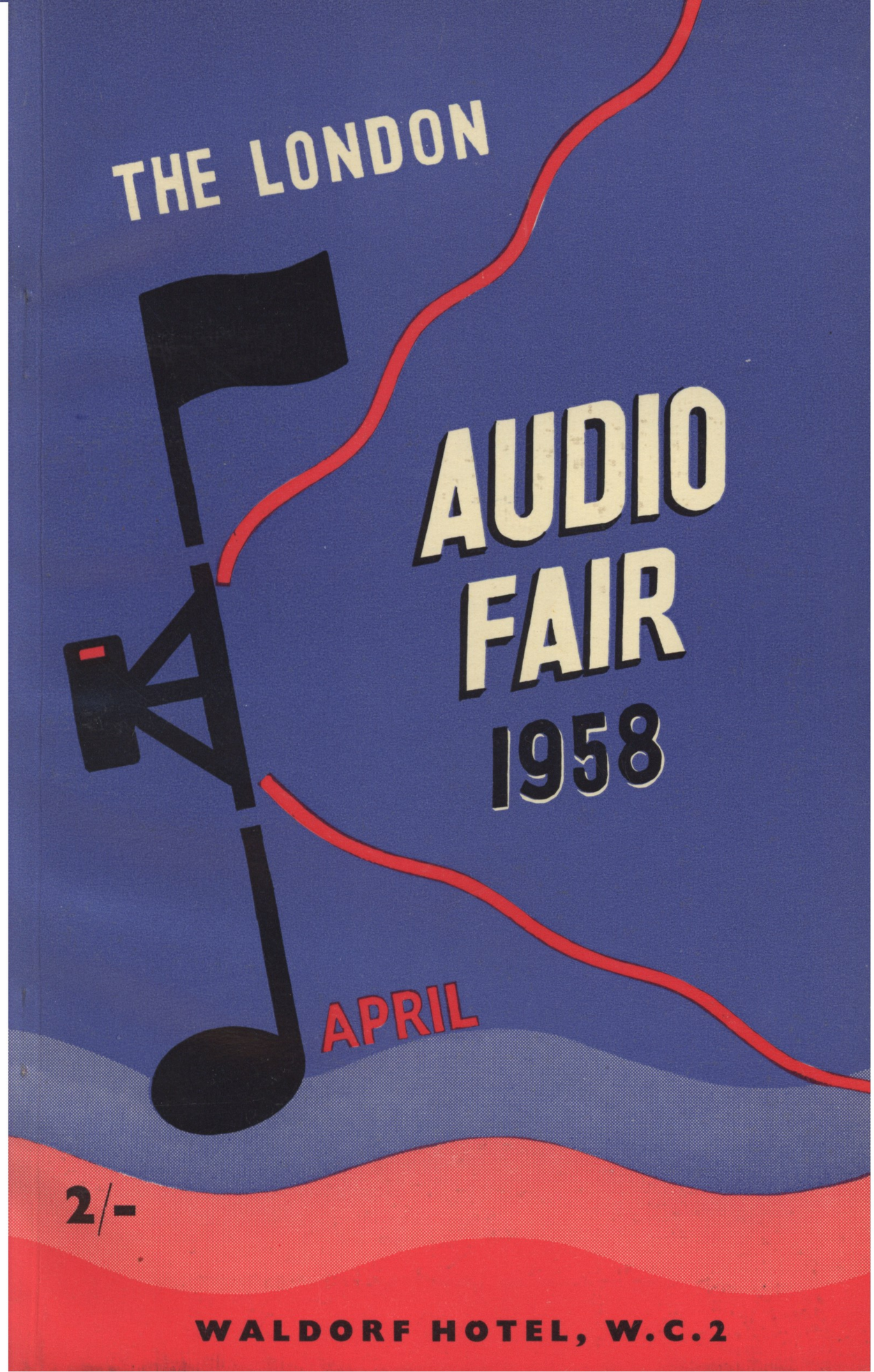

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THE LISTENER's music articles, like its other contents, are of outstanding quality. They are read by people whose musical taste is satisfied with nothing short of the very best reproduction. That is why Hi-Fi advertisements receive serious consideration in THE LISTENER That is why Hi-Fi advertisers find THE LISTENER a good buy at £144 a page—and *pro rata* to a sixteenth page at £9.

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to visit the ROLA CELESTION Stand and Demonstration Room.

As manufacturers, for over 30 years, of loudspeakers for high quality reproduction — we are justly proud of the reputation established and maintained by the introduction of new models reflecting the latest advances in technical development.

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**Loudspeakers**



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# DEMONSTRATION ROOM 247

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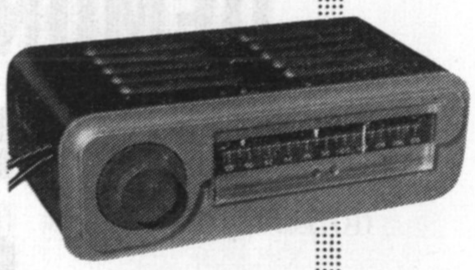
Ferry Works, Thames Ditton, Surrey
*Telephone :* EMBerbrook 3402/6
*Cables :* Voicecoil, Thames Ditton, England

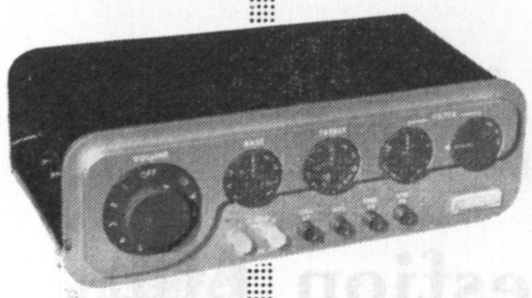
**for ALL purposes**

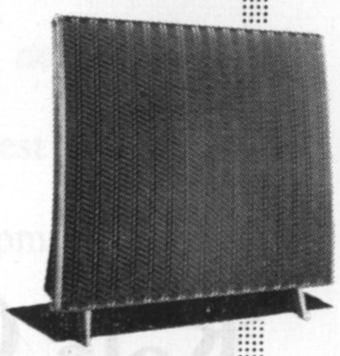
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**ACOUSTICAL MANUFACTURING COMPANY LIMITED**

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*tuner units*
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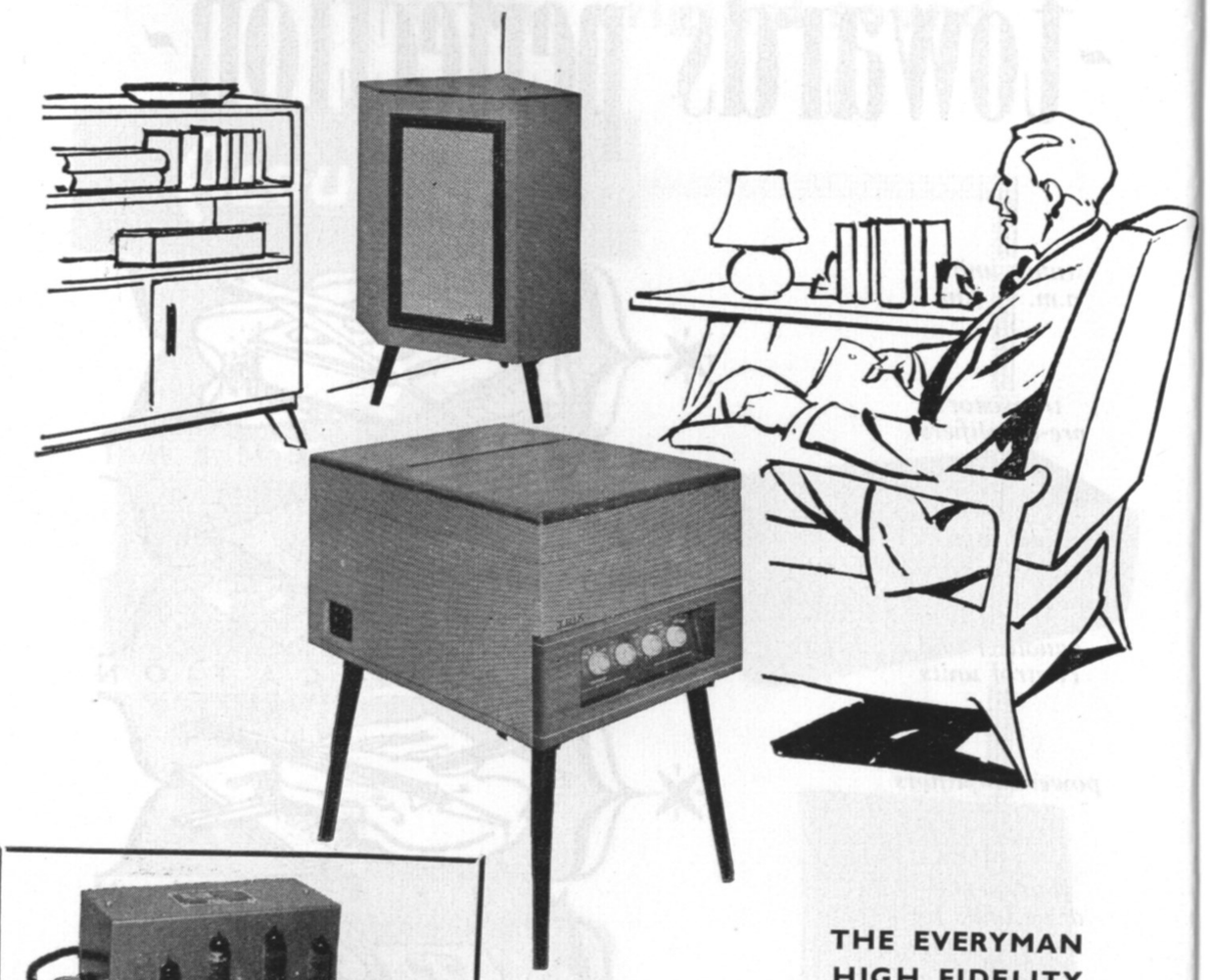
*the most exacting range of electro-acoustic equipment that money can buy*

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TRIX — FOR ALL



THE EVERYMAN HIGH FIDELITY SYSTEM



T43

The T43 Amplifier can also be supplied separately as illustrated at 19 gns. complete with control unit

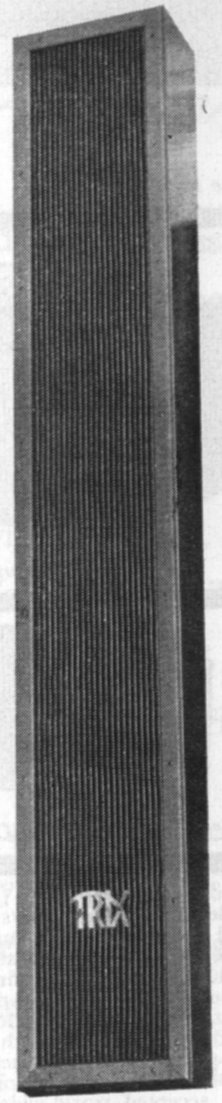
To relax with your music—that is the pleasure you will have with TRIX High Fidelity systems. Less complication with better and more satisfying reproduction is obtained by skilful design and an eye for the users' practical needs. Here, indeed, is **High Fidelity without fuss**

**THE TRIX ELECTRICAL**

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# THAT IS BEST IN SOUND EQUIPMENT



In the forefront of Sound Reproduction over the last twenty-five years, the Trix Electrical Company is constantly introducing important developments and new techniques into its extensive range of Sound Equipment. Our Public Address systems are in daily use in Factories, Public Buildings, Hospitals, Offices and Schools throughout the world, and our developments in the High Fidelity field have already received the accolade of a Gold Medal in the U.S.A. Many new and advanced ideas in Sound Reproduction, which will interest you greatly, are on demonstration in Room 244, where we shall be pleased to see you

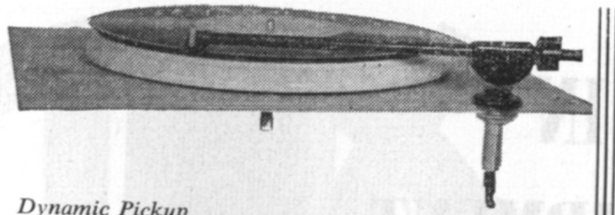
When you think of Sound Equipment— think of

TRIX

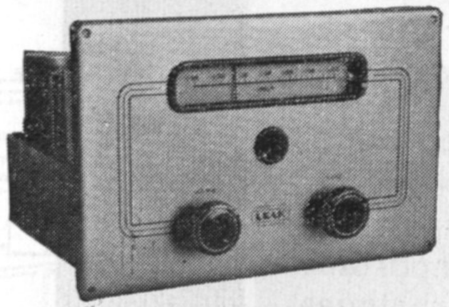
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**COMPANY LIMITED**

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*Dynamic Pickup*



*Trough-line F. M. Tuner*



*" Point-One " Plus Pre-amplifier*

# Britain's best Hi-Fi equipment

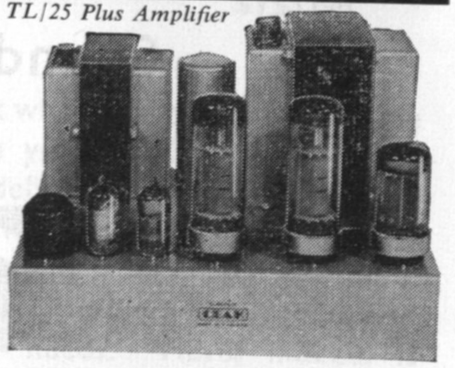


*" Varislope III " Pre-amplifier*



*TL/12 Plus Amplifier*

*TL/25 Plus Amplifier*



We have devoted over 23 years entirely to the design and manufacture of audio equipment and we are proud of our position as leaders in this field. We were the first firm in the world to design and market Amplifiers having a total distortion content as low as 0·1%; a claim which was received with incredulity in 1945, but which was subsequently confirmed by the National Physical Laboratory and has become an accepted world-wide standard.
High engineering ideals have guided our efforts, and Leak Amplifiers have been the choice of the B.B.C., Commonwealth and foreign Broadcasting authorities and Recording Studios. This acceptance by professional audio engineers has led to a demand for Leak equipment from *music lovers throughout the world.*
On the important question of prices it is appropriate to mention one of the basic principles of Leak design. From long experience and by extreme attention to design details during development work on the pre-production models, we enable our craftsmen to achieve a high output per man-hour. The labour costs thus saved offset the increased cost incurred for high grade materials, components and finishes, and this together with quantity production (made possible only by a world-wide market), explains how quality products may be sold at reasonable prices.

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**LEAK** — **the first name in High Fidelity**

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*Cables: Sinusoidal, London.*



# When all is said and done



**DU 120 DUPLEX COAXIAL FULL RANGE LOUDSPEAKER**

**AK 120 SERIES LOUDSPEAKER**

**BOOTH No. 31**
**DEMONSTRATION ROOM No. 225**

. . . you buy a loudspeaker to listen to — not to read about — and the only thing that matters in the end is that the sound it makes should be to your (your wife's ?) liking.

Enjoyment will be enhanced not one microbel by a specification which is a copywriter's dream or by a draughtsman's delight of a response curve.

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Vitavox Ltd., Westmoreland Road. London, N.W.9
Telephone: COL 8671

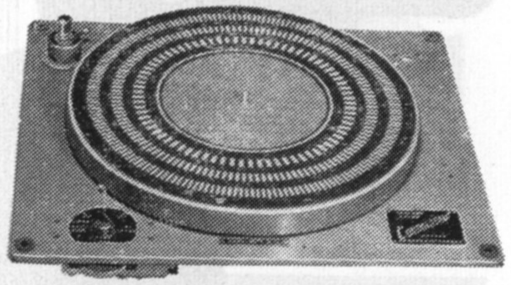
# Connoisseur

## SOUND PRODUCTS

We make no extravagent claims for Connoisseur products, all we ask is that you listen to them and judge for yourself. They are not cheap, but then the best never is. Look at the specifications

**Connoisseur Variable Three-speed Gramophone Motor**

Mechanical speed change without braking provides 4 per cent variation at all speeds. Synchronous motor is virtually vibrationless. Main spindle runs in phosphor bronze bearings. Turntable is full 12in. lathe turned from non-ferrous material.





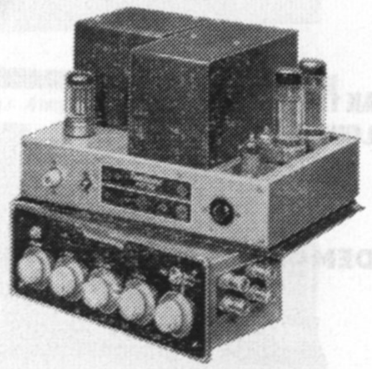
**Connoisseur Pick-up**

With three interchangeable heads for microgroove, standard, and older records, available with Diamond or Sapphire Stylus.

Frequency range 25—20,000 cps ± 2dB's, 400 ohms Model gives 15 M.V. output from the average LP disc ; 25 M.V. from a standard 78 r.p.m. recording.

**Connoisseur HQ 20 Amplifier and Pre-amplifier**

Both units are built to the highest electrical and mechanical standards and incorporate the latest developments in Audio technique. High power output allows the reproduction of peak passages without overload or distortion.



*Send for descriptive leaflets*

**Connoisseur**

**A R SUGDEN & CO (ENGINEERS) LTD**

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**Connoisseur**

**Our range of High Fidelity equipment is exhibited in**

# BOOTH 25

**Hear it for yourself at our demonstrations in**

# ROOM 248

# R·G·D

## new, easy-to-operate high fidelity equipment



THE
**418**
VICTORIA

**True High Fidelity equipment in one cabinet**

● Diamond Stylus—Goldring Reluctance Pick-up and Pre-amplifier ● Five Speakers in Friction Loaded Chamber, with acoustic Resistance Unit—2 Cross-over networks. ● Audio response—15 cycles—20 Kc/s within 2 d.b.s. ● 13 watts (peak) Push-pull output, 10 valves ● Full international waveband coverage plus FM ● Choice of three cabinet veneers; Walnut, Sapele Mahogany and Blonde Oak.

Price **147 gns** TAX PAID

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The RGD **VHF/FM-AM T.1. TUNER AMPLIFIER**



**A new RGD unit to be used in conjunction with Goodman speaker systems and other standard equipment.**

● 9 valves (with electronic tuning indicator) ● Bass and Treble Compensation with separate controls ● "Piano-key" type push-button waveband selector ● 16 watt (peak power) push-pull output ● Built-in aerials—Ferrite Rod for AM; Folded Dipole for FM ● Cabinet in light or dark veneers—continental styling.

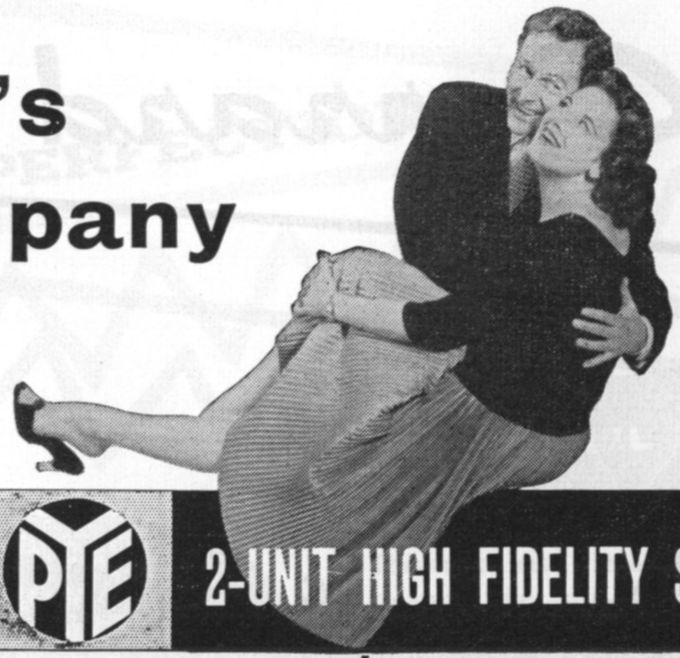
Price **49 gns** TAX PAID

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RADIO GRAMOPHONE DEVELOPMENT CO. LTD., EASTERN AVENUE WEST, ROMFORD, ESSEX

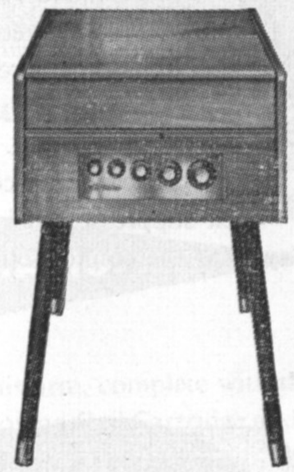


# Two's Company



PYE

## 2-UNIT HIGH FIDELITY SYSTEM







The new Pye Mozart Lowboy has been specially designed to keep perfect company with the highly successful Pye 12 watt Contemporary Speaker. It incorporates the new Mozart 10 watt amplifier—one of the smallest and most efficient units ever devised for home use — leaving ample room for the fitting of the record player of your choice. Here is high fidelity at its best, at reasonable cost and in practical dimensions — complete in two matching units. See Pye 2-unit High Fidelity on the Pye Stand.

