garrard transcription quality deck and a high compliance magnetic cartridge. It's the Goldring G.800E which will track as low as  $1\frac{1}{2}$  grammes in the Garrard tone arm.

The tuner-amplifier can put out 15 watts per channel with the minimum of distortion of background noise. In addition to the wide range bass and treble controls there's a loudness control for listening at low volume and a rumble filter to cut out low frequency noise. The sensitive VHF/FM tuner is fitted with a tuning meter to help pinpoint stations and AFC keeps it right in tune.

The loudspeakers are designed especially for these high performance systems. Each loudspeaker features a three way system of drive units to give an extended response from 50-20,000 Hz.

Bush Arena 4 is a de-luxe Radio/Record Player Compact system with the deck and tuner/amplifier built into one compact cabinet. It has a Lenco 855 transcription deck and it's got the G.800E, a high compliance magnetic cartridge which is fitted with an elliptical stylus.

Bush Arena 5 is a de-luxe stereo AM-FM Radio/Record player system. The transcription deck is a Garrard AP76 and is very simple to operate. It has a sensitive high compliance Goldring G.800E cartridge which can track the record at a featherlight  $1\frac{1}{4}$  grammes.

Two optional Floor Loudspeakers are offered with a frequency range from 50-20,000 Hertz, which is close to the frequency range of the human ear.

★ SEE ADVERTISEMENT ON PAGES 6 & 7



**CELESTION**

**STAND 55**

**Rola Celestion Limited,**

**First Floor**

Ditton Works,  
Foxhall Road,  
Ipswich, Suffolk,  
IP3 8JP.  
Tel. (0473) 73131

*Loudspeakers*

A new loudspeaker joins the Ditton range, namely the Celestion Ditton 44 Monitor, details of which are as follows: Dimensions, 30in. × 14½in. × 10in. Response, 30 Hz to 30 KHz. Maximum input, 44 Watts (D. 45-500). Crossover at 500 Hz and 5,000 Hz. Impedance, 4 to 8 ohms. Treble Unit, HF2000 (pressure). Mid Unit, MF Super 5in. Bass Unit, LF Long drive 12in.

Other Celestion loudspeakers in the famous Ditton range: Ditton 10 MK II, Ditton 1/20, Ditton 15, Ditton 25.

Be sure not to miss the attractive Celestion demonstration.

★ SEE ADVERTISEMENT ON PAGES 14 & 15

## **CONNOISSEUR**

**A. R. Sugden & Co. (Engineers) Ltd.,**  
Market Street,  
Brighouse,  
Yorkshire HD6 1DX  
Tel. 048 47 2142

## **STAND 61**

**First Floor**

*Transcription Turntables, Pick-up Arms, Cartridge and Disc Cutting Equipment*

The now well established range of belt drive turntables which have been designed to give top quality performance at a moderate cost are the centre of interest of the Connoisseur exhibit.

These are 2 speed units using the same slow speed synchronous motor driving the aluminium turntable by means of a precision ground rubber belt. A precision engineered centre bearing helps keep wow and flutter content to negligible limits.

The BD2 has been given even wider appeal by the fitting of a press button speed change, to be shown here for the first time. It is an integrated turntable and pickup arm assembly incorporating a special version of the very popular SAU2 arm. The lift lower device is built into the turntable platform and is operated from the front of the unit. The other features of the arm including gimbal mounting at 45/45 and adjustable anti-skating device, are identical with the SAU2. The BD2 can be supplied either as a chassis unit or spring mounted on a wood plinth and with Perspex Dust Cover.

The BD1 kit has proved to be a firm favourite with the hi-fi enthusiasts who enjoy building their own equipment. Simple in design, quickly constructed and with accessories available can be built into the BD1 assembly. The BD1 chassis and kit models retain the manual speed change system.

The SAU2 arm is now fitted with a new lifting device which gives improved lowering characteristics. The head shell allows for lateral adjustment of the cartridge.

The SCU1 cartridge is a high quality ceramic cartridge in an economic price range capable of being used with the best of equipment.

A. R. Sugden & Co.'s staff will always be in attendance to give you further information on our products and to answer your questions.

★ SEE ADVERTISEMENT ON PAGE 20

**DARBY**

**Darby Industries,**  
38-42 Chestnut Grove,  
New Malden,  
Surrey.  
Tel. 01-942-1596

**STAND 94**  
**Second Floor**

*Turntable plinths*

Darby Industries was established in 1947 in the design and manufacture of precision sheet metal products for the electronic and medical industries.

It is not surprising that they should apply their experience and design skills to producing a precision plinth for today's precision record turntables. All the Darby plinths have clean modern lines which readily complement the advanced design of many of this year's audio components.

The company can supply both plinths with matching acrylic dust covers and fully wired units complete with turntable, ready to plug in.

Manufacturers and export enquiries welcomed.

## **DECCA**

**Decca Radio & Television,**

Neachalls Lane,

Willenhall,

Wolverhampton,

Staffs.

Tel: 0902 67367.

## **STAND 22**

**Ground Floor**

*Deccasound Audio Systems, Record Players, Cassette Players*

Decca are exhibiting their complete range of Deccasound unit audio systems, which has again been extended. In addition they are showing their new cassette record and playback units.

The latest system in the Deccasound range is a three unit, 4-watt per channel combination comprising amplifier/playing deck and twin speakers. The deck is a BSR C123 autochanger fitted with an Acos GP93/1 cartridge while the amplifier, in addition to the usual facilities of bass, treble, volume, on/off, balance and selector controls, also has inputs for tape and radio tuner. The speaker enclosures each incorporate a 5in. round dual-cone wide range speaker unit. Again, as with all Deccasound systems, the slogan "no fuss stereo for the very fussy" is carried through with simplicity of installation and operation the continuing keynote. Decca's expertise in the field of recording and reproduction makes a visit to this stand a "must".

The rest of the Deccasound range continues with two 6 watt per channel systems, two 12 watt systems and the top-line 3000 and 3001 systems offering 30 watts per channel. Deccasound 614 consists of four units, a 6 watt per channel amplifier (A610), a turntable on a base with perspex cover (D1000) and two bookshelf speakers (L151). Deccasound 613 system is similar in specification except that the deck and amplifier are combined in one unit. Deccasound 1204 consists of a 12 watt per channel amplifier (A1200), a turntable (D1000) and two free-standing speakers (L200). Again there is a choice with the Deccasound 1203 system of having deck and amplifier combined.

The 3000 system combines all the simplicity of the Deccasound philosophy with the best in sound reproduction. This 30 watt per channel system has been designed around Decca's ffs pick-up, whose capabilities as a transducer are world-renowned. A specially developed version of the Garrard AP76 turntable matches the high quality potential of the pick-up while the amplifier has such refinements as HF and LF filters as well as every other facility usually required. Twin floor-standing speaker enclosures incorporating speaker units specially developed in Decca's hi-fi loudspeaker division have been designed to ensure optimum performance from the system.

Two radio tuners are available as optional extras, and both can be fitted with a decoder for stereo FM reception. The T1000 covers the VHF/FM waveband and incorporates switchable AFC. The T2000 which covers long, medium, short and VHF/FM bands avoids the compromises found in most AM/FM tuners by employing two separate chassis for the AM and FM sections.

The Compact 3 incorporates the 6 watt audio system with the addition of twin tuners for AM and FM and is presented in an attractive free-standing unit. The speaker enclosures can be detached for optimum stereo effect.

★ SEE ADVERTISEMENT ON PAGE 1

## **DUBREQ**

**Dubreq Studios Limited,**  
249/289 Cricklewood Broadway,  
London, N.W.2  
Tel. 01-450 5475/6/7/8

**STAND 95**

**Second Floor**

### *Technical Design and Development*

The 1971 International Audio Fair will see the preview of two revolutionary musical instruments from Dubreq.

**First — PianoMate.** This remarkable new British invention will transform any piano into four octaves of blending electronic chords.

These fascinating sounds, when mixed with a piano, whatever its age or condition add a completely new dimension to one's musical enjoyment.

The PianoMate consists of two double octave units that simply lay at the back of the piano keyboard without any permanent fixing. These units are then plugged into the master control unit and the PianoMate is ready to play . . . in 30 seconds.

Price of PianoMate complete is £69.00 and will be in production in January, 1972.

**Super Stylophone.** In 1968 Rolf Harris introduced Stylophone, by the middle of 1971 well over 250,000 found their way into the homes of Gt. Britain alone. Dubreq now introduces the remarkable Super Stylophone.

This instrument is a great deal more than a large version of its predecessor, it is in fact almost a mini synthesiser incorporating effects such as piano, violin, clarionet, bass, madoline, banjo, brass, etc.

Still operated by Stylus on a metallic keyboard, the Super Stylophone is just as easy to play as the original Stylophone.

In production by July, 1972 the price is not yet fixed, but will be under £50.00.

## **DYNATRON**

**STAND 49**

**Dynatron Radio Limited,**

**First Floor**

St. Peter's Road,

Maidenhead,

Berks, SL6 7QY

Tel: 0628 23331

*Tuner/Amplifiers complete with Playing Decks and Tape Unit, Amplifiers, Loudspeaker Enclosures, Record Storage Cabinets and Stereo Headphones*

A wide range of products using both the new SRX26 Series Chassis and the "90" Series Chassis in both Period and Modern cabinet stylings and Teak, Walnut and Mahogany Veneer finishes, covering VHF, LW and MW.

The SRX26 Chassis is fully transistorised and gives an overall output of 32 watts IHFM rating and is complete with Stereo Decoder. This chassis features AFC on VHF and a tuning meter operative on all wavebands, comprehensive controls, switched scratch and loudness filters, and separate mains on/off switch, input and output sockets are provided for tape recorder, pick-ups, loudspeakers and stereo headphones.

Prices of the SRX26 audio separates units range from £73.50 to £151.00. Seven Loudspeaker enclosures for use with the above range are offered priced from £17.30 to £32.80 each, to match 4 ohms impedance.

A new item to be shown for the first time will be Model HFC38, this is based on the design of Model HFC31M but also includes a Cassette Tape Unit, thus Model HFC38 offers facilities of VHF/AM radio with Stereo Decoder, Disc record player and Tape Cassette Record/Playback all in one small compact table unit. Price to be announced.

The "90" Series Chassis uses Silicon transistors throughout in a highly sophisticated design offering all the facilities demanded by the discriminating Audiophile, high and low pass filters, separate bass and treble controls, tape monitor provision, channel reverse switching, provision for crystal and magnetic input, A and B speaker switching, and offers an output of  $45 \times 45$  watts RMS into a 3 ohm load, with protection circuit. The tuner uses the same amplifier and has 4 pre-set channels in addition to manual tuning all using varicap diodes. The VHF front end uses 2 dual gate FET's with crystal block filters in the IF's, the circuit also uses 5 IC's. All facilities and channel selection are by pushbutton. 2 loudspeakers enclosures to match 8 ohms impedance are offered for use with the "90" series designed to give optimum performance from this equipment and to handle the high power available. Models LS1638 and LS4038 priced £29.80 and £42.00 each respectively.

There are 4 Models in the "90 Series range, an Amplifier Model SA90, Tuner/Amplifier Model STA90, Amplifier/Playing Deck Model HFC90 and Tuner/Amplifier/Playing Deck Model HFC91, prices ranging from £69.00 to £208.00 using GL75 motor and G800 cartridge.

Record Storage Cabinets designed for use as both separate units and as ancillaries to the range of Audio Separates Models, both SRX26 and "90" Series. These accommodate from approximately 150 to 275 LP records and are available in both Modern and Period style cabinets in Teak and Walnut finishes. Prices ranging from £24.75 to £39.25.

Stereo Headphones suitable for use with all the 1970 range of Dynatron audio products, Type SP2, price per pair £7.50 and Type SP3 with Separate Bass and Treble Units Price £13.00 will also be shown.

**EKCO**

**PYE Ltd.,**  
Cambridge

Tel. 0223-58985

**STAND 69**

**First Floor**

The new Ekco Sound Project ZU8, which will have a retail price around £250·00, including speakers, is presented in a slim-line cabinet in Palisander Veneers, which incorporates an FM tuner (stereo radio decoder), stereo amplifier and a Philips GC002 electronic transcription quality three-speed single-play deck equipped with a magneto-dynamic pick-up with diamond stylus.

The counter-balanced low mass pick up arm has a viscosity damped cueing mechanism and low friction bearings mounted for minimum tracking error and side thrust. Fine speed control is provided on all speeds.

Two matching enclosures each contain a 1" dome tweeter, a 5" mid-range and an 8" bass speaker, with inbuilt crossover network. Output per channel is 50 watts music power and 30 watts RMS (4 ohms impedance).

Features include: automatic frequency control; switchable contour (loudness) control; switchable high filters; three FM pre-selector buttons and manual FM tuning. Sockets are provided for tape input/output; loudspeakers; headphones and external signal source.

Also in the Ekco line-up will be the restyled ZU5 Sound Project, designated ZU5F. With some cabinet modification, increased power output and the substitution of a Shure M75MB magneto-dynamic pick-up for the previous GP410, it has a recommended price of £159·28.

Another Autumn newcomer is the Ekco Network 800 unit audio package with a suggested price of £106·00. It includes the 800A stereo amplifier, the 800T AM/FM tuner unit (with stereo radio decoder), the 800D micro-mini four-speed player unit and two separately housed 7" dual-cone loudspeakers.

The new Ekco loudspeaker range comprises three models. The first enclosure incorporates a 7" bass speaker and 1" dome tweeter, with crossover, and is designed to handle an output of 10-15 watts (4 ohms impedance). The next enclosure houses an 8" bass speaker, a 5" mid-range and a 1" dome tweeter, to handle 20-30 watts (4 ohms), and the third enclosure has two 8" bass speakers in parallel, a 5" mid-range, and a 1" dome tweeter, to handle an output of 40-50 watts (4 ohms). Prices and model numbers are yet to be announced.

★ SEE ADVERTISEMENT ON PAGE 17

## **EMCO**

**Electronic Manufacturing Co (UK) Ltd.,**  
Devonshire House, High Street,  
Deritend,  
Birmingham B.12 OLP.  
021-772 3669.

## **STAND 62**

### **First Floor**

#### *Audio Equipment*

Exhibiting for the first time in the International Audio Fair is a completely new range of stereophonic Hi-Fi units, labelled 'Hi-SOUND'. These products comprise:—

'THOR' — This is a very high quality speaker enclosure embracing a 12 in. three way system using Goodmans speakers. The standard finish is Teak and alternatives of Walnut or White are offered.

'ODIN' — Again a high quality unit based on a 12in. two way system. Speaker of Goodmans manufacture.

'ISIS' — A 8in. two way speaker unit using Celestion speakers. This unit is excellent value for money and prospective Hi-Fi customers should make a point of listening to the very high quality of this smaller unit.

'TARA' — This small 6½in. two way system will give excellent results—speakers by Goodmans.

'PAN' — The smallest in our speaker range, the 'PAN' is a 5in. one way speaker unit again with the accent on price.

#### **STEREO AMPLIFIERS**

##### **Hi-SOUND 12**

The Hi-Sound 12 amplifier is indeed a giant with 12 watts each channel, you will find sound reproduction will be crystal clear and with the advanced technology used within the circuitry a high reliability rate is ensured.

Specifications: Controls — On/Off, Mono/Stereo, Balance, Volume, Treble, Bass, Switch for Crystal magnetic and Auxiliary. Rating — 12 watt RMS each channel. Output Impedance: 4/8 ohms.

##### **Hi-SOUND 12 COMPACT**

The Hi-Sound compact is an amplifier complete with integrally mounted transcription unit. This is ideal for unit audio when used with any of our comprehensive range of speaker units specification.

All Hi-Sound products are produced entirely within our own well equipped workshops under the personal supervision of the Works Director, thereby ensuring the user of the ultimate in quality and reliability. In addition all Hi-Sound products are backed by a full 12 months guarantee.

At our stand will be a range of high powered amplification entitled 'LANEY' which is used by many of the world's top pop groups. Laney amplification is wholesaled throughout the world by Boosey and Hawkes and their representatives will be on the stand to answer any queries.



## EMI

**EMI Electronics & Industrial Operations,**  
Hayes, Middlesex

## STAND 78

**First Floor**

*Loudspeaker Systems, Compact Cassettes, Magnetic Recording Tapes*

A wide selection of EMI products in the fields of magnetic recording tape and high quality loudspeakers is being demonstrated.

EMI SOUND PRODUCTS LIMITED are demonstrating their new range of eight loudspeaker systems and associated enclosure kits.

This wide range of high quality, economically priced systems is now generally available, enabling the full sound reproduction quality of a very wide range of audio systems to be realized.

All the loudspeaker and enclosure kits are easily assembled for use with any audio system, having a compatible power output into an 8 ohms impedance. Full fitting instructions are supplied.

EMI SOUND PRODUCTS supply many thousands of loudspeakers to a large number of leading manufacturers of high fidelity audio systems. The wide EMI range of individual bass, mid range and high frequency units is available for use in specialist and personalised loudspeaker systems.

See how EMI loudspeaker systems can meet your hi-fi requirements on Stand 78.

The wide range of EMITAPE audio recording tapes is featured, ranging from compact cassettes to professional audio tapes. The new professional recording tapes, EMITAPE 815 (standard play) and 825 (long play) have been enthusiastically received by broadcasting authorities and recording studios after rigorous evaluation. Both have a polyester base with a specially treated coating, resulting in low modulation noise. Both feature exceptionally good dynamic range and signal-to-print ratio.

The same exacting standards are characteristic of the full EMITAPE range of audio tapes displayed on the stand.

## EMPIRE

**Empire Scientific Corporation,**  
1055 Stewart Avenue, Garden City, N.Y. 11530.

## STAND 58

**First Floor**

*Cartridges, replacement styli*

Empire Cartridges are unique, so unique that a patent protects them. The quality of sound reproduction is almost unbelievable until you hear it for yourself. But don't just take our word for it, see what the experts said in the June 1971 edition of "Gramophone": "This range of Empire Cartridges caters for all pockets. The workmanship, finish and conception are excellent, channel separation is more than adequate, as is frequency response; the musical performance of the 1000 ZE/X is outstandingly good and it was impossible to fault it on any of the test records used. It costs £60.34. For those whose pockets are not quite so deep, both the 999 TE/X and the 999 VE/X offer excellent performance. Indeed, musically, it was difficult to hear any difference between the three, but the outstanding capability of the 1000 ZE/X to track all records at less than 1 gramme playing weight puts it in a class of its own and we are now coming to the point in time where, providing the record is kept clean, record wear should be negligible."

What else is there to be said except that a selection of these cartridges, the 1000 ZE/X, 999 VE/X, 999 SE/X, 999 TE/X, 999 E/X, and the 90 EE/X will be on display at this year's Audio Fair and there will be a special 10 minutes Empire Demonstration every two hours from eleven-thirty onwards in our Demonstration Room. This is an opportunity you must not miss to hear these very superior cartridges. Incidentally, the 1000 ZE/X and the 999 VE/X have already been approved for use with 4-channel equipment, in the U.S.A.

Please ask our Stand Receptionist for a free ticket to a Demonstration.  
**U.K. Distributors: Audio Products, Rank Audio Visual, P.O. Box 70, Great West Road, Brentford, Middx. Telephone: 01-568 9222 Ext. 378 & 382.**

FOR YOUR DIARY . . . .

**THE NEXT**

**AUDIO FESTIVAL  
AND FAIR**

*will be held from*

**OCTOBER 23rd 1972**

*again*

**AT OLYMPIA**



**MAKE A NOTE—NOW**



**F.B.T.R.C.**

**STAND 98**

**Second Floor**

**The Federation of British Tape Recordists and Clubs,**

33 Fairlawnes,  
Maldon Road, Wallington,  
Surrey

The Federation of British Tape Recordists and Clubs is the national organisation representing all amateur tape recording interest in this country and has a membership class for individuals as well as clubs. It was formed in 1957 and is affiliated to the International Federation of Sound-hunters. It is thus able to further British interests on an international level. The Federation publishes a quarterly magazine free to all its members and maintains a sound archives containing all the British and international winning tapes from past contests. The British Amateur Tape Recording Contest has been a special concern of the Federation since the beginning and it has played its part in the organisation of that annual event, selecting from the winning tapes, the British entries for the International Contest. The entrance fee for members is 50p and the annual subscription is £1.50.

The Federation's Sound Archives have always been available to anyone interested but at the end of 1965 it was decided to classify the ever-growing store of interesting and valuable tape recordings dating back to the British and International Contests of 1957. This catalogue, now some 36 quarto pages in size and added to quarterly, is issued to all subscribing members and the service of dubbings has proved very popular indeed. Each year since the catalogue was first issued, some 1,000 items, in programmes of the members' own request, have been sent out and there has been nothing but praise for the interest of the recordings and the quality of the dubbings. The service is not restricted to FBTRC members; for a small dubbing fee and a charge of £1.00 for the Sound Archives Catalogue (with a two-year free amendment and additions service) non-members may use the archives freely. It is of interest to note that it is in great demand from those amateurs who organise tape magazine services for the blind and disabled.

## FERGUSON

British Radio Corporation Ltd.,

284 Southbury Road,

Enfield, Middx.

Tel: 01-366 1155

## STAND 15

Ground Floor

*VHF/Tuner/Amplifier/Record Player with Floor Standing Speakers, Tape Recorders, Stereo Cassette Recorders, Battery Operated Recorders, Mains Operated Recorders, Stereo Recorders.*

British Radio Corporation are showing the full range of Ferguson Unit Audio equipment and the complete ranges of Ferguson cassette and reel-to-reel Tape Recorders.

**Unit Audio.** The Ferguson Unit Audio equipments are complete systems and comprise the following:

Ferguson Unit Audio model 3451 is a tuner/amplifier/record player in console form with separate floor standing speakers, finished in teak effect. The tuner provides VHF, Long and Medium waveband coverage. Power output is 7 watts/channel (speech and music) or 5 watts/channel (sine wave) at less than 2% THD. Record player is a BSR C.123 four-speed autochanger. The separate enclosures contain 8in. x 5in. 15 ohm loudspeakers. Recommended retail price £99.50.

Ferguson Unit Audio 3425 is a combined VHF/tuner/amplifier and record player in console style with two floor standing loudspeakers. Power output is 12 watts/channel (speech and music) or 8 watts/channel (sine wave) at less than 1% THD. Frequency response is 70 Hz to 19 kHz with  $\pm 1$  dB. Turntable unit is a Garrard SP.25 Mk IIS single player with Goldring G.850 "free Field" magnetic cartridge. Recommended retail price £140.10.

Ferguson Unit Audio 3422 is a stereo amplifier/record player giving 6 watts/channel (sine wave) at less than 5% distortion through two shelf mounting loudspeakers. Playing deck is a Garrard SP.25 Mk IIS. Frequency range of the amplifier is 30 Hz to 20 kHz  $\pm 3$  dB. Recommended retail price £84.80. Ferguson Unit Audio 3450 is a 3 piece suite comprising a tuner/amplifier/record player with two separate loudspeakers. The tuner gives reception of VHF/MW/LW broadcasts. Amplifier output is 7 watts/channel (speech and music) at less than 2% THD. Playing deck is a BSR C.123 4-speed autochanger. Recommended retail price £72.40.

**Tape Recorders.** On display for the first time in the Ferguson range of cassette tape recorders is the 3257, a stereo cassette tape recorder for mains operation. Other models include the battery operated 3240 and 3254 and mains operated 3253 and 3256.

Ferguson stereo cassette 3257 provides stereo recording and play deck with an output of 2/5 watts. Features include automatic or manual, record level control, stereo dynamic microphone, stereo headphone socket, and lead for recording and play-back through radiogram or Hi-Fi.

Included in the Ferguson range of reel-to-reel tape recorders are single and two 7in. reel machines with automatic or manual record level control and a stereo tape recorder 3258.

Ferguson 3252 is a 3-speed, 4-track stereo machine with features of input mixing, two 5in x 3in. monitoring loudspeakers, dual concentric controls, track transfer on mono and second channel monitoring. Recommended retail price £100.00.

Ferguson 3258 4-track stereo tape recorder has automatic or manual record level control and a single playing speed of  $3\frac{1}{2}$ in. per sec. There are slider type volume, tone and balance controls. Output is 2.5 watts/channel. Recommended retail price £72.40.

★ SEE ADVERTISEMENT ON PAGE 33

## FERROGRAPH

The Ferrograph Company Ltd.,

The Hyde,

Edgware Road,

Colindale,

London, N.W.9.

Tel: 01-205 2241

**STAND 77**

**First Floor**

*Tape Recorders, Audio Amplifiers, Loudspeakers, Test Equipment, Signal Operated Switches, Defluxers, Metal Spools and other Recording Accessories.*

The Series 7 tape recorders exhibited here are the latest additions to a long sequence of continually developing designs that, over a period of more than 20 years, have established the Ferrograph reputation for rugged construction and exceptional reliability.

All Series 7 recorders have three tape speeds, three motors and three heads. The basic Series 7 design is available in a wide range of different models offering between them tape speeds from  $1\frac{1}{2}$  to 15 in/s, monophonic or stereophonic recording and reproduction on half or quarter tracks, with or without built-in loudspeakers and in portable form or housed in a natural wood finish case. Amongst the 48 machines in the Series 7 range there is, in fact, a model suited to virtually every domestic and semi-professional requirement.