***The creative mind of the scientist... in the hands of the craftsman.***

PYE LIMITED OF CAMBRIDGE

# Garrard

## MODEL RC 98/4



This unit can be used as either a manually operated truly High Fidelity record player or a fully automatic record changer which will play any number of records up to eight. With 4 speeds, an electrical speed control and a switch click suppressor; it is indeed the record player for the connoisseur.

## MODEL TA/MARK II



This single record player has been produced to meet the demand for high quality units of minimum size at low cost. It is mounted on a rectangular unit plate and is considered the most suitable model for the home constructor.



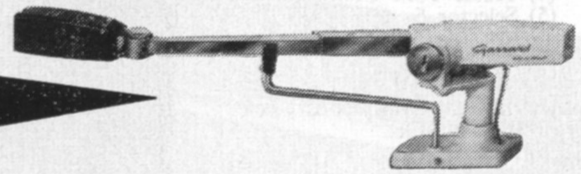
## AUDIO PERFECTION

## MODEL 301



This motor has a 6 lb. accurately balanced die cast aluminium turntable. It is of the shaded pole induction type, is in heavy cast casing and is magnetically screened. The precise speed can be obtained by means of the eddy current brake. It is used by the B.B.C. and many broadcasting stations throughout the world.

## MODEL T.P.A.10



This arm, complete with the G.M.C.5 Moving Coil Cartridge and matching Transformer, gives the highest possible standard of reproduction from gramophone records. Its styling is ultra-modern and is a worthy companion of the 301 Transcription Motor.

*A fully illustrated brochure giving full details of the whole Garrard range is available on request.*

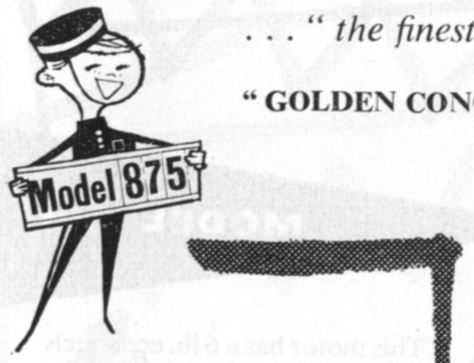
# Garrard

**THE GARRARD ENGINEERING & MANUFACTURING CO. LTD.**

**Swindon · Wiltshire · England**

## Superb High-Fidelity equipment by . . .

# Champion




*. . . " the finest in sound you'll find around "*

**" GOLDEN CONCERTO " High Fidelity Record Reproducer**

This High Fidelity record reproducer is the last word in natural sound reproduction. Although the whole unit is presented in one cabinet it still provides a separate acoustical chamber for High Fidelity performance, and also a unique record storage compartment. The cabinet is individually produced and french polished in three finishes, Light Oak, Walnut and Golden Sapele (Mahogany). Both in quality and appearance the " Golden Concerto " is top in its class.

TECHNICAL SPECIFICATION

**Maximum Power Output** ..... 10 Watts
**Output Impedance (Speech Coil)** 15 ohms
**Negative Feed-back** ..... 16 db's
**Valves** .. EF86, ECC83, EL84(2), EZ80
Pilot Light Indicator.
Jack Socket for VHF Tuner-Tape, Recorder-Microphone.
**Controls** (1) On and Off Switch.
(2) Volume.
(3) Bass Tone Control.
(4) Treble Tone Control.
(5) Selector Switch:—
(a) Radio.
(b) L.P.
(c) 78 R.P.M.
**Mains Supply** 200-250 volts, 50 c/s A.C. or 100-120 volts.
**Dimensions** ..... 15¾" × 34½" × 38"
**Record Storage** .... For 100 12" records.
**Loudspeakers** Three Speakers in felt lined Bass Reflex Cabinet.
**Bass and Middle Frequencies** One 12" diameter High Flux Permanent Magnet.
**Treble Frequencies** One 8" × 5" High Flux Permanent Magnet and One 5" Tweeter.
**Crossover Network** .... At 2,500 cycles.
**Record Changer** Collaro four-speed Model 457 with Studio 'P' cartridge. The Model 457 has fully automatic changer for operation at 16⅔, 33⅓, 45 or 78 r.p.m. on 7", 10" and 12" records and has provisions for "Manual play" at all speeds and for all record sizes.
**Price** ..... **69 Gns.**



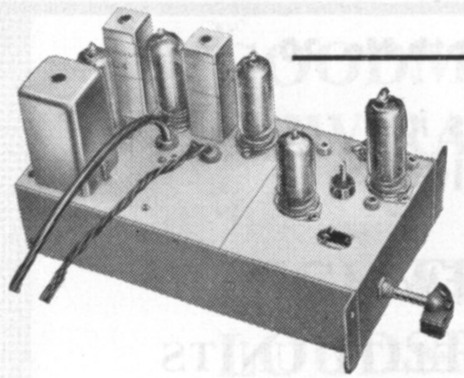
**Champion Electric Corporation (Sales Division), 8 Eccleston Street, London, S.W.1**

Ⓦ A2193



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## Room No. 108
**AND STAND NO. 1**



- **Matching amplifiers and tuners for shelf-mounting**
- **F.M. kit designs**
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**We are also showing important developments in Stereophonic Equipment complete and in Kit Form**

**Jason**

**THE JASON MOTOR & ELECTRONIC COMPANY**
**3-4, GT CHAPEL ST, OXFORD ST. LONDON, W.1.** *Phone GERrard 0273/4*

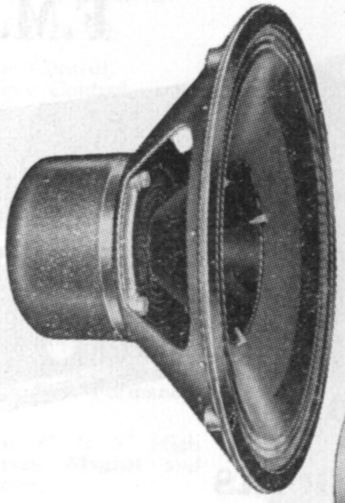
GOODMANS

# HIGH FIDELITY

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*and* **Public Demonstrations** *in*
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*of*
*two entirely NEW*

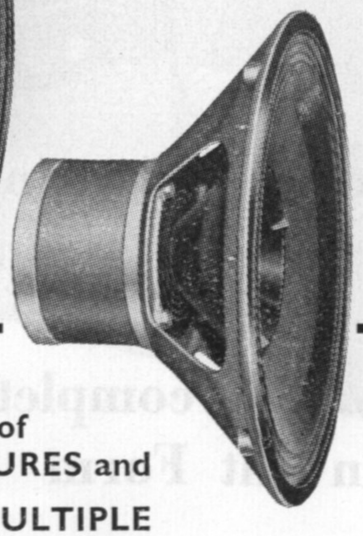
**FULL RANGE HIGH FIDELITY UNITS**



**AXIOM 300**

**and**

**AXIOM 400**



*ALSO on view and demonstration*

- **Completely NEW SERIES of ENCLOSURES and**
- **A NEW COMPACT MULTIPLE UNIT HIGH FIDELITY LOUDSPEAKER SYSTEM WITH THE BEST PERFORMANCE TO PRICE RATIO EVER OFFERED.**



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*to all TRADE BUYERS to visit*

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*where*

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*of*

## HIGH FIDELITY LOUDSPEAKERS

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## ENCLOSURES

*will be on view and demonstration*

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*... Europe's largest Manufacturers of High Fidelity Loudspeakers.*

*... the largest Exporters of High Fidelity Loudspeakers in the World.*

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*Telephone: WEM 1200* *Cables: Goodaxiom, Wembley, Middx.*

In High Fidelity

# Pamphonic

for sound—*NATURALLY!*

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**DEM. ROOM NO. 224**

Since 1930 the name Pamphonic has identified the finest Sound Reproducing equipment available in the world. Unending research, intense specialisation and unique production resources together with the company's insistence of an ideal of clarity and fidelity of performance at any volume level, has earned for Pamphonic its outstanding reputation in the Industrial, Public Address and High Fidelity fields.

**LOOK OUT FOR THE ANNOUNCEMENTS OF STARTLING NEW PRODUCTS**

**PAMPHONIC REPRODUCERS LTD**
*17, Stratton Street, London, W.1.*
*Telephone GROsvenor 1926*





# Goodsell

*switched*

## VHF-FM

*Tuner*




## £16·9·0

*inc Tax*

*Trade enquiries invited*

*(Full dealers discounts available)*

- **incorporates Automatic Frequency Control giving freedom from drift.**
- **highly sensitive**
- **easy instant station selection**

*See it and hear it in*

## Demonstration Room 229/230

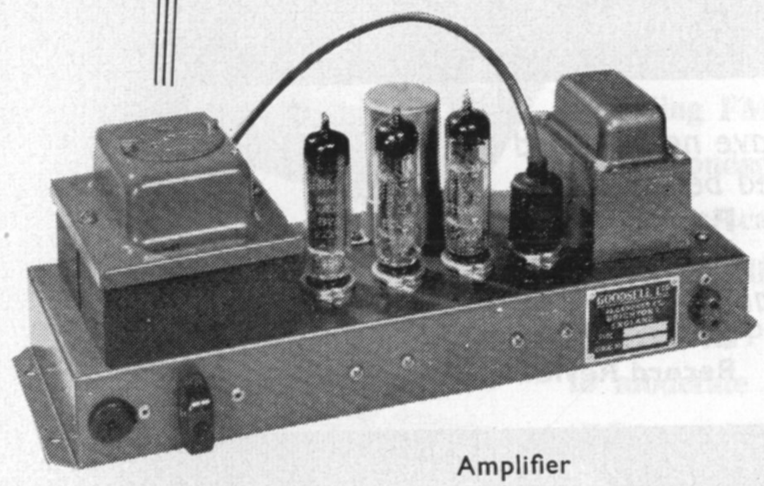
**Booth No. 38**

**GOODSELL LTD.,** 40 Gardner Street, Brighton, 1 Brighton 26735



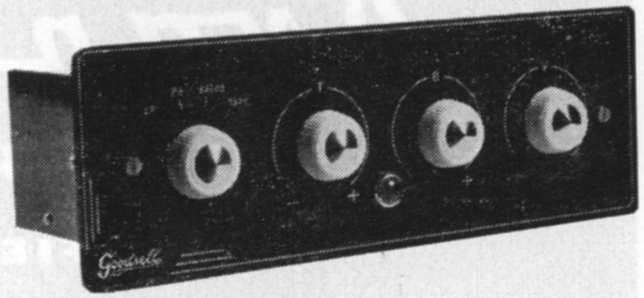
## a new HIGH FIDELITY amplifier - at moderate cost for normal domestic conditions

## GOODSELL MA2 AMPLIFIER & TONE CONTROL



### Amplifier

- ★ 6 watts push-pull output with 20db overall feedback
- ★ Linear frequency response 25 c.p.s. - 50,000 c.p.s.
- ★ Linear power response 6w. normal rating, 8w. peak
- ★ May be mounted in any position ★ Neat and compact



### Tone Control

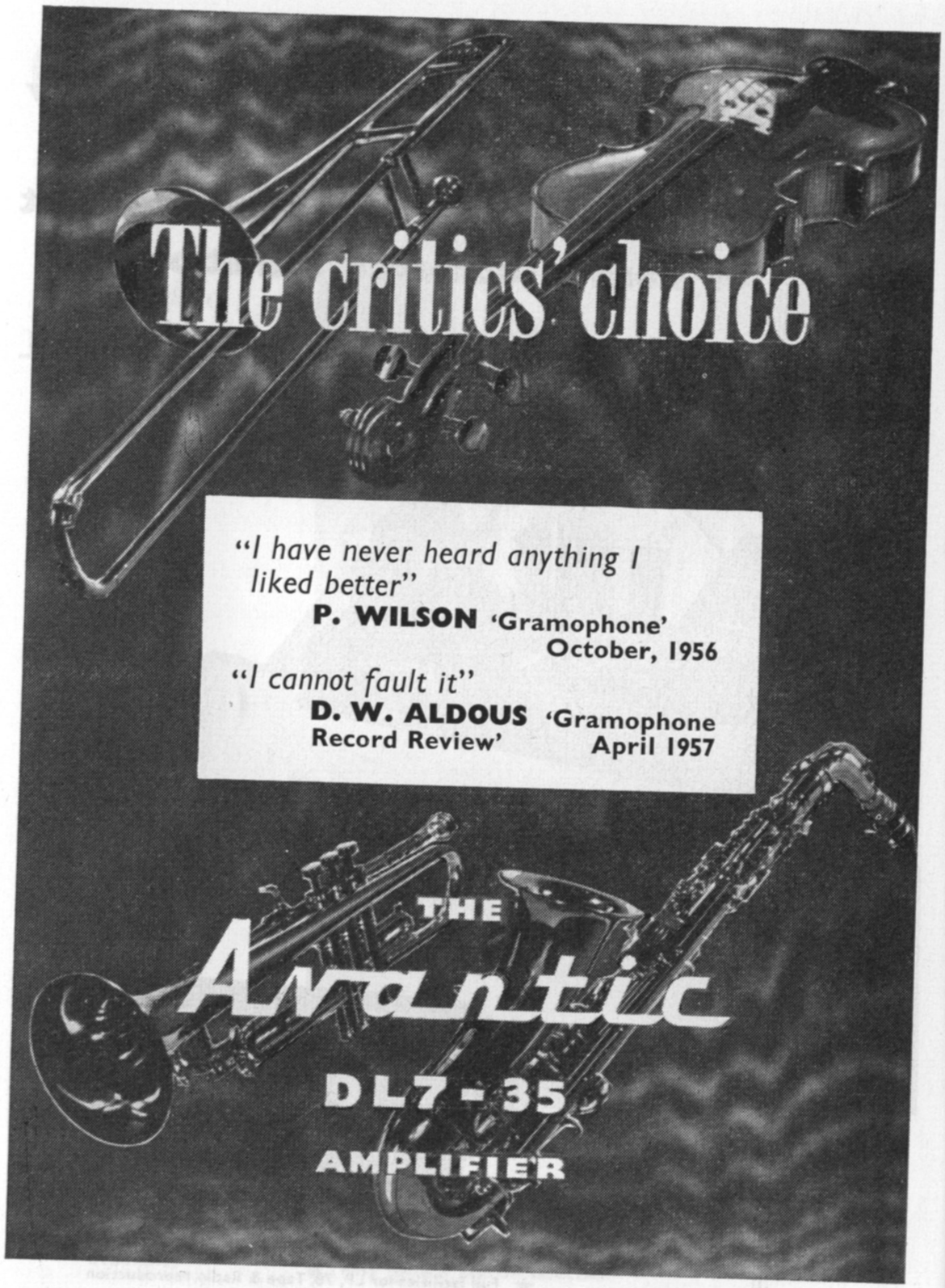
- ★ Attractive and compact appearance
- ★ Full facilities for LP, 78, Tape & Radio reproduction
- ★ 40 millivolt sensitivity-suitable for most pickups
- ★ Full Range Bass and Treble Control

*See it and hear it*

## Demonstration Room 229/230

**Booth No. 38**

**GOODSELL LTD.,** 40, Gardner St. Brighton, 1. Brighton 26735




See it and hear it { on STAND 14 IN DEMONSTRATION ROOM 241

**Avantic** HIGH FIDELITY EQUIPMENT

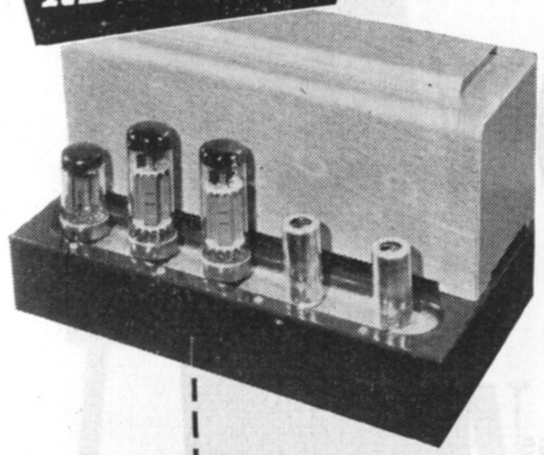
is manufactured by BEAM-ECHO LIMITED · WITHAM · ESSEX



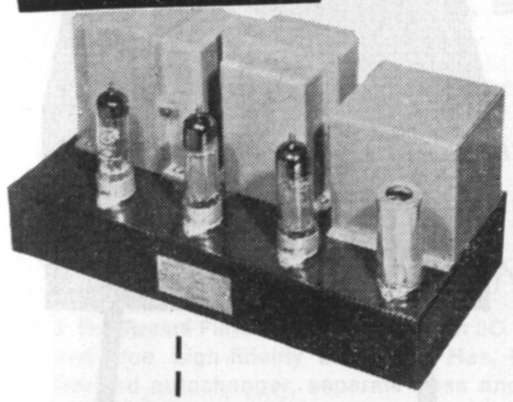
The **RD** 1958 RANGE of

# SOUND EQUIPMENT

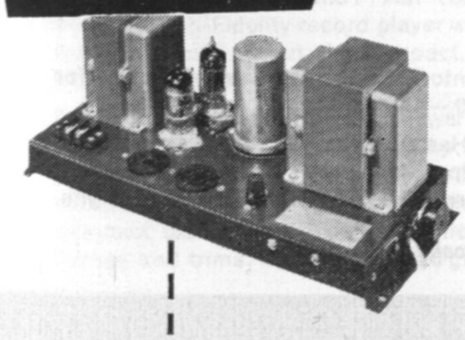
**RD SENIOR**



**RD JUNIOR**



**RD CADET**



**The three amplifiers illustrated, together with their matching control units, form the basis of a comprehensive range of equipment, designed for Home High Fidelity Systems, including FM receivers, tape equipment, loudspeaker enclosures and equipment cabinets.**

**The unusually high standard of workmanship and materials, allied to moderate price, have gained for 'RD' equipment an enviable world wide reputation, each unit maintaining leadership in its own particular price class.**

Available from leading high fidelity dealers throughout the country

*A complete set of Illustrated Literature, covering the current range of units may be had free and post free on request.*

**✶ RELIABILITY backed by a TWO YEAR GUARANTEE**

*Designed for Home High Fidelity Systems*

*Trade and Export inquiries invited*

**ROGERS DEVELOPMENTS (ELECTRONICS) LTD**

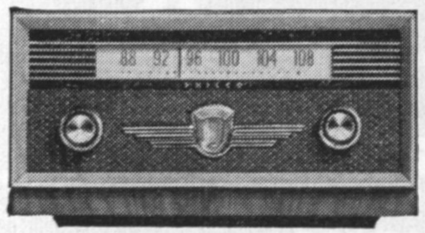
RODEVCO WORKS . 4-14 BARMESTON ROAD . CATFORD . LONDON S.E.6 *HITher Green 7424*

# PHILCO

# Here now...

...are five of the famous Philco record entertainers. Every one is a sound success —they wouldn't be here, or delighting so many owners, if they weren't —every one elegantly at home anywhere.





1

2

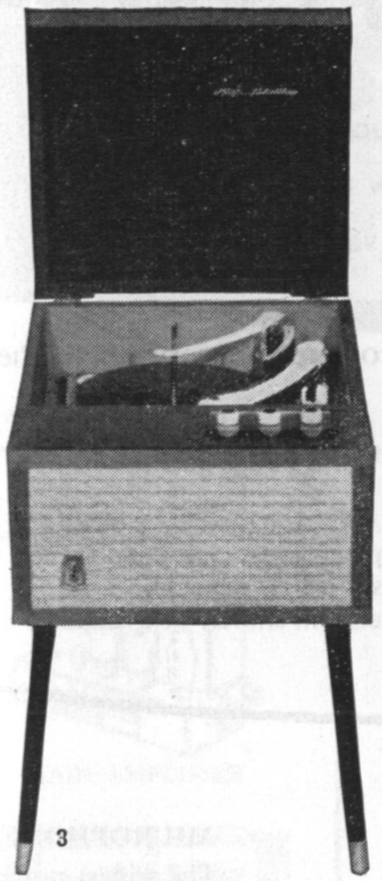
**1 VHF/FM Tuner** to convert any record player into FM radiogram, any AM radio for VHF/FM reception. High sensitivity. Model 3720 — 19 gns.

**2 Phonorama VHF/FM High-Fidelity Radiogram.** Has 9 valves, Garrard 4-speed auto-changer, 2 forward-facing speakers. 10 watts output. Also provision for tape recording and play back. In walnut veneered cabinet with removable legs. Model 3764 — 58 gns.

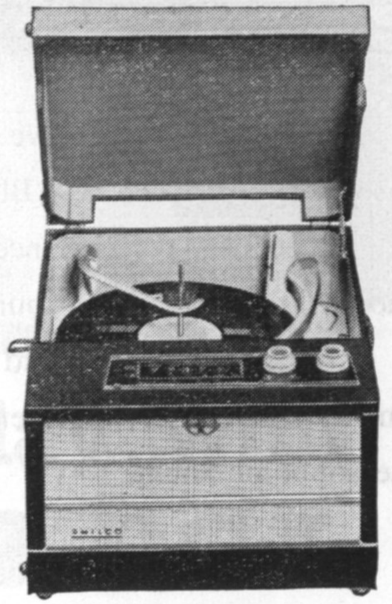
*All prices tax paid*

## LOOK AHEAD...and you'll choose





3



4

# Now hear

...these talented performers and you'll know why record playing is more popular today than ever before.

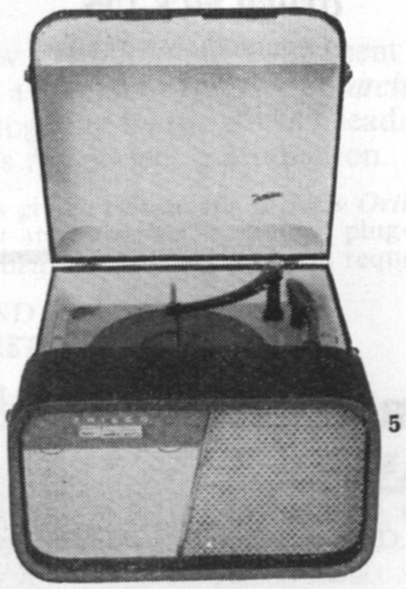
*SEE THEM* on the PHILCO STAND 29

*HEAR THEM* in DEMONSTRATION ROOM 204

**3 Trio Record Player** with 3 speakers for 3D realism and true high-fidelity of sound. Has 4-speed Garrard autochanger, separate bass and treble control. 6 watts output. In contemporary cabinet with removable legs. Model 50 — 39 gns.

**4 Portable High-Fidelity Radiogram.** Complete portable pleasure in sound! AM receiver *plus* 4-speed High-Fidelity record player with 2 speakers; push-pull output. In compact, easy-carry case. Model 3766 — 37 gns.

**5 Fashion Portable High-Fidelity Player** — the very latest in player fashion to take any size record. Has 4 speeds, two forward-facing speakers, 6 watts push-pull output, variable treble control. In compact fashion-grey case with modern brass fittings and trims. Model 3762 — 26 gns.



5

# PHILCO

Philco (Gt. Britain) Ltd.,
30-32 Gray's Inn Rd, London WC1

# acos progress

ACOS PRODUCTS achieve faithful sound reproduction at a reasonable cost. The new Black Shadow pick-up is an outstanding success for performance and good value. The Cosmocord trade-moulding division is at your service.

And now, as you would expect, Acos are pioneering into the new dimension of sound: Acostereo: Acos Stereophonic Sound.

**ACOS STEREO**

Acos stereophonic pick-up prototypes give superb results, and production models will shortly be available.

**CARTRIDGES**

There is a specific Acos cartridge for every application, from small record players to large radiograms and hi-fi installations.

**MICROPHONES**

The widest range of microphones available in this country. Miniature microphone inserts for a variety of uses.

**THE BLACK SHADOW**

Virtually level response up to 18 kc/s—good appearance—yet most moderately priced.

**OTHER PICK-UPS**

A comprehensive range of high-quality crystal pick-ups.

**x500 STYLI**

Sapphire and diamond styli for all current cartridges, individually tested at 500 times magnification.

**PLASTIC MOULDING**

Close-tolerance trade moulding. Reliable service at competitive charges.

**BOOTH 36**
**ROOMS 125 and 126**

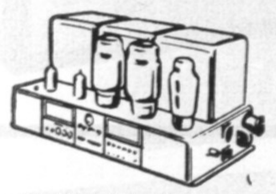
**acos ARE DOING THINGS IN STYLI**

COSMOCORD LTD. WALTHAM CROSS HERTS · TEL: WALTHAM CROSS 5206

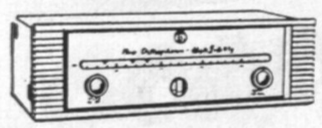





# Plug in and play with RCA



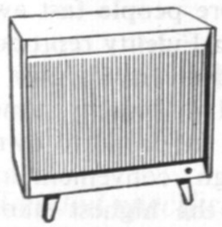
MAIN AMPLIFIER



F/M TUNER



TRANSCRIPTION DECK



LOUDSPEAKER SYSTEM



LOWBOY CABINET

When you buy RCA you can be sitting enjoying true High Fidelity listening within minutes of getting it home. RCA Engineers have done all the wiring and looked after the matching of every single component so that all you need to do is " plug-in-and-play ". RCA is neat and compact, too, for the amplifier, tuner, transcription deck and speaker are all accommodated in two beautifully styled furniture units — a separate panoramic speaker system and a bespoke chairside lowboy cabinet.

The RCA New Orthophonic equipment is unique in being a *complete* system of *matched* units designed together by the world's leading sound engineers for perfect reproduction.

Illustrated leaflets giving full details of *New Orthophonic* equipment and other self-contained plug-in-and-play *High Fidelity* instruments sent on request.

STAND 49 AUDIO FAIR
DEMONSTRATION ROOM 109

*New Orthophonic High Fidelity*

RCA GREAT BRITAIN LTD.
*(An associate company of Radio Corporation of America)*
Lincoln Way, Windmill Road,
Sunbury-on-Thames. Middx.

# Unique and progressive— High Fidelity equipment by **PILOT**

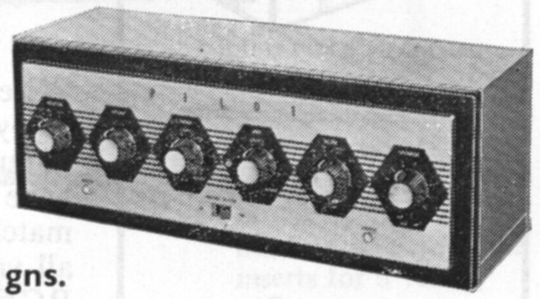
## HFA 11 10-watt Combined amplifier/control unit

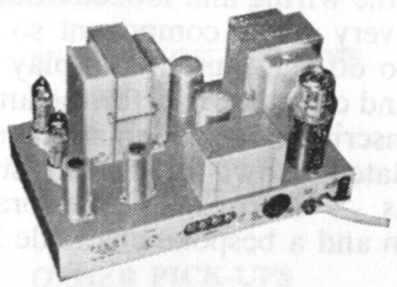


The HFA 11 embodies a power amplifier, pre-amplifier and control unit on one chassis providing wide flexibility of control and full provision for use of ancillary equipment.
The amplifier with its attractive brushed brass finish can be simply placed on a shelf or table or it can be panel mounted.

**30 gns.**

## HFC 12 control unit/pre-amplifier HFA 12 12-watt power amplifier





**36 gns.**

The 12 system is composed of two separate units, enabling them to be used in a variety of installation combinations. The HFC 12 possesses a unique feature in the muting switch which desensitises the amplifier when records or input sources are being changed without the necessity to alter the main controls. A loudness control gives bass and treble compensation at low listening levels.

## HFS 14 Corner Speaker Enclosure

This enclosure is admirably suited to fulfil the exacting requirements of High Fidelity reproduction in the average room of the modern home. The 12-inch speaker unit combined with the acoustically correct enclosure ensures a realistic and intimate reproduction. The cabinet is hand-finished in polished Sapele Mahogany with a striped Tygan front.

**28 gns.**

With more and more people fast awakening to the thrill of High Fidelity reproduction of voice and music, there is an ever growing demand for Pilot High Fidelity. And here is equipment you will be proud to own. Clean, contemporary design, convenient and complete control, and the highest standards of precision engineering are combined in every Pilot instrument.

**PILOT**

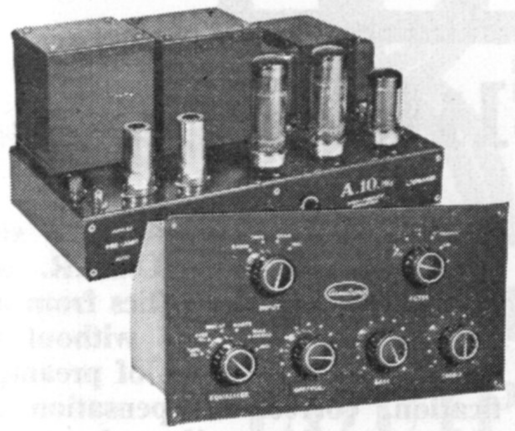
**HIGH FIDELITY DIVISION**

PARK ROYAL ROAD . LONDON . N.W.10 . ELGar 7353

**Stand 27 and Room 206 (2nd floor)**



# an *Armstrong*



**AIO MK. II**
**HIGH FIDELITY AMPLIFIER AND PRE-AMPLIFIER CONTROL UNIT**

Price £32 complete

*detailed specification in blue section of this catalogue*

# is a sound investment

**FM61 VHF TUNER**

Price £22.1.0 tax paid

*detailed specification in blue section of this catalogue*



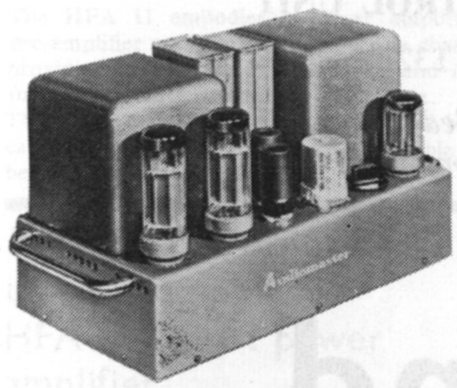
**Available from leading High Fidelity dealers throughout the country**

*Descriptive literature and independent Technical Reviews from*

**ARMSTRONG WIRELESS & TELEVISION CO. LTD.**
**Walters Road, Holloway, London, N.7**

# Audiomaster

## *tomorrow's* Hi-Fi amplifier *to-day*



**Audiomaster offers facilities such as direct replay to C.C.I.R. and N.A.R.T.B. characteristics from any high quality tapehead without the use of a separate stage of preamplification, correct compensation for ribbon, moving coil and crystal microphones, elaborate low-pass filter network, and up-to-the-minute compensation for the various recording characteristics.**




The performance of the power amplifier is little short of phenomenal. Total distortion less than 0·1% at 30 watts output. Harmonic distortion less than 0·5% at 20 watts. Damping factor of 50. Hum and noise level better than 85 db relative to 30 watts. The facilities and performance of the pre-amplifier leave nothing to be desired. For example, any first class medium impedance tape head can be connected directly to the unit and the pre-amplifier will amplify and equalise according to the characteristic required. Maximum sensitivity 1 mV.

To ensure the finest possible reproduction, from records, radio, tape or microphone, the Audiomaster has been designed and constructed without limitation or restriction and to standards which justify the claim — **" tomorrow's Hi-Fi amplifier today."**
Furthermore, strict adherence in production to published specifications ensures that **your** Audiomaster is equal to every other.
These and other features of the Audiomaster can be expressed in one simple phrase — **here is an amplifier which really does sound better than any other.** You must hear it for yourself.

**£59. 10. 0. complete**

*this amplifier of tomorrow*
**Audiomaster**

*Manufactured by* **W. & N. Electronics Ltd**
**Denham House, Denmark Rd., London, W.13.**

TRADE DISTRIBUTORS:
MUSICRAFT AUDIO PRODUCTS LTD
22 HIGH STREET, SOUTHALL, MIDDLESEX.

**BOOTH No. 50** **DEMONSTRATION ROOM No. 124**



KB

# K-B

# HIGH FIDELITY EQUIPMENT

K-B are entering the Hi-Fi market with three newly-developed units, an Amplifier, Control Unit and Tuner Unit. This equipment will be sold individually or mounted in modern-style cabinets. Loudspeakers will also be available in matching cabinets. K-B have spent considerable time and money in perfecting this equipment and have drawn on their world-wide resources, including those of their associate Standard Telephones and Cables Limited, makers of some of the world's finest sound equipment. Reliability has been assured by the thorough testing of components and sound has been advanced toward perfection by rigorous measurement tests in K-B's specially designed anechoic room.

The K-B organisation is one of 72 companies operating in 54 countries. The total payroll is over 100,000 and factory space well over 5 million square feet. This vast concern is one of the world's largest electronic manufacturing and sales organisations and its unique technical resources are behind every K-B set.

**KOLSTER-BRANDES LIMITED**

**FOOTSCRAY · KENT**

AN STC ASSOCIATE



C

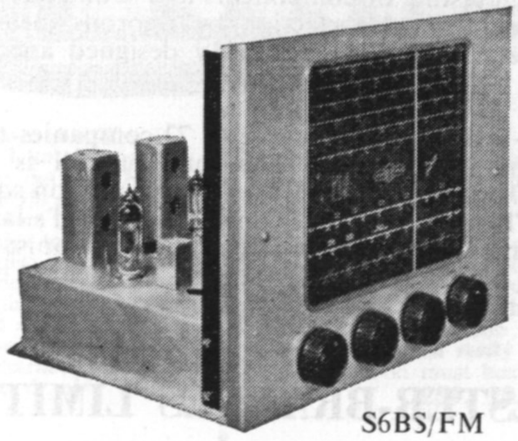
# Chapman

on your radio equipment shows that it has been made to a standard of excellence reflected in its continual reliable performance year after year.

- ★ **The finest British components.**
- ★ **Fully tropicalised throughout.**
- ★ **Use of sound design techniques.**
- ★ **Stringent quality control and testing.**
- ★ **Always up to specification.**

These are some of the reasons why the original high performance is maintained so constantly, and why CHAPMAN equipment is used by the discriminating listener throughout the world.

**In fact, for those prepared to spend a little more initially, the result is an outstanding long term investment.**



S6BS/FM

Full details from your Hi-Fi dealer or:

***C. T. CHAPMAN* (Reproducers) *LTD.*,**
**CHAPEL LANE, HIGH WYCOMBE, BUCKS.**

*Tel. H. W. 2474.*

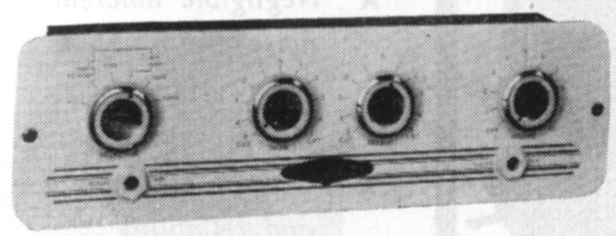


# 'Astronic'

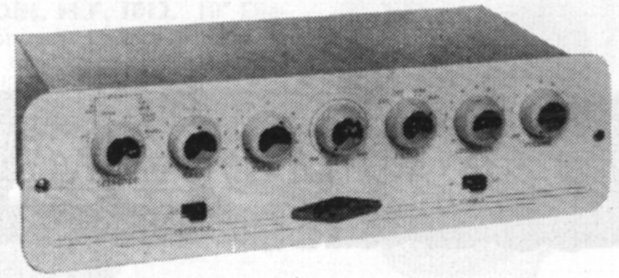
REG. TRADE MARK

## SOUND-REPRODUCING EQUIPMENT

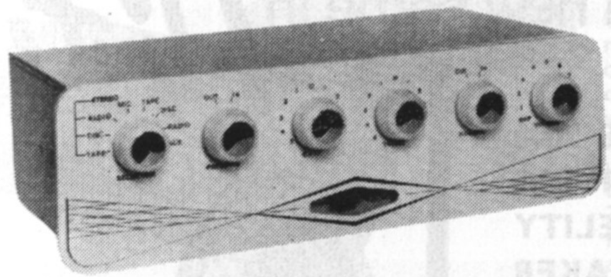
**Acknowledged Throughout the World as the Ultimate in Design, Manufacture and Performance**



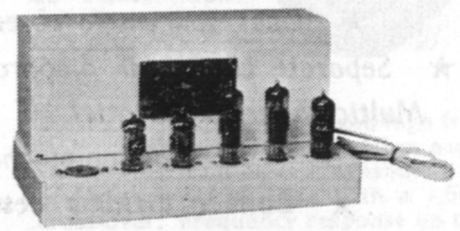
**'Astronic'**
**Pre-Amplifier**
**Type A1332 Mk. II**



**'Cecilian'**
**Pre-Amplifier**
**Type A1432**



**Stereo**
**Twin-Channel**
**Pre-Amplifier**
**Type A1434**

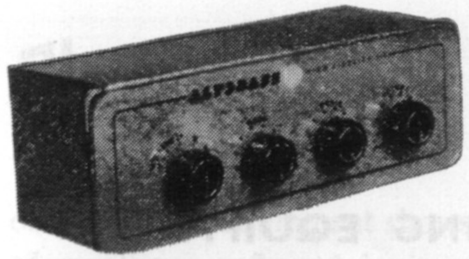


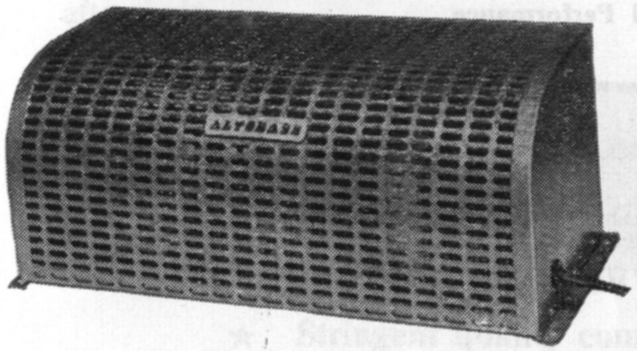
**10 Watt**
**Amplifier**
**Type A1333**

20 years experience in the design and production of sound re-production equipments with outputs up to 1300 watts and transformers and chokes of all types. Special equipments to customers' specifications

*Literature on all products available on request to:*

**ASSOCIATED ELECTRONIC ENGINEERS LIMITED**
**10 DALSTON GARDENS, STANMORE Tel. Wordsworth 4474**





**THE ALTOBASS HIGH-FIDELITY 510 AMPLIFIER**

- ★ *Printed circuits*
- ★ *Maximum efficiency*
- ★ *Negligible inherent noise level.*
- ★ *Ultra-linear output stage.*
- ★ *Greater consistency and reliability*

**Price 23 gns Complete**

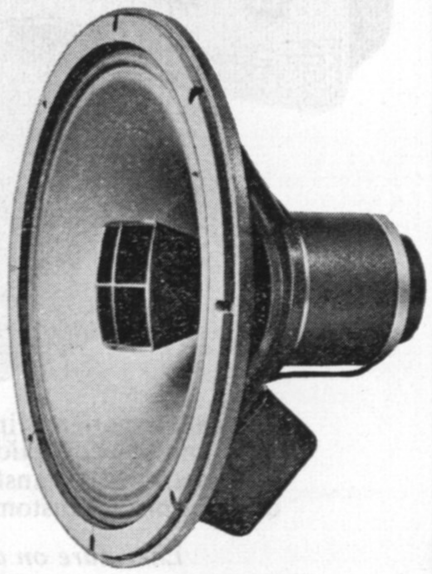
# ALTOBASS

## the new name in Hi-fi

**THE ALTOBASS 2000 DUAL CONCENTRIC HIGH-FIDELITY LOUDSPEAKER**

- ★ *Dual concentric assembly*
- ★ *Separate LF and HF diaphragms*
- ★ *Multicellular exponential HF horn*
- ★ *Cast aluminium chassis*
- ★ *Built-in dividing network*