The Series 7 range is now still further extended by the availability, as an optional extra, of Dolby B noise reduction circuits. These circuits reduce the dynamic range of the signal before recording and increase it again in a complementary fashion on reproduction, the effect being to reduce by up to 10dB the "hiss" noise that otherwise is, to a greater or lesser degree, inevitable when recording with narrow tracks and low tape speeds. A recording made at  $1\frac{1}{2}$  in/s with Dolby noise reduction may therefore have less background noise than one made at  $7\frac{1}{2}$  in/s without it. Dolby B noise reduction, now made available for the first time in this country on a reel-to-reel recorder, can be provided as a built-in extra in any new machine in the Series 7 range.

The Mark II version of the well established Ferrograph stereophonic amplifier, F 307, which is now available in both metal and wooden cased versions is also on display together with the newly introduced Ferrograph loudspeaker. This is a high quality three unit design developed in close collaboration with Dr. A. R. Bailey of the University of Bradford. It contains a number of novel design features which result in an exceptionally smooth and wide range response with a notable absence of colouration.

Also on display is the Ferrograph Recorder Test Set. This versatile instrument contains within one compact case all the equipment required to measure all the essential performance parameters of tape recorders including frequency response, signal/noise ratio, distortion, wow and flutter, drift and interchannel crosstalk. It is equally suitable for carrying out similar measurements on a wide range of other audio equipment. The cost of the Test Set is a good deal less than that of the separate instruments that would be required to carry out the same measurements and it is simpler and quicker to use because its component parts are re-arranged into the circuit configurations required for the various measurements and calibration checks by pressing push buttons.

A range of Ferrograph accessories are also on display. These include a Defluxer for demagnetising heads and other parts, metal spools of very robust construction and a unit that can be used to switch on a Series 7 recorder automatically on the arrival of a wanted signal and stop it when the signal has ceased.

★ SEE ADVERTISEMENT ON PAGES 2 & 3

## **GARRARD**

**Garrard Engineering Ltd.,**  
Newcastle Street,  
Swindon, Wiltshire.  
Tel. Swindon (0793) 5381

**STAND 41**  
**First Floor**

### *Record Playing Equipment*

Hi-Fi enthusiasts will be specially interested in the new Zero 100 automatic transcription turntable and its single-play version the Zero 100S. Continuous demonstration of tangential tracking pickup arm illustrates minimum tracking error and associated distortion.

**Model 401**—Precision engineered transcription turntable with variable speed control. The heavy, diecast turntable features gear-cut stroboscopic markings illuminated by a high-intensity neon lamp situated in the rigid aluminium base plate. The motor is completely encased for full magnetic screening.

**AP76**—A transcription quality single record playing unit which features automatic set-down of the pick-up arm when required. The tubular arm with bias compensator calibrated for conical and elliptical styli, is counterbalanced by a decoupled weight.

**SP25MkIII**—A single record playing unit incorporating a number of important features including automatic play, viscous-damped cueing, calibrated fine stylus force adjustment, calibrated bias compensator, decoupled weight counterbalanced pick-up arm, slide-in cartridge carrier and combined record-size and speed selector.

**Zero 100**—An exciting new automatic transcription with tangential tracking pick-up arm, adjustable stylus angle, magnetic bias compensation, precision stylus force adjustment, fine speed control, stroboscope, non-magnetic turntable and Synchro-Lab motor.

**Zero 100S**—Single play version of Zero 100.

**SL95B**—Automatic transcription turntable fitted with the Garrard Synchro-Lab motor. Features include automatic play of single records, cue and pause facility, calibrated fine stylus force adjustment, bias compensator calibrated for conical and elliptical styli.

**SL72B**—A transcription turntable with facility for automatic play when required. Features a pick-up arm of advanced design with gimbal-type pivots, a non-magnetic turntable, cue and pause control, calibrated stylus force adjustment and bias compensator calibrated for conical and elliptical styli.

**SL65B**—Three-speed automatic changer with cue and pause facility, weight counterbalanced pick-up arm, calibrated stylus force adjustment, slide-in cartridge carrier and adjustable bias compensator. Incorporates the Garrard Synchro-Lab motor.

**60B**—Three-speed automatic changer with cue and pause facility, weight counterbalanced pick-up arm, calibrated stylus force adjustment, slide-in cartridge carrier and adjustable bias compensator.

★ SEE ADVERTISEMENT ON PAGE 13

## **GOLDRING**

**The Goldring Manufacturing Co. (Gt. Btn.) Ltd.,**  
10 Bayford Street, Hackney,  
London, E8 3SE.  
Tel. 01-985 1152-5

**STAND 53**

**First Floor**

*Pick-Up Cartridges, Pick-Up Arms, Turntable Units, Record Player Accessories*

Being introduced and shown for the first time at the Audio Fair will be two new Turntable Units, the GL.85 and G.101.

The GL.85 is a professional quality integrated transcription turntable unit and pick-up arm, having two speeds, with electronically controlled fine speed adjustment and an illuminated stroboscope. The drive is by a non-stretch flat belt from a low speed 16-pole synchronous motor. The pick-up arm is counter balanced and has a removable plug-in shell, and is lowered on to the record by a viscously damped lowering device. A novel feature of this unit is the electronic shut-off mechanism which switches the current off at the end of the record and raises the arm from the playing surface with no mechanical interference to the pick-up arm.

The G.101 is a compact 2-speed integrated turntable unit and pick-up arm. The drive is from a specially designed low speed synchronous motor via a non-stretch belt. The pick-up arm is counter balanced and has a removable plug-in head, and an adjustable anti-skating device is incorporated. The performance of this inexpensive turntable unit is to DIN.45.500.

Also shown will be the GL.72 Transcription Turntable Unit, which succeeds the well-known GL.69. This, together with the GL.75 and the G.99, features the unique Lenco drive system which gives infinitely variable speed from below 30 r.p.m. to above 80 r.p.m.

The well established range of Goldring Free Field Stereo Magnetic Cartridges including the individually calibrated G.800 Super E and the budget priced G.850 will also be on show.

★ SEE ADVERTISEMENT ON PAGE 28

## **GOLDING SKANDIA**

**Skandia Electronics Corporation**  
GPO Box 118, Nagoya, Japan.  
Tel. Nagoya 5267

**Stand 100**

**Second Floor**

*8 Track Tape Players*

**SK 120**—A product of Skandia Stereo the SK 120 considerably advances the art of 8 track stereo engineering, and opens up a whole new world of quality and performance for the enthusiast who demands the complete all in one stereo system. Housed in one cabinet we have a 30+30 watt stereo amplifier along with an AM/FM MPX stereo tuner.

**SK 308**—A complete AM/FM MPX stereo receiver main amplifier with built-in 8 track tape cartridge recorded mechanism.

**RS 82, RS 821C, RS 83, RS 84**—The above models constitute a comprehensive range of 8 track 4 channel record and playback machines. The RS 82 and RS 821C are both fitted with monitor amplifiers.

**HW 800**—The HW 800 is a 8 track player with 10 watts per channel output.

**ST 856**—An 8 track stereo cartridge player complete with amplifier, housed in a Walnut cabinet with aluminium extrusion front panel.

**SL 84**—8 track pre-amp satellite unit.

**United Kingdom distributors are: Golding Audio Ltd., Marks Tey, Colchester, Tel: Colchester 210433**



**GOODMANS**

**Goodmans Loudspeakers Limited,**  
Downley Road,  
Havant,  
Hampshire PO9 2NL

**STAND 59**

**First Floor**

*Loudspeakers, Tuner-amplifiers*

In addition to showing their current range of loudspeaker systems, loudspeakers for constructors and the Module 80 tuner-amplifier, Goodmans are introducing eight new products.

They are the Model One-Ten, an AM-FM tuner-amplifier; the Module 80 Compact, a combined FM stereo tuner-amplifier and record player; the Dimension-8, bi-directional loudspeaker; the Havant and DoubleMaxim bookcase loudspeaker systems; for constructors the DIN 20 Kit; the Axent 100 dome HF radiator and the Audiom 100 bass loudspeaker.

Demonstrations and displays of the new range are a feature of the stand, and Trade and Export customers are welcome at the trade room to be found to the left of the stand.

★ SEE ADVERTISEMENT ON PAGE 4

## THE GRAMOPHONE

STAND 5

General Gramophone Publications Ltd.,

Ground Floor

177-179 Kenton Road, Kenton,

Harrow, Middlesex, HA3 0HA

Tel. 01-907 2010

### *Publishers*

The **Gramophone** is Britain's oldest and most widely read gramophone record journal. It was founded in 1923 by Sir Compton MacKenzie and Christopher Stone, and today has a circulation in excess of 70,000 copies per month, circulating to very nearly every country in the world.

Record reviews, in conjunction with a comprehensive audio section, form the basis of the journal. In the technical field a compact team of experienced writers is led by John Borwick, B.Sc. (Technical Editor) and John Gilbert, C.Eng., F.I.E.R.E., A.T.C.L., F.B.K.S., F.T.S., F.R.S.A. (Technical Consultant) with regular contributions from authorities such as Stanley Kelly. The team of record reviewers is necessarily larger and includes such well-known critics as Alec Robertson, Lionel Salter, Andrew Porter, Deryck Cooke, Felix Aprahamian, William Mann, Roger Fiske, Joan Chissell, Edward Greenfield, Max Harrison, Trevor Harvey, Malcolm Macdonald, Denis Arnold, Stephen Plaistow, Stanley Sadie, John Warrack, Stanley Webb, Alan Blyth, Jeremy Noble, Roger Wimbush and W. A. Chislett.

On the lighter side, and in the field of jazz, further reviews are contributed by Charles Fox, Alun Morgan, Brian Rust, John Postgate, Nigel Hunter, Peter Myers, Tony Russell and William Gilman. Quarterly retrospective articles are contributed by Desmond Shawe-Taylor and Robert Layton. Alan Blyth also contributes a monthly series of interviews with celebrated classical artists and musicians.

The **Gramophone** is published on the first of the month, price 15p. Annual subscriptions UK and EIRE £2.60 OVERSEAS (US \$ equivalent) \$7.00.

In addition **The Gramophone** also publishes the following catalogues and booklets.

**Choosing Your Audio—Vol. 3.** A comprehensive illustrated survey of pick-up cartridges, transcription pick-up arms, transcription turntables, amplifiers, loudspeakers and radio tuners together with selected equipment reviews which originally appeared in *The Gramophone* between July, 1970, and June, 1971; 40p. Volume 1—January, 1968, to June, 1969; 37½p. Volume 2—July, 1969 to June, 1970; 40p.

**Technical Reports II.** Reprints from 1965-66; 25p. **Technical Reports III.** Reprints from 1966-67; 25p. **Know Your Gramophone.** A reprint of John Borwick's series of articles discussing in lay terms the various items of equipment which constitute the audio chain, together with notes on the assembly of the various components and suggestions for fault finding; 25p.

**Recommended Recordings.** Classical, light orchestral, operetta, military and brass bands, etc.; 20p. **Classical Record Catalogue.** Quarterly; 40p. **Popular Record Catalogue.** Quarterly; two sections, Artist and Title; 30p. each.

(Please add 5p. each on above for postal orders).

★ SEE ADVERTISEMENT ON PAGE 16

## **GRUNDIG**

**Grundig (Great Britain) Ltd.,**  
London, S.E.26.  
Tel. 01-778 2211

## **STAND 60**

**First Floor**

*Tuners, Tuner-Amplifiers, Loudspeakers, Amplifiers, Tape Recorders, Hi-Fi Stereograms, Hi-Fi Systems, Audio Systems, Accessories, Auxiliary Equipment*

Visitors to the Grundig stand will have the opportunity of seeing and hearing an outstanding range of high quality Hi-Fi equipment, audio units, tape recorders, auxiliary equipment and a wide range of studio quality accessories.

The Troika loudspeaker system is again a feature of the demonstrations and has now been extended by the addition of the Troika 3012 system. One system consists of two 7" cubes, each containing 6 loudspeakers and a combined twin-channel bass unit. The other consists of two spheres of 6" diameter containing four loudspeakers each. The one bass speaker which completes each system may be placed in any convenient part of the room. The advantages of the Troika system over the more conventional type of loudspeaker are that they take up a minimum amount of space, there is little restriction on the placing of the speakers and the listener is not confined to one small area of the room to enjoy the full stereo image.

Tuners, amplifiers and loudspeaker systems to suit individual needs may also be heard during the demonstrations. Nine tape recorders are on display and available for demonstration. These include two cassette and seven reel-to-reel machines all with specifications approaching Hi-Fi standards. For example, the TK 246, a two-speed, four-track solid state stereo recorder has studio-type slider controls, the Grundig automatic recording level circuit, FET controlled, and a 4 watt output power. There are full four-track stereo record facilities with stereo playback by separate high quality amplifier or stereogram.

Of particular interest to the Hi-Fi enthusiast is the TK 3200. This is a twin-track three-speed professional battery portable which may also be powered by re-chargeable DEAC accumulators, car or boat batteries and mains supply with the aid of a TN 14/12A mains power unit.

The two types of Grundig "Studio Systems" are also on display. These are the Studio 2 and Studio 3—teak-veneered cabinets in modern styling and containing a high quality Grundig tuner/amplifier, a four-speed record changer and ample space for a Grundig stereo tape recorder (such as the TK 147), records, tapes and accessories.

The Studios 2 and 3 are supplied with two matching infinite baffle loudspeaker enclosures, containing three loudspeaker systems per channel.

Demonstrations are being given by members of the Grundig Sales and Technical staff who are also available throughout the period of the exhibition to give advice and answer questions.

**H. M. V.**

**British Radio Corporation Ltd.,**

284 Southbury Road,

Enfield, Middx.

Tel: 01-366 1155

**STAND 15**

**Ground Floor**

*High-Fidelity Systems, Stereo Record Players*

Shown by British Radio Corporation on stand 15 will be:

HMV 2450 stereo system comprises a combined VHF radio/amplifier and record player unit, with separate speakers. The amplifier has an output of 25 watts/channel (speech and music) or 15 watts/channel (sine wave) at less than 0.5% THD. Frequency response is 40 Hz to 15 kHz  $\pm$  1 dB. The FM tuner has 5 selector buttons pre-set for VHF stations and is fitted with a stereo decoder. The single playing turntable is a BSR P128 and is fitted with a Goldring G.800H magnetic cartridge. The 15 litre enclosures each contain two 5in. dia. bass units and a 3 $\frac{3}{8}$ in. dia. tweeter. Finished in teak coloured cabinets, HMV model 2450 has a recommended retail price of £134.20.

HMV 2404/5/6 is a 4 unit High-Fidelity system with FM stereo radio tuner. The amplifier has an output into 4 ohms of 15 watts/channel (sine wave) at less than 0.5 THD. Amplifier frequency response is 40 Hz to 16 kHz (+.5 dB, -1.0 dB). The Lenco transcription unit has a 9 lb. turntable driven by a 4-pole constant velocity motor. Pick-up cartridge is a Goldring 800E magnetic on the elliptical diamond stylus. Loudspeaker enclosures each contain a Goodmans 12in. long throw bass unit and a Goodmans 4in. mid-frequency and treble unit. Recommended retail price of HMV model 2404/5/6 is £198.00.

HMV Model 2451 is a three piece stereo system with four waveband radio plus stereo VHF. Amplifier output is 15 watts/channel (speech and music) or 10 watts/channel (sine wave) at 1% harmonic distortion. Amplifier frequency response is 35 Hz to 17 kHz  $\pm$  1 dB. Record Player is a Garrard type 5-300 autochanger fitted with a magnetic cartridge. Control include a 'shape' switch for volume control compensation at low levels. The two sealed acoustic enclosures of 15 litre capacity each contain a 6in. dia. bass unit and a 3 $\frac{3}{8}$ in. tweeter. HMV Model 2451 is finished in teak coloured cabinets with dark brown heavy weave speaker fabrics. Recommended retail price £119.15.

HMV stereo record players, models 2452 and 2453, are of similar design and specification, but with different finishes. Power output is 6 watts/channel (speech and music) at less than 5% harmonic distortion. Record player is a 4-speed BSR autochanger fitted with a ceramic pick-up cartridge. Enclosures contain 5 $\frac{1}{4}$ in. dia. 8 ohm impedance loudspeakers. HMV model 2452 has a rosewood finished cabinet and loudspeaker enclosures, and a tinted transparent cover over the player and controls. HMV 2453 has a black satin finish with matching loudspeaker enclosures and transparent tinted dust-cover. Each model has a recommended retail price of £65.65.

## **HACKER**

**Hacker Radio Ltd.,**  
Norreys Drive, Cox Green,  
Maidenhead, Berks. SL6 4BP.  
Tel. Maidenhead 22261

## **STAND 44**

### **First Floor**

#### *Audio Units, Loudspeakers*

The Tribune GAR1000A integrated audio radio unit offers AM and FM tuners, twin audio amplifiers and the Lenco GL75 fitted with Goldring 800H magnetic pick-up and diamond stylus in a single teak cabinet.

The Tribune gives 10W sine wave output per channel for 0.06% THD with 15 ohm speakers; 15W sine wave per channel for 0.08% THD with 8 ohm speakers; 18W sine wave per channel for 0.15% THD with 4 ohm speakers. With 15 ohm speakers the amplifiers operate in Class A conditions; with 8 ohm speakers operation becomes Class AB at higher output levels.

All circuits are solid state, and, with stereo radio decoder fitted, 41 silicon transistors and 16 diodes are employed. The decoder has automatic low level control and is an optional extra.

Waveband coverage is 185-575 metres medium; 1070-1940 metres long; 101-87.5 MHz FM. The FM tuner provides AFC; quiet tuning with muting level adjustable by pre-set control for very noisy areas; station markers; super sensitivity tuning indicator with centre zero tuning.

Input sockets: for magnetic or ceramic pick-ups, tape playback and recording. All controlled by a front panel function switch, with tape recording output independent. 6 mm, jack plug socket for 8-16 ohm headphones.

The Tribune is of modular construction, with plug-in modules for amplifiers, pre-amplifiers, power unit and stereo radio decoder all mounted in a compact chassis frame containing the separate AM and FM tuners. It features an output transistor protection circuit and a fully-illuminated tuning scale. It is designed to operate with any high quality 4 ohm, 8 ohm or 15 ohm loudspeakers, including electrostatic types.

In addition to the Tribune GAR1000A we are also exhibiting the Centurion Series 500 audio and audio radio high fidelity units.

The Centurion Series 500 is available in two versions, both designed to operate with any high quality 8 ohm or 15 ohm moving coil and electrostatic loudspeakers. Centurion GAN500 offers the Garrard SP25 Mark III single player fitted with Goldring G850 magnetic pick-up and diamond stylus; Class AB audio amplifier giving 10W sine wave output per channel with 8 ohm speakers, 7W sine wave per channel with 15 ohm speakers; THD better than 0.4% for 8 ohms load, 0.2% for 15 ohms load; radio and tape inputs; headphones and tape outputs.

Centurion GAR500 has a specification identical to that of the GAN500 but is fitted with a high sensitivity FM tuner incorporating AFC, local station markers and, as an optional extra, stereo radio decoder.

The brilliant range of Hacker loudspeakers on show comprises:

The LS500B: a two-speaker system with an 8" long-throw bass unit and a 3 $\frac{3}{4}$ " mid-range/high frequency unit in an infinite baffle enclosure. 8 ohms impedance.

The LS1000C: a two-speaker system with a 13in.  $\times$  8in. elliptical bass unit and a 3 $\frac{3}{4}$ in. mid-range/high frequency unit in an infinite baffle enclosure. 15 ohms impedance.

The LS1500A: a tuned port three-speaker system with a 12in. long-throw bass unit, 5in. mid-range unit in its own enclosure, and a 1in. domed high frequency radiator. 15 ohms impedance.

★ SEE ADVERTISEMENT ON PAGE 35

## **HEATHKIT**

**Heath (Gloucester) Ltd.,**  
Bristol Road,  
Gloucester GL2 6EE.  
Tel. 0452 29451

**STAND 18**  
**Ground Floor**

*Amplifiers, Tuner Amplifiers, FM Tuners, Stereo Compacts, Loudspeakers*

On show for the first time is the outstanding new Heathkit Tuner-Amplifier model AR-2000. This model has been designed by Heath (Gloucester) Ltd., especially for the British and European Hi-Fi market. Its main features are listed here:—

Output power 20 watts r.m.s. per channel.

LW, MW, SW, and FM stereo.

All solid-state design.

Completely new styling.

F.E.T. front end F.M. tuner.

I.C. stereo decoder.

FM. IF. uses I.C.'s and ceramic filters.

With this specification at a kit price of only £89.90 it is clearly an exciting new addition to the Heathkit range and should not be missed. Come and hear it in the demonstration room on our stand. The wide range of Heathkit hi-fi products including loudspeakers, amplifiers, tuners and tuner-amplifiers are also on display. All Heathkit equipment is designed so that with the help of the very comprehensive construction manual and a little leisure time it can be built without any technical knowledge or special skills.

★ SEE ADVERTISEMENT ON PAGE 161

## HECO

Hennel & Co. K. G.,

D 2000 Hamburg 1,

Chilehaus B.

West Germany.

**STAND 72**

**First Floor**

### *Loudspeakers and Amplifiers.*

Showing for the first time at an Audio Fair are the famous German HECO loudspeakers. These have enjoyed a great success on the continent of Europe in the last four years and are now commencing to be popular in England. The loudspeakers consist of two series (the Soundmaster and the Professional).

#### THE PROFESSIONAL

The main feature of the Professional Series is the dome mid-range speaker with a voice coil of 1.5". We understand that it is the first time this kind of loudspeaker has been introduced as a reasonably priced domestic loudspeaker cabinet and this has an astonishing effect over the sound of the loudspeaker. We give a brief description of these loudspeakers as follows:

The P 2000 is a very compact shelf speaker which can be unobtrusively displayed on shelves among books and decorative objects. Of course, the P 2000 can also be mounted on the wall. With control units and amplifiers of at least 2 x 20 watts output power, the P 2000 achieves an astounding richness of sound and sufficiently high volumes, even in smaller living areas. Regardless of room size or amplifier output, the speakers in the P 3000 to P 6000 range achieve a previously unattainable richness of sound and naturalness of reproduction, especially with regard to dynamic range and freedom from distortion.

The P 3000 reveals its qualities in smaller living rooms: an amplifier output of at least 2 x 25 watts should be used. Assuming the other components in the reproduction system are of equally high quality, a near-perfect richness of sound and sound quality are achieved with this speaker.

The P 4000 was also conceived as a shelf speaker. With an unusually high capacity for this speaker (40 watts), it permits well-above-average dynamics, even in middle sized rooms.

The P 5000 and P 6000 represent the top-of-the-line speakers in the HECO line. They were designed primarily as stand-up speakers to be used with HECO footstands and to provide sound for large monitoring rooms. The HECO four-way design emphasises our desire to have each high quality chassis reproduce only that portion of the sound frequency range which it can radiate optimally and without distortion. The capacitance of both these models has been set so high that high-performance amplifiers with unlimited output power may be used.

Metal grilles—finding increasing appeal among hi fi enthusiasts—give the fronts of the PROFESSIONAL series a neutral appearance with a touch of the "technical look".

#### SOUNDMASTER SERIES—Consisting of SM 25 & SM 35

Can a Hi-Fi reproduction be uncompromising but also be low priced? It can. The "Sound Master" series will prove this. The three loudspeaker boxes of this series fulfill or even surpass; the Hi-Fi Standard DIN 45 500. They differ from each other only by their differently high capacitance and by their dimensions adapted to the respective room conditions. The "Sound Master" boxes are available in teak, rosewood, oak or in white polyester lacquer. We have placed special stress on a suitable and attractive sound-panel lining. The loudspeaker boxes are kept as small as possible and the technical equipment is developed to a maximum. A well balanced sound pattern, free from distortions and discolorations is the result.

A natural and transparent reproduction makes it possible to listen into the depths of an acoustical event. We give a brief description of these Loudspeakers as follows:

2 speaker units are used in the SM 25. One is an 8" Woofer and one oval tweeter measuring 3 x 4" which gives a very satisfactory sound at a reasonable price.

Our SM 35 is a three way system consisting of one 4" tweeter, one 5" mid-range and one 10" Woofer with power handling capacity of 35 watts and a cabinet measuring 19" x 11".

**U.K. Distributors: Acoustico Enterprises Ltd., 6/8 Union Street, Kingston-upon-Thames, Surrey. Tel: 01 549 3471/3**

**HI-FI NEWS & RECORD REVIEW  
and STUDIO SOUND**

**STAND 6  
Ground Floor**

**Link House Group,**  
Link House,  
Dingwall Avenue,  
Croydon, CR9 2TA.  
Tel. 01-686 2599

*Magazines*

Unique in its devotion to the principle that high fidelity and music are inextricably linked, HFN/RR is the only magazine in Britain that completely spans the world of music and high quality sound. Every issue contains authoritative reviews of all the major records released during the month of publication with a rating for quality and performance to help you decide which to buy. Expert contributors compile discographies of major works and performers, and comprehensive news and comment keep readers well informed about what is happening in the world of music as well as saying unambiguously what the magazine thinks of them.

In dealing with equipment, HFN/RR's well known contributors are equally informed and all the latest technical matters are described thoroughly and frankly. Detailed equipment reviews offer considered guidance to those about to buy, and an unsurpassed comprehensive free advice service is available to readers whether regular or occasional.

Members of staff are in attendance at the stand and are happy to deal with any queries you may have.

**Studio Sound** is aimed specifically at the sound recording and communications industry. It approaches its subject at the technical level expected by audio engineers. **Studio Sound** does not muddle facts with opinions, nor does it play down to a domestic consumer market. **Studio Sound's** coverage of the musical arts is likewise at a serious and practical level.