**Price 17 gns complete**

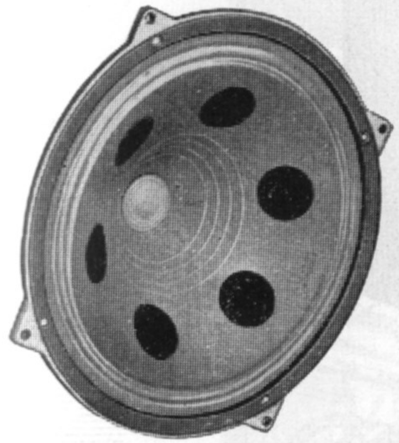


**THESE ARE TWO OF THE UNITS FROM THE ALTOBASS RANGE TO BE SEEN ON BOOTH 13 AND DEMONSTRATION ROOM 127.**

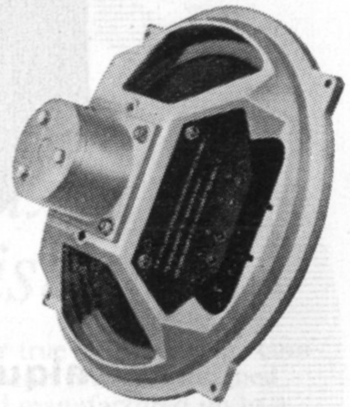
**Altobass Limited, Percy Road, Leicester.**



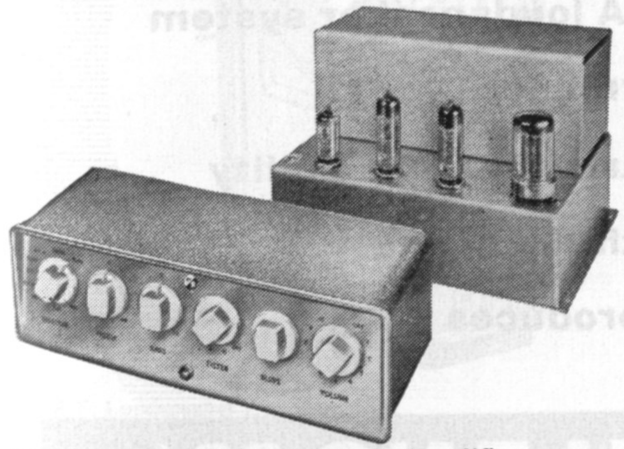
# OUTSTANDING LINES FROM THE *Stentorian* HIGH FIDELITY RANGE



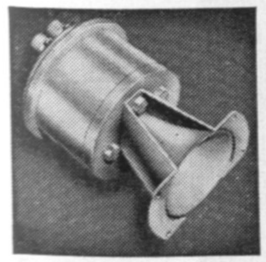
**H.F. 1214.** 12″ P.M. Unit, 14,000 gauss magnet. Fitted with cambric cone, mid-range frequency stabilizers and die-cast chassis. Handling capacity, 15 watts. Frequency response, 25 c.p.s.-14,000 c.p.s. Bass resonance, 39 c.p.s. Price **£9.15.6**



**MODEL H.F. 1012.** 10″ Die-cast unit, incorporating 12,000 gauss magnet. Cambric cone. Handling capacity, 10 watts. Frequency response, 30 c.p.s.-14,000 c.p.s. Bass resonance, 35 c.p.s. **£4.19.9**



**The WB12 High Fidelity Amplifier** was acclaimed by all the leading experts when it was first introduced. In its improved form, it is now available with a choice of control units, Standard for crystal pick-up, and Major for all types. Main Amplifier, **£18.10.0.** Standard control unit, **£9.0.0.** Major control unit, **£19.10.0.**



**T.10 Tweeter Unit**
Moving coil pressure type. Speech coil impedance, 15 ohms. Response, 2,000 / 14,000 c.p.s. Flux density, 14,000 gauss. Handling capacity, 5 watts. Dispersion angle, 90°.
(inc. P.T.) **£4.4.0**
*If required, a suitable cross-over network is available at 30/-.*

**WHITELEY ELECTRICAL RADIO CO. LTD. MANSFIELD · NOTTS**



**H.F. 816.** 8″ P.M. Unit, 16,000 gauss magnet. Cambric cone, die-cast chassis and universal impedance speech coil providing instantaneous matching at 3, 7.5 and 15 ohms. Handling capacity, 6 watts. Frequency response, 50 - 14,000 c.p.s. Bass resonance, 63 c.p.s. **£6.17.0**

**T.816.** 8″ P.M. mid-range and high frequency Unit, 16,000 gauss magnet. Fibre paper cone and die-cast chassis with a handling capacity of 15 watts when used with a 1,500 c.p.s. cross-over. Frequency response up to 17,000 c.p.s. Impedance, 15 ohms. **£6.10.0**

***★ See and hear the complete range of Stentorian High Fidelity equipment at the Audio Fair (Demonstration room 306 and Stand 3) or at our London office (109 Kingsway, W.C.2) any Saturday between 9 a.m. and 12 noon. Leaflets of all the outstanding W.B. products on request.***



**A loudspeaker system**

**of unique performance**

**remarkable in its ability**

**to keep faith with the sound**

**it reproduces**

# ACOUSTILENS 20/80

Regd. TRADE MARK

A

Westrex

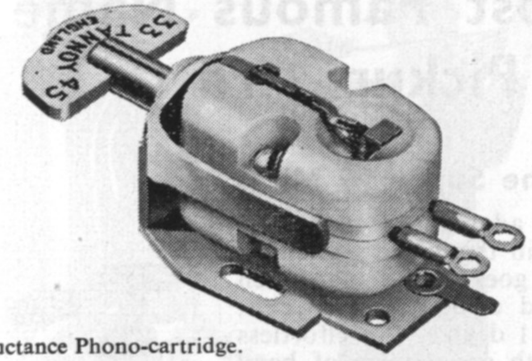
PRODUCT

*Available for inspection and demonstration at most retailers of really high fidelity equipment throughout the country*

Name and address of your nearest supplier on application to:

**WESTREX COMPANY LTD · LIBERTY HOUSE · REGENT STREET · LONDON, W.1 · REGENT 1001**

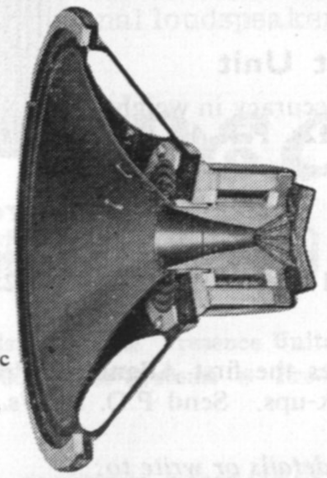





Variluctance Phono-cartridge.



G.R.F. Loudspeaker Enclosure horn loaded 15″ Dual Concentric.



12″ and 15″ Dual Concentric Speakers ±3dB 30—2000 c.p.s.

# *luxurious listening*

For true High Fidelity, components must be designed and manufactured up to a standard and not down to a price. What should that standard be? Nothing less, surely, than that which enables the listener to say, quite spontaneously: "That's what I call luxurious listening!" Tannoy's acknowledged contributions to luxurious listening include the Variluctance Phono-cartridge, the GRF Loudspeaker Enclosure and the famous Dual Concentric Loudspeaker.

*Tannoy is the registered trademark and property of Tannoy Limited, London, England.*

**TANNOY**

Founder Chairman Guy R. Fountain

*Practitioners in Sound*

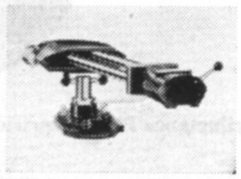
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# BJ TANGENTIAL

## The Most Famous Name in Pickup Arms

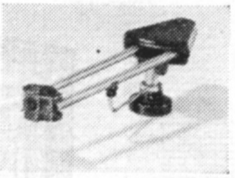
### The Super 90 Mk II

Complete versatility and adaptability make this the most advanced arm in the world. Friction-free tangential tracking goes with finger-touch pedestal adjustments and counterbalances. Tracking error less than 1 degree. An effortless optimum is achieved with any choice of head or cartridge. **£11. 11s. 0d.**, P.T. **£4. 12s. 5d.**



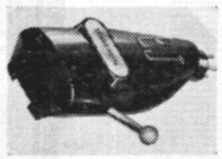
### BJ Tan/II

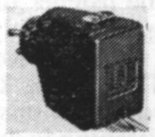
This arm combines the latest 'point contact' bearings with built-in arm receptor, height adjustment ring and new pedestal design, making the BJ arm ideal for tracking all records precisely, including those with the most complex groove. **£3. 3s. 0d.**, P.T. **£1. 5s. 3d.**



### BJ Plug-in Shell

Designed to adapt all popular cartridges to the BJ arms, this is the cartridge carrier with attractive lines and finger-lift control.
**17s. 3d.**, P.T. **6s. 11d.**





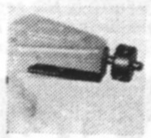
### BJ C12 Head

This combines high sensitivity with low mass. Total weight of the head is only 11 gm.
**£1. 12s. 6d.** P.T. **13s.**



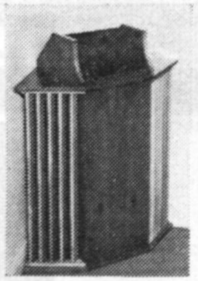
### BJ Adaptor

This couples Acos slide-on heads to the BJ arm. **10s.** P.T. **4s.**



### Counterweight Unit

Gives speed and accuracy in weight control. **12s.** P.T. **4s. 10d.**



### BJ Reproducer

The ultimate 2- and 3-speaker design, this is a horn loaded reflex cabinet for all 10-in., 8-in. and tweeter units. **25½ guineas.**

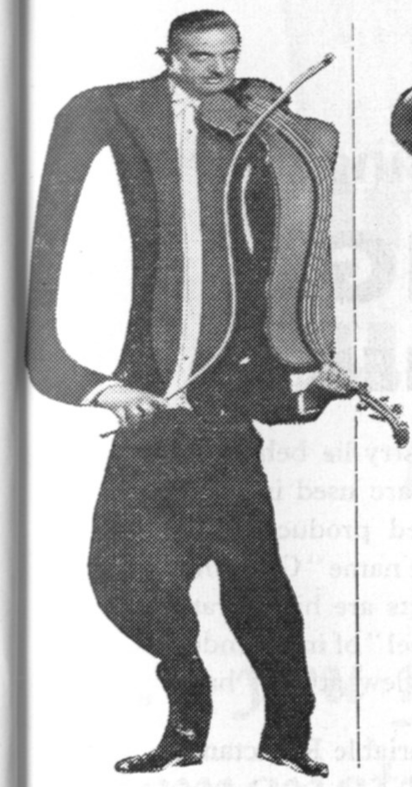
TEST *YOUR* TRACKING! BJ introduces the first **Alignment Protractor** for measuring tracking accuracy of all pick-ups. Send P.O. for **7s.** today!

*Ask your local dealer for all details or write to:*

**BURNE-JONES CHEAM SURREY ENGLAND**



# Come and Hear this New Principle Demonstration in Room 142!



## PERIPHONIC

the new

**G.E.C.**

loudspeaker system that **cancels** distortion

At 40 c/s with 10 watts input, the Periphonic system reduces harmonic distortion to 2.7%. At 1000 c/s, under the same full power conditions, distortion is 0.3%.

The system comprises two "air-coupled" G.E.C. metal cone loudspeakers and four presence units, mounted in a special cabinet that embodies entirely new principles. Also available are G.E.C. amplifiers with a performance range which takes full advantage of the inherent qualities of this exceptional loudspeaker equipment.



GEC metal cone loudspeaker



GEC presence unit

**G.E.C.**

## HIGH QUALITY SOUND EQUIPMENT

**Metal Cone Loudspeakers ✳ Presence Units ✳ Stereophonic Systems**
**Periphonic Loudspeaker Systems ✳ Pre-amplifiers ✳ Amplifiers**

THE GENERAL ELECTRIC COMPANY LIMITED MAGNET HOUSE KINGSWAY LONDON WC2

# SIX

## good reasons for choosing

# GOLDRING

## HI-FI EQUIPMENT

Fifty years of experience in the gramophone industry lie behind the modern Goldring products · Up-to-date facilities are used in a continuous research programme · Carefully controlled production and meticulous inspection result in uniform quality · The name "Goldring" has earned international repute · Goldring products are highly rated by technical reviewers at home and abroad · A "panel" of independent hi-fi enthusiasts gives us *the customer's* point of view at first hand.



★ "500" and "600" Variable Reluctance Cartridges

★ Goldring-Lenco Transcription Motors

★ Transcription Arms

★ Guaranteed Sapphire and Diamond Replacement Styli for most modern pickups

★ Stylus Pressure Balance

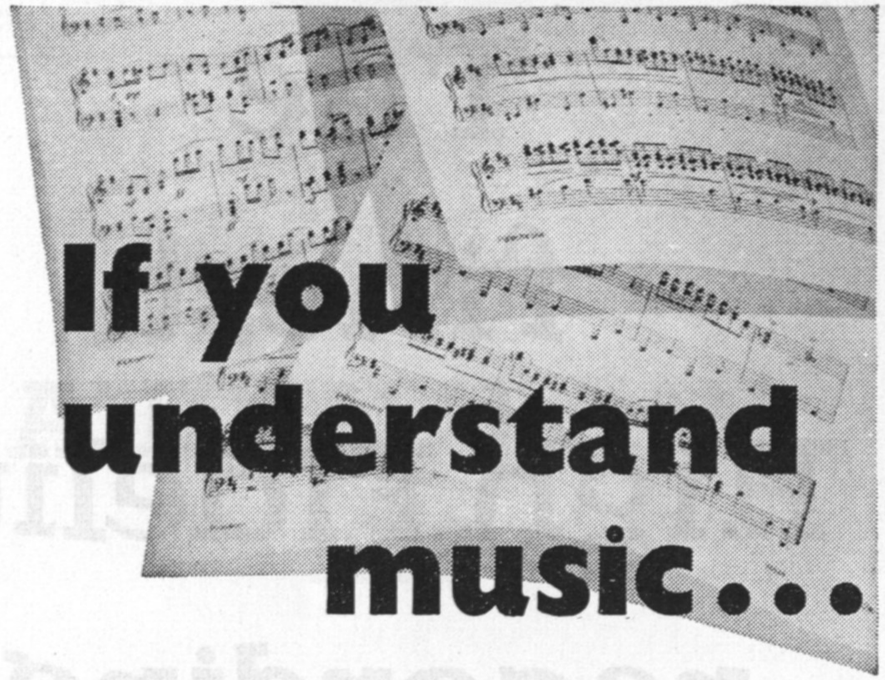
★ Record Cleaning Unit

**GOLDRING**

**GOLDRING MANUFACTURING CO. (GREAT BRITAIN) LTD.**

486 High Rd., Leytonstone, London, E.11
(Leytonstone 8343





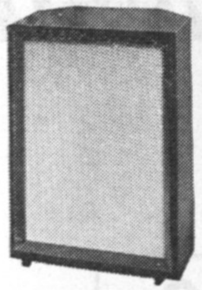
# If you understand music...

## ... you must hear the demonstration in Room 325

**GRAMPIAN**

**12in. SPEAKER UNIT**

**Type 1255/15**



The speaker unit with the extended frequency coverage, specially designed for the reproduction of music. **£9**

A free standing reflex baffle cabinet in easy-to-assemble kit form. All parts fully machined, ready to assemble, stain and polish. **£11**

A range of new high fidelity amplifiers, microphones loud speakers and other equipment is also available.

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**REPRODUCERS LIMITED**
**Makers of quality high fidelity equipment**
**Hanworth Trading Estate, Feltham, Midx.**
**Phone: FELtham 2657/8 Grams: Reamp, Feltham**

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THE

LONDON

# AUDIO FAIR

1958

at the

## WALDORF HOTEL

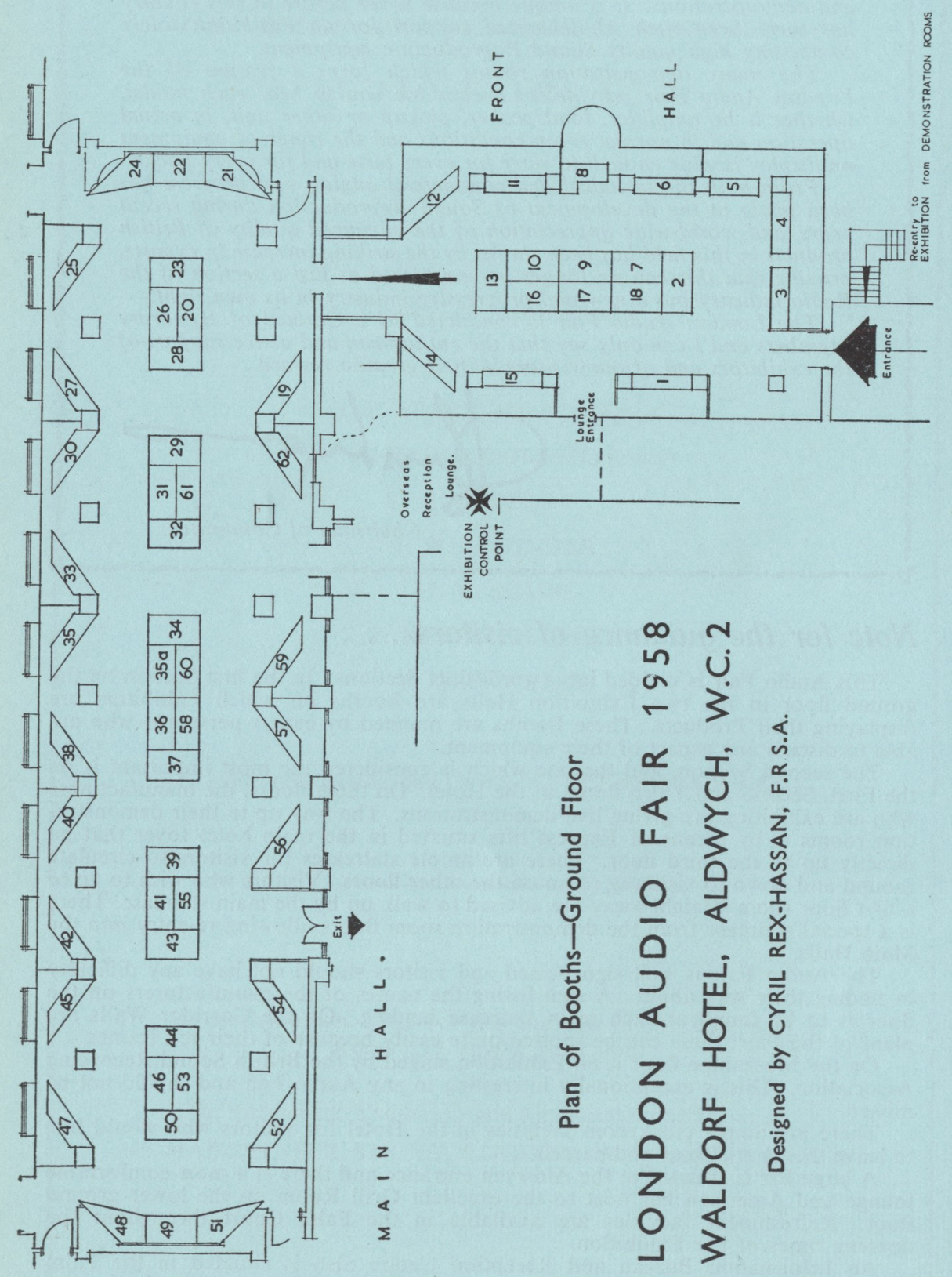
ALDWYCH, LONDON, W.C.2

| FRIDAY | SATURDAY | SUNDAY | MONDAY |
|---|---|---|---|
| 18th | 19th | 20th | 21st |

## APRIL

11 a.m. to 9 p.m.

CATALOGUE 2/-




Plan of Booths—Ground Floor

LONDON AUDIO FAIR 1958

WALDORF HOTEL, ALDWYCH, W.C.2

Designed by CYRIL REX-HASSAN, F.R.S.A.