**HI-FI SOUND/POPULAR HI-FI**

**STAND 1**

**Haymarket Publishing Ltd.,**

**Ground Floor**

Gillow House,  
5 Winsley Street,  
London W1.  
Tel: 01-636 3600

*Magazines*

*"Popular Hi-Fi"* aims to present the complexities of audio technology in a 'down-to-earth' way. It is mainly of interest to newcomers to the subject as well as audio enthusiasts who have little knowledge or interest in technical subjects but who want good hi-fi buying and using advice.

Our test reports cover the complete price spectrum of audio equipment labelled 'hi-fi' and interprets the factual information in a way that helps the reader to make wise buying choices. Special buying surveys are a regular feature of the magazine contents as well as basic information on maintenance and equipment usage.

"Hi-Fi Sound" is the only magazine to provide audio enthusiasts with a complete consumer-orientated coverage of their subject including tape recording. Of interest to both beginners and more advanced enthusiasts, Hi-Fi Sound is packed with information on selecting, buying and running hi-fi systems. Specific advice on equipment planning and buying is published regularly.

A big feature is made of critical test reports on pickups, loudspeakers, amplifiers, receivers, do-it-yourself kits and other components. Laboratory reports on groups of products in specified price ranges appear several times each year and are backed by articles on the branches of technology involved in high quality sound reproduction. Recent group laboratory reports have dealt with speakers and amplifiers.

Subjects of note in 1971 are four-channel systems, Dolby cassette units and developments in pickups and speakers. These and other aspects of hi-fi are covered by Hi-Fi Sound and associated publications, Hi-Fi Sound Annual and the New Hi-Fi Sound Guides.

## HOWLAND-WEST

**STAND 42**

**Howland-West Ltd.,**

**First Floor**

2 Park End,

South Hill Park,

London, NW3

Tel. 794 6666

*Amplifiers, Tuner/Amplifiers, Tuners, Loudspeakers, Turntables, Pick-up Arms, Cartridges, Records, Control Units, Headphones*

Exhibits comprise Howland-West loudspeakers, headphones, Clearview Cabinets, Audio Control Units and Test/Dem records as well as complete ranges of equipment from DYNACO, LUX and NIKKO. NEAT arms and cartridges and JP turntables.

The Nikko range includes a new amplifier in the popular range with complete restyling and extra output together with a matching tuner. A new tuner/Amplifier also joins the range.

A new introduction to the UK market will be the new range of Grado cartridges. These have been greatly praised by the American reviewers and are placed in the same performance category as the most expensive cartridges available, but in contrast their actual selling price is astoundingly low.

Dynaco amplifiers and speakers will be on show together with the new 'Quadaptor' 4 channel adaptor unit. This important 'Gadget' by the originator of the Hafler 4 channel system gives full 4 channel reproduction for a really modest outlay of £15-£18 (Kit or assembled) plus the cost of the extra two speakers.

Lux bring their range up to date by the addition of a really superb Tuner/Amplifier with a 100 watt (RMS) output an exceptionally sensitive FM section and a new 'computerised' tuner system.

Stereo headphones shown are Mod CIS 300 which comes complete with remote volume control and Mod CIS 500 with Wire-wound volume controls set in the earpieces as well as a de-Luxe lined carrying case. The popular HW Narvik and Bergen speakers are restyled and a new addition to the range of Audio Control Units comes in the form of a 'Remote Control' suitable for use with most current amplifiers.

**U.K. Distributors: Howland-West Ltd., 2 Park End South Hill Park London NW 3 794 6666**

**ITT-KB**

**STAND 29**

**ITT Consumer Products (U.K.) Ltd.,**  
Footscray, Sidcup,  
Kent.  
Tel. 01-300 7733

**Ground Floor**

*Record Players, Tuners, Amplifiers, Loudspeakers*

ITT Consumer Products first exhibited their range at the 1970 Audio Fair. Since then they have introduced two new models under the ITT-KB brand name.

This year we will show a range of unit stereo equipment all available in a choice of two systems. The main units of each system are:

The KA1250, a beautifully styled stereo record changer/amplifier, delivering 7 or 10 watts per channel, depending on the speaker impedance. It is fitted with studio type slide controls for volume, bass, treble and balance.

The KA2010 is a four waveband radio version of the KA1250 with a family resemblance to the latter. It has the same high performance, good looks and ease of operation. A stereo decoder can be simply fitted to the tuner unit.

The last and most powerful equipment is the KA2650, a sophisticated development of an earlier model. The amplifiers have now been refined to produce 24 watts per channel. The record player and amplifier are combined with an FM radio, and the cabinet, has been redesigned to accommodate the radio scale in a more easily readable position.

Three sets of speakers will be on display.

The KS651 Radial Sound speakers are cylindrical in shape. The siting of these speakers, in order to obtain stereo effect, is very much less critical than with normal speakers. Sound is thrown upwards and deflected outwards through 360° by the positioning of a downward facing cone.

The KS653 speakers which match the Standard Sound system are 8in. × 5in. speakers in teak finished cabinets.

And finally, the KS654 are true high fidelity speakers consisting of 3 speakers in one sealed enclosure.

- KA1250 Radial Sound System — £83
- KA1250 Standard Stereo System — £74
- KA2010 Radial Sound System — £107
- KA2010 Standard Stereo System — £96
- KA2650 Radial Sound System — £105
- KA2650 Deluxe Stereo System — £137

**WIRELESS WORLD** **STAND 2**  
**ELECTRICAL AND ELECTRONIC TRADER**  
**ELECTRICAL AND RADIO TRADING**

**IPC Electrical-Electronic Press Ltd.**

**Ground Floor**

Dorset House, Stamford Street,

London S.E.1.

Tel.: 01-928 3333

*Publications*

**Wireless World**, Britain's leading technical journal in radio, television, audio and electronics, provides a complete and accurate survey of the latest techniques in design in these fields. Written for the individual engineer, its articles cover circuit techniques as well as constructional projects. The November issue includes constructional details of a pickup arm for home construction and a progress report on tape recording which covers tape quality, reel-to-reel and cassette recorders, and noise reduction systems.

On the stand will be working demonstrations of audio equipment built to designs published in the journal.

**Electrical and Electronic Trader** is widely read by dealers, service engineers, manufacturers and wholesalers. Obtainable only on subscription basis by bona fide members of the trade, it provides an invaluable weekly survey of trade trends, experienced observers reporting on every development, technical or commercial in radio, television and light electrical equipment. "Audiotopics", a regular feature now in its fourteenth year, presents the latest technical and commercial aspects of the audio field — an invaluable aid to dealers in keeping right up-to-date in this increasingly important subject. **Electrical and Electronic Trader** costs £4.75 a year, including postage.

**Electrical and Radio Trading** is published specifically for the electrical retail trade. Its regular features include New Product Reviews, Trade Trends articles, service charts, merchandising reviews and commercial information.

Special feature issues provide comprehensive data on the widest range of subjects of interest to the dealer, including all types of domestic electrical equipment, radio, television, tape recorders, etc.

Published every Thursday £4.75 a year to the trade only. Twice a year subscribers receive the free Electrical and Radio Trading Price List, containing recommended retail prices for a great number of products.

**JBL**

**STAND 80**

**James B. Lansing Sound Inc.,**  
3249 Casitas Avenue,  
Los Angeles, California 90039

**Second Floor**

*Loudspeakers and Amplifiers*

The overwhelming success of JBL in the professional field, particularly amongst recording studios in USA, Germany and England, has led to a demand for these professional systems amongst discerning listeners in the home, in order that they can hear the music the way the record producer intended it to be heard.

JBL are therefore proud to present four new speaker systems:

**The L200 Studio 2**, based on the acoustical systems used in JBL's renowned studio monitor model 4320, the L200 brings the same incomparable sound to the home in a striking enclosure featuring a unique sculptured air foam grille.

**The L100 Century**, based on the 4310 control monitor, probably the most efficient book shelf speaker in existence. The best seller in England.

**The L45 Flair**: Uniquely flexible, the Flair may be used either as a lowboy or in the more traditional vertical configuration. The L45 Flair features an impressive new loudspeaker system and a distinctive foam and fabric sculptured grille.

**The L55 Lancer**: A classical viewpoint expressed in vivid contemporary terms, a unique three-dimensional grille, available in coffee, mandarin or indigo colours, is suspended between oiled walnut side panels and topped by smoked glass.

JBL's leadership in acoustical and visual design can be seen and heard in all these systems. Free open bass reproduction, smooth midrange and precise delineation of the highest frequencies recreate the sound of a live performance.

**U.K. Distributors: Feldon Audio Limited, 126 Great Portland Street, London W1N 5PH. Telephone: 01-580 5314. Telex: 28668**

**J. V. C. NIVICO**

**Stand 65**

**Victor Company of Japan,  
Tokyo,  
Japan.**

**First Floor**

*4 Channel Equipment, Amplifiers, Tuners, Tuner-Amplifiers, Audio Stereo Systems, 8 Track Stereo, Compact Cassette Stereo, Stereo Tape Decks, Multi-speaker Systems, Turntables, Tape Recorders, and AM/FM Radios.*

The "Victor Company of Japan" is one of the largest and leading manufacturers in Japan of modern Hi-Fi equipment.

Foremost in the introduction of Quadrosonic Sound', J.V.C.

Nivico again lead in advanced techniques.

For the first time in the U.K., J. V. C. Nivico will demonstrate the "4 Channel Stereo Disc CD-4 System".

Also new to the Audio Fair:—

4 Channel Combination Amplifier and Synthesiser.

4 Channel Tuner.

4 Channel Record and Playback Tape Deck.

4 Channel Car 8 Track Cartridge System.

The S.E.A. system of sound control, exclusive to J.V.C. Nivico, is now a firm favourite with Hi-Fi enthusiasts, and is incorporated with the latest equipment; including Stereo Amplifiers, Stereo Tuner Amplifiers, Stereo Audio Systems with record player, and quality transcription Turntables, belt driven.

J.V.C. Nivico excel in a full range of Stereo compact cassette and 8 Track cartridge components; these are also incorporated in Audio Systems.

The most popular GBIE Spherical Omni-directional Speaker Systems, suspended from above or mounted on a stand, now well established in the home, Studio, Clubs and Discoteques, gives unparelled performance at all angles from 1 to 360°; One of a comprehensive range including the novel wall-hanging Picture Speaker.

The latest modern tape recorders with and without radio, reel to reel tape decks and quality F.M. radios are on exhibit.

In addition to Nivico Models, Transcription Turntables will be featured in a selection of Continental equipment.

**U.K. Distributors: Denham & Morley (Overseas) Ltd., Denmore House, 453 Caledonian Road, London, N.7. Tel. 01-607 6568. Telex No. 24562.**

★ SEE ADVERTISEMENT ON PAGE 12

**KEF**

**KEF Electronics Ltd.,**  
Tovil, Maidstone, Kent,  
Tel: 57258

**STAND 96**

**Second Floor**

*Loudspeakers*

KEF Electronics Limited was founded on 5th September 1961 and so this year celebrates ten years of successful activity in the high fidelity trade. The firm has grown rapidly from very small beginnings to an internationally recognised producer of high quality loudspeakers. This success has been due to the uncompromising engineering standards which the company set itself from the very beginning coupled with a vigorous policy of expansion through its export markets. The hallmark of this success was granted in 1970 with the attainment of the Queen's Award to Industry and the B.N.E.C.'s Award for Export Achievement.

KEF products incorporate the most advanced techniques ever developed for loudspeaker production. Conventional paper cones are not used at all. Every KEF diaphragm is manufactured from plastics or in the case of the larger woofers, from metal and plastics. These unique constructions avoid the wide variations in performance associated with ordinary loudspeakers and give considerably reduced colouration due to the absence of unwanted resonances with the diaphragm itself. All KEF units are fitted with large super power magnet systems built to close mechanical tolerances and fabricated in our own workshops. Unlike so many loudspeaker manufacturers who simply assemble bought-in units, KEF Electronics designs and builds its own drivers and produces all the vital components within its own facilities. This undertaking backed by stringent quality control results in a range of speaker systems which have no rivals in their respective size and price classes.

KEF users include many great musicians, recording engineers and highly critical audiophiles in all parts of the world. Leading press reviewers have consistently praised KEF speakers for their high technical quality and musical sound. In spite of so many accolades, research goes on at our Tovil laboratories in an effort to improve our own high standards. Using the most modern technical facilities and sophisticated instrumentation to investigate the properties of new materials KEF engineers live with the hope of leading the British loudspeaker field in the seventies as they did during the last decade. The aim is simply to make more natural sounding reproducers with ever increasing ruggedness and reliability.

## KELETRON

**K & K Electronics Ltd.,**  
111/113 London Road,  
London, E.13.  
Tel: 01-471-0031/3.

**STAND 52**

**First Floor**

### *Loudspeaker Systems*

The new range of KELETRON loudspeaker systems will be on show at the Audio Fair.

A new front fabric together with contrasting trim are now fitted to all models of the KN series. It will be noticed that many of the small to medium size models are now fitted with larger drive units than before and also incorporate treble and mid-range units, these speakers built into the newly designed cabinets will ensure that the past and current success of KELETRON loudspeakers both on the home and export market will continue to go from strength to strength.

From bookshelf size to floor standing models, from power handling 4 watts RMS to 20 watts RMS all KELETRON speaker systems are available in both teak or walnut finish and in the KELETRON tradition of value for money prices start as low as £8.05 suggested retail price.

Six new models are on show, they are as follows.

**KN400:** A bookshelf speaker of 4 watts RMS which uses a 5 inch bass unit and a 2 inch tweeter to cover the upper frequency range, this unit is small enough to fit into the smallest shelf area.

**KN600:** Compact in size this speaker uses a 6½ inch bass unit with a 2½ inch parasitic tweeter together with separate 2 inch and 3 inch treble units.

**KN 800:** This model replaces the very popular KN 700 speaker system of which many thousands were made. The new system employs a 13½ inch by 8¼ inch bass unit with a 3 inch parasitic tweeter built into the centre of the bass unit which has a high efficiency anisotropic ferrite magnet for maximum sensitivity, together with a 2 inch and 3 inch treble units to cover the upper frequency range. 8 watts RMS.

**KN 1100:** By utilizing a 13½ inch by 8¼ inch bass unit, a 6 inch by 4 inch mid-range and two 2¼ tweeters this model has a wide frequency range within a cabinet of modest dimensions and will handle 10 watts RMS.

**KN 1600:** A 12 inch bass unit with a 3½ inch parasitic tweeter combined with an 8 inch by 5 inch mid-range and a 4 inch treble ensures the fine performance of this model which will handle 15 watts RMS.

**KN 2100:** This the largest speaker system in the KELETRON range handles 20 watts RMS, by using a 12 inch bass unit with a 3½ inch parasitic tweeter a 6½ inch mid-range and a 4 inch treble.

All models are available in either 8 or 15 ohms.

★ SEE ADVERTISEMENT ON PAGES 174 & 175



## **KELLAR**

**Kellar Electronics Ltd.,**  
Lopen Works,  
Lopen Road,  
London, N.18  
Tel. 01-807-4986.

## **STAND 91**

**Second Floor**

### *Dolby B Noise Reduction Systems*

The Kellar model **KDB-1 Noise Reduction Unit** was the first European produced processor available to the public to use the **Dolby B** audio noise reduction system. Shown for the first time at last year's Audio Fair, the **KDB-1** has been in continuous production since the beginning of 1971 and has proved conclusively the benefit of the **Dolby B** system for amateur and semi-professional tape recording.

The model **KDB-1 Noise Reduction Unit** is shown this year in two forms, the standard model in a simulated black leather finish steel cabinet, and an alternative Teak Veneered wood cabinet, both with brushed aluminium fascia panel and control knobs.

The **Kellar KDB-2 Noise Reduction Unit** is shown for the first time at this year's Show and is a twin channel **Dolby B** noise reduction unit using four **Dolby B** processors designed for tape recorders with separate Record and Replay heads for simultaneous monitoring from the tape.

The **Kellar model KDA-70** also shown here for the first time, is a 35W+35W Stereo HiFi Amplifier, with Inputs for Microphone, Disc, Radio and Tape Recorder. The circuitry of the **Kellar KDB-1 Dolby B** unit is incorporated into the amplifier and is switched to the Tape Socket when Recording from any input and on Playback from the Tape Recorder. The unit is fitted with two **Dolby B** Level meters, Multiplex Filter switch, Internal Calibration Oscillator and **Dolby B** Noise Reduction switch. We feel that the **KDA-70** is the forerunner of a new generation of integrated Stereo equipment incorporating the **Dolby B** Noise Reduction System.

Dolby is the trade mark of **Dolby Laboratories Inc.**

★ SEE ADVERTISEMENT ON PAGE 184

## **KOSS**

**STAND 68**

**Koss Electronics Inc.,**  
2227, North 31st Street,  
Milwaukee,  
Wis. 53208, U.S.A.

**First Floor**

### *Stereo Headphones*

#### **4 Channel Headphones**

Koss—the first company in the world to market a stereo headphone—the first company in the world to market a self-energised electrostatic headphone—now announce the Koss K2+2 4 channel dynamic headphones. This headset incorporates 4 separate driver elements to deliver proper “surround sound” from four-channel amplifiers. There is a switch on the headset to allow use on conventional stereo amplifiers. The Koss stand has been shipped complete from the Milan Fair and is undoubtedly the largest display area ever devoted at an exhibition to solely stereo headphones.

#### **Electrostatics**

Apart from the new 4 channel stereophones, Koss will be demonstrating the famous Electrostatics—the headphones that exceed the performance of the best loudspeakers, eliminating all room reflections and polar distribution problems

#### **Dynamics**

The PRO-4AA—now internationally acclaimed as the best moving coil stereo headset in the world—will be available for auditioning. Since its launching on the British market a year ago, it has jumped into the position of claiming the highest Koss sales throughout the world. Testimonials of exuberant enthusiasm from users of this model in Great Britain may be seen on the stand. Other dynamic models such as the KO-727B, the K6LC with the new slider balance and volume controls, will be on show.

#### **The Red Devil**

The new lightweight stereophone of revolutionary design which is claimed to sound as good as any other 'phone up to twice its price will probably prove to be the star of the show from a demand point of view, since it offers quality never before available at only £10. It is known as the “Red Devil” KR711 but, for the more conservative colour schemes, its brother the K-711 will be shown in Grey.

#### **Accessories**

Newly styled accessory items, T-10A Chairside Listening Station and T-4A Connector Box, will be shown.

**U.K. Distributors: T.M.D. Ltd., 11 Redvers Road, Wood Green, London, N.22.  
Tel. 01-888 0152.**

★ SEE ADVERTISEMENT ON PAGE 26

## **LEAK**

**H. J. Leak & Co. Ltd.,**

Idle, Bradford, Yorkshire.

Telephone: Bradford (0274) 612552

## **STAND 28**

**Ground Floor**

*Loudspeakers, Receivers, Amplifiers, Turntables, Tuners*

The full Leak Delta range of equipment is displayed and engineers will be in attendance to advise and discuss general hi-fi enquiries and technical problems relating to Leak products. There will be regular demonstrations of all equipment with admission by ticket only—available from the Stand. All these products are new this season and are briefly described below:

**The Delta 75 Receiver.** For the first time a Receiver is available which combines the performance of the separate Leak Tuner and Amplifier. The Delta 75 combines high sensitivity AM and FM Tuners with an ultra low distortion amplifier (0.09%) at the full rated power of 35 watts per channel.

**The Delta 30 Amplifier.** The Delta 30 Amplifier has been developed directly from the very popular Stereo 30 Plus. Several changes to the circuitry are incorporated together with improved quality transistors and additional protective devices. Speaker connections are now made according to the DIN Standards. The power output is 15 watts RMS per channel and harmonic distortion is less than 0.1%.

**The Delta 70 Amplifier.** This model is a development of the highly successful Stereo 70. Again improvements have been made in manufacturing specification in line with the Leak policy of taking advantage of technical advances.

**The Delta FM Tuner.** This tuner is a development of the highly successful Stereofetic Tuner and is restyled to match the rest of the Leak Delta range.

**The Delta AM/FM Tuner.** This model is the same as the Delta FM but with the addition of an AM wave band for those who particularly want to listen to broadcasts not available on the FM frequency.

**The Leak Speakers.** The appearance of the three models in this range, namely the 150, 250 and 600 remains as for the highly successful models first introduced in this design during 1971.

All of the models now carry the special alternative connector plate on the back and are supplied with 5 metres of cable. The individual technical specifications are as follows.

**Leak 150 Loudspeaker.** The 150 is a 2 speaker infinite baffle system, using similar units to those in last year's 200. The 6½in sandwich cone bass speaker, together with the 2in direct radiator tweeter, cover the frequency range of 60Hz to 18,000 Hz. The power handling capacity is 18 watts when measured to the DIN standard.

**Leak 250 Loudspeaker.** In the middle of the Leak speaker range is the Sandwich 250. This unit uses a similar construction to the 150 but with an 8in sandwich cone bass speaker extending the low frequency reproduction down to 55Hz. The power handling capacity is 18 watts.

**Leak 600 Loudspeaker.** This is a 3 way litre cabinet with a 12in bass speaker, 5in mid range and 1in dome tweeter. A tight bass performance is obtained through the design of the bass speaker with its sandwich cone and the use of a rigid construction cabinet. Extra care has been taken to eliminate panel resonances, and the high compliance mid range speaker, together with the domed tweeter, ensure that low distortion performance extends throughout the frequency range. The Sandwich 600 covers the whole useful frequency spectrum from 45 Hz to above 20,000 Hz and will handle power levels up to 35 watts DIN.

**The Delta Turntable.** To enable Leak to offer a complete hi-fi system, we have developed a turntable, the mechanism of which is specially made for Leak by Lenco of Switzerland. Speed adjustment is infinitely variable between 30 and 86 RPM with four click stops for all standard speeds. Wow and flutter are less than 0.6% and rumble better than minus 60dB, both measured according to DIN specifications. The unit is fitted with a Shure M75 high sensitivity magnetic cartridge.

**MB MIKROFONBAU**

**STAND 65**

**MB-Electronic,**

**First Floor**

Mikrofonbau Vertrieb GMBH,  
683, Schwetzingen,  
Postfach 59,  
Germany

*Microphones, Headphones*

Europe's largest manufacturer of quality microphones and headphones, we produce for broadcasting stations and leading tape recorder manufacturers all over the world, as well as for millions of amateurs and professionals — over 10,000 units every working day.

The experience gathered over many years of successful mass production technique is utilised in the development of the programme.

The range comprises :

Omnidirection microphones.

Condenser microphones.

Dynamic moving coil headphones.

Dynamic moving coil headphone microphone combination.

Dynamic moving coil headphone-microphone.

Combinations, with induction receiver and a full range of accessories.

Price of Microphones start from £3 3s. 0d. to 89 guineas.

Headphones and combinations from 6 guineas to 41 guineas.

The accessories range is very comprehensive and includes all types of leads, screw fittings and microphone table and floor stands.

**U.K. Distributors: Denham and Morley (Overseas) Ltd., 453 Caledonian Road, London, N.7. Tel.: 01-607 6568.**

★ SEE ADVERTISEMENT ON PAGE 12.

## MARCONIPHONE

STAND 15

British Radio Corporation Ltd.,  
284 Southbury Road,  
Enfield, Middx.  
Tel: 01-366 1155

Ground Floor

### *Audio Separates, Cassettes and Reel Tape Recorders*

British Radio Corporation are showing four Marconiphone audio separates and the complete ranges of Marconiphone cassette and reel-to-reel tape recorders.

**Audio Separates.** New to the show is the Marconiphone High Fidelity unit model 4451. Finished in teak it comprises tuner/amplifier/record player and two floor standing loudspeakers. The tuner provides VHF, Medium, Long and Short wave reception. Power output is 13 watts/channel (speech and music) or 10 watts/channel (sine wave) at 2% THD. A stereo decoder is fitted. Record player is a Garrard automatic type 5/300 with magnetic pick-up cartridge. There is a 'shape' button which switches in volume control compensation for apparent change in frequency response at low levels. The 15 litre enclosures each contain 6in. diameter 3½in. loudspeakers. Amplifier frequency response is 35 Hz to 17 kHz  $\pm$  1 dB. Recommended retail price of £72.40.

Marconiphone 4450 Unit 3 Mk II audio separate is a three piece suite comprising tuner/amplifier/record player and two loudspeakers. Tuner provides VHF, Long and Medium waveband coverage. Power output is 7 watts/channel (speech and music) 5 watts/channel (sine wave) at less than 2% THD. Record player is a BSR 4-speed autochanger. The sealed acoustic enclosures contain two 8in. x 5in. loudspeakers. Finished in teak effect, model 4450 has a recommended retail price of £72.40.

Model 4406 'Unit 3' is a combined stereo amplifier/record player with separate high performance loudspeakers. Power output is 6 watts/channel (speech and music). BSR single player is fitted with a large turntable and counterbalanced stylus arm. Each speaker enclosure contains 1 6½in. bass unit and a tweeter. Recommended retail price of 4406 is £84.80.

On display for the first time Marconiphone Unit 4 Mk II, a four unit system with a tuner/amplifier, record deck and two loudspeakers, all finished in matching colour. Tuner has a Long, Medium and VHF waveband coverage. Stereo output is 3 watts/channel (speech and music), record deck is a BSR 4-speed autochanger. Recommended retail price is £76.00.

**Tape Recorders.** The Marconiphone tape recorders on show include a battery operated cassette, a mains cassette and also four mono reel-to-reel machines which can take 7in. spools and with automatic or manual recording level control and a stereo tape recorder model 4261.

Marconiphone 4261 is a 4-track, 3-speed stereo tape recorder for operation in vertical or horizontal planes. Features include slider type volume record levels and tone controls, recording level meters, track transfer and second channel monitoring. Recommended retail price £102.60.

**MARKOVITS**

**STAND 37**

**I. Markovits Ltd.,**  
32-34, Stronsa Road.  
Shepherds Bush,  
London, W.12  
01-743 1131/2

**Ground Floor**

*Labels, Escutcheons, Nameplates, Badges*

Nearly every type of nameplate, badge, label, escutcheon, etc. Injection moulded in polystyrene, cast in metal, screen printed on aluminium, sheet plastics, vinyl and other suitable materials. These can be supplied self-adhesive, with studs, holes or plain; a hollow stud fitting has been produced which is particularly useful for speakers as it can be turned in all directions and is affixed by means of a self-tapping screw.

The moulded polystyrene nameplates are not only very attractive, but durable and the highlights in gold and silver give a sparkling appearance. Some of the latest aluminium finishes are being used in gold, copper and silver, and the "brushed" matt surface is a very good imitation of stainless steel, and especially popular with front panels and facias.

The two-piece escutcheon is a combination of the polystyrene and aluminium processes; the insert is aluminium and adhered into position. This allows many different titles to be used, without extra cost and trouble, when designing a new plate for new models or ranges of equipment. Vinyl, plastic or reverse-printed "Craylux" can also be used for this purpose.

Badges for conferences, exhibitions, clubs, societies and staff in plastic or metal, we make as stock lines or to individual specification.

The exhibitor also blocks on Vinyl and supply these, self-adhesive in roll form. Mirror acetate labels are also supplied by this method.

Vacuum forming has been added to the wide range of processes and advertising media, decorative plaques, display stands, etc., can now be produced to customers' requirements.

## MEDWAY

STAND 79

**Brahms Manufacturing & Dev. Co.,**

**First Floor**

Trafalgar House,

131 Trafalgar St.,

Gillingham, Kent.

Tel: Medway 52188

*Speaker systems, etc.*

The "MEDWAY" range of Speaker enclosures are designed for the medium priced stereo system and consist of the following three models:

**Medway T138.** The most popular unit in this range and it incorporates an elliptical speaker unit. This consists of a 1" x 8" bass unit and 2" tweeter unit with an LC crossover designed to crossover at 8,500hz. Power handling is 10 watts R.M.S. and the frequency range is from 55hz to 13,000Hz. Dimensions—18" x 11" x 8" and finished in teak or coloured cabinets, offered also with vynair or Scandinavian slatted front.

**Medway SL100.** All specifications, colours and optional fronts are the same as the T138, but the cabinet dimensions are 17" x 12" x 5½", this unit can be used either free standing or wall mounting.

**Medway 85.** This is a small solidly constructed unit incorporating a full range 8" x 5" unit, basically designed for unit audio. Dimensions 12" x 8" x 7". This unit can also be supplied coloured or in teak, with cloth or slats.

Also under the MEDWAY name we will be exhibiting some complete unit Audio Systems for which details will be announced at the Audio Fair.

The "BRAHMS" range of Speakers are specifically designed for the Home and Export High Fidelity Markets, this range consists of the following three Units.

**Brahms 800.** This superb unit consists of an 8" high compliance bass unit, and a domed high frequency radiator. The frequency response is 30Hz-22,000Hz and the crossover frequency is 3KHz. Power handling is 20 watts, and exceeds DIN standards 45:500 and 45:573. Cabinet dimensions are 21" x 12" x 9", finished in teak or coloured.

**Brahms 650.** This unit is identical to the BRAHMS 800 except for the following details. Power handling 15 watts, frequency range 35Hz to 22,000KHz. Bass unit is 6½" diameter, and cabinet dimensions 18" x 11" x 8" and also conforms with DIN standards.

**Brahms 500.** A slightly smaller bookshelf unit utilising a 5" high compliance bass unit and dome radiator. Frequency range 35Hz to 22,000Hz. Crossover frequency 3KHz. Power handling 15 watts, cabinet dimensions 16" x 10" x 7". This also conforms to DIN standards. Finish—coloured or teak.

Also being introduced by BRAHMS is a Cassette Record/Playback machine, with pre-Amplifiers which can be used in conjunction with any Stereo System, we will also supply this unit as a playback model only for Standard and 8 Track Cassettes. This is a new introduction and technical specifications will be available on our Stand No. 79

★ SEE ADVERTISEMENT ON PAGE 183

## **METROSOUND**

**STAND 35**

**Metrosound Audio Products Limited**

**Ground Floor**

Audio Works, Cartersfield Road,

Waltham Abbey, Essex.

Tel: Waltham Cross 31933 (PABX)

Having established the ST 20E stereo amplifier as the pace-setter for the medium price and budget hi-fi market, Metrosound have now developed a new amplifier with higher quality and presentation by introducing the ST 60 amplifier, delivering a further 30 watts r.m.s. per channel. This model incorporates many new and advanced features and the styling is considered a trend setter for the future. The combination of all new facilities incorporated, together with piano key operation and semi-professional slide controls makes this a product well in advance of that offered by any competitor.

The ST 20E is the advanced model of the ST 20 with the added facility of a headphone socket. This product which has been a leader in its field for the last two years is now receiving acceptance in many overseas countries.

The SS 30E which is derived from the ST 20E but with the addition, of course, of the high quality 8-track mechanism for play back of 8-track cartridges now has the headphone socket facility and both the ST 20E and the SS 30E have been selected for display at the Council of Industrial Design Centres in London, Manchester and Glasgow.

Metrosound were the first company to enter into the pre-recording of 8-track cartridges in the U.K. and Europe and have developed a full and better understanding of the requirements needed to play these tapes to their best advantage. Therefore, in addition to the SS 30E, Metrosound have also produced the 448 Home Unit and the SA1 Satellite Unit; the latter item designed for linking into existing hi-fi systems. Added to this in the 8-track cartridge field, Metrosound have now produced the 1080 System. This design is basically for small background installations and is provided complete with dynamic microphone and may be used for both 8-track tape reproduction and P.A. work.

The smooth response of the established Metrosound loudspeaker systems, HFS 103 and HFS 202, continues to delight the budget conscious section of the buying public.

Metrosound, however, will be including in their exhibit this year a new range of electro-static speakers and hope to have production models available for demonstration at the show. This, we anticipate, will include the first compact book-shelf size electro-static speaker that has been produced by any company.

On display, of course, will be a varied selection of Metrosound Audio Accessories and a comprehensive range of replacement styli.

★ SEE ADVERTISEMENT ON PAGE 24



## MICRO SEIKI

STAND 57

Micro Seiki Co. Ltd.,

First Floor

19, Fajimi-Cho,

Itabashi-Ku,

Tokyo, Japan.

### *Turntables, Pick-up Arms, Cartridges*

First introduced at the 1970 International Audio Fair, the Micro-Seiki range of turntables, arms and cartridges are already amongst those selected by Connoisseurs of quality.

Items displayed include:—

Two belt driven turntables using synchronous 4-pole motors.

The MR211 supplied with the MA77/II arm, recommended retail price £69.50 with plinth and cover.

The MR111 with a static balance tone arm, recommended retail price £38.50.

Both arms have anti-skating devices fitted and direct reading stylus pressure adjustment rings.

Two transcription quality pick-up arms:—The MA100 12 in. dynamic balance arm employs a unique linear spring fine stylus pressure adjustment device with vernier scale setting giving the highest degree of tracing accuracy yet devised. Price £69.50. The MA77/II arm almost certainly offers the finest value and quality in tone arms currently available. Of universal application it offers both coarse and fine stylus pressure adjustment from 0. to 6 gramme. Price £24.27.

Of interest to every quality conscious Hi-Fi owner are the outstanding Micro Seiki cartridges varying in price from under £6.00 to £21.00. The range comprises:

**MC 4100/E.** This moving coil stereo cartridge has the unique feature of the "user replaceable" stylus assembly. Frequency response: 5-40,000 Hz. Channel separation: 33 dB at 1 kHz. Compliance:  $25 \times 10^{-6}$  CM/dyne. Price £21.00.

Also available the MC 4100/5 with 0.5 mm conical stylus. Price £17.50. The MC 4100 cartridges are for use with the MTA-41 pre-amplifier or a suitable matching transformer.

**VF 3100E.** The VF 3100/E Mark II variable flux cartridge using a  $0.3 \times 0.8$  elliptical diamond stylus tracking at 1 to  $2\frac{1}{2}$  grammes and producing a frequency response of 20-20,000 Hz. Compliance:  $20 \times 10^{-6}$  CM/dyne. Price £13.10. Also available the VF 3100/5 with 0.5 mil. conical stylus. Price £10.00.

**M2100/E.** A magnetic stereo cartridge with a  $0.3 \times 0.8$  mil. elliptical diamond stylus giving a frequency range of 20-20,000 Hz  $\pm 1$  dB together with a channel separation better than 30 dB. Price £10.68. Also available the M2100/5 with conical 0.5 mil. diamond stylus. Price £6.80 and the M2100/6 with 0.6 mil conical stylus recommended retail price £5.58.

Replacement stylus assemblies are available for all Micro-Seiki cartridges. Latest additions to the Micro Seiki range are:

**MSB1 "Microsorber"**—A high quality shock absorber system using air damped high efficiency materials to reduce howling and acoustic feed back from today's super sensitive stereo systems. Set of 4, £4.95.

**MTA-41, G.B.C, Pre-Amplifier**—For use with the MC4100 range of cartridges. Gain 30 dB  $\pm 1$  dB. Frequency response 5-40,000 Hz. Price £11.00. \* Recommended retail prices.

Micro Seiki is stocked by only recognised franchised dealers, backed by full service and technical facilities in the U.K.

Sole U.K. Importers and Distributors: **B. H. Morris & Co. (Radio) Ltd.,** 84-88 Nelson Street, London, E.1. Tel.: 01-790 4824.

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**MUSONIC LIMITED**

34-38 Verulam Road,  
St. Albans, Herts.  
Tel.: St. Albans 50611/2

**STAND 21**

**Ground Floor**

*Audio Accessories, Sapphire and Diamond Styli.*

With the recent takeover of Colton Audio Products, we are able to display, in addition to our excellent range of record accessories, the very famous range of Colton audio and Hi-Fi accessories.

Amongst those items on display will be:

**The Colton Magnalift.** Designed to meet a need on professional turntables. When the pick-up arm has completed the playing cycle of a record then the Magnalift will lift and hold it clear of the record thereby obviating unnecessary stylus and record wear. Selected for the council of industrial design awards.

**The Colton Precise Lift.** Simple and clean in design, a pick-up arm lift and lowering device which will aid those with the shakiest hand (or the smoothest) to lower the arm, easier and with added safety. Selected for the council of industrial design.

**The Colton Stylus Life Timer.** This neat device is as far as we know, the only automatic stylus timer in this country. It has no physical contact with the turntable, and is actuated by opposing poles. Registers up to 250 playing hours.

**The Colton Variscale.** A precision engineering device for determining stylus pressure from  $\frac{1}{2}$ -5 grams, a range adequate to cover all modern lightweight pick-ups. Use of the beam and knife edge technique with a fixed balance weight provides simplicity of operation and a degree of accuracy usually associated with a more expensive instrument. Finished in silver on a black base.

In addition to these items, a number of others will of course be on display, including some interesting new products.

Lack of space, and a printing deadline prevents us to tell more, but if you make your way to the stand, then we will be delighted to show you the largest and the best range of audio accessories in the United Kingdom.

**NATIONAL PANASONIC**

**STAND 33**

**Matsushita Electric Trading Co. Ltd.,**  
P.O. Box 288,  
Central,  
Osaka,  
Japan.

**Ground Floor**

*Tuner/Amps/Tape Decks*

NATIONAL PANASONIC presents a wide range of audio units, all carefully selected from the International range of MATSUSHITA, one of Japan's — and the world's — leading manufacturers.

Of particular interest is the RS. 725 cassette record-and-playback deck. This particular model has the exclusive 'memory facility' as well as the HPF heads which are exclusive to NATIONAL PANASONIC products. Also, a 3-motor drive which offers genuine hi-fi reproduction.

The now popular 8-track stereo system, utilising a continuous-play cartridge, will also be demonstrated both in the play-only mode and the play-record field.

Two superb reel-to-reel tape decks, the RS.735 (incorporating the exclusive Hot Pressed Ferrite heads) and the RS.768 (3 head deck) will ensure the continuance of this type of recording for many years to come. The RS.735 utilising these exclusive heads, offers 10,000 hours of faultless reproduction.

Complementing these items will be a selection of amplifiers and tuner-amplifiers, such as the well-established SA.420 tuner amp. at £92.54. Along with this will be two brand new items, the ST.3100 and ST.3600 tuner-amps. which herald a new generation of hi-fi equipment from NATIONAL PANASONIC.

These high-quality, exciting models will be supported by samples of audio compact units ranging in price from £67.00 to the brand-new and trend-setting S.S.7020, which offers a complete, compact, de-luxe, professional home unit, retailing at £168.70.

So, follow the leader in the world of music and home entertainment. The one that is always just a little ahead of its time. Visit NATIONAL PANASONIC on Stand No. 5 where you can see/hear for yourself the wonderful products on display. Representatives from the company will be on hand here—and in listening rooms 134/135—to demonstrate and assist you in your choice.

**U.K. Distributors: National Panasonic: Unamec Ltd., United Africa House, Blackfriars Road, London, S.E.1. Tel. 01-928 2070.**

★ SEE ADVERTISEMENT ON PAGE 22

**NATIONAL WESTMINSTER**

**STAND 40**

**National Westminster Bank Ltd.,**

**Ground Floor**

41 Lothbury,

London, E.C.2.

Tel. 01-606 6060

National Westminster Bank is the country's most local bank with over 3,550 branches throughout England, Wales and Ireland. It also has agents and correspondents throughout the world, so that a comprehensive banking service is available to all. NatWest offers the obvious services of a current account with a cheque book, a deposit account with interest and a savings account for smaller savings. In addition regular payments can be made promptly by the bank. Under the standing order service and NatWest introduced the budget account scheme, which enables you to spread the load of your annual bills over the whole year, thus avoiding those worrying and difficult times of the year when all the bills seem to arrive at once.

The Bank is in business to lend money, although it has to comply with government directives. Whatever your circumstances do not hesitate to ask one of your local managers about a loan, for even if he has to say 'no', he might be able to offer some practical alternative advice.

The Bank is in constant touch with the country's leading stockbrokers and, as such, is able to obtain up-to-date advice on all aspects of the stock market. There is no charge for this service beyond that payable to a stockbroker and the bank takes responsibility for the collection of the proceeds of a sale and the delivery of a certificate in the case of a purchase. In addition the bank's own unit trust, Westminster Hambro Trust Managers, provides another means of investment. For more substantial funds our Investment Management Service will look after the whole business for you, taking your own and your family's financial requirements into consideration.

NatWest has its own Insurance Services Department and is happy to arrange insurance for you at the best possible terms consistent with absolute safety. They are also happy to help you with your income tax returns and claims. Other ways in which the Bank can help are with travel cheques and currency when you are going abroad (indeed travel cheques provide maximum safety when travelling in this country as well), with the appointment of the Bank as executor and trustee and with Diners Club, a world-wide, well-established credit card organisation.

## **ONKYO**

**Osaka Onkyo Co., Ltd.,**  
12-8, Uchikanda Ichome,  
Chiyoda-ku,  
Tokyo, Japan  
Tel. Tokyo (293) 0191

## **STAND 47**

**First Floor**

ONKYO Equipments are produced by Japan's leading Hi-Fi Manufacturers and designed to meet the demands of bringing reliable high quality sound into the home by means of record, tape or radio with a range of combined or separate audio units pleasing to the eye and ear. Whilst ease of operation is a major feature of all ONKYO products, the technical specifications are second to none at highly competitive prices.

The prestige performance of ONKYO products has been long established and acknowledged in Japan and the equipments very successfully marketed on the American and European Continents. U.K. distribution is now available through J. Parkar & Company (London) Limited. The Company is Internationally established and is able to offer full servicing/spares facilities to ONKYO Traders. U.K. Test-Marketing of ONKYO products has proved more than satisfactory and the equipments, now available, will be exhibited at all the leading Trade and Public Audio Shows, backed by National Advertising and area exhibitions.

For those requiring complete stereo systems, ONKYO products offer no less than eight models comprising record deck, AM/FM-stereo tuner, amplifier, matching speakers complete with all wiring including FM Room Aerial and each suitable for the addition of tape machines in the 8-track cartridge, cassette or open-spool formats.

The range commences with the popular SM-10 model in modular presentation with slider-controls, and extends to the Multiac Series offering 4-amplifier stereo wired to two special speakers giving the user total control over the bass and treble range without inter-modulation problems.

The Multiac Series offer quality audio, which until now has generally only been achieved by expert selection of separate pieces of equipment from various sources and thus dispenses with the matching, wiring and delivery-delay problems so often associated with the more ambitious hi-fi installations.

For those still wishing to custom-build hi-fi installations, or to up-grade existing systems by the addition of separate units, the ONKYO Integra Series offers stereo amplifiers, tuners and loudspeakers for incorporation into the most exacting audio roles.

Nothing has been forgotten in the ONKYO range—the SM-20 model takes over from the SM-10 unit for those requiring the incorporation of an auto-change record deck, and without loss of the modular format with its neat presentation and a minimum of external wiring. Already ONKYO true four-channel stereo units are in operation in the U.K. Showrooms and research and development is keeping pace with noise-reduction systems and the various improvements being made in recorded sound quality by the record and tape Companies throughout the world. U.K.-Market liaison is maintained by Messrs Parkar and the Company is able to offer the support of a wide range of accessory equipments backed by technical and marketing expertise.

Brochures upon ONKYO Equipments are issued from Parkar House. Separate leaflets cover the various complete systems together with a brochure covering the Integra Series.

Also available are brochures and leaflets covering Onkyo loudspeakers and accessories.

**U.K. Distributors: J. Parkar & Co. (London) Ltd., Parkar House, 1 Paul Street London EC2 A4JQ. Tel: 01-628-4577.**

★ SEE ADVERTISEMENT ON PAGE 182

**ORTOFON**

**Ortofon A/S,**  
5 Trommesalan,  
Copenhagen V,  
Denmark.

**STAND 35**  
**Ground Floor**

*Pick-up Heads, Cartridges, Pick-Up Arms*

Ortofon manufacture Pick-up Heads and Cartridges for the Music Lover yet their specifications can withstand the most rigorous scrutiny the technical minded user can desire.

There are more Ortofon heads used in Studios, Broadcasting and quality control than those of any other manufacture—the smoothness of Ortofon is well appreciated by the professional user.

In the last two years, Ortofon introduced their new Electro-Dynamic Series marking an important break with the Moving Coil Cartridges with which they have for so long been associated. The new M15 range of Moving Magnet Cartridges with replaceable styli Ortofon's reputation for quality to be employed by those who do not wish to employ the special transformers or the factory stylus replacement service. The standardised stylus holder design enables cartridge upgrading through the range.

In the last few months reviews of the new M15 Series have appeared and without exception these have been of the most favourable nature showing that this new Ortofon Series is well up to the standards that have always been set by its predecessors.

The many enthusiasts for Ortofon's traditional Moving Coil Cartridge range will find the acclaimed SL15E series readily available.

Finally the Ortofon range of first class Arms headed by Model AS212 in the opinion of many experts the finest Pick-Up Arm of its type in the World, has models at all prices suiting systems from budget to the most expensive Hi-Fi equipment.

**U.K. Sole Distributors: Metrosound (Sales) Limited, Audio Works, Cartersfield Road, Waltham Abbey, Essex. Tel. Waltham Cross 31933.**

★ SEE ADVERTISEMENT ON PAGE 24

**PADDOCK TIDY**

**STAND 25**

**Power Judd & Company Limited**

**Ground Floor**

94 East Hill,  
London, S.W.18.  
01-870 3304

*Anti-Warp Gramophone Record Storage Equipment*

**Record Storage System** — Holds records flat and upright between cushion sprung support panels all the time presses out warps. Tried and tested for more than ten years. Hundreds of letters from delighted customers repeating orders are written proof.

**Proved in the Tropics** — Paddock “tidies” are in use all over the world—from NORWAY to the FALKLAND ISLANDS, from the U.S.A., HONG KONG and SINGAPORE to AUSTRALIA.

A Paddock “tidy” is a very simple idea, and like most simple ideas very effective and practical. It is also an elegant piece of furniture which will grace any home, and consists of two polished mahogany plywood ends bolted together by rods which pass through polished aluminium tubes to hold the ends apart. On two of the rods — the control rods — two polished mahogany supporting panels slide freely and are always kept pressed together by special cone shaped springs.

**Springs cannot collapse** — Specially designed cone-shaped springs provide cushioned pressure to hold one or 100 records at the right pressure. Springs under compression are always kept centrally guided along axis of control rods and never collapse.

**Miracles ?** — Many of our customers have claimed that their Paddock “tidies” have corrected badly warped records. In October 1969 we received this letter . . . “it has corrected four records which I carelessly left in my car to bake in the sun.”

**PERFECT STORAGE AT LOWEST COST PER RECORD at 2·90p EACH.**

**200 RECORDS COMPACTLY STORED FOR LESS THAN £6·00**  
12-in. Double Shelf Model 12C4, £5·80 (29¼-in × 11¾-in × 13¾-in) incl. purchase tax and polythene Dust Cover. Compare this price per record with any other form of record storage.

In world wide use by Schools, Universities, Public Libraries and Broadcasting Services. Reviewed in the past by all the leading Magazines including UNSOLICITED RECOMMENDATIONS from some, such as *Illustrated London News* and *The Music Teacher*.

**U.K. Distributors: Power Judd & Company Limited, 94 East Hill, London, S.W.18.**

★ SEE ADVERTISEMENT ON PAGE 31

**PHILIPS ELECTRICAL LTD.**

**STAND 17**

Century House,  
Shaftesbury Avenue,  
London, WC2H 8AS  
01-437 7777

**Ground Floor**

*Amplifiers, Loudspeakers, Tuners, Record-Decks, Cassette Recorders,  
Tape Recorders, Tapes Cassettes and Accessories*

Philips are showing their full range of Audio Plan equipment together with cassette and tape recorders, and a full range of accessories on Stand 17. Philips Audio Plan covers a wide variety of record-decks, amplifiers, tuners, speakers, tuner amplifiers and combination units. As well as the individual items, several of the many possible Audio Plan systems will be shown, illustrating how cassette reel-to-reel tape facilities can be added to the basic stereo group.

New additions to the Philips Audio Plan range will include the RH702, a new 2 × 18 watts (music) tuner amplifier, which features superb styling and conforms to International DIN hi-fi standard throughout. The tuner features four wavebands with band spread on medium wave, and five pre-set buttons for F.M. Continuing the trend towards combination units is the new RH818 which is a four-way combination unit featuring record-deck, tuner incorporating stereo decoder, 2 × 12 watts(music) amplifier, and stereo cassette recorder. The RH818 comes complete with matching speakers.

Three new speakers will be on show, the RH411 a compact bookshelf speaker that will handle up to 10 watts continuous, and the RH402 which will handle up to 20 watts continuous power, yet is only 10½ inches square and 4¼ inches deep.

**Compact Cassettes.** Out and about? Take along Philips portable Cassette-  
phone, the N2000. It can be used whilst being carried, and is fool-proof to operate with just one simple control for rewind and fast forward wind.

To give you the biggest possible enjoyment, the Philips Compact Cassette system also provides big sound stereo. The N2400 mains stereo cassette recorder, the N2401 mains stereo cassette player/recorder/changer, and the N2503 mains stereo cassette deck, all offer stereo at the click of a cassette.

**Reel to Reel Tape Recorders.** Eight models from a twin track mains operated machine around £40 to Philips latest hi-fi stereo recorder/amplifier with automatic reverse for anyone in anyway involved in sound. The N4450 is a hi-fi stereo tape deck with three separate heads, a 2 × 20 watt amplifier, eight sliding potentiometers and a 24 hour timer.

★ SEE ADVERTISEMENT ON PAGES 166 & 167



**PHILIPS RECORDS**

**Philips Records Ltd.,**  
Stanhope House,  
Stanhope Place,  
London, W.2.  
Tel.: 01-262 7788

**STAND 19**  
**Ground Floor**

*Musicassettes*

**Musicassettes.** In 1966 Philips first launched the exciting new cassette system. Originally, the machines were bought as tape cassette recorders, but as the system became more popular — not only in the UK but in Europe — it became obvious that it was an ideal configuration in the reproduction of entertainment, whether it be music, spoken word or learning language courses.

In the UK a catalogue of 25 musicassettes was introduced in October 1966. The growth has been rapid and the industry catalogue now contains nearly 2,500 titles. From a potential cassette machine market of two hundred thousand piece in 1967, this figure has now rocketed to well over 1,100,000 pieces. When one considers that there is a potential market of twelve million record players in this country which has taken fifty years to develop, then one can appreciate how quickly the cassette concept has been accepted.

Another tremendously exciting development for the cassette system is in the motor car. Already in the States millions of cars are fitted with stereo tape machines, usually the equipment being installed in the car before it leaves the factory. It is interesting to note that the tape market in the States now represents something like 35 per cent. of the recording industry.

All are aware that the American market readily accepts new developments quicker than the home trade but it seems sure it is only a matter of time before many millions of motorists in this country will have cassette playing facilities in their cars.

The cassette is an international system — machines and tapes are on sale in practically every country in the world, being particularly strong in the United States, Australia, South Africa, Italy and Japan.

Philips use the theme that cassettes are the sound system of the seventies and without a doubt we are going to see a revolution in the form of recorded entertainment — whether it be music or spoken word — in the very near future.