# INDEX OF EXHIBITORS

**Exhibitors are placed in the catalogue alphabetically — by the full title of their firm. The trade name by which they appear in the Fair is also shown. For the positions of rooms and booths refer to charts opposite and overleaf. The initial number of Demonstration Room indicates the floor.**

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| Jason Motor & Electronic Co. Ltd. .. | 1 | 108 | **Jason** |
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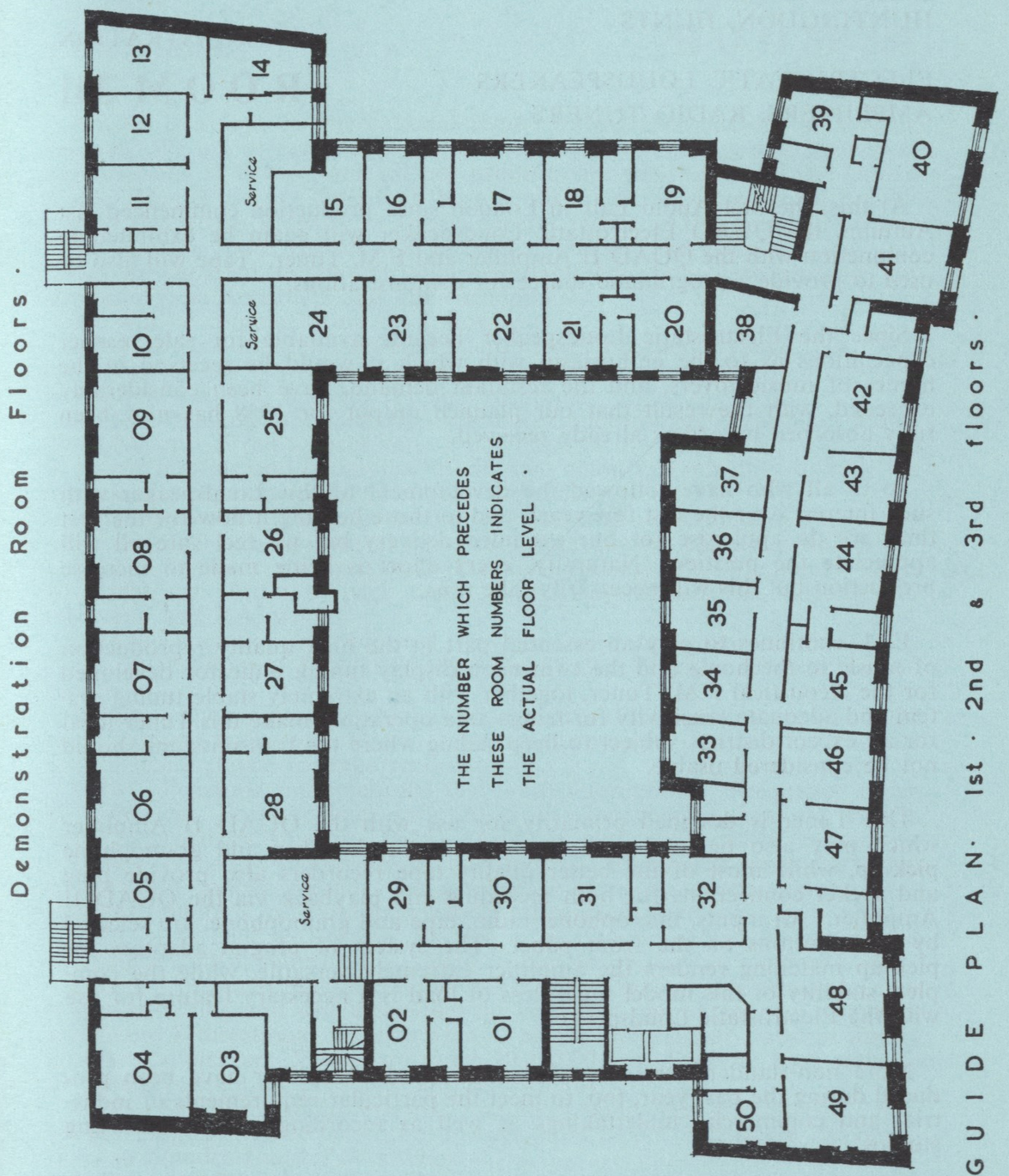
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*The design and decor of the London Audio Fair is by Cyril Rex-Hassan, F.R.S.A.*





**THE ACOUSTICAL MFG. CO., LTD.**
ST. PETER'S ROAD
HUNTINGDON, HUNTS

**BOOTH 18**

DEMONSTRATION
**ROOM 341**

ELECTROSTATIC LOUDSPEAKERS
AMPLIFIERS, RADIO TUNERS

At this, the first Audio Fair in London since production commenced last Autumn, the QUAD Electrostatic Loudspeaker will again be exhibited in conjunction with the QUAD II Amplifier and F.M. Tuner. Tape will also be used to provide a programme source for demonstrations.

Since the Electrostatic Loudspeaker became available for sale, earlier expectations as to the enthusiasm with which it would be received in the homes of music lovers, and the resultant demand, have been considerably exceeded, with the result that our planned output for 1958 has now been fully absorbed by orders already received.

So to all who have followed the development of this Loudspeaker with such interest over the last few years, and to those hearing it now for the first time, we do apologise for our extended delivery but we feel sure all will appreciate the position. Naturally, every effort is being made to increase production but this will necessarily take time.

F.M. continues to play an essential part in the high quality reproduction of music in the home and the twin neon display tuning indicator developed for the Acoustical F.M. Tuner, together with an extremely stable tuning system and adequate sensitivity for fringe area operation, make this Tuner ideal for all except districts subject to deep fading where the transmissions should not be considered usable.

This Tuner is designed primarily for use with the QUAD II Amplifier which may also be used with literally any loudspeaker and gramophone pick-up, while most of the better quality tape recorders also provide plug and socket connections for both recording and playback via the QUAD II Amplifier. All inputs, microphone, radio, tape and gramophone, are selected by push buttons on the front panel. The system of plug-in adaptors for pick-up matching renders the amplifier extremely versatile, while the complete stability of this model regardless of load is a necessary feature for use with the Electrostatic Loudspeaker.

More non-standard versions of the QUAD II Amplifier have been produced during the past year, too, to meet the particular requirements of industrial and commercial undertakings as well as recording and broadcasting studios.

Fully descriptive and illustrated literature is available at our stand and the equipment referred to may be heard in our demonstration room. Our staff will be pleased to answer any questions on performance, design or application of the equipment, or to offer advice as to its installation or operation.

TRADE NAME: ACOUSTICAL



**AKUSTISCHE u. KINOGERATE Ges. m.b.H.**
NOBILEGASSE 50, VIENNA XV
AUSTRIA

**BOOTH 60**

DEMONSTRATION
**ROOM 331**

MICROPHONES

A.K.G. is a firm of international repute having their factory in Vienna, Austria. We are already supplying the leading Broadcasting and Television organisations in Britain, and all our products are well known in the United States. This is the first time that these goods are being shown in an Exhibition to the Audio Industry or to the general public in this country. In our demonstration room visitors will be able to inspect and hear, not only our goods as supplied to studios and manufacturers, but those suitable for domestic Tape Recorders and other equipment.

We will be demonstrating the following:

**D.9** — Dynamic omnidirectional microphone. Frequency range 100-10,000 cps. High or low impedance. Contained in a plastic housing and is supplied in different colours. Suitable for tape recorders.

**D.11** — Dynamic unidirectional (cardioid) microphone. Frequency range 80-12,000 cps. Front to back ratio 8 db. High or low impedance. Contained in plastic housing and is supplied in different colours. Eminently suitable for high quality tape recording of speech and music.

**Dyn 60K**/Studio—Dynamic omnidirectional studio microphone. Frequency range 40-12,000 cps. All metal parts chromium plated. Highly sensitive.

**D.12** — Dynamic unidirectional (cardioid) microphone. Frequency range 40-12,000 cps. Front to back ratio 15 db. Low impedance. Suitable for recording and P.A. work.

**D.15** — Dynamic unidirectional reporter hand microphone. Frequency range 50-12,000 cps. Front to back ratio 15 db. Provides for bass cut on speech.

**D.19B** — Dynamic unidirectional microphone. Frequency range 40-15,000 cps. Front to back ratio 18 db. Incorporates speech — music switch. The connoisseur's choice for tape recording.

**D.20** — Dynamic unidirectional (cardioid) microphone. Frequency range 30-15,000 cps. Front to back ratio 20-25 db. Incorporates bass cut switch. Used in broadcast studios. **D.25** — As D.20 with shock proof mountings.

**D.30** — Dynamic unidirectional microphone. Frequency range 30-15,000 cps. Inbuilt control provides for a choice of four directional patterns: — spherical, figure 8, cardioid backwards and cardioid forward.

**D.36.** — As D.30 except that the choice of directional pattern is adjusted by remote control selector unit. Used in film and broadcast studios.

**C.12** — Condenser polydirectional microphone including a remotely controlled switching unit which provides the choice of omnidirectional, cardioid, and figure 8 directional patterns as well as six intermediate patterns during programme pick-up. Frequency range 30-15,000 cps. Front to back ratio 15 db. Ideally suited for broadcast and film studios.

**C.28** — Small size unidirectional (cardioid) condenser microphone. Frequency range 30-15,000 cps. Front to back ratio 20 db. Impedance 200 ohms. Used in broadcast and T/V studios.

**C.29** and **C.30** — As C.28 with microphone capsule fitted in unobtrusive $15\frac{1}{4}$″ and 48″ extension tubes respectively. Suitable for T/V studios and stage.

In addition, the A.K.G. range of products include dynamic headphones with a wide frequency range, a pillow loudspeaker for use in hospitals, and an underwater loudspeaker and microphone as well as plugs and sockets and other accessories.

All these products are sold in the United Kingdom and Commonwealth by Politechna (London) Ltd. who will answer enquiries in Room 331.

TRADE NAME: **A.K.G.**

**ALTOBASS LIMITED**
PERCY ROAD
AYLESTONE PARK, LEICESTER

**BOOTH 13**

DEMONSTRATION
**ROOM 127**

HIGH QUALITY SOUND REPRODUCING EQUIPMENT, LOUDSPEAKERS AND AMPLIFIERS

Altobass — the new name in Hi-Fi — are exhibiting a complete range of pre-amplifiers, power amplifiers, loudspeaker systems and enclosures, including the High Fidelity 510 Amplifier and 2000 Dual Concentric Loudspeaker system.

**ALTOBASS HIGH FIDELITY 510 AMPLIFIER**

This amplifier is a greatly improved version of the universally popular 5 valve 10 watt Mullard design.

Combining a separate pre-amplifier, which increases the over-all sensitivity and flexibility, with a power unit incorporating an ultra-linear output stage, the Altobass 510 equipment enables a new realism and fidelity to be achieved in all aspects of sound reproduction.

The use of printed circuits as a basis for the design of both units ensures a negligible inherent noise level and gives greater consistency and reliability. Price: 23 guineas complete.

**ALTOBASS 2000 LOUDSPEAKER**

In the Altobass 2000 Loudspeaker system a horn-loaded High Frequency unit is mounted concentrically with a conventional low frequency radiator to form one integral unit and a dividing network is provided to feed the high and low frequencies to their respective voice coils.

The high frequency pressure unit is loaded by a truly exponential horn commencing through the centre pole of the low frequency magnet and terminating in a multi-cellular assembly within the bass cone. This unique feature ensures the dissemination of the full high frequency range over a wide area thus eliminating any beam effect.

The combination of a single axis and one wave front over the frequencies 30-20,000 cps tends to eliminate the phase distortion at the cross over frequency which is inherent in non co-axial loudspeaker systems and makes the Altobass 2000 the automatic choice of experts in high quality sound reproduction.

Price: 17 guineas.

TRADE NAME: ALTOBASS



**ARMSTRONG WIRELESS & TELEVISION COMPANY LIMITED**
WARLTERS ROAD
HOLLOWAY, LONDON, N.7

**BOOTH 30**

DEMONSTRATION
**ROOM 317**

DOMESTIC HIGH FIDELITY SYSTEMS

**The A.10 Mk. II Amplifier and Pre-Amplifier Control Unit** was introduced at the 1957 Audio Fair as a development and refinement of the tried and tested A.10, and is now established in the top flight of Amplifiers. The construction and the specification of the Amplifier, together with the overall flexibility of the Control Unit are unique in a model in this price range.

**Brief Specification. Output:** 10 watts rated; 20 watts peak. **Frequency Response:** 10-100,000 cps, within 1dB 15-30,000 cps. **Distortion:** less than 0·1%. **Damping Factor:** 40. **Hum Level:** better than 80dB down. **NFB:** 3 loop, main overall loop 28dB. **Sensitivity:** 8mV (Gram input A) for 10 watts. **Spare Power Supplies:** 320v, 45mA and 6·3v, 2A. **Valves:** Preamp ECC83, EF86, Amplifier GZ34, ECC85, EF86, 2x EL 34's. **Controls:** 1, INPUT—Mic, Radio, Tape, Gram (in conjunction with 4 position pick-up matching selector). 2, EQUALISER—6 position. 3, FILTER—6 position. 4 and 5, BASS and TREBLE (both lift and cut 15dB). 6, VOLUME. Tape Output Socket on rear of Control Unit.

**The FM61** is a high fidelity V.H.F. Tuner designed for use with the A.10 MK.II Amplifier. Permeability tuning combined with temperature compensated capacitors in the oscillator circuit ensure complete freedom from drift. Other distinguishing features are full Band II coverage (88-108 m/cs), extreme sensitivity, a switched A.F.C. control and cathode follower output.

**The AM44 Tuner** is a four waveband AM Tuner styled to match the FM61 and the A.10 MK.II Amplifier. Particular efforts have been made to ensure good reception of Continental stations and a variable selectivity control is incorporated.

**The Sonixgram** is a High Fidelity System comprising a Chairside Control Cabinet and separate matching Loudspeaker Cabinet. The A.10 Amplifier and Tuner Units referred to above are incorporated in the Control Cabinet together with a Transcription Gramophone Unit and Tape Recorder/Player. The system can be purchased with any combination of these units and others added later as required. The Loudspeaker Cabinet has been kept to the very domestic proportions of 32″ high by 18″ by 18″ and it incorporates separate Bass and Treble speakers with Crossover network.

**The AF105** is a three-in-one high fidelity unit comprising AM and FM Tuning and AF Amplifier on one compact chassis. It is intended for use where there is insufficient room in an existing or proposed cabinet to accommodate the usual three separate units or where price is a limiting factor. Separate wide-range and continuously variable Bass and Treble controls are incorporated.

TRADE NAME: ARMSTRONG

**ASSOCIATED ELECTRONIC ENGS. LTD.**
DALSTON GARDENS,
STANMORE, MIDDX

# BOOTH 5

DEMONSTRATION
**ROOM 117**

AUDIO AMPLIFIERS, TRANSFORMERS
POWER AND AUDIO, L.F. CHOKES

At last year's Autumn Audio Fair this Company aroused considerable interest amongst the thousands of Hi-Fi enthusiasts by the very comprehensive range of sound reproducing equipment displayed and demonstrated. Since then our laboratory has been actively engaged on the re-styling of the well-known and proven pre-amplifier Type A1332, and on the design and production of two further pre-amplifier control units for the high fidelity market.

The first of these new items is the Astronic Type A1432, and is the first per-amplifier control unit to embody all the following features:—Input facilities for Microphone, Radio, L.P. FFRR or 78 records, and Tape. All inputs including Tape have the necessary built-in compensation networks. Wide range Bass and Treble controls. Low pass, four position filter with separate slope control. Presence control to enhance speech. Rumble filter with switch enabling it to be in or out of circuit as required. Loudness control enabling life-like reproduction to be achieved even at low listening levels. Volume control with combined mains on-off switch. Pick-up pre-set attenuator. The fully compensated Tape input facility allows any first-class tape playback head to be connected direct to this pre-amplifier for high quality reproduction of the increasing number of recorded tapes now available.

Probably the most interesting exhibit among the new products, and certainly the first on the market, is the Astronic twin-channel stereophonic pre-amplifier unit Type A1434. This unit, when used in conjunction with two 10 watt Astronic amplifiers Type A1333 and feeding into separate speaker systems, enables stereophonic tape recordings, and the recent stereophonic discs to be reproduced faithfully and accurately. This control unit incorporates the following features:—Input selection of single channel, Radio, Disc, Tape, Microphone, Auxiliary, and stereophonic twin channel, Tape, Disc and Radio, all with built-in compensation. Presence control. Rumble filter with In-Out switch. Wide range Bass and Treble controls. Preset balance control, enabling channels to be accurately matched.

Other items exhibited include many types of Public Address amplifiers with outputs ranging from 10 to 40 watts, some types being designed to operate from A.C. mains supplies, or from batteries. This Company also manufactures a standard range of large amplifiers with output powers up to 1300 watts.

All Astronic equipments incorporate Astronic transformers and chokes. These are robustly constructed, and being vacuum impregnated and enveloper dipped give long life and service under the most arduous conditions of temperature and humidity.

Every item of equipment is manufactured from first class components and materials, and the workmanship is up to the same high standard of all Astronic products which has brought praise and congratulation from all parts of the World.

A representative range of sample Astronic transformers are exhibited, one type being of particular interest. This is the astatically wound mu-metal screened series of input transformers ideally suited for use as microphone or line matching transformers where minimum hum pick-up is required.

TRADE NAME: "ASTRONIC"



**BEAM-ECHO LIMITED**
WITHAM, ESSEX

# BOOTH 41

DEMONSTRATION
**ROOM 241**

HIGH FIDELITY REPRODUCING EQUIPMENT

THE AVANTIC GLYNDEBOURNE consists of two elegant craftsman matched speaker and consol cabinets of contemporary design in which any of the following equipment may be fitted.

THE AVANTIC DL7-35 AMPLIFIER AND SEPARATE CONTROL UNIT. Peak power output 54 watts; total harmonic distortion 0·1% at 27 watts continuous; frequency response 2 c/s to 100 kc/s ± 1 dB. The control unit has 8 inputs, and 8-position selector, continuously variable tone controls, three position steep cut low pass filter, loudness control, monitor/record switch, tape output and auxiliary supplies for tuner.

THE AVANTIC PL6-21 COMBINED AMPLIFIER AND CONTROL UNIT. Peak power output 20 watts; total harmonic distortion 0·2% at 10 watts continuous; frequency response 10 c/s to 30 kc/s ± 1 dB. The control unit section has four inputs, a seven position selector, continuously variable tone controls, switched high and low pass filters, loudness control and a tape output.

THE AVANTIC VHF-FM/MW-AM TUNER TYPE 612. An eleven valve tuner specially designed for use with high fidelity amplifiers continuous tuning on FM from 88—108 Mc/s and AM 180—565 meters. Variable selectivity giving a choice of two bandwidths on AM, continuously variable AFC on FM, mutiplex output for binaural or stereophonic reception, magic eye and neon tuning indicators. Self-powered.

THE AVANTIC VHF-FM/MW-AM TUNER MARK III. An eight valve tuner covering a wave range on FM 88—100 Mc/s and AM 195—565 meters, Foster-Seeley discriminator on FM, AFC control, continuous tuning, magic eye indicator.

THE AVANTIC TAPE PLAYER uses a two speed tape deck and incorporates built-in pre-amplification if required. CCIR compensation for $7\frac{1}{2}$ i.p.s. Less than 0·1% wow and flutter. Tape transport and spooling controlled by single knob.

THE AVANTIC SPEAKER ENCLOSURE. Omnidirectional three speaker system incorporating BEAM-ECHO 15″ loudspeaker type PXD33 with separate middle and pressure units, crossover 400 c/s and 4,000 c/s. Response of complete unit 20 c/s — 20,000 c/s.

THE AVANTIC MARK IV SPEAKER ENCLOSURE. Omnidirectional three speaker system incorporating the BEAM-ECHO 12″ loudspeaker BEA 12 with separate middle and pressure units, crossover 400 c/s, 4,000 c/s. Response of complete unit 20 c/s — 20,000 c/s.

THE AVANTIC MARK II SPEAKER ENCLOSURE incorporates a 12″ dual cone loudspeaker and horn loaded pressure unit. Crossover 5,000 c/s. Response 20 c/s — 20,000 c/s.

THE AVANTIC SPL12-D21 COMBINED STEREOPHONIC AMPLIFIER AND CONTROL UNIT. Peak power output 20 watts each channel 0·2% distortion at 10 watts continuous, frequency response 10 c/s — 30 kc/s ± 1 dB. Inputs for stereophonic pick-up, tape and tuner, 5-position selector switch, balance control, stereo 3-D switch, loudness control, continuously variable tone controls.

THE AVANTIC SPL12 STEREOPHONIC PRE-AMPLIFIER. Stereophonic inputs for pick-up tape and tuner, 5-position selector switch, balance control, stereo 3-D switch, loudness control, continuously variable tone controls.

All the above equipment is available on 100-125V 40/60 c/s and 200-250V 40/60 c/s.

TRADE NAME: AVANTIC

**BRENELL ENGINEERING CO. LTD.**

1A DOUGHTY STREET
LONDON, W.C.1

**BOOTH 35**

DEMONSTRATION
**ROOM 308**

TAPE RECORDERS, RECORDER DECKS

BRENELL's world wide reputation as one of the most progressive designers and manufacturers of tape recording equipment is once more in evidence in the outstanding range of equipment which will be shown at this year's Audio Fair.

The Mark V Tape Deck incorporates many features which keep it abreast of the demands of the discerning High Fidelity enthusiast.