Many critics and columnists for music magazines have commented very favourably on the quality of sound produced on the cassette. The cassette operates on the reel to reel principle and there is no built in tension or need for frequent lubrication. This means no dust on the heads or distortion of sound produced. All musicassettes currently on the market are stereo recorded. Because of the compatibility of the system, it is possible to play back these stereo musicassettes on mono cassette equipment.

The recent development in the musicassette world is the introduction of the exciting new 2LP musicassette. As the name implies these are the equivalent of two LP records on one musicassette with up to forty minutes playing time per side. They cost only one and a half times the price of one LP musicassette.

## PIONEER

Pioneer Electronic Corporation,

15-5 4-Chrome,

Ohmori Nishi,

Ohta-Ku,

Tokyo, Japan.

**STAND 50**

**First Floor**

*Amplifiers, Tuners, Tuner Amplifiers, Record & Tape Decks, Speakers, Headphones, 8 Track Units and Cassettes.*

Pioneer, one of the leaders among manufacturers of Hi-Fi equipment, produce a comprehensive range of equipment covering all that is required to make up a top quality High Fidelity system.

There will be a number of new products which will be of special interest.

A full range of 4-channel equipment comprising of:-

QX 8000—4-channel tuner/amplifier giving 20 watts RMS  $\times$  4 (8 ohms).

QA 800—4-channel integrated amplifier giving 20 watts  $\times$  4 (8 ohms).

QM 800—4-channel power amplifier having 4 separate power amps giving 25 watts RMS  $\times$  4 (8 ohms).

QC 800—4-channel pre-amplifier having a large number of input and controls.

QL 600—An amplifier having the Pioneer synthesizer which can be added to your existing 2-channel equipment to reproduce 4-channel sound. This unit has 2 power amps.

QT 6600—4-channel tape deck which can be used for either 4 or 2 channel recordings. On 2-channel playback this unit features auto reverse.

QT 2100—4-channel 8-track cartridge tape deck for playback. Will take 2-channel 8-track cartridges.

This versatile range has been designed so that an existing 2-channel Hi-Fi system can be converted to 4-channel and it also provides a choice of items for a full 4-channel set up.

The well known Pioneer headphones have four new models added to the range.

These are the SE100/JB100, SE-L20, SE-L25, SE-L40.

SE100/JB100—Electrostatic headphones having "electret" elements and therefore does not require a DC power supply. The weight of the headphones is 13oz.

SE-L20, SE-L25, SE-L40—These are all lightweight open-air type headphones with newly designed speakers and weighing only 8oz.

All these headphones, as well as the SE 20, 30 and 50 will be on demonstration.

The SA 1000, SA 800 and SA 600 together with matching tuners complete the new additions to the Pioneer range. These new amplifiers and tuners, similar in design to the SA 500, SA 700 and SA 900 now have a wooden cabinet as standard. They are all DIRECT COUPLED and include Pioneer's newly developed protector circuit. This has improved the frequency response, which is now 5-50,000 Hz  $\pm$  1db.

**Distributed in the U.K. by SHRIRO (U.K.) LTD., Electronics Division, 42 Russell Square, W.C.1. Tel.: 01 580-6996.**

★ SEE ADVERTISEMENT ON PAGE 29

**PRACTICAL ELECTRONICS**

**STAND 4**

**I.P.C. Magazines Ltd.,**

**Ground Floor**

Fleetway House,  
Farringdon Street,  
London, E.C.4.  
Tel. 01-634-4444

*Magazine Publishers*

**Practical Electronics** reveals its latest top-class project in the home entertainment field—an F.M. Stereo Tuner of advanced design. A series of articles describing this tuner will commence publication in a few months' time. The P.E. Tuner is in all respects a fitting companion to the well known P.E. Gemini Stereo Amplifier, whose designers are also responsible for this latest star project aimed at home constructors whose discriminating taste embraces matters of circuit technique no less than sense of sound.

The complete series of P.E. Gemini Stereo Amplifier articles have now been reprinted, and copies of this 32-page publication are on sale on this stand, price 55p. The P.E. Gemini equipment is also on display.

Making its bow on the same stand is **Everyday Electronics**. An associate publication of Practical Electronics, this new magazine for private constructors will specialise in popular and relatively uncomplicated designs applicable to a wide variety of everyday activities and interest. The beginner in electronics will be especially well catered for.

On show is an **Everyday Electronics** project of topical audio interest—a mono record player. This is a simple, straightforward design centred on a linear integrated circuit. It provides teenager independence from the family hi fi system, and will be an admirable companion for bedsitter music enthusiasts. This mono record player is featured in the No. 1 issue of Everyday Electronics.

**Copies of the current (November) issues of both magazines are on sale on this stand.**

★ SEE ADVERTISEMENT ON PAGE 19

**PRACTICAL WIRELESS**

**STAND 3**

**I.P.C. Magazines Ltd.,**

**Ground Floor**

Fleetway House,  
Farringdon Street,  
London, E.C.4.  
Tel. 01-634-4444

*Magazine Publishers*

**Practical Wireless** covers the whole field of the amateur radio hobbyist, catering for all areas of construction from simple radio receivers to multi-stage multi-band units, from elementary pieces of test equipment to complex modern instruments, from electronic gadgets to amplifiers, mixers and other audio equipment. It also caters for the short wave listening enthusiast and publishes other regular features of news, comment and topical interest. For some time it has published an IC design, using a different device every month.

On show is the 2-octave organ, described in the November issue and now on sale, a simple-to-build project which could solve the Christmas present problem for readers with small children. Also on show is a selection of recent constructional projects, including a digital frequency counter/timer, a workshop oscilloscope, a modular audio mixing system and an audio signal generator.

**Television** caters for those involved in the technical side of the subject and contains detailed information on all the latest trends and techniques, coupled with authoritative articles on developments and servicing. Constructional projects are also published regularly. Of recent years the emphasis, of course, has been on colour television and it is hoped to be able to show the prototype of a colour receiver for the home constructor which is now being developed for future publication.

★ SEE ADVERTISEMENT ON PAGE 19

## **PRECISION TAPES**

**STAND 13**

**Precision Tapes Ltd.,**  
A.T.V. House,  
17 Great Cumberland Place,  
London, W.1.  
Tel. 01-262 5502

**Ground Floor**

### *Pre-recorded Tapes*

Full range of recorded products by major recording artists under the following labels, in both cassette and cartridge format: Pye, A. & M., Ember, Warner, Delyse, Envoy, BBC, Reprise, Island, Dawn, Buena Vista, Elektra, WRC, Conquest, Sagatone.

Precision have a new factory at Chadwell Heath, Essex, equipped with the latest American methods of transfer from master tape to cassette and cartridge. Production is geared for the manufacture of some 2,000,000 cassettes and 2,000,000 cartridges a year.

The cassette has  $\frac{1}{2}$ in. tape running at  $1\frac{1}{2}$  i.p.s. on a reel-to-reel operation and is recorded in stereo with mono compatibility.

The cartridge has  $\frac{1}{4}$ in. tape running at  $3\frac{3}{4}$  i.p.s. and revolving in an endless loop. Recorded in stereo, the cartridge, and the special stereo equipment on which it is played, is designed specifically for use in cars and is proving so popular with motorists that it is fast gaining on the car radio as an optional extra.

Precision tapes have issued product in both full-price and low-price ranges. They also supply blank cassettes and cartridges, and headcleaners for both cassette and cartridge equipment. They have recently launched a series of sound-guides on places of extraordinary historical interest, packaged with a full-colour booklet.

**Distributors: To the record retail trade through Pye Records Ltd., 132 Western Road, Mitcham, Surrey. To the non-record trade through Precision Tapes Limited, Unit 9A, Eldonwall Industrial Estate, Chadwell Heath, Nr. Dagenham, Essex.**

★ SEE ADVERTISEMENT ON PAGE 5

## **PYE**

**PYE Ltd.,**  
Cambridge,  
Tel.: 0223-58985

## **STAND 69**

**First Floor**

### **PYE INTRODUCE NEW MODELS**

Marking the company's first appearance at the Audio Fair, Pye Limited, of Cambridge, will be unveiling a variety of new Pye and Ekco products on Stand No. 69, First Floor, at Olympia (Oct. 25-30).

The stand incorporates a demonstration area where visitors can listen to equipment through headphones and a demonstration room where selected equipment and the new loudspeaker range will be put through their paces.

Made to sell at under £20.00, Pye's new stereo add-on unit—the Pye **Stereo 2**—can be used with practically any type of stereo equipment now on the market—stereograms, players, tape recorders or stereo radio. The unit incorporates an amplifier, decoder and associated circuitry, designed to heighten the effect of normal stereo recordings.

By fully decoding the output from the main amplifiers and feeding it back through the extra amplifier to two additional speakers, the add-on unit increases the stereo effect in any normal listening area.

A total stereo effect is provided throughout a room, "recreating a concert hall ambience" say Pye.

The Pye line-up at the Fair also includes a new "budget priced" record player, the Model 1551, with a suggested retail price of £41.41. It is equipped with Philips GC005 semi-automatic three-speed single-play deck, with GP200 diamond stylus. The moulded cabinet has a simulated woodgrain finish, and two 7" dual-cone loudspeakers, output 3.6 watts per channel, are separately housed.

The first headphones to be offered by Pye are a high quality lightweight set which will sell around £8.50.

Other Pye products on show will include the 1971 introduction, the Model 1550 Unit Audio Console (£144.62), the Model 1022 "Black Box" stereo record player (£93.45), the Model 9137 three speed four track reel-to-reel stereo tape recorder (£100.20), and the Model 9116 stereo cassette recorder (£65.55, excluding speakers) which was also released this summer.

★ **SEE ADVERTISEMENT ON PAGE 177**

**Q.A.S.**

**Quality Audio Supplies**

Wollaton Rd.,

Beeston, Nottingham.

Nottingham 252222 Code 0602

**STAND 90**

**Second Floor**

*Pre-packaged Audio Connectors and Leads.*

Quality Audio Supplies formed as a subsidiary of Ariel Pressings Ltd., a major supplier of components to the electronic industry.

QAS offers a comprehensive range of Audio Leads and accessories to meet the increasing demands of the Hi Fi enthusiasts.

As the largest manufacturer in the UK selling direct to retail Q.A.S. is able to combine both quality and service at competitive prices. A full range of products is on display.

New and improved blister packs are now available complete with wiring diagrams and for the trade display racks and sales literature are provided on loan as required.

A cordial invitation is extended to trade visitors to visit the stand and examine the range. Representatives will be available to discuss both technical and commercial matters. We suggest that you solve your Hi Fi connecting problems by visiting the stand.

**STOP PRESS.** Complete range of connectors now available for stereo headphones.

**QUAD**

Acoustical Mfg. Co. Ltd.,  
St. Peter's Road,  
Huntingdon.  
Tel. (0480) 2561

**STAND 43**

**First Floor**

*Electrostatic Loudspeaker, Amplifiers and Tuners*

The QUAD range of mono-stereo units for high quality reproduction in the home comprises:

- Quad 33 control unit
- Quad 303 power amplifier
- Quad FM3 stereo tuner
- Quad AM3 tuner
- Quad electrostatic loudspeaker.

These units are exhibited on Stand 43, where staff are pleased to provide technical information and answer questions on any aspect of this equipment.

In addition, closed demonstrations of about 15 minutes duration are conducted throughout the Exhibition in the adjoining room. Administration by ticket, available free of charge from the Stand, to avoid the inconvenience of queueing.

QUAD units are now available from appointed retailers only and the names of nearest retailers can be provided if required. QUAD retailers are appointed for their demonstration and service facilities and are able to offer reliable advice on any Hi-Fi problems you may encounter.

★ SEE ADVERTISEMENT ON PAGE 169



**RCA**

**RCA Ltd., (Record Division),**  
50 Curzon Street,  
London, W.1  
Tel. 499-3901

**STAND 89**

**Second Floor**

*Gramophone Records/Pre-recorded Tapes (Cassettes and Cartridge)*

Highlight of the RCA display will be a new range of mid-price pre-recorded tapes retailing at £1.75—all recorded using the Dolby noise-reduction process. Also on show a test cartridge with which the hi-fi enthusiast can test tape speed, head height adjustment, wow and flutter, frequency response, speaker phasing, cross talk, track switching and stereo music. Plus: records, cassettes and cartridges featuring star names culled from the vast RCA catalogue of international artists, including: Elvis Presley, Perry Como, Jefferson Airplane, Clodagh Rodgers, The Sweet, Jack Jones, Henry Mancini, Jim Reeves, Glenn Miller, etc.

## **RADIO LONDON**

**STAND 86**

**BBC Radio London,**

**Second Floor**

Harewood House, 13 Hanover Square, London W1R 0JD.

BBC Radio London (VHF 95.3) is the biggest in the chain of 20 Local Radio stations set up by the BBC. The Radio London day begins each morning about 4.45 a.m. when six members of the staff let themselves into the studios at Hanover Square. There's Laurie Mayer, Presenter of the morning programme *Rush Hour*, the duty producer, a couple of newsmen, two secretaries and a station assistant whose job it is to operate all the studio equipment. For the next couple of hours everyone is hectically busy, editing already recorded inserts for the programme, choosing and timing the music that's going to be played, taking down from the telephone recording machines the news reports sent in overnight by Radio London correspondents, clearing the nights accumulation of tape from the news agency teleprinters and preparing the news bulletins for both Radio London and the South East News on Radio 4. The programme begins at 6.45 a.m. but there's still a great deal of background work to be done—the A.A. to be telephoned for the long distance road reports—a few quick words with the London Weather Centre to prepare for the weather interviews—a check with Central Traffic Control at Scotland Yard to make certain the Radio London man has arrived and is ready for the first of his frequent reports on the roads to take and the roads to avoid—another call to the studio at R.A.C. H.Q. in Pall Mall to establish road conditions in Greater London and the Home Counties, and a round of calls to the main railway stations so that any last minute train cancellations can be reported to commuters before they've finished breakfast. The overnight news has probably provided a couple of stories that ought to be followed up by interviews with the people concerned. The newsmen will be tracking them down and wondering what's the earliest they dare telephone to bring them live into the programme.

It's not so long before other members of the team begin to appear. First probably is the station's Assistant Engineer, Godfrey Ferries, who likes to give the equipment a quick maintenance check before the pressure gets too heavy. Jill Evans of 'Downtown', is in by half-past eight, ready to greet her first radio guest a few minutes later. Hilary Osborne who, produces and presents 'Woman in Town' at 10.45 each morning is in shortly afterwards. While long before "Rush Hour" comes off the air at 9.30 the Newsroom downstairs is busy preparing the morning bulletins and the lunch time news programme 'Capital City'.

BBC Radio London began its broadcasts to the public on October 6th last year. The station is on the air with its own programmes for more than 12 hours a day Monday to Friday and about 8½ hours a day at the weekend. For the rest of the time its transmitters are open—that is from 5.30 a.m. to 2.30 a.m. the following day—it broadcasts Radio 1.

The station serves the 32 Boroughs that make up Greater London but listeners outside this area can listen to our programmes too. Listeners anywhere are welcome to take part in our programmes, though we do give preference to Londoners. Visitors to BBC Radio London are always made welcome, but for most people the telephone provides the way in. Shows like 'Women in Town' and 'Home Run', broadcast every afternoon between 4.30 and 6.00, or the evening programme 'Argument' that takes up the major issues affecting Londoners everywhere, all these welcome serious contributions from listeners who want to take part. Shows like Jill Evans 'Downtown' (9.34 to 10.45 Monday to Friday) or Robbie Vincent's 'It's Saturday' (12.02 to 1.30 p.m.) or any of the music programmes that deal on different nights with all sorts of music—Jazz, Reggae, Classical and Country—all these welcome telephone calls from listeners with something to say.

For most people of course sport is their major leisure time activity. 'Tomorrow's Sport' each Friday night gives Londoners a taste of the weekend's sporting highlights. 'Sportsline London' each Saturday afternoon brings Londoners a fast up-to-the-minute service of match reports from London league football clubs and from the major amateur teams and Rugby teams as well. 'Extra Time' early that evening provides the most immediate summing up of all that happened during the day. Radio London pays particular attention to the major mid-week matches and in frequent special programmes reports these games in as much detail as possible.

Keep in touch with London by listening to BBC Radio London on VHF 95.3.

**RECORDS AND RECORDING**

**STAND 9**

**Hansom Books,**  
Artillery Mansions,  
75 Victoria Street.  
London, S.W.1  
Tel. 01-799 4452

**Ground Floor**

*Magazine Publishers*

Stravinsky's death in April marked the end of an era to which John McCabe paid tribute (July) and reviewed the 'Igor Stravinsky in Memoriam' set. Critics' Choice (December) gave all reviewers a chance to reveal their year's 'top ten' choices. Richard Osborne's conversation with Horenstein at Mahler's Third Symphony sessions was linked with his review of this work (December). Osborne also talked with Solti around the time that his Mahler Fifth was released (February) and reviewed the Bernstein-Mahler 3-volume set of symphonies (July). George Szell's career was outlined by John Culshaw (February), a month in which seven Szell albums were released. Organ works were discussed at length in articles by Geoffrey Crankshaw (December, March, August). Stereo tape surveys were made by Thomas Heinitz (December, April, August) and covered the most important new cassette classical releases. Avant-garde trendsetters received extensive coverage from John McCabe, who reviewed controversial works by Kagel, Ligeti, Henze and Stockhausen among others (January, September). Antony Hodgson discussed available recordings of Bruckner symphonies (February), and John McCabe reviewed Delius recordings by Barbirolli and Beecham (March). Charles Cudworth discussed extensively Cavaliere's 'La Rappresentazione' (April). The Amadeus Quartet was interviewed for Turntable (May) and their visit to the Baalbeck Festival was reported (September). Brian Large co-directed Britten's 'Owen Wingrave' which was shown on BBC-TV in June, the making of which he wrote about very enlighteningly in the same month; Richard Osborne reviewed the simultaneous release of the work on record. Lionel Markson wrote an article about the recordings of Sibelius' 'Kullervo' (July). A new complete set of Dvorák symphonies issued in September was discussed by Antony Hodgson and compared with other available recordings, and in the same month Thomas Heinitz wrote extensively about new recordings of the Bach Orchestral Suites performed by the late Thurston Dart. September also saw an illuminating article by John Duarte on new guitar recordings by Bartoli, Diaz, Williams and Yepes. Feature articles in the Audio Fair issue include 'The Splendour of the Baroque' by Geoffrey Crankshaw and 'The Rise of the Symphony' by Robin Golding while Thomas Heinitz reviews the new recordings of 'Die Meistersinger' and 'Tannhauser'.

**RESLOSOUND**

**Reslosound Ltd.,**  
Spring Gardens,  
London Road,  
Romford, Essex. RM79 LJ.  
Tel. 70 61926.

**STAND 39**  
**Ground Floor**

Exhibited are the well-known range of Reslo radio microphones. The TX100 is a fully integrated hand-held microphone and transmitter comprising microphone VHF transmitter and rechargeable battery. Its proven stability and studio quality reproduction have gained wide acceptance of this unit in entertainment applications.

Also exhibited are a comprehensive range of dynamic and ribbon microphones loudspeakers and amplifiers.

★ SEE ADVERTISEMENT ON PAGE 21

## **REVOX**

## **STAND 11**

**Revox International,**  
8105 Regensdorf, Zurich, Switzerland.

### **Ground Floor**

#### *Tape Recorders, Amplifier & Tuner*

The highlight of this year's exhibit is the first showing of the Revox Recorder incorporating the Dolby 'B' Noise Reduction System—there has been much praise for the improvements resulting from the use of this process, but combining now with the expertise of the Revox team we can promise you a revelation.

The Revox A77 range of recorders continues unchanged except for slight changes in appearance which were recently introduced—and the optional Dolby B System modification.

A large proportion of A77's are supplied to the industrial world, to recording studios, broadcast and TV authorities, audio visual, scientific, theatre, music publishing etc., for whom Revox are able to produce many special types including full track, sel-synch, high speed, plus control modules for automatic repeat, endless loop, speed variance, remote control, etc.

The basic range consists of the A77 in various forms, at prices from £215.

Code 1102 (2T) or 1104 (4T) stereo deck with pre-amp stages in wood case with fold away handle.

Code 1122 (2T) or 1124 (4T) as above with internal 10+10 watt amplifiers.

Code 1302 (2T) or 1304 (4T) in metal case for rack or cabinet construction.

Code 1322 (2T) or 1324 (4T) in metal case with internal 10+10 watt amplifiers.

Code 1222 (2T) or 1224 (4T) complete suitcase model with amplifiers and four built-in speakers, plus lid with two locks.

A High Speed Series (7½ & 15 ips) is also available—add prefix 'H' to appropriate code number.

(Note: Special industrial versions incorporating NAB spooling can be supplied free of purchase tax to industrial or scientific users).

See also the new Revox A78 40+40 watt Amplifier and the A76 FM Tuner which provide a superb set of matching units.

**U.K. Distributors: C. E. Hammond & Co. Ltd., Lamb House, Church Street, London W4. Tel.: 01-995-4551.**

**ROTA**

**Risui Corporation,**  
3-2, 3-Chome Hongo,  
Bunkyo-Ku, Tokyo 113, Japan.

**STAND 52**

**First Floor**

*Stereo Amplifiers, Magnetic Cartridges*

Two existing and one new model in stereo amplifiers will be on show plus a new magnetic cartridge.

In the popular price range is the ROTA OTL-1500. This stereo amplifier of 5 + 5 watts RMS has the following features. Bass, treble, volume and balance controls, inputs for both crystal/ceramic and magnetic cartridges. Headphone socket is standard.

**ROTA OTL-2200.** This stereo amplifier has a power output of 10 + 10 watts RMS and has the following features.

Rotary treble, bass and volume controls and slider type balance control. Inputs are for crystal/ceramic cartridge and magnetic cartridge, tape, aux and tuner. Also it is fitted with headphone socket and microphone input.

To be announced at the show will be a new model ROTA OTL-5000 which is 30 + 30 watts RMS and a new magnetic cartridge model ROTA RAM-10.

**UK Distributors: Grosvenor Electronics Ltd. 111/113 London Road, London E.13.**

★ **SEE ADVERTISEMENT ON PAGES 174 & 175**

## **ROTEL**

**Roland Electronics Company Ltd.,**  
1-36-8 Ohokayama,  
Meguro-Ku,  
Tokyo, Japan.

## **STAND 58**

**First Floor**

*Amplifiers, Tuners, Tuner/Amplifiers, Headphones*

Having established a strong foothold in the Hi-Fi market, Rotel are exhibiting their proved range of reliable, good-value amplifiers. The models RA 310 and RA 610 are of a quality of performance normally associated with only the most expensive equipment. A specification against price comparison illustrates this point very well. The RT 320 AM/FM Tuner and RX 200 AM/FM Tuner/Amplifier bearing the same family image, will be shown. Both represent excellent value at £49·99 and £76·12 respectively.

A new AM/FM Tuner/Amplifier the RX 400 with a power output of 20 watts per channel which is sufficient for any Hi-Fi system, appears for the first time. This model also has several first class features, such as:- Pre-Amplifier outputs for use with separate power amplifier, Main-Amplifiers inputs for use with separate control amplifier, or multi-channel systems. It also offers Speaker Switches for the independent or simultaneous operation of two pairs of Stereo Speakers. At a price of £99·00, this Tuner/Amplifier demands serious consideration.

The RT 620 Stereo AM/FM Tuner is equipped with precision 4 gang and FET AM/FM front-end tuner, integrated circuits, ceramic filtered IFC, multi-plex circuit and many other features. These give a remarkable frequency response of within 2 dB from 20 Hz to 18 Hz and a sensitivity of 0·6 microvolts for 30 dB 1HFM.

Two brand new products will be exhibited, both complementary additions to the Rotel range.

A new headphone set, the RH 700 is also to be introduced at this exhibition, so make sure you don't miss any of these new products, by getting a free ticket to one of the demonstrations, from the Stand Receptionist.

**U.K. Distributors: Audio Products, Rank Audio Visual, P.O. Box 70, Great West Road, Brentford, Middx. Tel.: 01-568 9222 Ext. 378 or 382.**

**SME**

**SME Limited,**  
Mill Road,  
Steyning, Sussex.  
Tel.: Steyning 814321

**STAND 76**

**First Floor**

*Precision Pick-up Arms and Plinth Systems*

A cordial invitation is extended to the Stand where SME are pleased to deal with technical and commercial enquiries concerning their products.

Series II Precision pick-up arms are exhibited in use with leading cartridges and turntables.

**Model 3012 Series II Precision Pick-up Arm**—(nominal stylus to pivot distance 12in.).

**Model 3009 Series II Precision Pick-up Arm**—(nominal stylus to pivot distance 9in.).

**Model 2000 Plinth System.** Designed to house SME precision pick-up arms in combination with leading makes of turntable. Base and motor board are solidly constructed and veneered in rosewood, teak or walnut. Motor boards are pre-cut and mounted on a 4 point spring suspension which provides isolation from vibration. A one-piece acrylic lid has stainless steel reinforcing trim and counter-sprung hinges which hold the lid open and ensure smooth closing.

★ SEE ADVERTISEMENT ON PAGES 10 & 11

**SATURN SOUND**

**Saturn Sound (A.E.M.) Ltd.,**  
533 Kings Road,  
London, S.W.10.  
Tel.: 01-352-7788

**STAND 99**

**Second Floor**

*Unit Audio*

A newcomer to the Audio Fair this manufacturer is a London based firm and a specialist producer of Audio Equipment.

All Saturn Sound amplifiers and speakers are designed and manufactured at the factory in Chelsea under the brand name "Rigel". Over a period of several years they have established themselves as a popular supplier to many of London's major stores and are currently poised ready to extend their business.

By far the most popular model in the Saturn Sound range is the 10 x 10 watt "Rigel" 402 which, having recently been re-styled, is having a major impact on sales. Superior sound quality is the predominant feature of this model based on the advance design of both the amplifier and the speakers. The "Rigel" 402 System is popularly priced at £79.95 (inc. P.T.).

Also being shown for the first time is the Saturn Sound 8 track cartridge system which is destined to have a major impact on the market at an extremely competitive price.

Trade and export enquiries welcomed.

In attendance: Mr. P. J. Dyer, Director.



## **SANSUI**

**Sansui Electric Co. Ltd.,**

14-1 2 Chome.

Izumi, Suginami-ku,

Tokyo,

Japan.

**STAND 66**

**First Floor**

### *Hi Fi Audio Equipment*

Vernitron Ltd. of Southampton are sole U.K. importers of the world famous quality hi fi equipment manufactured by Japan's leading Hi Fi specialist, Sansui Electric Company Ltd., and displayed on their stand is a representative range of Sansui units, including amplifiers, tuners, headphones, speakers, and a revolutionary 4-channel synthesiser. From the range of equipment on show, any system of stereo can be provided to meet the requirements of the beginner, or the most demanding.

The synthesiser, designated SANSUI QS1, transforms 2-channel stereo signals into a multi dimensional sound field by means of a unique reproducing matrix circuit, and a technique known as "phase modulation", by which direct and indirect sound waves are fused to precisely duplicate the way they would be heard in concert hall surroundings. Designed as an add on unit for existing stereo systems, it will also convert monophonic programmes to a very considerable four channel effect. Retail price of the QS1 is £83·81.

Since its introduction earlier this year, the SANSUI AU101 solid state control amplifier has met with great acclaim. Recommended for retail sale at just £40 it represents remarkable value for money. With an output of 15W per channel at 8 ohms, the AU101 rates a noise level of better than 75dB- or 65dB for gramophone and covers a frequency response of 20-60,000 Hz at  $\pm 2$ dB. A complete system of accessory circuits include: a loudness control to compensate for apparent loss of bass and treble notes when volume is lowered; direct tape monitor; two AC outlets.

Offering an output of 50W per channel at 8 ohms is the SANSUI AU999 amplifier. Of solid state design, the AU999 incorporates triple tone controls, separately usable pre and main amplifier sections, facilities for accommodating up to three sets of speaker systems and two tape decks, and has two phono input circuits. Recommended retail price is £166·20.

SANSUI MODEL EIGHT AM/FM stereo tuner/amplifier represents a totally new concept in quality stereo receivers. Power output is rated at 60W per channel at 8 ohms, with total harmonic distortion only 0·3% at rated output. Frequency response is 5-50,000 Hz  $-1$  dB. FM tuning range is from 88-108 Mhz, and sensitivity 1·1  $\mu$ v.

AM tuning range is 535-1,605 KHz. Pre and main amplifier sections can be operated independently of each other. The Sansui Eight features triple tone controls, permits the use of two tape decks and three pairs of speaker systems. It also incorporates a stereo balance check circuit. Recommended retail price is £294·41.

In the medium-to-high power range, SANSUI A666 combine the quality of a top class 35W + 35W amplifier, with excellent value for money, the recommended retail price being £109·47. It includes features such as independently usable pre and main amplifier sections, triple tone controls, AC outlets etc. The matching tuner—SANSUI TU999 retails for £76·62.

**UK Agents: Vernitron Ltd., Shorn Hill, Southampton, 0703-45166.**

★ SEE ADVERTISEMENT ON PAGE 18

## **SANYO**

**Sanyo Electric Co. Ltd.,  
Osaka, Japan.**

## **STAND 26**

**Ground Floor**

### *Audio Systems and Cassettes*

During the last two years, Sanyo has established a reputation with their range of complete stereo systems. They are now entering the enthusiast hi-fi field with a range of audio separates offering a high standard of performance.

The new range, includes the latest Quadrasonic synthesizer; two tuner/amplifiers; one tuner; one stereo amplifier; two transcription units and two stereo tape decks, all of which can be seen on Stand No. 26.

### **STEREO TUNER/AMPLIFIERS**

**DCX 2300K** — with 1 IC, 1 FET, 32 transistors and 19 diodes. Receives AM/FM and FM stereo with fitted multiplex. 45 watts total music power and 15 watts continuous power per channel. Connections for stereo headphones, DIN connector, recorder output, phono input, microphone jack and speakers. Controls include volume, microphone volume, bass, treble, loudness, balance, speakers, tape monitoring switch, selector switch, high filter switch and mono/stereo switch. 120/240V, AC adjustable.

**DCX 2500K** — Receives AM/FM and FM stereo. 25 watts total music power and 10 watts continuous power per channel. Tuning meter indicator. Connections for stereo headphones, DIN connector, recorder output, phono input, and two sets of speakers can be connected. Controls include volume, balance, bass, treble, function select, mode selector, tape monitor, high filter and loudness. Runs on 120/240V, AC adjustable.

### **AMPLIFIERS**

**DCA 1400K** — Solid state amplifier giving 70 watts total music power and 20 watts per channel. Connections for stereo headphone, two speaker systems, tape recorder, tuner, two phono units, two auxiliary units. Controls include rotary knobs for volume, bass and treble, slide control for balance. Function selector, mode selector, tape monitor, loudness and high filter switches. 120/240V, AC adjustable.

**DCA 1700X** — Quadrasonic stereo synthesizer giving 70 watts total music power and 20 watts per channel. Connections for two phono inputs, two auxiliary inputs, tuner, tape recorder, two speaker systems, stereo headphones. Rotary controls for volume, bass, treble and slide control for balance. Switches for 2-channel and 4-channel tape recorder, loudness, high filter, mode selector, function selector and quad effect. 120/240V, AC adjustable.

### **TUNER**

**FMT 1400K** — IC/FET solid state AM/FM automatic stereo tuner, with 10-15,000 Hz frequency response. Incorporates stereo noise filter and muting switch. 120/240V, AC adjustable.

### **TRANSCRIPTION UNITS**

**TP 80S** — Two speeds, 10" turntable platter. Magnetic type cartridge and diamond stylus. Fully-automatic arm return. 120/240V, AC adjustable.

**TP 91S** — Two speeds, 10" turntable platter. Magnetic type cartridge and diamond stylus. Fully-automatic arm return. 120/240V, AC adjustable.

### **TAPE DECKS**

Sanyo also has on display two 4-track, 3-speed, 7" reel-to-reel stereo tape decks—MR 801D and MR 805. Both incorporate many professional features including sound-with-sound and monitoring while recording is in progress.

**U.K. Distributors: Sanyo Marubeni (UK) Ltd., Bushey Mill Lane, Watford, Herts. Tel.: Watford 30421.**

★ SEE ADVERTISEMENT ON PAGE 27

## **SCANELTRA**

**Eltra A/S,**  
Maelkevej, Copenhagen, Denmark

**STAND 52**

**First Floor**

*Tuner-Amplifiers, Record Players combined with Tuner and Loudspeakers*

Manufactured by one of Denmark's foremost producers of audio equipment 'ScanEltra' is making its first appearance on the UK market.

Designed in the modern Danish style and produced with many advanced electronic features, ScanEltra products have eye as well as sound appeal and will be a strong contender in the quality end of the market.

An obvious example of their expertise is the multi-band tuner-amplifier Model 1515 AM/FM. This piece of equipment has the following features.

The amplifier section is a type AB of 15 watts per channel with treble, bass and two volume controls combined with a tuner section comprising. Long wave, Medium wave, Short wave, European 49 metre band and FM. Integrated circuits and Field-Effect transistors are employed and for FM as well as normal tuning, there are 6 push buttons (Pre-O-Mat) for pre-tuning FM stations. Naturally there is AFC and a Decoder of the Automatic time multiplex type is fitted as standard.

The 'ScanEltra' 1515 AM/FM is housed in a cabinet of the latest design and every visitor to the Audio Fair should make a point of visiting the stand in order to see this model.

Also displayed will be a stereo hi-fi system comprising a quality record player with Shure M 75 cartridge with a built in amplifier of 30 watts per channel with FM tuner of normal and pre-set tuning. This model again includes in its specification a Decoder of the Automatic time multiplex type together with AFC. Optional loudspeakers for this and other models are HT 58.

To complete the range is an FM tuner-amplifier with 15 watts each channel with Decoder and pre-set FM etc.

All models are available in teak or rosewood and performance standards exceed those laid down by DIN 45 500.

**UK Distributors: Grosvenor Electronics Ltd., 111/113 London Road, London E.13.  
Tel.: 01-471-0031/3**

★ SEE ADVERTISEMENT ON PAGE 173

## **SENNHEISER**

**Sennheiser Electronic,**  
3002 Bissendorf,  
Hanover,  
West Germany.  
Tel. 0 51 30 8011 (Hanover)

## **STAND 87**

**Second Floor**

### *Microphones and Headphones*

The products of Sennheiser Electronic, one of Western Europe's largest manufacturers in the field of high-fidelity microphones and stereo headphones, are being shown for the first time at this year's Fair under the auspices of their new agents—Hayden Laboratories Ltd.

The key feature of the exhibit is the Sennheiser stereo headphone HD.414. These headphones are unique. Constructed under a patented Sennheiser design they provide a flat frequency response characteristic and unusually good bass reproduction without the disadvantage of heavy ear-cups. This technique makes it possible for users to wear the phones for many hours without feeling any of the discomforts resulting from ear-cups, which are well-known to give rise to a sticky feeling and which are an embarrassment because of their weight.

The Sennheiser product weighs only 5 oz. and is able to achieve its unique low frequency performance because of the revolutionary new design approach in which the human ear and the earphone diaphragm have been treated as a linked acoustic network.

Other products to be shown on the stand include the following Sennheiser microphones:-

**MD 402 LM** This is a low price cardioid dynamic microphone designed for amateur recording in the home. It has a built-in windshield and a medium impedance characteristic which enables it to be used with 90% of all domestic tape recorders.

**MD 411 HLM** This is a super cardioid dynamic microphone which is particularly recommended for stereo recordings because of the accuracy of the directional characteristics over the whole audio spectrum. A built-in triple impedance transformer with switch gives output impedances of 200 ohms, 800 ohms or 25 K ohms to suit any tape recorder.

**MD 21** The most popular microphone ever made by Sennheiser with more than 200,000 models now in service. Omnidirectional characteristic, die cast casing, 5 dB lift in frequency response 2,000 cycles and 15,000 cycles to give added "presence". 3 different models available with various output impedances and socket sizes.

**U.K. Distributors: Hayden Laboratories Ltd., East House, Chiltern Avenue, Amersham, Bucks. Tel.: Amersham 5511.**

★ SEE ADVERTISEMENT ON PAGE 30

## **SCOTCH**

**STAND 45**

**Minnesota Mining & Manufacturing Co. Ltd.,**  
3M House,  
Wigmore Street, W.1.

**First Floor**

### *Magnetic Recording Tape*

Visitors to the Scotch Magnetic tape stand this year are able to enter a free contest featuring mystery film star voices. Six Cybervox language laboratory booths are used for the competition which offers a portable cassette recorder and a supply of Scotch tape cassettes as first prize.

3M's stand features different usage possibilities of Scotch cassettes and reel-to-reel recording tape; with emphasis on home and **educational** uses of Scotch Magnetic Recording tapes.

Throughout the day there will be continuous demonstrations of pre-recorded music and sound effects on headphones and, as in previous years, entry forms for the Scotch Wildlife Sound Recording Competition will be available.

A VTR room specially set aside will demonstrate the contribution "Scotch" is making to the fast expanding C.C.T.V. industry and a feature of the stand will be our new High Energy range of video tapes.

## **SHARP**

**Sharp Corporation,**  
22 Nagaike-Cho Abeno,  
Osaka, Japan.

**STAND 30**  
**Ground Floor**

*Hi-Fi Units, Transistors, Tape Recorders and Cartridge Tapes*

A full range of the latest Sharp Audio equipment is shown at the Audio Fair, Olympia on Stand 30, comprising not only the existing high quality models but also a number of outstanding new items, which will be of considerable interest to the audio enthusiast.

Included in the new model range are:

**RD 423.** A solid state 4 track stereo cassette tape deck, compatible with any stereo component system. Other predominant features include wide frequency response 40-13,000 Hz, illuminated dual sound vu meters, giving an indication of input and output, end alarm buzzer which prevents wasted tape and lastly a 3 digit tape counter which tells you where to begin playback. It operates on 110/220/240 volts AC.

**SA 603H.** A 30+30 watt, FM/MW/SW/LW stereo-tuner-amplifier with advanced circuitry and FET front ensures ultra sensitive, distortion-free performance. It incorporates an automatic FM stereoswitchover and precision graph slide controls, and accommodates all professional stereo systems.

**STM 31.** A powerful pre-main amplifier with a 21+21 watt output and an exceptionally wide 10-100,000 Hz frequency response. This piece of equipment is designed for use with all stereo systems reproducing all tonal values with maximum sensitivity. Another of Sharp's new models, STT 31—solid state stereo tuner is designed to match this amplifier with regard to technical specification and physical appearance.

**GS 553OL.** A super sensitive AM/FM solid state stereo system comprising deck, tuner amplifier and detached speakers. Precision sliding controls and advanced circuitry ensure perfect reception and sound reproduction. Separate speaker enclosures ensure full stereo performance.

**STT 31.** A solid state AM/FM stereo tuner incorporating an automatic FM stereo mono switching circuit with stereo indicator. This model provides maximum sensitivity and reception and is designed technically and physically to match the new pre-main amplifier, STM 31 in the Sharp range.

The Sharp representatives on Stand 30 will gladly provide additional information and practical demonstrations on any of the models featured in the show.

Sharp hope you will take advantage of the technical expertise and practical advice provided at Stand 30.

**U.K. Distributors: Sharp Electronics (U.K.) Ltd., 48 Derby Street, Manchester M8 8HN Tel. 061 832-6115**

★ SEE ADVERTISEMENT ON PAGE 172

## **SHURE**

**Shure Brothers Inc.,**  
222 Hartley Avenue,  
Evanston, Illinois, U.S.A.

## **STAND 73**

**First Floor**

*Pick-up Cartridges, Pre-amplifiers, Headphone-amplifiers, Microphones and Accessories*

A comprehensive range of Shure stereo dynetic pick-up cartridges is available to suit the characteristics of practically any arm, unit or changer and the input stages of the majority of modern amplifiers.

The V-15 Type II (improved) cartridge used with a suitable arm will play the majority of modern records at a tracking force of  $\frac{3}{4}$  gramme.

M75 Type II Series cartridges provide a standard of performance second only to the incomparable V-15 Type II. Models are available with elliptical and spherical styli for  $\frac{3}{4}$ -1 $\frac{1}{2}$  and 1 $\frac{1}{2}$ -3 gramme tracking.

Seventy-eight records may be played with the V-15 Type II and M75 Type II Series cartridges by using the N75-3 stylus. The stylus of all Shure cartridges is easily replaceable by the user.

In the popular range, which has established a firm reputation for performance and reliability, Models M44E and M55E are fitted with a bi-radial elliptical stylus to reduce IM, harmonic and tracing distortion.

The M3D, the original Shure stereo dynetic cartridge, is an ideal choice for budget systems and for use with an record changer.

Solo-Phone headphone amplifiers are designed specifically for private headphone listening from records, tape or radio sources. Model SA-2FE for panel mounting is now available in addition to the SA-2E cabinet version and is particularly suitable for educational applications.

Shure microphones include models for every application—recording, sound reinforcement, communications, paging, broadcasting and entertainment. Unisphere B Models 588SA (high impedance) and 588SB (low impedance) provide natural, life-like, reproduction of music and voice at moderate cost and are ideal for use with good quality sound systems and tape recorders. Model 515 Series Unidyne B is the lowest-cost Unidyne, but providing a true unidirectional performance.

The Shure range of microphone electronic circuitry includes the M63-2E audio master audio control centre, a unit of entirely new conception designed to give flexibility in the control of volume, bass response, treble response and low and high frequency roll-off with outputs to suit most amplifiers or tape recorder inputs. Microphone Mixers include the M68FC-2E (five channel), M68RM-2E (four channel with reverberation) and M67-2E (studio model).

**U.K. Distributors: Shure Electronics Ltd., 84 Blackfriars Road, S.E.1. 01-928 3428**

**★ SEE ADVERTISEMENT ON INSIDE BACK COVER**

## **SINCLAIR**

**Sinclair Radionics Limited,**  
London Road,  
St. Ives,  
Huntingdonshire PE17 4HJ.  
Telephone No. St. Ives (04806) 4311

**STAND 56**

**First Floor**

*High Fidelity Modules, Amplifiers, FM Tuners, Loudspeakers*

At this Audio Fair Sinclair introduce, as an extension of their Project 60 Range, the Project 605 amplifier. This is based on the world famous Project 60 modules and it is designed for those high fidelity enthusiasts who, hitherto, have been reluctant to buy Project 60 modules because of the soldering and part hunting involved. Project 605 consists of the four basic Project 60 modules plus a fifth completely new one known as Masterlink which incorporates all the input and output components previously bought separately. All connections between Masterlink and the different modules are made by push-on tags which are included in Project 605 and are supplied already fitted to wires of the correct length. The Project 605 pack contains everything needed for a complete 30 watt high fidelity amplifier and the profusely illustrated instruction manual ensures foolproof and simple installation in the plinth of a record player or in a cabinet of the users own choice. The recommended retail price for Project 605 is £29.95.

Also making their first appearance are the System 2000 and System 3000 Stereo FM Tuners which match the corresponding amplifiers and are identical apart from colour. These Tuners incorporate the world's first phase lock loop discriminator which gives lower distortion than any other Tuner at any price. Other features include an integrated circuit Stereo Decoder for 40dB separation, powerful AFC for fade free reception, 2 mV sensitivity, varicap tuning and switchable squelch for dead silence between stations. The recommended retail price for both Tuners is £45 including purchase tax.

Another Sinclair novelty is the IC-12 integrated circuit amplifier producing six watts RMS continuous into eight ohms from a 28 volt supply with a frequency response of five Hz to 100 KHz. The IC-12 is supplied complete with printed circuit board and instructions and the recommended price is £2.98.

Sinclair are also demonstrating and displaying their complete range of products including the System 2000, System 3000 and Neoteric 60 amplifiers, the Project 60 high fidelity modules including the Project 60 FM Tuner, the Q.16 and System 2000 loudspeakers.

★ SEE ADVERTISEMENT ON PAGE 181



**SOHO RECORDS**

**STAND 12**

**The Soho Record Centre Ltd.,**  
60, Old Compton Street,  
London, W1V P5A  
Tel. 01 734 9608/9

**Ground Floor**

*Gramophone Records and Tapes*  
(also Theatre Tickets)

The Soho Record Centre Ltd., London's leading record and tape retailers, cater for all types of music. Branches at:—

60 Dean Street, Soho (734-8777), 102 Golders Green Road, N.W.11 (455-0066), \*7 Hillgate House, Ludgate Hill, E.C.4 (248-0391), 76 Cheapside, E.C.2 (248-3006) 160 Salisbury House, London Wall, E.C.2 (628-0311), 1 King Street, Hammer-smith, W.6 (748-8538), 280 Station Road, Harrow (863-2842), \*119 Queensway W.2 (229-8346), 64 Victoria Street, S.W.1 (828-0023), 33 Coventry Street, W.1 (930-2429), 98 High Street, Barnet (449-0748), \*125 Kings Road, Chelsea, S.W.3 (352-5840), 421 High Road, Wembley (903-3706), 77 The Parade, High Street, Watford (WA2-0627).

\* Special Full Range Tape Departments.

## **SONOTONE**

**STAND 66**

**Vernitron Ltd.,**

**First Floor**

Thornhill,

Southampton. SO9 1QX.

Tel. (0703) 45166

### *Pick-up Cartridges*

The whole range of Sonotone pick-up cartridges is on view together with all technical information. Sonotone offer crystal or ceramic cartridges suitable for most applications from the mass produced player to the sophisticated stereo equipment used by the enthusiast.

A great deal of development has been done to improve the specification of crystal cartridges within the parameters available when using Rochelle salt transducers. This has led to a new range of crystal cartridges which, while keeping basic costs at a minimum offer a performance comparable to more expensive devices and helps to improve the overall quality of the less expensive players and gramophones. The Sonotone models in this range are the Mono 2109, 2139 and Stereo 2509, 2529 and 2539.

Also on view are the well known and well tried 9TA and 9TAHC ceramic cartridges. These items have been well received by the industry and have been used in over 120 different U.K. equipments and by most of the leading manufacturers. Three new ceramic cartridges have recently been introduced, these being the models 3509, 3539 and 3559. These models cover almost all the possible requirements for a ceramic cartridge application from the 140MV sensitivity of the 3509 to the 70 MV sensitivity of the 3559. This latter cartridge offers an extremely high performance at a very acceptable price by virtue of its novel construction and improved design.

As in previous years the demonstration in the Audio Studio takes the form of a direct comparison between a Sonotone ceramic cartridge and a well known high quality magnetic. Previous demonstrations of this nature have proved very revealing in so far that almost 70% of the persons participating preferred the sound of the ceramic. This year the demonstration takes things a step further and the public is able to hear direct comparison between the Sonotone ceramic 9TAHC, the 3559 and two high quality magnetics. This gives the member of the public the opportunity to hear at first hand a comparison rarely available at his local retailers and should prove of particular interest to those embarking upon the initial journey into the world of Hi Fi.

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## **SONY**

**SONY Corporation,**  
7-35 Kitashinagawa 6-chome,  
Shinagawa-ku  
Tokyo 141,  
Japan.

## **STAND 51**

### **First Floor**

*Tape Recorders, Hi Fi Equipment, Cassette Recorders*

On Stand 51 Sony (U.K.) Ltd will be showing and demonstrating a full selection of their new Autumn range.

Among the products to be given their first public showing are the closed loop dual capstan stereo cassette decks TC 160 and TC 165, the latter having an auto reverse facility.

Model STR 6850 push button tuner amplifier finished in rose wood styled cabinet also makes its debut at this Exhibition. Once again a full bank of stereo tape decks, both reel to reel and cassette will be connected to headsets for continuous demonstration.

In our Audio Studio, which will accommodate 50 people, regular recitals will be held demonstrating a full cross section of the Sony range including 4 channel stereo.

In the Video Room a colour presentation entitled 'This Is Sony' will be shown at regular periods throughout the day. Tickets for both the Audio and Video presentations are available from the Enquiry Desk.

**U.K. Distributors: Sony (U.K.) Ltd., Pyrene House, Sunbury Cross, Sunbury-on-Thames, Middlesex.**

★ SEE ADVERTISEMENT ON PAGE 23

**SOUND & PICTURE  
TAPE RECORDING**

**STAND 7  
Ground Floor**

**Anglia Echo Newspapers Ltd.,**  
16a Bevis Marks, London, E.C.3A 7LN

*Publications*

**Sound & Picture Tape Recording**, first published in 1957 as *Tape Recording Magazine*, was relaunched last April in a new format and with greatly extended coverage of the whole recording field. It still caters for the amateur enthusiast for sound recording, but additionally it has become a recognised medium in the industry for the latest and fullest news about pre-recorded cassettes and about all video developments which have significance for group interests and domestic application.

It is the only magazine in Britain specialising exclusively in coverage of the recording field. It is the only consumer magazine which includes, as part of its regular service, a complete list of all new issues in musicassette and cartridge form; outstanding issues are authoritatively reviewed.

Every issue contains full information and entry forms for tape recording contests and competitions.

There are regular features catering for those whose special interest is the recording of birds, animals and insects, and for those who use tape recording in conjunction with photographic slides.

The panel of regular contributors is impressive. During the last six months they have included Donald Aldous, John Borwick, Douglas Brown, H. W. Hellyer, F. J. Judd, Denys Killick, Richard Margoschis, Richard Robson and Michael Tickner.

The magazine publishes *Buyers' Guides* to equipment—recent issues have covered loudspeakers, headphones, cassette recorders, battery portables, car tape units and tape-slide synchronising units.

**Sound & Picture Tape Recording** is published monthly and costs 15p.

Published by the same firm are "Natural History Sound Recording", by Richard Margoschis, 40p; "Writing a Script", by Terry Devereux, 30p; and "ABC of Tape Recording Terms", by H. W. Hellyer, 30p.

**STAX**

**STAX Industries Ltd.,**  
Tokyo, Japan

**STAND 24**

**Ground Floor**

*Electrostatic Stereo Headsets*

Wilmex Limited (Stax Division) are showing and demonstrating the STAX SR3 electrostatic headset and the advanced design mains supply/switch-over unit Type SRD5. The STAX electrostatic headset is extremely comfortable and of very low weight (420 grams) and thus affords extended periods of headset listening combined with a quality of sound which can rival many loudspeaker systems.

The New STAX UA7 pickup arm is also on display.

**U.K. Distributors: Wilmex Limited (Stax Division), 24-26 Ensign Street, London, E.1. Tel.: 949-2545.**

## **STE-MA**

**Maurits Andersen A/S,**  
Mariendalsvej 55,  
Copenhagen, Denmark.

## **STAND 52**

### **First Floor**

#### *Loudspeaker Systems*

During the past two years STE-MA loudspeakers have gained an enviable position on the British market. The reason for this will be obvious to visitors to the stand for not only is the performance of the speakers up to the standard demanded by Hi-Fi enthusiasts, but the design and finish of these Danish speakers puts them above the average that most people expect. STE-MA speakers are exported to many countries and are sold in markets such as Sweden, Holland, Canada, South Africa and of course Great Britain where the audio market is at its most discriminating.