Anticipating future requirements the precision-built three motor BRENELL tape deck features FOUR TAPE SPEEDS ($1\frac{7}{8}$, $3\frac{3}{4}$, $7\frac{1}{2}$ and 15 i.p.s.) with fast speed change, facilities for TAPE MONITORING, STEREOPHONIC recording and replay, independent DUAL TRACK record/replay, especially suitable for film and industrial applications, INTERLOCKED SWITCHING with a device for preventing accidental erasure, increased spool sizes up to $8\frac{1}{4}$", digital revolution counter and PAUSE CONTROL, giving you TODAY the deck of the FUTURE.

It is very attractive in appearance, and close examination reveals expert design and magnificent workmanship.

**THE BRENELL T.P.2 TAPE PRE-AMPLIFIER**

This superb tape-preamplifier suitable for use with all BRENELL Tape Decks, is the answer to the demands made by Hi-Fi enthusiasts for tape pre-amplifying equipment suitable for use with high fidelity main amplifiers, radio tuner units etc. enabling them to enjoy the best on tape, or make recordings which are second to none.

Easy installation and operation, features of BRENELL equipment, make this a very popular unit both for permanent installation and portable use.

Some of the features included are:

Frequency compensation at 3 speeds ($3\frac{3}{4}$, $7\frac{1}{2}$ and 15 i.p.s.)
Record/Playback head de-magnetising facilities.
Monitoring facilities.
Auxiliary Power Switch enabling supplies to be switched independently of other equipment.
Inputs for Microphone, Radio or Pick-up.

**THE BRENELL POWER UNIT P.U.2**

For use with tape pre-amplifier T.P.2. H.T. 300 v 40 m.A. Heater supply 6·3 v 2 amps.

**CABINET**

An attractive portable cabinet is available for the Mark V Tape Deck, T.P.2 Tape Pre-Amplifier and P.U. 2 Power Unit.

**THE BRENELL 'THREE STAR' PORTABLE TAPE RECORDER**

A new high standard of quality, design and styling is apparent in this new BRENELL portable Tape Recorder.

It incorporates a 3 speed ($7\frac{1}{2}$, $3\frac{3}{4}$ and $1\frac{7}{8}$ i.p.s) pushbutton operated Deck, safety interlocking device against accidental erasure, Pause Control, facilities for extra heads, digital rev. counter, 7" spools and instantaneously mechanical breaking.

Switched frequency correction, usually only incorporated in higher priced models, is included in the amplifier which also has printed circuitry, tone controls, miniature cathode ray recording level indicator, monitoring facilities, use as an amplifier of Radio, Pick-up or Microphone, and extension loudspeaker socket.

TRADE NAME: BRENELL



**THE BRITISH BROADCASTING CORPORATION**

BROADCASTING HOUSE
LONDON, W.1

**BOOTH 35A**

V.H.F. SOUND BROADCASTING SERVICE

The BBC exhibit consists of a display publicising the VHF Sound Broadcasting Service.

On show will be a map illustrating how, since 1955, this new service has been rapidly extended. There are now 14 stations in operation, making a substantially interference-free service available to 95% of the population of the United Kingdom. This figure will be increased to over 98% by further stations which it is proposed to build as soon as possible.

At our Booth the public can learn the reasons for the introduction of the VHF Sound Broadcasting Service and understand the advantages it offers. Literature is available on various aspects of VHF reception.

Enquiries on reception problems and on matters relating to BBC engineering activities will be welcomed by members of the BBC's Engineering Information Department in attendance.

TRADE NAME: B.B.C.

**BRITISH SOUND RECORDING ASSOCIATION**
3, COOMBE GARDENS
NEW MALDEN, SURREY

**EXHIBITION ROOM MEZZANINE FLOOR**

**AMATEUR COMPETITION**

This competition is open to all members of the Association, for they are invited to submit equipment, test gear and experimental apparatus that they have themselves constructed or assembled. This Competition has been held annually for the past nine years at the B.S.R.A.'s own Exhibition, and the standard of workmanship and design have been extremely high. The " Presidents Trophy " is awarded for the exhibit which in the opinion of the Judges shows the best design, workmanship and general finish. The " Committee Prize " is awarded to the runner-up, and the " Wireless World " prize is awarded for the exhibit which scores high marks for design.

**" IS THIS A RECORD? "**

The first historical display by the Association last September, showed the evolution of electrical recording and reproduction for many different uses — in broadcasting, in the cinema, and in making " talking books " for the blind, as well as providing home entertainment. Our present display is at once narrower and wider in scope. It is narrower in that we tell only the story of sound reproduction as a means of home entertainment. It is wider in that we do not begin the tale with the earliest application of electronics. We do not begin quite at the beginning because the musical clocks and mechanical organs for which Haydn and Mozart (and earlier composers), wrote were in a way sound reproducers.

We begin with Edison's cylinder phonograph of 1878 which was developed as an entertainer with much ingenuity until it finally capitulated to the gramophone in the nineteen twenties. We show the gramophone growing up. We show the revolutionary impact of electronics and the strides which have been made since 1925 in electrical recording and reproduction. Our display " Is this a Record? " is a reminder of the work of the chemical technologist in perfecting methods of duplicating records. We remember also those who have laboured to provide high quality sound in the home from broadcasts and magnetic tape. We salute Stereophonic Sound.

We cannot show everything, or please everybody, but we hope you will find our historic section interesting and entertaining.

We are grateful to all those in the Science Museum, the B.B.C., and the record industry, whose willing help has alone made it possible.

**B.S.R.A. TEST RECORDS**

The Association produces " non-commercial " recordings for research, test and demonstration purposes. They have been specially produced for the amateur who may not have the necessary high grade test equipment with which to make his measurements in the home, and the range of disks conforms to the highest standards of recording and the pressings are in the finest available materials, free from appreciable background noise. Full details are available from our display unit, and the records may be purchased by non-members.

**B.S.R.A. PUBLICATIONS**

All the publications of the Association will be displayed in the Exhibition Room, and they will also be on sale to members and non-members. Orders can be taken for any publication not in stock.



**BURNE-JONES & COMPANY LTD.**
SUNNINGDALE ROAD
CHEAM, SURREY

PICKUP ARMS: REPRODUCERS.

**BOOTH 44**

DEMONSTRATION
**ROOM 130**

One of the pioneers of radio and sound equipment " Burne-Jones " will be remembered in the early days as the second radio company to be formed in Great Britain, being preceded only by Marconi. After 38 years of experience in this field, BJ introduced the first successful swinging arm to completely overcome tracking error. In 1955 an early version of the standard arm was rated second in the United States of America by " Consumer Reports." A new word for tracking accuracy had arrived — the word TANGENTIAL.

All over the world the new arm is being accepted by serious minded users as the standard equipment for tracking records. The word " tangential " means that the displacement axis of the stylus is maintained at a right angle to the radius of the groove at all positions on the record, within less than one degree.

**SUPER 90 MARK II. A new tangential arm:**

To meet the increasing demand, production has been completely re-tooled and includes exciting new design features. Swiss craftsmen manufacture the new bearings which are of micro-annulus design and all moulded parts are infra-red treated to increase their structural stability. The Super 90 Mark II is instantly adaptable, with precision tracking, for over 30 heads and cartridges. There is a new height adjustment ring which carries the arm clip such that no extra holes need to be drilled in the turntable desk. A unique feature is the new T-Type pillar giving greater rigidity and an *automatic* stylus differential pressure control, so reducing the average pressure and maintaining optimum force at all positions, an essential requirement for " Stereo " discs. Super 90/16 inch arms are also on display.

**BJ TAN/II PICKUP ARM:**

Following the great success of the standard BJ arm, the TAN/II is a restyled version containing several additional features, including new Swiss bearings and improved pillar design, a height adjusting ring and an arm clip integral with the arm.

**SHELLS:**

BJ arms carry all direct plug-in heads with standard 3-pin fixing. Detachable shells are exhibited which carry all types of cartridges.

**ALIGNMENT PROTRACTOR:**

Produced in plastic ivorine this enables the user to check the tracking accuracy of pickup arms of all types including BJ arms.

**BJ REPRODUCERS:**

These are both horn loaded and reflex designs. The R.1 is adaptable as a 2 or 3 speaker system. A new smooth top cabinet, the R.2 is complete with high efficiency 12 inch loudspeaker. Introduced for the first time are attractive potted tweeter units with horn loading and omni-directional " mushroom " spreaders.

**BJ HEADS:**

The Tan/Fi Head is a new high efficiency low mass pickup complete with diamond stylus. It is hoped that new stereo models may be seen and heard.

TRADE NAME: BJ

**CHAMPION ELECTRIC CORPORATION**
**(C.R.V.T.C. Ltd.)**

CHAMPION WORKS, NEWHAVEN
SUSSEX

Export and London Offices:
8 ECCLESTON STREET, S.W.1
Telephone: SLOane 9838

**BOOTH 51**

DEMONSTRATION
**ROOM 240**

In presenting their 1958 range Champion Electric Corporation maintain their policy in producing high quality radiograms and record players, all years ahead in design and performance, and yet produced to retail at a competitive price.

Three fine examples of the Champion range are: ' Golden Voice ' model 846. Here is a delightful contemporarily designed record player in Blond Oak, Figured Walnut or Golden Sapele. Separate Bass and Treble controls. 3-D sound from balanced triple speakers give " True-Fidelity " performance. Four-speed mixer changer. High-Fidelity turnover cartridge, socket for VHF/FM tuner, tape recorder or microphone, make the ' Golden Voice ' an object of pride in every household. Priced 39 gns. Tax paid.

Another in the Golden Seal series is ' Virtuoso ' model 852/B. A very fine portable record player of truly luxury class. It is in the latest design in a distinctive Coral Red and Parchment. Separate Bass and Treble controls with triple speakers give three dimensional sound. There is a socket for VHF/FM tuner, tape recorder and microphone. Four-speed automatic mixer-changer with High-Fidelity turnover cartridge. At 27 gns., Tax paid, this has proved one of the best sellers in the Champion range.

For the more discerning, who require a piece of furniture as well as the highest possible quality record reproducer, there is 'Golden Concerto' model 875. This High-Fidelity reproducer has a separately constructed acoustical chamber using three speakers. It has 10 Watt. Hi-Fi output. Separate Bass and Treble controls. The latest four-speed mixer changer and the usual socket for VHF/FM tuner, microphone or tape recorder. Ample record storage is provided in the very attractively modern designed cabinet. Priced at 69 gns. including Tax, the 'Golden Concerto' represents the highest possible quality at a reasonable price.

TRADE NAME: CHAMPION



**C. T. CHAPMAN (Reproducers) LTD.**
CHAPEL LANE, HIGH WYCOMBE
BUCKINGHAMSHIRE

AMPLIFIERS, CONTROL UNITS
AND TUNERS

**BOOTH 12**

DEMONSTRATION
**ROOM 145**

In addition to our normal well-known complete range of Tuners, AM, FM and AM/FM, we are exhibiting and demonstrating for the first time the CHAPMAN ' Tranquillo ' Amplifier Control Unit, rated at 10 watts.

As well as the normal features, the Control Unit is fitted with a ' loudness control ', giving a replica of the well-known Fletcher Munson Curves. This enables the volume to be controlled from a fortissimo to a whisper and maintains correct tone balance, most important for relaxed listening.

A new FM Tuner, the FM91 is introduced. This matches the ' Tranquillo ' Amplifier in presentation, and features a ' Bright Line ' tuning indicator in an A.F.C. circuit. Also on show is the new FM80 switched. FM tuner with A.F.C., and the new S6BS/FM 10 wave AM bandspread tuner with full FM coverage.

On our stand therefore can be seen the:

FM91 long range FM Tuner.

" Tranquillo " 10 watt amplifier.

FM 80 Switched FM Tuner.

FM85, The Smallest and most compact AM/FM Tuner.

FM85/CU as above but fitted with Control Unit.

S5/FM De Luxe AM/FM Tuner Unit. VHF/FM and SW, MW and LW with RF stage on all bands and variable selectivity.

S5/FM/CU as above but fitted with Control Unit.

S5E/FM De Luxe AM/FM Tuner Unit. VHF/FM and 3 Short Wave bands and Medium Waves with RF stage on all bands and variable selectivity.

S5E/FM/CU as above but fitted with Control Unit.

S6BS. The famous Long Range, AM 9-band Short Wave band spread Tuner, which gives High Fidelity reproduction on Short Waves and is in use in every country in the world.

S6BS/FM — As above but including an FM band.

All these tuners can be supplied powered or unpowered.

Chapman 205 Amplifier and Control Unit — rated at 20 watts.

205 Power Amplifier — Frequency Response (1 watt level) within 1 db 2 c/s — 100 Kc/s. Power response (20 watts level) within 0·5 db 30 c/s — 20 Kc/s. Harmonic distortion 400 c.p.s. $<0{\cdot}05\%$ at 20 watts. Damping factor 50, hum and noise — 89 db at 20 watts. Sensitivity 220 mV for 20 watts. Power outlet for Control Unit. Mains Tappings suitable for 100/250 V 50 c.p.s. Partridge Transformers throughout.

205 CU Control Unit. — The controls consist of Input Selector, Bass, Treble, Volume, Compensated Volume, Roll off filter 5 Kc, 10 Kc, 20 Kc. Three switched Mains Outlets. Fitted with anti-rumble High Pass filter at 35 c/s. Total harmonics $<0{\cdot}1\%$ on all positions at 200 mV output, better than $0{\cdot}2\%$ at 2 V output. The Control Unit obtains its power supplies from the 205 Main Amplifier or the Tuner in the case of the FM85/CU or S5/FM/CU.

TRADE NAME: CHAPMAN

**COLLARO LTD.**
RIPPLE WORKS, BY-PASS ROAD
BARKING ESSEX

**BOOTH 7**

DEMONSTRATION
**ROOM 148**

TRANSCRIPTION UNIT, TAPE
TRANSCRIPTOR, RECORD CHANGER
GRAMOPHONE UNIT

At Booth No. 7, Collaro Ltd. are presenting their new improved Tape Transcriptor, Mark IV, which incorporates several modifications to the previous design. Among the new features are the interconnected Micro Switch and Fly-Wheel Brake. By means of these improvements both motors will be switched off and the Fly-Wheel instantaneously stopped when the " stop " button is operated. Any one of the six smaller knobs will then start the machine in either direction without subjecting the motors to excessive loading. These factors, combined with the new lower wattage input, make for cooler and quieter running of the motors. Added to these advantages is a more active re-wind, due to larger diameter of the motor pulleys and new type re-wind pulleys with new springing arrangements.

Other interesting exhibits on the COLLARO stand are the 4-speed Gramophone Transcription Units, Model 4T200 (which has been given a new Extended Range " Studio " transcription crystal cartridge) and Model 4TR200 with its smaller unit plate and supplied without a pick-up but incorporating all the best features of the well-tried 4T200.

Visitors to the stand will also see the new Stereophonic cartridge. There will be special demonstrations in Demonstration Room 148 of this new stereophonic disc reproduction, also of tape reproduction by the Mark IV Transcriptor.

TRADE NAME: COLLARO



**COSMOCORD LIMITED**
ELEANOR CROSS ROAD
WALTHAM CROSS, HERTS.
Tel: Waltham Cross 5206

**BOOTH 36**

DEMONSTRATION
**ROOM 125**

GRAMOPHONE PICK-UPS, PICK-UP HEADS,
CARTRIDGES AND MICROPHONES

Once again ACOS leads the field with the introduction of a really high quality crystal pick-up. No longer is an expensive magnetic Pick-up a sine qua non of good reproduction. " THE BLACK SHADOW " will resolve all doubts about the input end of your system. Excellent response and tracking capabilities combined with the very modest price of £8. 8. 0., which includes a diamond stylus and purchase tax, make a visit to hear this pick-up essential. Hearing is believing.

Also being demonstrated is the prototype of the ACOStereo Pick-up. This is no longer High Fidelity — this is as near to reality as the confines of the room will allow. This is the sound of the future.

Full information is available on the usual range of ACOS Cartridges and Microphones. Any visitors with technical queries are invited to discuss them with our technical staff in our demonstration room, or on the stand in the main hall.

TRADE NAME: ACOS

**THE DULCI COMPANY LIMITED**
97-99 VILLIERS ROAD,
WILLESDEN, LONDON N.W.2

TUNERS, AMPLIFIERS, TAPE UNIT, RADIOGRAM CHASSIS

**BOOTH 62**

DEMONSTRATION
**ROOM 107**

High Fidelity is often thought to be a costly and specialised pastime restricted to fanatics and wealthy music lovers. This is definitely not the case where Dulci is concerned. Hi-Fi is now taking its rightful place in the home for the sheer pleasure and enjoyment of hearing music, voices and sounds as realistic as if the orchestras, actors and instruments were present in the room.

The Dulci Company have developed a range of units designed to fulfil the specific needs of domestic sound reproduction at a realistic price that everyone can afford and at the same time be assured of reliable and faithful reproduction. The range includes a sensitive and stable FM Tuner (FMT); an AM/FM Tuner covering Long, Medium, Short and FM (H4T/2); a combined AM/FM Tuner, control unit and audio-pre-amplifier (H11); a 4 watt amplifier for small to medium size rooms (GA4); a 10-14 watt ultra linear power amplifier with a choice of a control unit or a pre-amplifier incorporating a control unit (DPA10).

A most successful and popular combination is the Dulci H11 and DPA10 (Main amplifier only). The H11 has five controls — volume, bass, treble, tuning and a seven position channel selector for Long, Medium, Short VHF/FM, L.P. 78 and tape. This combination embodies all the essential features whilst avoiding the multiplicity of controls encountered when separate units are used. It may be interesting to know that this combination received a favourable review in the January issue of the " Gramophone ".

The Dulci High Fidelity Tape Unit has already met with an overwhelming reception both at home and abroad. Intended for use with an existing (or proposed) Hi-Fi installation the tape unit is excellent in performance and appearance. It consists of a precision two-speed tape transport mechanism, recording amplifier plus erase and bias oscillator and an equalised playback pre-amplifier all in one compact unit ready to be mounted in a console cabinet or used on the metal plinth supplied.

Future Dulci products include a stereo pre-amplifier for use with the proposed stereophonic discs or tapes and an FM Tuner of advanced design and appearance.

TRADE NAME: DULCI



**DYNATRON RADIO LIMITED**
ST. PETER'S ROAD, FURZE PLATT
MAIDENHEAD, BERKS

HIGH FIDELITY RADIOGRAMOPHONES
VHF TUNERS, AM/FM TUNERS
AMPLIFIERS, TONE CONTROL UNITS

**BOOTH 16**

DEMONSTRATION
**ROOM 144**

On the Dynatron Stand and in their Demonstration Room there is a wide variety of high fidelity equipment which cannot fail to interest every high fidelity enthusiast.

**LOUDSPEAKER CONSOLE, TYPE CLS20**
Introduced for the first time this superb loudspeaker unit incorporates in its dual speaker system, the Goodman Axiom 150 Mk. II, and the Trebax High Frequency Pressure Unit. The enclosure is designed to function as a bass reflex chamber with an acoustic resistance filter fitted to the port in the base of the unit.

Acoustically balanced, the cabinet is constructed of resin-bonded resonance-free panels and is scientifically lagged to reduce distortion. The CLS20 has a frequency response from 30-15000 c/s and a power handling capacity of 20W. A cabinet of pleasing design and finished in high quality veneer completes this important addition to the list of high quality loudspeaker enclosures.

**LOUDSPEAKER CONSOLE, TYPE CLS10**
Since the first demonstration of this unit at last years Audio Fair, it has become well established as a loudspeaker enclosure which will provide first-class high fidelity reproduction at normal listening levels. Well proportioned, the enclosure is constructed from resin-bonded board and lined internally with absorbent material, ensuring that the cabinet is substantially free from resonance at any frequency.

**ETHER PATHFINDER CHASSIS**
This well established set of hi-fi chassis combine facilities for high fidelity listening of gramophone records and the B.B.C.'s VHF radio broadcasts with all wave world-wide reception. They comprise three units, a 9-valve AM/FM Tuner, a 2-valve Tone Control Unit and a 4-valve 10W. Power Amplifier.

**'CAVALCADE' RECORD REPRODUCER, MODEL GR1/2**
Dynatron has introduced for the first time a table record reproducer. The 'Cavalcade' is being exhibited and demonstrated at this Fair because it provides a reproduction from records which sets a new standard for an instrument of its size. This 4-valve record reproducer consists of the latest single or automatic record changer with high fidelity pick-up head, a 5-stage 8W. push-pull amplifier with extension speaker and radio/tape input sockets, separate bass and treble controls and a dual high fidelity speaker system of first-class performance. A well designed cabinet completes this instrument.

Apart from the equipments featured above, Dynatron will be showing for the first time a 20W. amplifier and a 20W. tone control unit of completely new design.