New models will be on show and they include the following.

**Type 450:** This new model which handles 12 watts is finished in either teak or rosewood and has a very attractive slatted wood front, replaces the popular Type 400. Having a wider frequency range than hitherto and in the same compact size cabinet this new model can only sell better than before.

**Type 350:** Again having a slatted wood front this model is larger than the 450 and handles 18 watts. Finish is in teak or rosewood.

**Hi-Fi 5:** This speaker handles 35 watts and is the largest in the range the design of the cabinet is more conventional having an attractive fabric front with aluminium surround. Again finish is either teak or rosewood.

Also on show will be the Hi-Fi 3 speaker system which is of compact dimensions and handles 30 watts, a new STE-MA bookshelf speaker and also another model in the Hi-Fi series that also incorporates in its specification 'dome tweeters'.

To complete the range here is the wafer thin STE-MA 115 which is ideal for wall mounting and is also used commercially for background music.

STE-MA loudspeakers are all fitted with leads and DIN Plugs and most models incorporate wall brackets as standard.

**UK Distributors. Grosvenor Electronics Ltd., 111/113 London Road, London. E.13.  
Tel. : 01-471-0031/3**

★ SEE ADVERTISEMENT ON PAGES 174 & 175

**STEREO INTERNATIONAL**

**STAND 8**

**Billboard Publications Inc.,**

**Ground Floor**

7 Carnaby Street,

London W1V 1PG

Tel. 01 437 8090

*Publications*

The Billboard Publications Inc. Display at the International Audio Festival and Fair will mainly feature their publication—STEREO INTERNATIONAL.

STEREO INTERNATIONAL is the first “American-look” high fidelity publication edited exclusively for equipment enthusiasts living outside North America. Launched in the Summer of 1969, its three editions (English and German languages and a military edition) won immediate acceptance in Europe, Asia and South America.

It is now published twice a year and is valued for completely covering its market.

Other Billboard titles on show will include High Fidelity, Stereo Quarterly, Billboard, Record & Tape Retailer, Record Mirror, World Radio TV Handbook and How To Listen To The World.

## TANDBERG

**STAND 46**

**Tandbergs Radiofabrikk A/S,**  
P.O. Box 9, Korsvoll,  
Oslo 8, Norway.

**First Floor**

### *Tape Recorders, Speakers, Audio Units*

Tandberg invite you to inspect the exciting range of receivers, speakers and tape recording equipment. A complete range of stereo tape decks and tape recorders will be demonstrated, including the highly successful 3000X tape recorder. This unit incorporates the Tandberg cross-field recording technique with four sound heads, offering AB test facilities, sound on sound and further refinements for cueing during fast wind, pause button, automatic end stop and stereo headphone outputs.

The Series 4000X incorporates all the features of the 3000X but with the addition of two 10W per channel amplifiers and two monitor loudspeakers.

The highly attractive baby 1800 tape deck will be shown.

Of special interest will be the new Tandberg receiver TR-200. This has an output power of 2 x 20W RMS per channel with pre-tuning and press button selection for six FM stations, muting button for noise free tuning, stereo headphone output and loudspeaker selector switch. This new receiver has exceptional FM sensitivity, is beautifully styled and is available in Teak or Rosewood.

We shall also be demonstrating the popular SS11 AM/FM tuner/amplifier.

The remarkable portable Tandberg TP4-1 Radio will be shown as a portable radio and also as an FM tuner in conjunction with the Series 4000X tape recorder. The TP4-1 offers quite exceptional sound quality and a wide variety of facilities for use in the home or car.

A new loudspeaker has been added to the range in the higher price bracket. The new model, TL50-10, is available in Teak or Rosewood and incorporates one 12" woofer, one 5" midrange and one 1" dome tweeter. Handling capacity is 45W and the impedance is 8/4 ohms. The TL-50-10 is a new creation for those who want the very best. It will meet the strongest demands for clarity and tone colour through the complete frequency range.

**UK Distributors: Farnell-Tandberg Limited, Farnell House, 81 Kirkstall Road, Leeds LS3 1HR, Yorks. Tel. 0532-35111**

★ SEE ADVERTISEMENT ON PAGE 168



## **TANNOY**

**Tannoy Products Ltd.,**  
Norwood Road, West Norwood  
London S.E.27  
Tel. 01-670 1131

**STAND 54**  
**First Floor**

### *High Fidelity Systems*

The introduction of the Monitor Gold Dual Concentric marked a further step forward in the Tannoy policy of introducing new models only when change is justified by real improvement in performance. In conception the Dual Concentric has remained unchanged for 25 years and in detailed design for 8 years, and the current model incorporated the development experience, production techniques and design philosophy which have for the past 47 years maintained the Tannoy organisation as leaders of the electro acoustical industry.

The Tannoy 12in. and 15in. and IILZ Monitor Gold loudspeakers have an impedance of 8 ohms and incorporate treble energy and roll off controls. Modifications to the low frequency cones and high frequency assemblies have resulted in substantial improvement in the frequency and transient response and will ensure that these loudspeakers continue to be chosen as listening standards by broadcasting, television and recording companies throughout the world—a continuing indication of their supremacy.

THE GUY R. FOUNTAIN AUTOGRAPH enclosures provide both front and rear horn loading for the 15in. Dual concentric unit. It makes use of the exclusive Tannoy expanding source principle and gives reproduction of the highest quality where space is not an important consideration.

THE G.R.F. ENCLOSURE has many of the advantages of the Autograph but is of a smaller size and available in both corner mounting and free-standing versions, thus increasing its appeal. This enclosure provides horn loading and is fitted with a 15in. Dual Concentric, being used by many British record manufacturers and television companies as a quality standard.

THE YORK remains in current production for those who can accommodate a larger enclosure, and is available in freestanding and corner versions.

THE LANCASTER range of corner and freestanding enclosures available as infinite baffles for the 15in. unit and bass reflex enclosures for the 12in. units have achieved considerable popularity since their introduction to the Tannoy range with their smaller size and modern styling.

THE CHATSWORTH RT originally designed to fill the gap between book-shelf loudspeakers and the larger cabinet, the new Chatsworth RT is even more attractive with the advent of stereo; it brings performance comparable with the larger enclosures but with dimensions which allow it to be used in the smaller apartment. The cabinet is to the traditional Tannoy high standard finished in golden teak with matching Vynair grille.

THE IILZ Mk. II is designed specifically for the IILZ Monitor unit. It is sufficiently small to be placed on a shelf or small table, but nevertheless, provides outstanding reproduction over the entire audio frequency range, extending to well below 40 cycles in the bass.

The Tannoy Varilutance mono cartridge Mark II is well established as a standard with many companies manufacturing television and broadcasting studio equipment, and is selected for use in quantity by the BBC and many Commonwealth broadcasting organisations; it is now available with a compatible mono-stereo armature assembly.

★ SEE ADVERTISEMENT ON PAGES 170 & 171

## **TELEFUNKEN**

**STAND 74**

**A.E.G.-Telefunken,**

**First Floor**

3, Hannover,

Gottinger, Chaussee 76,

W. Germany.

*Tape Recorders, Tuner/Amplifier Units, Transcription Units, Audio Systems*

Telefunken are exhibiting a wide range of Audio Products spotlighting:

**Mini-Acusta**—A modern tailor-made Audio unit comprising:

S205 Record Player with Belt Drive, floating motor suspensions.

M205 Tape Deck—4 track Stereo with 3 speeds which takes 7" reels. Plays vertically or horizontally. Sound on Sound facilities. Tape Counter and multi function switch.

R205 4 waveband Tuner/Amplifier 2 x 6 watts power rating 2 x 7.5 watts music power.

**Hi-Fi Compact 2000**—A Hi-Fi Stereo Amplifier Unit. Compact design. Music power 2 x 22 watts. Luxometer tuning indicator on the Richie photometer principle. Switchable equaliser/preamplifier for magnetic pick up systems. Frequency response 20-2,000 Hz. 2 Hi-Fi Loudspeaker Units.

**Concerto**—A top flight Hi-Fi tuner/Amplifier. 5 wavebands. Electronic frequency indicator with instrument. 2 x 30 watts music power. Built-in equaliser/preamplifier. Frequency response 20-20,000 Hz.

**Concertino**—4 waveband Tuner/Amplifier with AFC. Stereo indicator. 5 FM preset buttons with diode tuning and frequency-calibrated instrument. 2 x 22 watts music power. Switchable equaliser/preamplifier for magnetic pick up systems. Standard headphone socket on the front. Active tone control. Frequency response 20-20,000 Hz.

Also featured are the popular Tape Recorders. M204, M501 and two of the cassette range, the Nova TS and Nova FM.;

A selection of stereo Record Players and transistor radios will be on display.

**U.K. Distributors: AEG (Great Britain) Ltd., AEG House, Chichester Rents, Chancery Lane, London, W.C.2. Telephone: 01-242 9944.**

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## **THORENS**

**STAND 35**

**Thorens-Franz AG,**  
Seminarstrasse 92,  
5430 Wettingen,  
Switzerland.

**Ground Floor**

### *Transcription turntables and units*

The world's leading name in high quality Transcription Turntable and Motors. Thorens are showing both old and new models all with the individual stamp of precision engineering and quality for which Thorens is justly renowned.

The TD 125 3-speed Electronically Controlled Turntable has collected reviews and comments probably unequalled even by previous Thorens units. The operation is so silent as to have one reviewer exclaim that even holding it in his hands he could not tell whether or not it was in operation. When attempting to measure for rumble, wow and flutter, other writers have found all they could find was that on the records themselves! For those demanding the ultimate, the TD 125 is now available complete with the TP 25 Pick-Up Arm as an integrated unit and the performance more than matches the extremely smart contemporary appearance of this integrated unit.

Whilst the popularity of the 2-speed TD 150 series remains undiminished, it was felt certain items which had been optional extras should now be included and this has meant the launching of a new generation of this very popular model as Series II. The basic drive system which marked a major break-through in Transcription Motor Design remains unaltered. New features include built-in Bias Compensator/Anti-Skating Device, re-styled Pick-Up Arm, lowering device controlled from the front panel and separate speed and on/off knobs. The TD 150 is now available as a basic unit or with an integrated arm.

**U.K. Distributors: Metrosound (Sales) Limited, Audio Works, Cartersfield Road, Waltham Abbey, Essex. Tel. Waltham Cross 31933**

★ SEE ADVERTISEMENT ON PAGE 24

## TRIO

**Trio Corporation,**  
6-5, 1-Chrome, Shibuya,  
Shibuya-Ku, Tokyo, Japan.

*Amplifiers, Tuners, Receivers*

Trio products are already well-known for their excellent quality and reliability and at this year's Audio Fair the introduction of new models and a demonstration of 4-channel surround sound will arouse a great deal of interest.

All equipment features solid state circuitry, FET's in tuners, and many models now incorporate integrated circuits.

The amplifier type KA.2000A and its matching tuner KT.1000A are being reintroduced due to their tremendous popularity and continuing demand—listen to the clarity over the entire audible frequency range in the Trio demonstration room. Also listen to the amazing sound of the "Jumbo" Receiver KR.6170 with built in reverberation, dance rhythms, and percussion effects.

**Amplifiers** — The all silicon transistor amplifiers incorporate power transistor protection circuits and have a wide selection of facilities for use with different types of pick-up cartridges, tuners and tape recorders. Also standard on all models, are a headphone jack and tape monitor switch mounted on the front panel, together with a loudness compensation control.

Model	Audio Output Power Per Channel Continuous into 8 ohms (RMS Based)	Rec. Price £
K.A. 2000A	16 + 16W	34.50
K.A.2002	17 + 17	39.50
K.A.4000	40 + 40	78.00
K.A.4002	24 + 24	55.00
K.A.6000	58 + 58	97.50

**Tuners** — The Trio range of tuners covers both medium wave (AM) and VHF (FM) and have multiplex decoder fitted, together with tuning meter, automatic stereo switching with beacon indicator, MPX noise limiting, silent switching, and inter-station muting (on Model 7001).

Model	Matching Amplifier	Rec. Price £
KT.1000A	K.A.2000A	52.50
KT.2001	K.A.2002	62.50
	K.A.4002	
KT.5000	K.A.4000	£92.25
	K.A.6000	
KT.7001	K.A.4000	£149.00
	K.A.6000	

**Receivers** — Where space is limited and to cater for these who prefer a single combined unit, Trio offer an imaginatively balanced range of AM/FM stereo receivers.

Model	Audio Output Power per Channel Continuous into 8 ohms (RMS Based)	Rec. Prices £
KR.2120	12 + 12W	91.00
KR.4140	24 + 24	135.00
KR.6160	60 + 60	190.00
KR.7070	90 + 90	310.00
KR.6170		

**Tape Units** — The KX-7010A Cassette Deck, which incorporates a three digit tape position counter with reset button, twin VU Meters, an efficient Hi-Filter indicator lamps for "power on" and "motor active" slider type level controls and easy to operate function selector keys. At the price of £72.00 this unit is sure to attract a good deal of attention.

**Sole U.K. Importers and Distributors: B. H. Morris & Co. (Radio) Ltd.,**  
84-88 Nelson Street, London, E.1. Tel.: 01-790 4824/5011.

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**UHER**

**Uher Werke Munich**  
8000 Munich 71,  
P.O. Box 711020

**STAND 48**

**First Floor**

*Tape Recorders, Tape Recorder Accessories*

One of the world's leading manufacturers in their field, UHER have exclusively specialised since 1956 in the manufacture of high quality tape recorders.

Marketed in the U.K. by BOSCH Limited, Uher are presenting an impressive selection of their products at this International Audio Festival and Fair, comprising tape recorders for general and specific uses, together with a new portable stereo recorder.

Included in the exhibits on the Uher stand will be the Royal de Luxe stereo recorder with 10 watt amplifiers, and the Royal de Luxe (C) stereo version without amplifier, both of which may be used in horizontal or upright positions. The Variocord range of machines with optional 2- or 4-track operation will also be shown—the 263 stereo, the 63 (mono, 6 watt), and the 23 (mono, 2 watt), and to complete the group of mains operated models—the Universal 5000 multi-purpose mono recorder, the Universal dual track teaching machine-language tutor (mono), plus the new version of the popular budget-priced 714 mono 4-track recorder, and the 724 4-track, 2-speed stereo recorder.

Among the portable series demonstrated will be the Uher 4000L Report 4-speed, 2-track mono recorder, along with the 4200 Report stereo  $\frac{1}{2}$ -track model, and the 4400 Report  $\frac{1}{2}$ -track stereo version, all of which may be operated from battery or mains.

The Audio Fair will also provide the first major introduction to the trade of Uher's sophisticated new "Compact Report Stereo," a stereo cassette portable built to DIN 45500 Hi-Fi standards, with the same form of rugged construction which has contributed to the success of the reel-to-reel Report series. The new Compact Report Stereo uses standard cassettes with bi-directional drive, thus obviating the need for cassette reversal at the end of the tape.

Accessories on the stand will include an A121 5-channel Stereo/mono audio mixer; DIA Pilot; an Akustomat for automatic recording, and a full range of Uher microphones, headphones and other tape recorder accessories.

**U.K. Distributors: Bosch Ltd., (Uher Division—SR), Rhodes Way, Radlett Rd., Watford, Herts. Tel.: 92 44233.**

## **ULTRA**

**British Radio Corporation Ltd.,**  
284 Southbury Road,  
Enfield, Middx.  
Tel: 01-366 1155

## **STAND 15**

### **Ground Floor**

*Tuner/Amplifiers, Speakers, VHF*

British Radio Corporation are showing six items in the Ultra Group Stereo range of audio equipment. Modern in styling Ultra Group Stereo suits most modern decor with its finishes of white, rosewood or teak effects.

Ultra record players/stereo amplifiers with separate speakers, models 6027 and 6028, differ only in colour and finish. Model 6027 has matching rosewood effect cabinets for the main unit and speakers whilst model 6028 is in Bermuda white with black control panel. A transparent cover is supplied with both versions. The amplifier output in each is 6 watts/channel (speech and music) at less than 5% harmonic distortion through 5½ in. dia. loudspeakers. Record player is a 4-speed BSR autochanger with ceramic cartridge. Sockets are available for tape recording and play back. Recommended retail price of Ultra 6027 (rosewood) £56.95, and Ultra model 6028 (white) £59.75.

Ultra Group Stereo model 6450 is a three piece set comprising tuner/amplifier/record player with separate speakers. The tuner provides VHF, Long and Medium waveband coverage with AFC on VHF. Amplifier power output is 7 watts/channel (speech and music) or 5 watts/channel (sine wave) at less than 2% harmonic distortion. The sealed acoustic enclosures contain 8 in. x 5 in. loudspeakers. Record player is a BSC C123 four-speed autochanger with ceramic cartridge. The units are finished in white and there is a tinted transparent lid to the record player. Recommended retail price of Ultra model 6450 is £72.40.

Presented in an unusual styling Ultra Group Stereo model 6405 has a combined radio tuner, record player and stereo amplifier with separate speakers. The tuner has VHF, Long, Medium and Short waveband coverage, power output is 3 watts/channel (speech and music) at less than 5% harmonic distortion. Record Player is a Garrard 2025 TC autochanger with ceramic pick-up cartridge. The enclosures each contain one 8 in. x 5 in. elliptical loudspeaker. Cabinets are finished in teak colour and there is a neutral tinted transparent lid which is removable. Recommended retail price of Ultra model 6405 is £77.00.

## **UNLIMITED SOUND**

**STAND 32**

**Unlimited Sound,**

**Ground Floor**

136, North End Road,  
Fulham, London, W.14.

### *Stereo-Sound Systems, Loudspeaker Enclosures*

This year Unlimited Sound will be showing 5 Models. Two of these will be unveiled at the Audio Fair for the first time.

All of our models carry a 2 year comprehensive guarantee, covering both parts and labour, and are totally British made in our own factory.

The 501 Magnetic system, which retails at 115 pounds (£115), incorporates a laboratory series transcription unit, with a low rumble low flutter die-cast turntable.

The ultra lightweight arm is fitted with a Pickering V 15 Magnetic cartridge and a diamond stylus. These are housed in a solid teak cabinet with a smoked grey perspex dust cover.

The scientifically designed three-way speaker, consists of an 8" roll surround, long throw woofer, with a parastatic mid-range cone, a high flux magnet assembly, and a four inch tweeter and crossover.

Technical specifications are as follows:

**Circuit Protection:** A.C. and D.C. Fuses. Semi Conductors: 16 Transistors, R.C.A. 4 Diodes, All components are of the highest quality. Output: 12 Watts per channel, 24 Watts total. Output Impedance: 3 or 8 ohms. Output Impedance for Headphones: 8 to 500 ohms. Mains Power: 80 Watts max. Consumption: 220-240 Volts A.C. 50 or 60 HZ. Response: Unit designed to give a substantially flat frequency response from 30 HZ to 20 KHZ. Harmonic Distortion: Less than 0.1% Signal to Noise Ratio: 57db. Bass Control:  $\pm 15$ db at 100 HZ. Treble Control:  $\pm 15$ db at 10 KHZ. Balance: Either Channel can be faded to zero. Volume: Ganged to control both channels simultaneously. Inputs: Radio 100mv, Tape 100mv, Disc 3mv. Output for Tape: 120mv (to suit almost any tape recorder).

The Unlimited Sound 401 System which retails at £78, has the turntable and amplifier housed in one solid teak unit, with a smoked grey perspex dust cover, the turntable is an automatic unit with a top quality stereo cartridge.

The amplifier features a comprehensive range of controls, and is fully circuit protected.

The matching speakers consist of a 9" x 5" bass unit with pammastic roll surround, and extra large high flux magnet. It also has a 4" high efficiency tweeter and crossover network.

The speakers are fitted with extra long leads, and Din plugs for easy installation. The amplifier is also fitted with a headphone input, and a loudspeaker cut out switch.

The 501 System is a similar unit except that the amplifier and turntable are housed in separate teak units. This system also retails at £79.

Technical specifications are as follows:

**Circuit Protection:** A.C. and D.C. Fuses. Semi Conductors: 12 Transistors (R.C.A.), 4 Diodes. All components are of the highest quality. Output: 10 watts per channel R.M.S. 20 watts total R.M.S. Output Impedance: 3 or 8 ohms. Output Impedance for Headphones: 8 to 500 ohms. Mains Consumption: 80 Watts max. 220-250 Volts. 50 or 60 cycles. Frequency Response: The Amplifier is designed to give a substantially flat frequency response from 40 HZ to 18 KHZ. Harmonic Distortion: Less than 0.1%. Signal to Noise Ratio: 60db. Bass Control:  $\pm 15$ db at 100 HZ. Treble Control:  $\pm 15$ db at 10 KHZ. Balance: Either channel can be faded to zero. Volume: Ganged to control both channels simultaneously. Inputs: Radio 100mv. Tape 100 mv. Disc 100mv. Tape Output: 120mv to suit almost any tape recorder.

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## WHARFEDALE

## STAND 20

Rank Wharfedale Ltd.,

Ground Floor

Idle, Bradford, Yorkshire.

Telephone: Bradford (0274) 612552.

*Loudspeakers, Receivers, Cassette Recorder,  
Amplifiers, Turntables, Headphones*

This year Wharfedale are showing restyled and technically improved cabinet systems and also additions to their electronics ranges. Demonstrations of the complete Wharfedale range will be run regularly throughout the Fair with admission by ticket only, available from the stand.

Among the new products shown for the first time are the Wharfedale DD1 Headphones and the Wharfedale DC9 Cassette Recorder with chromium dioxide facility. Also shown for the first time is a complete system comprising the Linton Amplifier, Linton Turntable and Linton 2 Speakers. All these products are displayed and technical and general enquiries can be discussed with our engineering staff.

**Denton 2 Speaker.** The stylish new Wharfedale Denton 2 represents the best value in compact High Fidelity speaker systems. The 8in bass unit and 2in tweeter are combined by an electrical crossover to produce a performance which is characteristic of much larger cabinets.

**Linton 2 Speaker.** An extra large magnet on the bass unit gives exceptional response characteristics to this, the latest version of Britain's best-selling High Fidelity loudspeaker, now modelled to match the most modern furniture.

**Triton 3 Speaker.** The Triton 3 is designed to fit any bookshelf, yet it gives genuine 3 speaker performance with its 8in bass unit, 5in mid range and 1in dome tweeter.

**Melton 2 Speaker.** The Melton 2 combines a 12in bass unit with a 2in tweeter to give a deep, rich bass without losing its high frequency response. The elegant cabinet is designed to be free-standing but can be fitted in a shelf.

**Dovedale 3 Speaker.** This speaker has been completely redesigned both visually and technically. The units incorporated are a 12in bass unit, 5in mid range unit and a 1in tweeter. Attention has been paid to the cabinet construction and thicker panels are used which, along with improvements to the bass unit, result in an even cleaner bass response. At the rear of the cabinet are two attenuators which give a cut or lift of  $\pm 3$ db to allow for fine adjustment to room conditions.

**Rosedale Speaker.** The Rosedale is unchanged in either styling or technical performance.

**Linton Amplifier.** The Linton Amplifier is a 15 watt RMS per channel unit with distortion of less than 0.1% at 10 watts. Total inter-modulation distortion is less than 0.2% at full power output and hum and noise are minus 53db below 15 watts on disc input. The Linton Amplifier is designed for the newcomer to hi-fi having simple facilities to be played on disc, tape or tuner.

**Linton Turntable.** The Linton Turntable is designed to visually and technically complement the rest of the system. The turntable mechanism is a reliable well tested unit with facilities for 7in, 10in or 12in records to be played at any of four speeds. Rumble is better than 35db, wow better than 0.2% and flutter better than 0.6%. The Shure cartridge is carefully aligned in the factory and has been chosen for complete compatibility with the amplifier.

**DC 9 Cassette Recorder.** The DC 9 Cassette Recorder was introduced at Olympia last year and since its introduction has received many favourable reviews in the trade press and has excited considerable consumer interest. A refinement added for this season is a switch to enable the recorder to be used with a chromium dioxide tape as well as a normal ferrous oxide tape.

**DD1 Headphones.** These headphones incorporate a double driver unit system to smooth and extended frequency response. In effect, these are two small loudspeakers in each earpiece, one handling the bass frequency range and the second handling the treble range.

**100-1 Receiver.** A powerful Receiver giving 35 watts per channel at less than 0.1% distortion. During the year we have taken advantage of technical advances to improve the circuitry and specification of this model.



**WIEN**

**STAND 88**

Manufactured in various countries for

**Second Floor**

**H. O. Thomas Electronics Ltd.,**

26-27 Avenue Chambers,

Vernon Place, London, W.C.1

Tel. 01-405 9569

*Tuners/Amplifiers, Cassette Tape Recorders*

The highlights of this display are the new Wien Auto 8-track Cassette Stereo Tuner/Amplifier System, the Imperial Audio System and the Wien Auto Cassette Tape Recorder. Each unit will be demonstrated throughout the period of the Fair.

The new 8-track Cassette Stereo Tuner/Amplifier System—called the Wien Auto 8 is the very latest item in the H.O. Thomas range, and its appearance at the Audio Fair is the public's first opportunity to see and hear it. One of the most important features is the channel selector mechanism—a single rectangular push button is depressed just once for each channel change. The take-up of the, continuous tape loop is virtually instantaneous, and Channel 1 is re-selected after Channel 4.