Other instruments being featured are the Dynatron VHF Tuner Unit, Type FM2, the Ether Minstrel high fidelity radio console and the 'Windsor' high fidelity VHF radiogramophone which is a complete hi-fi equipment of reasonable size and cost.

TRADE NAME: DYNATRON

**E.A.P. (TAPE RECORDERS) LTD.**
BRIDGE CLOSE
OLDCHURCH ROAD
ROMFORD, ESSEX

**BOOTH 54**

DEMONSTRATION
**ROOM 140**

TAPE RECORDERS
F.M. TUNERS

On display will be the complete range of Elizabethan Tape Recorders including the Essex also on view will be the F. M. Tuner.

E.A.P. have been making tape recorders for seven years and were one of the first firms in the field in this country. All E.A.P. products are designed and made in Britain to exacting specifications, and continual research ensures even greater improvements and reliability.

Donald W. Aldous writing in the February issue of Gramophone Record Review has described the Elizabethan Essex as " a versatile, portable tape recorder, not too bulky, of attractive appearance, capable of a first-class performance, that puts it in the top bracket of machines in the £70 to £100 class." This Essex is certainly an instrument of remarkable versatility: it has input sockets for recording from microphone or telephone attachment, for microphone when the instrument is used as an amplifier, and for recording or amplifying from radio, radio-gram or record player. In addition there are output sockets to feed an external amplifier, headphones, or external loudspeaker.

In actual performance the Essex achieves a very high standard of fidelity. This can best be verified by listening to the impressive demonstration which is being given in Room 140.

Full details of all E.A.P. models can be obtained from the exhibition booth.

TRADE NAME: ELIZABETHAN



**E.M.I. SALES & SERVICE LTD.**
HAYES, MIDDLESEX

**BOOTH 21**

DEMONSTRATION
**ROOM 309**

EMITAPE — E.M.I. RECORDING EQUIPMENT

Special features of this exhibit are the comprehensive display of Emitape, the universally-used magnetic recording tape; and the range of famous EMI professional recorders.

**EMITAPE**

Produced by E.M.I. at Hayes in the largest magnetic tape factory in Europe, Emitape is a PVC base, magnetic-oxide coated tape of high sensitivity and very low noise level. Because of its many outstanding technical features, Emitape has been adopted as standard on most British tape recorders and is used in industry, scientific establishments, recording companies and broadcasting organisations throughout the world.

Emitape is manufactured in three types, each having the same electrical characteristics: Emitape " 77 " — specially " pen-tested " for professional and scientific purposes; Emitape " 88 "—general purpose; and Emitape "99 " Long Play, giving a 50% increase of recording time for each spool size.

There is now a range of seven spool sizes: four domestic — 3″, 5″, $5\frac{3}{4}$″ and 7″, and three professional — the new $8\frac{1}{4}$″, the $10\frac{1}{2}$″ D/S " NAB " and the 11″ S/S " European ".

Emitape is also available in larger widths in multiples of $\frac{1}{4}$″ to special order.

**EMICASE**

The problem of storing tape spools has now been solved by Emicase — the new container that enables spools to be stored upright on a bookshelf, in a cupboard or between bookends. Made of durable transparent polystyrene, Emicase protects spools from dust and damage and allows easy identification of leader tapes.

**E.M.I. TAPE RECORDING EQUIPMENT**

Also on display is a representative range of E.M.I. Recording equipment, world-famous for its extremely high standards and in universal use by leading recording companies and broadcasting organisations, and industrial and scientific concerns all over the world.

The highly versatile new TR90 recorder has been specially developed to meet the varying needs of professional, scientific and industrial recording requirements.

The TR90 is basically in two parts — the tape deck and the main amplifier unit — and is available in three models: in two transportable cases, in a studio console cabinet, or rack-mounted on standard 19 in. vertical racks.

The tape unit can be supplied in four basic versions: either full or half-track, with a choice of speeds in each case of 15 and $7\frac{1}{2}$ or $7\frac{1}{2}$ and $3\frac{3}{4}$ in/sec., with an additional alternative for stereo recording.

There is a choice of 2 or 10 watt monitor amplifier, either of them with V.U. or peak programme meter units, and optional mixer unit.

Other features include: a three-motor system with push button control, two-way variable spooling and a highly accurate timing indicator.

Model TR51, successor to the well-known TR50, is a transportable model for providing the highest " studio " quality under mobile conditions. It is available in four versions, either half-track or full track, and with a choice of speeds of 15 and $7\frac{1}{2}$ or $7\frac{1}{2}$ and $3\frac{3}{4}$ in/sec. Special features provide improved cueing, monitoring and metering facilities and accommodation of the new $8\frac{1}{4}$ in. spool, giving a 50% increase in recording time over the 7 in.

Finally there is the ubiquitous L2 battery-operated portable recorder weighing only 14 lbs, which is in daily use throughout the world by radio commentators for on-the-spot recordings on land, sea or in the air.

TRADE NAMES: EMITAPE, EMICASE, EMIFILM

**ELECTRONIC REPRODUCERS LIMITED**
22 DENBIGH ROAD
BLETCHLEY, BUCKS

PIEZO-ELECTRIC TRANSDUCERS

**BOOTH 9**

DEMONSTRATION
**ROOM 330**

Electric Reproducers Limited, a newly formed company within the Camp Bird Industries Group, specialize in the design and manufacture of piezo-electric transducers and recently successfully introduced the E.R. Type 58 Crystal Cartridge.

The E.R. 58 has an essentially flat response between 30 cycles and 18 kilocycles. The intermodulation distortion is below 5% and the output is 550 millivolts at 1·2 centimetres per second. Minimum compliance is $3{\cdot}5 \times 10$ to the -6 cm. dynes.

The E.R. 58 fills the long-felt need for a high output cartridge with a good frequency response and a low distortion content, making it possible for low-priced radiograms to make full use of the intelligence recorded on modern discs.

Visitors are cordially invited to Room No. 330 to hear our demonstration and where personnel will be available to discuss matters of a technical nature relevant to our products.

TRADE NAME: ELECTRONIC REPRODUCERS



**THE GARRARD ENGINEERING & MANUFACTURING CO., LTD.**
NEWCASTLE STREET
SWINDON, WILTS.

RECORD REPRODUCING EQUIPMENT

**BOOTH 59**

DEMONSTRATION
**ROOM 131/132**

Garrard have for nearly 40 years been specialists in the design and manufacture of high quality gramophone record reproducing equipment and the name "GARRARD" is world renowned for quality and reliability.

Garrard manufacture a wide range of equipment as follows:—

**AUTOMATIC RECORD CHANGERS**

**Model RC.88/4** high quality record changer.

**Model RC.98/4** similar to the RC.88/4 but has the addition of a variable speed control.

**Models RC.120/4 Mark II and RC.121/4 Mark II** are compact and inexpensive units, the RC.121/4 Mark II having a plug-in head. All these Record Changers have four speeds and are fitted with manual control.

**TRANSCRIPTION MOTOR**

**The Model 301 Transcription Motor** is supreme in its class and has achieved a high reputation for quality and reliability from connoisseurs of High Fidelity reproduction. Wow, Flutter and Rumble has been reduced to the minimum. As supplied to the British Broadcasting Corporation. A turntable stroboscopically engraved on its rim is available at extra cost. 50 or 60 cycle models available.

**TRANSCRIPTION PICKUP ARM**

**The Model TPA.10** is a precision-made Transcription Pickup Arm having all the latest refinements for the critical expert who requires the best. Its styling is ultra modern and it has many unique mechanical features, one of which is its adaptability to cover a wide range of requirements. The pickup head case accommodates practically all available types of pickup cartridges.

It is finished in a pleasing combination of broken white, black, chrome and red, and is supplied packed in an attractive box complete with templates, alignment protractor, fixing screws and manual containing full instructions.

**PICKUPS**

**The Garrard Model GMC.5 Moving Coil Pickup,** in conjunction with its special transformer TP.1, gives the highest possible standard of reproduction from gramophone records.

The pickup is of the turnover pattern with two independent moving coil systems. The stylus is extremely small but can easily be removed and replaced without dismantling the pickup, a diamond stylus is fitted for fine groove and a sapphire stylus for coarse groove records.

**Crystal Pickups** having an excellent frequency response and output. Ceramic Pickups are also available.

**SINGLE RECORD PLAYERS**

**The Models 4SP and 4SPA** are 4-speed models of minimum size and low cost while maintaining a high standard of performance. The 4SPA is fitted with a plug-in pickup head. **Model TA Mark II.** This is similar in design to the 4SPA Unit, but it is mounted on a substantial rectangular unit plate. **Model BA.1.** A compact battery-operated unit for playing 7in. 45 r.p.m. records.

**GRAMOPHONE ACCESSORIES**

**The Garrard Stylus Pressure Gauge, Model SPG.2** is an indispensable accessory for the high fidelity enthusiast and in addition to its primary function of measuring stylus pressure it also has a spirit level in its base for checking the level of the turntable. Range 0-15 grammes. A complete range of replacement styli are available for all Garrard pickups.

TRADE NAME: GARRARD

**THE GENERAL ELECTRIC CO. LTD.**
MAGNET HOUSE, KINGSWAY
LONDON, W.C.2

# BOOTH 55

DEMONSTRATION
**ROOM 142**

A new loudspeaker enclosure will be demonstrated which incorporates the new periphonic principle in a cabinet of small size. The system achieves the same low distortion — high quality as the larger enclosure demonstrated last year, and has been designed to meet the requirements of reproduction in the average-sized living room.

In its full form the system uses two G.E.C. metal cone loudspeakers and two presence units with a specially designed cross-over network.

The cabinet can also be used with a single metal cone speaker and presence unit. This arrangement enables the user to build up to a more elaborate system as and when he wishes.

For the home constructor, plans of a new and economical cabinet are available. This is of small octagonal form and is made of sheet metal. The speaker uses one G.E.C. metal loudspeaker and presence unit with a simple cross-over network. Demonstrations will be given at the Fair.

A new F.M. tuner unit will be on show with 3-position switched tuning. An automatic frequency control system is incorporated which ensures correct tuning and low distortion at all times. The receiver uses a Foster-Seeley discriminator and two stages of limiting, yet has a high tension power consumption of only 20 m/a at 150 volts. This allows operation from most power amplifiers.

For the professional user and recording engineer a new Hi-Flux presence unit is available. This uses the same basic principle as the BCS 1882 presence unit, but, with a magnet of flux 14,500 gauss, gives a frequency response-flat from 1·5 Kcs to 13 Kcs with a response of -10 db at 15 Kcs.

Demonstrations of the small Periphonic system and metal octagonal loudspeaker will be given using the G.E.C. BCS 2417/8 12 watt high quality amplifier.

The Company will be showing a range of audio valves for the well known G.E.C. Junior 5 watt, 912 plus 12 watt, and the Williamson 12 watt amplifiers. For those desiring a high quality amplifier with a higher output the 88/50 will also be on show. This amplifier is of special concern to the P.A. Engineer.

Full constructional details of these amplifiers, and data on the range of G.E.C. Valves, are available on application.

Of great interest to P.A. Engineers and amateur constructors at the Fair is the introduction of a new text book describing in detail the theoretical considerations necessary in the design of audio frequency amplifiers. The amplifiers described have outputs ranging from 5 watts, from 2 LN. 309 G.E.C. Valves in push-pull, up to 400 watts from 10 G.E.C. KT. 88's in parallel push-pull.

TRADE NAME: G.E.C.



**THE GRAMOPHONE**
**(General Gramophone Publications Ltd.)**
49 EBRINGTON ROAD, KENTON
MIDDLESEX
Tel: WORdsworth 2010

# ROOM 220/221

Publishers of **"The Gramophone"** and **Quarterly Record Catalogues**

**"The Gramophone"** is published on the first of each month, price 1s. 6d. (annual subscription 24s.). It caters for all interested in recorded entertainment.

Detailed classical reviews are contributed to every issue by a team of outstanding ability which includes Roger Fiske, Trevor Harvey, Philip Hope-Wallace, Malcolm Macdonald, Jeremy Noble, Andrew Porter, Alec Robertson, Lionel Salter and Denis Stevens.

Lighter records, together with Jazz and Swing are reviewed by a panel which includes W. A. Chislett, Lilian Duff, Charles Fox, Edgar Jackson, Oliver King and Alun Morgan.

The technical section of the journal, which includes news and test reports on equipment designed for the reproduction of recorded sound, is edited by Percy Wilson, who presides over a team of experienced technical writers.

**The Classical LP Catalogue** is published quarterly (March, June, September and December) at 3s. 6d. per copy (annual subscription 15s. 6d.).

This catalogue lists every Classical LP and 45 r.p.m. disc and recorded tape currently available in this country showing in addition its date of review in "The Gramophone". The comprehensive indexes provide an easy reference to Composers, Artists, Folk and Traditional Music, Operatic Casts, etc., etc. The catalogue is completely revised and brought up to date every quarter.

**The Popular Record Catalogue** is also published quarterly (January, April, July and October) at 2s. 6d. per copy (annual subscription 11s.). The current edition lists popular records at all speeds and recorded tapes issued during the period from April, 1957 to March, 1958.

Previous editions of this catalogue are available as follows:—

**Master Edition Vol. 1** — Lists all LPs, MPs, and 45s issued June, 1950 to March, 1955 (3s. 6d.).

**Master Edition Vol. 2** — Lists all speeds issued April, 1955 to March, 1956 (2s. 6d.).

**Master Edition Vol. 3** — Lists all speeds issued April, 1956 to March, 1957 (2s. 6d.).

*(For postage on any of the above items please add 6d.)*

**GOLDRING MANUFACTURING CO. (Great Britain) LTD.**

**BOOTH 33**

486-488 HIGH ROAD
LEYTONSTONE, LONDON, E.11
Tel: LEYtonstone 8343-4-5
Cables: Echovox, London

DEMONSTRATION
**ROOM 340**

PICK-UPS, CARTRIDGES, SAPPHIRE AND DIAMOND STYLI, RECORD CLEANING PADS, TRANSCRIPTION UNITS

Goldring this year are again demonstrating their No. 600 Pick-up Cartridge. This is the true High Fidelity cartridge, designed around a Diamond Stylus, and giving the superb quality which can only be achieved through the low dynamic mass of the diamond. A flat frequency response up to 21 kc/s. is attained even on fine groove records.

Also shown are the Goldring Lenco Transcription Units, models GL50/4 and GL56, which, since their introduction in 1955 have achieved enormous success with Hi-Fi enthusiasts all over the world.

A special feature of these Units is that the speed is infinitely variable from below 30 to above 80 r.p.m. with set speed positions of 16, 33⅓, 45 and 78 r.p.m.

These Units are now fitted with a new arm which incorporates a slide-in head, and a very simple stylus pressure adjustment.

This arm, the G60, which moves on newly designed ballraces, and has, as a completely new feature, adjustable height, is also available separately.

The 500 cartridge has now been superseded by a modified version, the 580, which is fitted with Mu-metal Shields as standard. It has a new stylus assembly giving even better frequency response, and due to its higher compliance gives rise to less distortion and needle chatter. This cartridge is now being fitted to the Goldring Lenco Transcription Units.

The full range of Goldring Replacement Styli, which this year includes still more types, is also being shown.

The range of Diamond Styli has also been increased, and now covers more pick-ups than ever before.

The Anti-static Cleaning Pad with the built in stylus brush, and the Goldring Stylus Pressure Balance, can also be seen.

TRADE NAME: GOLDRING



**GOODMANS INDUSTRIES, LTD.**

**BOOTH 20**

AXIOM WORKS, LANCELOT ROAD,
WEMBLEY, MIDDX.

HIGH FIDELITY LOUDSPEAKERS, LOUDSPEAKER SYSTEMS, AND ASSOCIATED COMPONENTS.

DEMONSTRATION
**ROOM 106**

GOODMANS INDUSTRIES, LIMITED, the largest manufacturers of High Fidelity Loudspeakers in Europe, are exhibiting and demonstrating a comprehensive and advanced range of High Fidelity Loudspeakers, Loudspeaker Systems, and associated components.

**Single Unit Full Range High Fidelity Loudspeakers**

AXIOM 300 (New Product) (12″)
AXIOM 400 (New Product) (12″)
AXIOM 80 (9½″)
AXIETTE (8″)

**Units for Multiple Loudspeaker High Fidelity Systems**

| | |
|---|---|
| AUDIOM 60 (bass) (12″)<br>AUDIOM 70 (bass) (12″)<br>AUDIOM 80 (bass) (15″) | Bass Units |
| MIDAX 400<br>MIDAX 650 (New Product) | Mid-range Units |
| TREBAX | High frequency Unit |

Crossover Networks: X0/750/5000. X0/950/5000. X0/750. X0/5000.
Variable Attenuator: 12 db. 8-step variable.
Acoustical Resistance Units: A.R.U. 172., A.R.U. 180., A.R.U. 280, A.R.U. 480.

**High Fidelity Loudspeaker Systems complete in Enclosures**

AX.15/1 (AXIOM 300 in A.R.U. loaded enclosure) (New Product)
AX.20/1 (AXIOM 400 in A.R.U. loaded enclosure) (New Product)
AX.15/3 (AUDIOM 60 bass + horn loaded mid-range and treble units in A.R.U. loaded enclosure). (New Product).
AX.20/3 (AUDIOM 70 bass + horn loaded mid-range and treble units in A.R.U. loaded enclosure). (New Product).

For fuller details please refer to Goodmans High Fidelity Loudspeaker Manual, available free on request.

TRADE NAMES: AXIOM, AUDIOM, AXIETTE, MIDAX, TREBAX

**GOODSELL LTD.**
40 GARDNER STREET
BRIGHTON, SUSSEX

# BOOTH 38

DEMONSTRATION
**ROOM 230**

AMPLIFIERS

A full range of Goodsell equipment will be shown and pride of place must go to the World famous Goodsell version of the Williamson amplifier and it's associated pre-amplifier known as the P.F.A.

The Williamson amplifier is now available in it's most modern form i.e., with "ultra linear" output connections. For the home market this means an excellent high powered amplifier capable of giving truly remarkable quality for the most discerning listener. The export version which is fast becoming famous throughout the World, uses K.T.88 valves in " ultra linear " circuit, and has a continuous output rating of 45 watts throughout it's frequency range (English rating).

The P.F.A. tone control and pre-amplifier unit is too well known to need any further elaboration. It is however unique in it's range of compensation for all recording characteristics, and the " cleaness " of it's output.

Next in the range is the M.A.25 amplifier, a recent addition to the Goodsell tradition and embodying two E.L.34 output valves in " ultra linear " circuit and a first quality output transformer giving 20 watts of undistorted output.

Next is the M.A.5 mark 2 in it's modernised form, together with it's famous associates the ULTC and ULFTC tone controls. Output valves in this amplifier are E.L.84's and it has a very clean performance at it's 12 watt rating. As with the PFA tone control the ULTC and the ULFTC are justifiably left almost unchanged except for optional inputs to clients specification.

The newest and most radical departure from tradition is the addition to the range of a smaller domestic real high fidelity amplifier and pre-amplifier known as the M.A.2. This unit is now extremely well known and has two ECL 82 valves in it's output stage giving 6 to 8 watts of really clean sound. This is more than adequate for any domestic purpose and the unit is small enough to be incorporated in all contemporary homes.

Tape recording has not been forgotten and in addition to the T.W.100 tape amplifier new units are available, and are designed to give comprehensive coverage to all aspects of the tape recordists hobby, catering specifically for " stereo ". It is worth remarking that all Goodsell pre-amplifiers and amplifiers are capable of working any one with any other, thus giving a wide scope. Units may of course, be stacked for stereophonic reproduction.

A sensitive switch tuned VHF, FM unit having full automatic frequency control and automatic gain control including a high level limiter is now available. This is in addition to the well proven tunable VHF unit marketed hitherto.

Demonstrations will be given in room 230 and direct comparison may be made between pre-recorded tapes and the finest LP records. In addition, Goodsell units will be shown in various types of cabinets designed to fit in with modern surroundings and to suit all tastes.

TRADE NAME: GOODSELL



**GRAMOPHONE RECORD REVIEW**
PENNARE HOUSE, VERYAN
Nr. TRURO, CORNWALL

# BOOTH 40

DEMONSTRATION
**ROOM 218**

RECORD AND AUDIO PERIODICALS

GRAMOPHONE RECORD REVIEW is an independent and comprehensive monthly magazine devoted to every aspect of recorded sound and it's high fidelity reproduction. Fully illustrated with the highest quality photographs by leading British and European photographers and printed on high grade art paper, GRR is the most advanced and all-embracing source of news, reviews and general information now available to the record buyer. New audio equipment is regularly tested under home conditions and valuable information is passed on to readers every month about developments in the hi-fi world. This technical service is in the hands of Donald W. Aldous, M. INST. E., M.B.K.S., Hon. Technical Secretary of the B.S.R.A.