The Wien Auto 8 comprises the Cassette Stereo Tuner/Amplifier and two loudspeakers. This System gives you FM stereo and mono radio, and AM radio. Sockets at the rear allow the connection of an auxiliary pair of loudspeakers, a stereo tape recorder, and a stereo record player. On the front panel is a socket for stereo headphones. The output is 10 watts r.m.s. Recommended retail price is only £63.95.

Available at only £53.95 (recommended retail price), the Imperial Audio System is probably the only one in its price range to include a quality stereo FM tuner. The System comprises four units—AM/FM Stereo Tuner/Amplifier, Garrard deck and matching plinth with Perspex cover. And two separate speakers. All of them in polished *wood* cabinets. It has switchable AFC, and a stereo indicator. Amplifier output is 10 watts r.m.s., response 50 Hz to 30 kHz  $\pm$  3dB.

The Wien Auto Cassette Tape Recorder is a portable unit and accepts standard Philips type cassettes. And it has an unusual feature—a linear scale volume control. This Tape Recorder comes complete with a slimline remote control microphone, earphone and C60 tape cassette. AC and auxiliary jacks are incorporated. An interesting feature is a transparent hinged panel over the cassette. This allows you to see the tape moving between the spools, and to note the exact moment when one of the spools is fully unwound. Recommended retail price is £16.95.

## YAMAHA

Nippon Gakki Co. Ltd.,  
10-1 Nakazawa - Cho,  
Hamamatsu, Shizuoko - Pres, Japan

## STAND 92

### Second Floor

#### *Speakers, Cabinets*

YAMAHA are proud to announce the introduction of several new items to this superb range of Stereo amplifiers, tuners and music centres.

In the range of COMPONENT AMPLIFIERS output power alone does not mean much; what does count is how much can be used without distortion. That is where these TWO new Yamaha amplifiers leave others well behind.

With amazingly low harmonic distortion, direct-coupling system and FET-type differential amps, the CA-500 and CA-700 provide full use of their generous output power for performance that betters the most massive system. Each also features versatility and convenient extras for the most creative stereophile: second phono jack for moving coil cartridge; double tape monitor/dubbing; one-touch function selectors; high/low filters for elimination of FM hiss, record noise, turntable and tape rumble; dual speaker system selectors and pre-main amp separation; full stereo power of 60/60w and 22/22w for the CA-700 and CA-500 respectively; speaker/amplifier protection circuits preventing damage in the event of a 'short-circuit' or mis-connection and multi-voltage selector switch. Combine all these points and place them within a sleek black metal cabinet and you have a pair of the finest stereo amplifiers available.

The very latest in the range of COMPONENT RECEIVERS and COMPONENT TUNERS is represented by the CR-700, CR-500 and the CT-700. If you are comparing performance do not settle for a lot of fancy adjectives—compare the specifications. Features like the special Yamaha Tape Equalizers and Auto-touch FM tuning, plus other compact easy operational extras, add up to sophisticated convenience and playing ease. This simplicity is part of the basic compact design where fully independent circuit boards mean extra fast easy servicing if it is ever needed. The CR/CT series offers excellent sensitivity and selectivity plus low distortion. Sensitivity is the power to pull in weak signals. Selectivity is the tuner's ability to pick up one signal and reject others near enough to interfere, and these three characteristics work together to give incredibly clear FM sound even from distant stations.

Not so very long ago every stereo fan was up against a difficult choice: modular convenience or expensive, bulky components for performance. Today you can have the best of both—a single compact unit with AM/FM Stereo Tuner/Amplifier, 2-speed belt drive turntable, even cassette or cartridge playback and recording, plus performance features and specification that would make any full component system proud. Immediately in this sphere there is available the MUSIC STEREP CENTRES models MSC-5B and MSC-3. Also to arrive later this year the MSC-5AR. This YAMAHA MSC Series gives extra versatility and brilliant stereo performance. Incorporating All-stage Direct-coupled OCL Amplifier providing wider frequency response, remarkably lower distortion and greatly improved damping factors—Acoustic Equalizer that allows matching of the acoustic characteristics of the room providing precision multi-stage adjustment of high and low tones—facility for the separate use of the pre-amp and main-amp sections—superb FM Stereo separation through the unique Yamaha transistor switching system providing razor-sharp left/right multiplex separation—two-speed flick switch giving 33 and 45 rpm—auto return for the tone arm—Auto-cut which mutes the sound signal until the stylus is in the groove doing away with that annoying 'thud' when the tonearm first lowers—built in Anti-skating without which the stylus would veer to the inside causing off-balance stereo and record stylus wear.

UK Distributors: Jonathan Fallowfield Ltd., 60 St. John Street, London, E.C.1.  
Tel.: 01-253-7591

★ SEE ADVERTISEMENT ON PAGE 165

# David, Henry, George & Peter



## all sent for Heathkit

Different people, different tastes in music. But they all wanted the very best reproduction of their favourite sounds. Heathkit provided it – at a price they could afford.

Heathkit comes direct from the world's leading suppliers of top quality hi-fi equipment. You assemble the components using the unique Heathkit 'step-and-check' method and there's a team of experts ready to help and advise you on any problems. But you won't need them. David, Henry, George and Peter didn't.

**Join them on Stand 18!**

HEATH (GLOUCESTER) LIMITED, GLOUCESTER GL2 6EE

# Why noise reduction?

Every way that men have ever found of storing or sending information also adds noise to the information recovered or received. It has been found that this noise is an inevitable result of the process of information storage and transmission, and not simply the result of inadequate technology. Even the most extensive effort to reduce the level of noise in communication systems must finally rest before this fundamental barrier.

Some forms of communication, such as the telephone, operate adequately in the presence of relatively high noise levels. Others, particularly music recording and broadcasting, are affected to an unacceptable degree even by noise levels as low as one-millionth of the signal reference level. Magnetic tape recording, the prime method of recording used in music reproduction, has for some time operated very near a theoretical limit of approximately this value. It has long been known that this impasse limits the quality obtainable in commercial disc recordings; more recently, the development of magnetic tape systems for home music playback has been seriously hindered by the even higher intrinsic noise levels present in all magnetic recording tapes at the slower speeds these systems use.

Conventionally recorded tapes cannot, in fact, be freed of noise without injury to the music as well. This is because many of the sounds produced by musical instruments are sufficiently similar to noise to be indistinguishable from it, no matter how noise is defined.

The Dolby Noise Reduction System has become a standard of professional recording because it preserves the integrity of the signal while reducing noise by approximately 10 db. In addition to music recording, the use of the Dolby System is growing in film production, broadcasting, and other communication applications.

In the months to come, nearly 40 manufacturers will offer consumers tape recorders and other products incorporating the Dolby B System, a simplified form of the professional Dolby System based upon the same principles.

 **Dolby Laboratories Inc.**

New York

London

Tokyo

163

Slim lines, sweet sound, stunning impact – that's the Mini-Acusta from Telefunken. The Mini-Acusta is an elegant all-in-one sound system incorporating 4-track stereo tape recorder, hi-fi tuner/amplifier, transcription unit and two full-range loudspeakers.

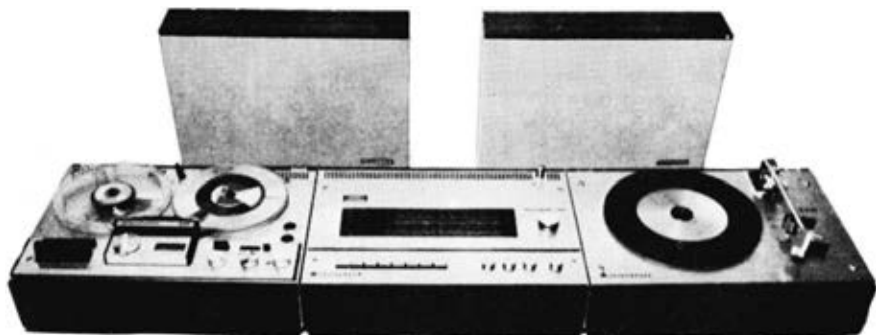
The Mini-Acusta looks like £300

worth of high-fidelity equipment. In fact, it costs a lot less. But who's to know?

You will if you call our Sales office on 01-242 9944.

Or write to Telefunken at:

AEG House,  
Chichester Rents,  
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London WC2A 1NH



## Mini-Acusta

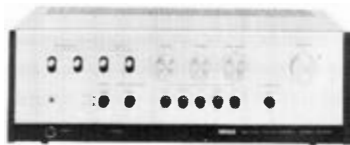
## Midi price

Trade Callers  
will be welcome  
at our Stand No. 74  
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## Maxi sound system

AT THE TOP OF THE QUALITY LEAGUE

See and hear them on **STAND 92 (2nd Floor)**



**CA 500** Dynamic power (IHF) 60w at 1kHz  
RMS power 22/22w at 1kHz  
Harmonic distortion at 1kHz,  
0.05% at 20w 2 phono inputs.  
FET type differential Amp. High  
and low Filters.

**CA 700** Dynamic power (IHF) 150w at  
1kHz RMS power 60/60w at  
1kHz Harmonic distortion at  
1kHz, 0.05% at 50w Dual-stage  
FET Differential Amp. OCL  
circuitry. Mic volume control  
2 phono outputs and 2 tape  
outlets. High & Low Filters.



**CR 500** Dynamic power (IHF) 60w at  
1kHz RMS power 22/22w at 1kHz  
Harmonic distortion at 1kHz,  
0.05% at 20w FET/IC circuitry  
Ceramic muting filter L/R Mic.  
jacks and volume control.

**CR 700** Dynamic power (IHF) 120w at  
1kHz RMS power 40/40w at  
1kHz Harmonic Distortion at  
1kHz, 0.05% at 35w OCL  
amplifier circuitry. Exclusive  
Auto-touch tuning. Speaker/  
amp protection circuits.



**CT 700** AM/FM Stereo Tuner Power con-  
sumption 15w Gives top per-  
formance with any amplifier.

**MSC 5B** Dynamic power (IHF) 60w at  
1kHz RMS Power 22/22w at 1kHz  
Harmonic distortion at 1kHz  
0.05% at 30w. Incorporates  
cassette player/recorder with  
one-touch piano key controls.



**MSC 3** Dynamic power (IHF) 60w at  
1kHz RMS power 22/22w at 1kHz  
Harmonic distortion at 1kHz  
0.05% at 30w. OCL circuitry  
Stylish tilt-up design with all the  
refinements sought by the con-  
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Trade Enquiries invited by sole UK distributors

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# SAVE THE BEST TILL LAST.

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You'll be able to spend a very enlightening hour or so looking at, and having demonstrations of, our Audio Plan and Recording Systems. Shown here are the

Philips RH580 Stereo Amplifier, the GA105 Semi-Automatic Single Player and the RH481 Speakers. Together they form a system that gives you the best possible value—at budget price.

This is only one of a wide range of systems going up to the highest possible specifications, to suit all tastes and pockets.

And to make your hi-fi system





# IT'S ON STAND 17.

complete there's the N2503 Stereo Cassette Deck. Use it with your existing amplifier and speakers to record and play back cassettes in stereo and to play pre-recorded Musicassettes.

The N2503 is built to the high standard enthusiasts have come to expect from Philips. It has an extremely fast wind/rewind time, a very impressive signal to

noise ratio, a sliding recording level control and a recording level indicator. It comes complete with a moving coil stereo microphone, and is designed to look good in any hi-fi system, with real rosewood sides and a silver colour front plate.

For full technical specifications of these and all Philips systems, visit Stand 17.

**We want you to have the best**



**PHILIPS**

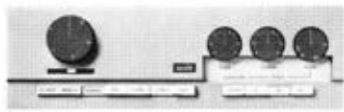
There are two ways of  
discovering how good a  
Tandberg system sounds.  
One is by going to the  
Royal Festival Hall.



The other is by paying a  
visit to stand 46 and hearing  
for yourself.



**QUAD\***  
for the  
closest  
approach  
to the  
original  
sound

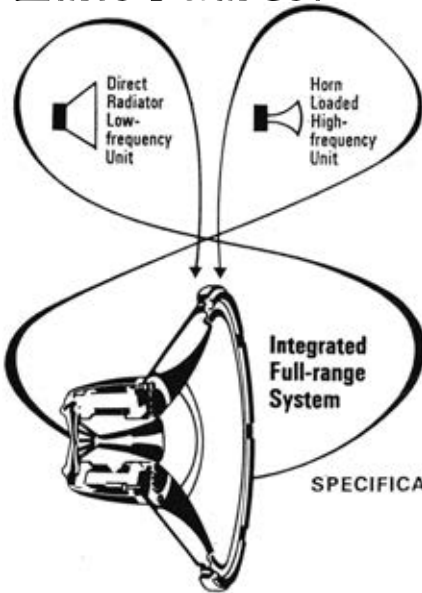


See and hear  
**QUAD\***  
on **STAND No 43**

\* QUAD is a registered  
trade mark

Acoustical Manufacturing Co. Ltd.,  
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Telephone : (0480) 2561

**2 INTO 1 CAN GO!**



THE *Monitor*  
**GOLD** \*

**DUAL  
CONCENTRIC**

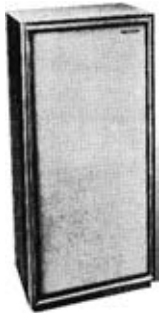
... provides the perfect integrated source needed for stereo. The Monitor Gold is two separate transducers in a single assembly fed by a sophisticated cross-over and treble control network.

**SPECIFICATION** Frequency Response: 30-20,000 Hz.

**Power Handling Capacity:**  
15" 50 Watts, 12" 30 Watts, III LZ 15 Watts.

**Impedance:** 8Ω nominal, 5Ω minimum.

**AND IT SOUNDS BEST IN A  
TANNOY ENCLOSURE**

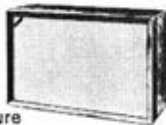


*"Lancaster"*  
free-standing fitted  
with 12" or 15" Dual  
Concentric. Height  
2'9½", width 1'9½"  
depth 1'0½".



The *'Chatsworth'* R.T.  
Height 33½",  
width 15½",  
depth 10¾".

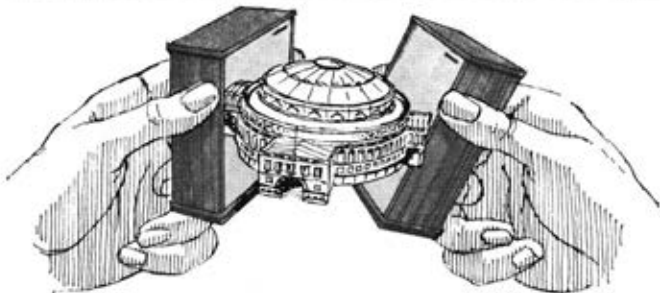
70% OF THE  
MONITOR GOLDS  
PRODUCED ARE  
EXPORTED TO:  
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MALAYSIA  
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*"III LZ Mk. II"*  
Aperiodic enclosure  
with III LZ unit.  
Height 1'3", width 1'11", depth 9¾".

**TANNOY**  
NORWOOD ROAD • WEST NORWOOD  
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TELEPHONE 01-670 1131

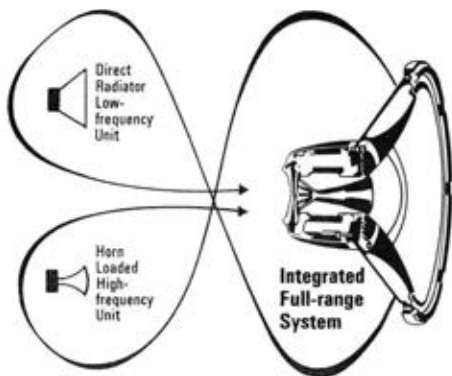
*The Majority of Recording and TV Studios use TANNOY Monitors*



## it's all a **great illusion . . .**

Stereosound is one of the best technical tricks of the century, and Tannoy Monitor Gold loudspeakers help the illusion along. The piano won't seem eighteen feet wide, you won't hear the violins left, right and centre, in fact the illusion will be as good as the recording engineer can make it. (He probably used Tannoy monitors in the studio.)

our own contribution to the magic—  
**two into one will go!**



THE *Monitor*  
**GOLD\***  
**DUAL CONCENTRIC**

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 in a wide range of enclosures  
 including the  
**NEW CHATSWORTH**

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STAR OF THE SHOW

**NEW!**



# The ScanEltra Tuner Amplifier

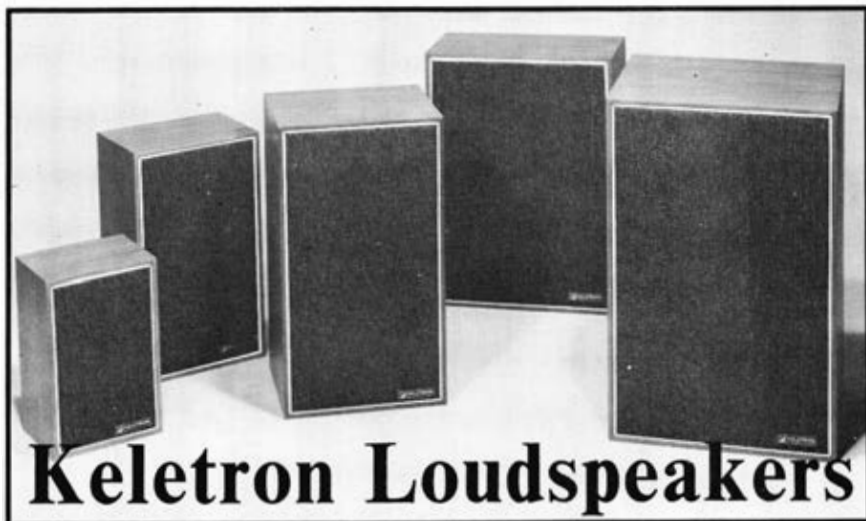
Beautifully styled, superb quality equipment from Denmark, now available in this country for the first time.

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**SEE IT ON STAND 52**

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Keletron, Ste-Ma



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## Ste-Ma Loudspeakers

*Designed and  
built in Copenhagen  
by Maurits Andersen*



# SEE THEM ALL



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## Pye 'Black Box' Unit Stereo

The famous Pye Black Box returns—only this time it's *three* boxes. One for the record deck and amplifier. And one each for the twin speaker enclosures.

It incorporates all the refinements you'd expect: cueing device, anti-skate control, Compensated Loudness Control (which adjusts the balance of frequencies at low-level volume so that your ear doesn't lose the bass notes).

And it delivers an output of 10 watts (RMS) per channel. Ask for a demonstration of the Black Box at Stand 69.

About £93.45 (including speakers).



# A.K.G. HEADPHONES

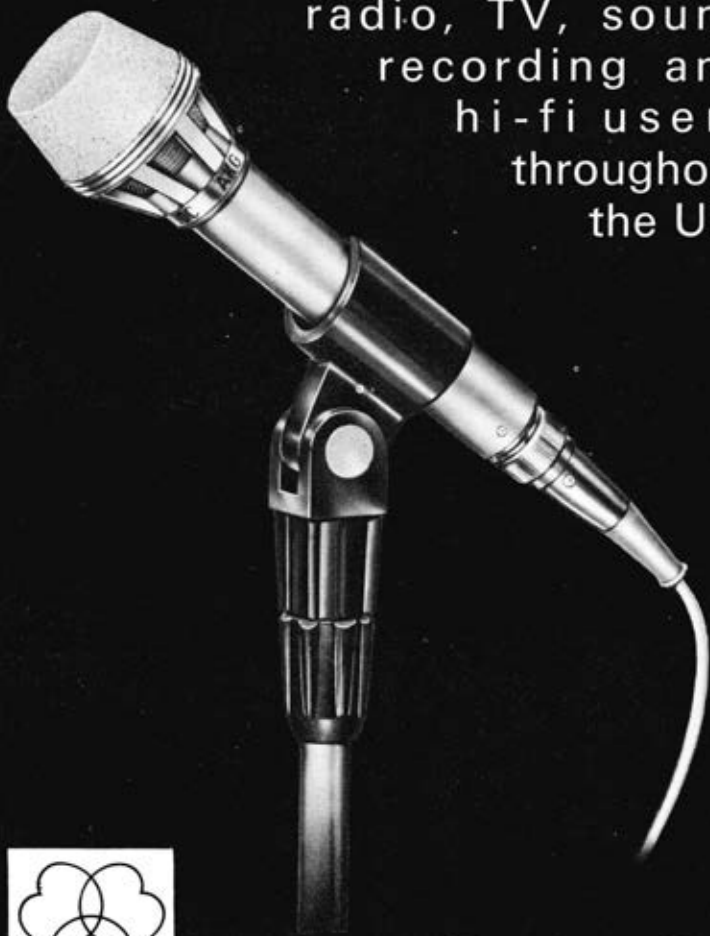


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A section from the range of accessories and equipment to provide complete audio installations including loudspeakers—cassette and cartridge tape decks—headphones, etc.

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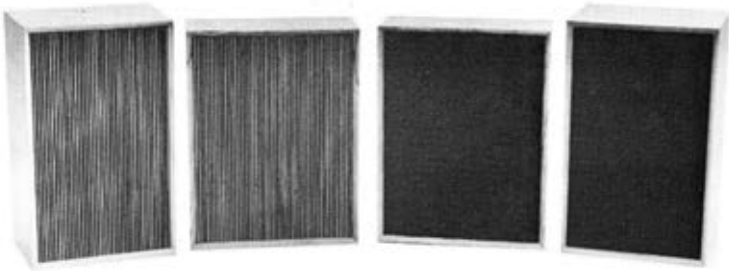
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We hope you will visit us on Stand No. 79, where our Sales and Technical Staff will be available to give you every assistance, and we take this opportunity of wishing you a pleasant and successful 1971 Audio Fair.



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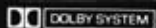
# KDB-1

## Dolby B noise reduction unit



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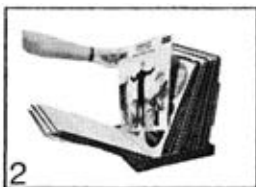
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The Lustraphone Series Five Desk Microphone is designed to fulfil the requirements of manufacturers and users of high quality communication and public address equipment. The cast alloy trapezium base, displays modern design and is approved by the British Design Centre.

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*MODEL 5-43 Microphone on Type L.P.104 Base*

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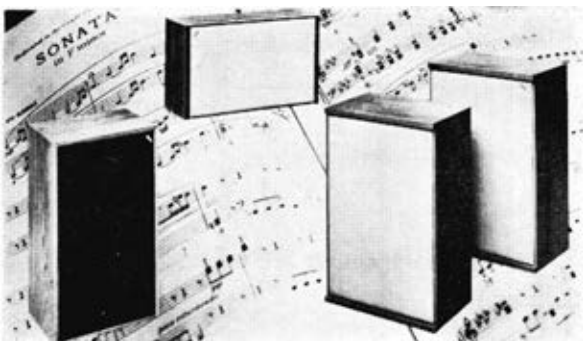
## **E.M.G. HANDMADE GRAMOPHONES LTD.**

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# Imhof Speakers



It's a number of years since Imhofs produced their own hi-fi loudspeakers (remember the famous Reflexion models?) and it has taken a long time to find a successor worthy of carrying our name. With so many different speakers on the market, our designers and engineers were set the task of producing models that offered better than average quality

at lower than average prices and yet still had that extra something you would expect from Imhofs. The result is the IM range of speakers which are available in a variety of finishes and have interchangeable 'decor' front grilles so you can have a model to harmonise with your home.

We have also introduced the improved Imhof Junior Mk. II

speaker which we think is fantastic value and is sold complete with DIN two-pin connector and a 36-ft extension lead.

While technical specifications are given below, we would really like you to call in and see them and judge for yourself just how good they are and then we feel sure you will agree that they really are value for money.

<b>model</b>	<b>IM.100</b>	<b>IM.200</b>	<b>JUNIOR MK. 11</b>
	<i>above top</i>	<i>above right</i>	<i>above left</i>
<b>type</b>	Infinite baffle	Infinite baffle	Infinite baffle
<b>units</b>	13" x 8" bass, 1 1/2" treble	13" x 9" bass, 1 1/2" treble	13" x 8" bass, 3" treble
<b>crossover</b>	1 kHz	1 kHz	5 kHz
<b>frequency range</b>	50 Hz-20 kHz	40 Hz-20 kHz	50 Hz-20 kHz
<b>impedance</b>	8 ohms	8 ohms	8 ohms
<b>power handling</b>	15 watts RMS	25 watts RMS	10 watts RMS
<b>size</b>	11 1/2" w x 19" h x 7 1/2" d	15 1/2" w x 24 1/2" h x 10 1/4" d	12 1/2" w x 24" h x 9 3/4" d
<b>grille</b>	Charcoal, Silver Sand or Pearl Grey	Charcoal, Silver Sand or Pearl Grey	Black
<b>finish</b>	Teak or Walnut	Teak or Walnut	Teak
<b>and price</b>	£25-90 Slatted front (teak only) £28-40	£38-85	£16-80

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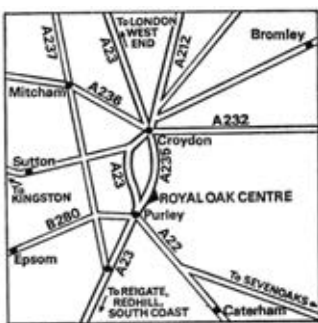
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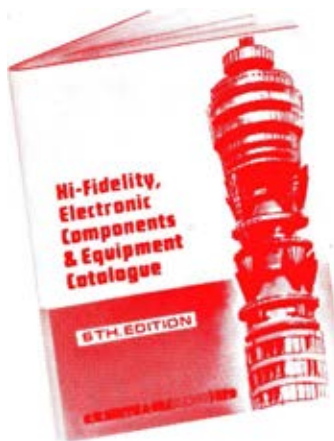
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