In addition to many fine feature articles, including a regular series devoted to " The Great Interpreters ", the whole range of serious music is reviewed by a panel of critics whose reputation and integrity is unchallenged — *anywhere.* This panel presents, month by month, a uniquely balanced view of all new recordings and contains the names of many of the outstanding figures in musical criticism, both of the older and the younger generations. The same independent advice is available under such regular departments as THE SPOKEN WORD, *Folk Music,* HI-FI CHOICE, *Importations,* THE LATIN TOUCH etc. The best in POPULAR MUSIC is discussed at length and in detail under such headings as VARIETY FANFARE, *Show Time,* COUNTRY AND WESTERN, *Strict Tempo,* CONTINENTAL CORNER *etc.,* all by acknowledged experts in their respective departments. Outstanding JAZZ RECORDS are discussed and analysed.

A new feature, the first instalment of which co-incides with the 1958 AUDIO FAIR, is devoted to " THE OTHER MAN'S HI-FI " in which the reproducing equipment used by people well-known in various walks of life will be fully discussed and illustrated. Thus GRR, as always, offers the best and most comprehensive advice available on the buying of records and equipment, the most up to date information on all aspects of hi-fi, plus unrivalled pictures in all departments — serious, popular and technical.

GRAMOPHONE RECORD REVIEW is published by audio enthusiasts for audio enthusiasts and costs 1/6 monthly (35 cents in U.S.A. and Canada) from all good retailers, or 20/- per year (4 dollars in U.S.A. and Canada) post paid from the publishers.

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" JAZZ MONTHLY " — *The Magazine of Intelligent Jazz Appreciation.* JM is recognised all over the world as the finest available source of authoritative articles on all aspects of jazz and the most indepedent and un-biased reviews of jazz records. Edited by Albert J. McCarthy, co-author of the indispensible *Jazz Directory,* JAZZ MONTHLY is fully illustrated and covers the whole world in presenting a comprehensive and uniquely balanced view of its subject. More and more on both sides of the Atlantic this magazine is being accepted as a strong and salutary voice in the frequently chaotic world of jazz criticism. JAZZ MONTHLY costs 2/6 or 35/- per year (six dollars) post paid from the publishers.

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" THE NEW RECORDS ". A comprehensive alphabetical and numerical guide to all records issued each month, designed principally for the use of retailers but also of great value to the individual collector who wants to keep pace with the voluminous monthly output of all the recording companies. 9d. per month, or 10/- a year post paid from the publishers.

TRADE NAME: FRANCIS ANTONY LTD.

**GRAMPIAN REPRODUCERS LTD.**
HANWORTH TRADING ESTATE
FELTHAM, MIDDLESEX

LOUDSPEAKERS, MICROPHONES AND SOUND AMPLIFYING EQUIPMENT

**BOOTH 23**

DEMONSTRATION
**ROOM 325**

High fidelity equipment which has been designed with one aim in view — for use in your home.

On display and being demonstrated is the already well known 5-10 amplifier with alternative types of control units.

Shown for the first time is a new amplifier, the 10-15 with a peak output of 15 watts and having provision for easy matching of loudspeakers, separate power take offs for pre-amplifier and F.M. tuner units and a number of other new features.

Two new control units for this amplifier, one with pre-amplifier, with compensated volume controls, pick-up equaliser selection by switch, interconnecting leads with fitted plug tops to make installation simple, will be available.

Also on show is an entirely new amplifier and control unit combined, having a smaller output, designed for those who require a less elaborate outfit.

The famous 1255/15 high flux 12″ loudspeaker unit is being demonstrated in two forms of cabinet, one of which is available in kit form for " do it yourself " construction at home.

For those concerned with large sound installations there is a range of P.A. equipment, Amplifiers and Receiver Amplifiers, Microphones and loudspeakers of various types suitable for all types of installations, mobile or fixed.

There is also a new moving coil microphone of the tubular type with an exceptionally good frequency response.

It will be available in low and high impedance types with various types of fittings suitable for hand or stand use, with and without in/off switch.

TRADE NAME: GRAMPIAN



**GRUNDIG (Great Britain) LTD.**
KIDBROOK PARK ROAD
LONDON, S.E.3

TAPE RECORDERS

**BOOTH 15**

DEMONSTRATION
**ROOM 208**

One of the items of major interest on the GRUNDIG stand is the TK.830/3D Tape Recorder. The name of GRUNDIG has been synonymous with the latest developments in Tape Recorder design for many years and the TK.830/3D is obviously no exception.

A glance at the impressive Technical Specification will show that for the first time a frequency response extending to 15 kc/s, within the normal ±3db limits, has been achieved at the tape speed of $7\frac{1}{2}$″/sec. At the slower tape speed of $3\frac{3}{4}$″/sec. the response is within ±3db over the range of 50 c/s to 10 k/cs.

In addition to the usual GRUNDIG features of Twin-track working and the fitting of three loudspeakers, the TK.830/3D incorporates three Tone Controls and an Erase Cut-Out Button. This device, made possible by the use of a stabilised bias oscillator, allows the super-imposition of a second recording on a previously recorded tape, an invaluable feature for the addition of commentaries, etc.

The power amplifier, delivering six watts of Audio power from its push-pull output stage, can be used in the " straight-through " condition via any of the three inputs, microphone, diode or gram.

The TK.830/3D is suitable for 50 c/s mains supplies only, at voltages ranging from 110V to 250V. It is supplied with 1,800ft. of Grundig tape, allowing a maximum of three hours playing time, and retails at 100 gns.

The smaller two-speed Tape Recorder model TK.8/3D, retailing at 72 gns. and the TK.5 single-speed machine costing 53 gns. including microphone, are well established favourites.

Information on all three models of Tape Recorder is available on request.

Of interest to all Tape Recorder owners will be the wide range of accessories that GRUNDIG can offer. Foremost amongst these is the Four Channel Electronic Mixer Unit type GMU.3. Arranged for three microphone inputs and one higher level input, the GMU.3 has a cathode follower output suitable for most models of Tape Recorder. Two of the microphone inputs are polarised to allow the use of the GRUNDIG Condenser Microphone, renowned for its high sensitivity and good frequency response.

The remaining microphone channel is primarily intended for use with a ribbon microphone, while the low sensitivity input incorporates a " rumble filter " and is suitable for connection to a crystal pick-up unit or the high impedance output of a Tape Recorder.

The new long playing polyester tape now being distributed by Grundig gives a 50% increase in running time and costs no more per foot than the ordinary Grundig tape. It has a very high degree of recording and reproduction consistency and an enhanced high frequency performance. Further advantages are complete freedom from curl and extreme durability and strength. It will be included in the purchase price of all future tape recorders supplied by Grundig.

Members of the GRUNDIG staff will be available, both at the Booth and in the Demonstration Room, to answer to all queries whether of a general or technical nature.

TRADE NAMES: TK.5, TK.8, TK.830, GMU.3.

**"HI-FI NEWS"**
99 MORTIMER STREET
LONDON, W.1

PUBLICATIONS

**BOOTH 52**

DEMONSTRATION
**ROOM 320**

★ **"Hi-Fi News,"** the leading journal in the field of Audio and High Fidelity sound reproduction, offers the reader a complete monthly survey of all that is new, a wealth of easily readable and finely illustrated material. Its articles are well balanced, and of equal interest to experts and beginners alike. Its news content is always a jump-and-a-half ahead of its nearest competitors. Its reviews of available equipment are unbiassed, analytical and reliable. Its publishers claim for **"Hi-Fi News"** that its popularity among all sections of the community, and in all age groups, in almost every country in the world, is its best recommendation. Starting with an initial readership of 5,000 in June, 1956, **"Hi-Fi News"** has been making new friends at the average rate of over 600 per month ever since, and its sales are now well on the way to 20,000 monthly.

**Publishers: "Hi-Fi News," 99, Mortimer Street, London, W.1.**

★ ★ ★

★ **Record News,** celebrating its fifth birthday this month, is the world's finest and most complete guide to recordings from the classical repertoire. Its contents include a full classified monthly index of all releases, a selection of the month's outstanding discs, and details of applicable musical scores. Its review columns, by a panel of experts, cover 99% of the annual releases. Price 1/6 monthly. Specimen copy, gratis, on request from the publishers.

**Miles Henslow Publications, 99, Mortimer Street, London, W.1.**

★ ★ ★

★ **Hi-Fi Year Book** appears in its 3rd edition with this 1958 Audio Fair, and reaches nearly 10,000 readers each year. It is the accepted reference book of the trade, and its directory sections form the most complete and best illustrated guide to Hi-Fi and Audio products in the world. Price 10/6 (Post paid 11/6).

**Publishers: Miles Henslow Publications Ltd., 99, Mortimer Street, London, W.1.**

★ **NOTE—All these publications are produced by the same editorial office.**



**JASON MOTOR & ELECTRONIC CO. LTD.**
3/4 GREAT CHAPEL STREET
LONDON, W.1.
Tel: GER. 0273/4

AMPLIFIERS AND VHF TUNERS

**BOOTH 11**

DEMONSTRATION
**ROOM 249**

In addition to the standard products listed below, there is a new range of shelf equipment. **Switched tuner for shelf mounting FMS2.** Self powered. Price £23. 19s. 6d. including tax £6. 14s. 6d. Five valves employed including twin limiters, cathode follower output stage and Foster-Seeley Discriminator. Sensitivity 20 microvolts for 40 db quieting. Automatic frequency control ensures stability and freedom from drift.

**Switched tuner/AM tuner for shelf mounting Type AM/FMS2**
Automatic frequency control on the FM ensures complete stability and freedom from drift. Cathode follower output stage and Foster-Seeley Discriminator used. Sensitivity 20 microvolts for 40 dB quieting.
The AM side has an RF stage and 3 gang tuning giving good reception of Continental stations where possible. Sensitivity is in the order of 10 microvolts. The tuning range is 530 Kc/s to 1·63 mc/s (185 — 565 metres).

**AM/FM tuner for shelf mounting AM/FM2**
Price £45. 17s. 5d. including tax £12. 17s. 5d. (self-powered).
The sensitivity of the FM side is approximately one microvolt of 20 dB quieting. Two limiters are employed. The RF stage is a cascode and the mixer is a triode in order to achieve low noise. Three gang tuning covers 88 — 108 mc/s. The AM side with RF stage and 3 gang condenser tunes from 530 Kc/s to 1·63 mc/s (185 — 565 metres). There are two positions of variable selectivity ± 4 Kc/s and ± 8 Kc/s.

**Amplifier shelf mounting J10**
Self-powered. The input circuit accommodates mike, radio and two position of record correction marked 78 r.p.m. and 33 r.p.m. The sensitivity on the mike position is 1 millivolt and on the PU position 10 millivolts. The power response of the amplifier is flat ± 3db from 25 cycles to 20,000 cycles at 10 watts.
A successful model which has been available for a few months is the **Perfect switched tuner.** This unit employs 4 valves and is not self-powered. Price £15. 12s. 9d. including tax £4. 7s. 9d.
Automatic frequency control, a Foster-Seeley Discriminator and limiter stages are employed. The sensitivity is 100 microvolts for good limiting.

**Kits of parts for tuners will be shown**
The original Jason Kit FM, which is still one of the most popular models of which many thousands have been built, 4 valves are employed type EF91 or Z77. The sensitivity is approximately 75 microvolts for good limiting, i.e., 1 volt at the limiter grid. A ratio detector with 400 Kc/s bandwidth is employed. Also available is a kit for a switch tuner known as the Mercury which can be built for approximately £10. 0. 0.

**Stereo Equipment.**
A combined Amplifier and pre-amplifier will be shown which is approximately the same size as the J10 Amplifier. Each half will have the same performance as the J10 and the price will be £37. 10. 0. Two kits for pre-amplifiers will be shown, the more expensive will cost £16. 0. 0. without the eight valves required while the cheaper will cost £12. 18. 0. without the four valves required. The latter unit will also be available built.

TRADE NAME: JASON

**KOLSTER-BRANDES LIMITED**
FOOTSCRAY, SIDCUP, KENT

HIGH FIDELITY EQUIPMENT

**BOOTH 2**
DEMONSTRATION
**ROOM 203**

After years of intensive development, K-B are now entering the High Fidelity market with equipment of the highest performance, built to the finest engineering standards of reliability and robustness.

The equipment at present offered consists of a 12 watt power amplifier together with a control unit and a pre-amplifier. A companion AM/FM tuner unit is also under development.

The power amplifier has less than 0·1% distortion at 12 watts output at 1Kc/s, and the frequency response is within 1 dB between 10c/s and 30Kc/s. The amplifier is built on a printed circuit which improves the reliability and also ensures that the performance of all amplifiers is exactly as the original design. The pre-amplifier has inputs for pick-up, radio, magnetic tape and microphone. The selection of input is by means of a push button unit, the seven buttons being:

1. L.P. B.S.I. (R.I.A.A.) Characteristic.
2. L.P. original American Columbia Characteristic.
3. 78 r.p.m. B.S.I. (R.I.A.A.) Characteristic.
4. Radio.
5. Magnetic tape.
6. Microphone.
7. On/Off switch.

Bass and treble tone controls are provided, the ranges being +20 and −30 dB at 30c/s, and +16 and −16 dB at 10Kc/s. There are also sharp cut treble and bass filters. The treble filters cut at 4Kc/s, 7Kc/s and 11Kc/s. The slope is 60 dB per octave, and the throw-up is at least 35 dB down.

From the 4Kc/s filter the output at 9Kc/s is arranged to be at least 50 dB down, to act as a 9Kc/s whistle filter on AM radio reception. The bass filters cut at 40 and 80c/s with a 12 dB per octave slope. The harmonic distortion of the unit at full output at any setting of the controls is less than 0·1%. Plug-in adaptors are provided to match the different types of pick-up to the unit. This unit also is constructed on a printed circuit for increased reliability and the more accurate reproducibility. Both units are in completely enclosed steel cabinets. The control unit has a very attractive escutcheon of modern design.

These units will be available separately or else completely mounted in a wooden cabinet which also has provision for mounting a tape deck or transcription turntable, and a radio unit. There is also available a matching loudspeaker cabinet, specially designed to obtain the best possible response. This consists of a Goodmans' Axiom 150, 12″ Woofer speaker, together with a Goodmans' Trebax horn 'tweeter' loudspeaker with a suitable cross-over network. These are housed in a bass reflex enclosure incorporating a Goodmans' A.R.U. damping resistance unit.

These three items ensure the most faithful reproduction which it is possible to obtain with the most advanced techniques available today.

TRADE NAME: K-B



**H. J. LEAK & COMPANY LIMITED**
57/59 BRUNEL ROAD
WESTWAY FACTORY ESTATE
LONDON, W.3

HIGH FIDELITY AMPLIFIERS
PICK-UPS, F.M. TUNERS

**BOOTH 6**
DEMONSTRATION
**ROOM 328**

Being exhibited for the first time in England will be the new "POINT ONE PLUS" pre-amplifier which met with enthusiastic consumer acceptance when exhibited with the TL/12 PLUS, TL/25 PLUS, TL/50 PLUS amplifiers and "VARI-SLOPE III" pre-amplifier at the New York Audio Fair resulting in initial orders for 1,150 sets. Other items being exhibited will be the "TROUGH LINE" F.M. tuner and the "DYNAMIC" moving-coil pick-up.

The "POINT ONE PLUS" and "VARI-SLOPE III" pre-amplifiers are styled by the world-famous designers, Richard-Lonsdale Hands Associates, and designed by Harold J. Leak to give optimum results from any pick-up, any radio tuner and any tape recorder/reproducer available in the world, when used with the Leak "Point One" power amplifiers TL/12 PLUS or TL/25 PLUS or TL/50 PLUS.

For use by the music-lover at home the power output of the TL/12 PLUS, 12 watts, is ample: in electrical performance, reliability and craftsmanship it is an advance of the earlier TL/12 and similarly acceptable to the professional communications engineer.

LEAK amplifiers are the choice of professional engineers such as the B.B.C. (over 500 delivered), the South African Broadcasting Corporation (over 600 delivered), ITV and many other Commonwealth and overseas broadcasting and TV systems, who use them for transmitting and/or monitoring (quality checking) the broadcasts to which you listen. Also, many of the gramophone records you buy are cut via LEAK amplifiers.

It is appropriate here to mention one of the basic principles of LEAK design. From long experience and by extreme attention to design details during development work on the pre-production models, we enable our craftsmen to achieve a high output per man-hour. The labour costs thus saved offset the increased costs incurred for high-grade materials, components and finishes, and this together with quantity production (made possible only by a world-wide market) explains how quality products may be sold at reasonable prices.

TRADE NAMES: "POINT ONE", "TROUGH-LINE", "DYNAMIC"

**LOWTHER MANUFACTURING COMPANY**
LOWTHER HOUSE, ST. MARK'S ROAD
BROMLEY, KENT
Telephone: Ravensbourne 5225

ELECTRONIC AND ELECTRO-ACOUSTIC ENGINEERS

# BOOTH 42

DEMONSTRATION
**ROOM 315**

The Lowther Stand and Demonstration Room will present further steps " towards perfection " in all spheres of sound reproducing equipment.

The Lowther range leaves little to be desired but nevertheless at each London Audio Fair developments by Lowther's engineers keep this fine range of equipment among the foremost throughout the world.

The Lowther Corner Reproducer Type T.P.1 maintains its unique position as a major development in Electro-acoustic art, with its dynamic performance remains second to none. Reports from all parts of the world in many tongues acclaim the T.P.1 with one voice for its truly magnificent performance and ability in every branch of reproduced sound.

Further drive unit developments presented are the re-designed P.M.2 Mk.I and now a further introduction the P.M.2 Mk.II with 23,000 gauss, not forgetting the Lowther P.M.6 Drive Unit; this latter unit offers at a low price ' Lowther ' performance from small folded horn enclosures.

Lowther Power Amplifiers LL.10 and LL.16 together with Lowther Master Control Unit Mk.I, Mk.II and pre-amp No. 2 give wide choice in meeting the needs for all channels of reproduction and all ' pockets ', also further development of the LL.10 amplifier for stereo with its attendant control unit.

The Lowther Tape record bias and erase unit completes the chain for the tape recordist as with this unit and the M.C.U. Mk.II enable complete record and playback facilities with standard tape decks.

The advantage of using the high standard of the main equipment in this way is a very desirable feature.

Lowther F.M. Tuners have long since established themselves as the finest obtainable and now as a companion to the Mk.II is the Mk.III which is self-powered.

Lowther-Murray Transistor pre-amplifier units will represent the most important development, the circuit developed by J. Somerset Murray, B.A., A.M.I.E.E. for Lowther is of great importance in high quality sound reproduction and we believe the circuit technique to be extremely advanced (Patent applied for).

Absence of background noise and remarkable square wave performance leaves little, if anything, to be desired.

Three Lowther-Murray Transistor units for low level (few millivolts) at low impedance 5-60 ohms are in production. No. 1 high gain 100-1, No. 2 medium gain 45-1, No. 3 with correction (a) r.i.a.a. (b) ffrr 78 (c) Mic. high gain. This No. 3 unit is intended to be inserted in the " Radio " position; when in this position the battery is off.

The Lowther Moving Coil Pickup remains unchanged; whilst not providing interchangeable heads its performance is still laboratory standard.

Other Lowther supporting equipment will be on show, including Acousta Cabinet for P.M.6, drawings of the cabinet for ' Do it yourself ' construction, and now the introduction of ' Do it yourself ' kit. This comprises all component parts as used in our own production of this very successful folded horn enclosure. Two such units offer the ideal combination for stereo reproduction. They are free standing and this enables great versatility in placement.

TRADE NAME: LOWTHER



**LUSTRAPHONE LTD.**
ST. GEORGES WORKS
REGENTS PARK ROAD, LONDON, N.W.1
Telephone PRImrose 8844
Cables: LUSTRAPHON, LONDON

MICROPHONES, ANCILLARY EQUIPMENT INCLUDING TRANSISTORISED P.A. EQUIPMENT AND OTHER ACCESSORIES

# BOOTH 56

The emphasis on LUSTRAPHONE development during 1957 has been on the increasing study of Transistor application to Telecommunication and Audio equipment.

Following the introduction at the beginning of 1957 of the first Transistor Portable Public Address System and Transistor Audio Amplifiers, LUSTRAPHONE now introduces the first Transistor Four Channel Microphone Mixer Unit, as well as other important Transistorised intermediate equipment for Telecommunication and Intercommunication requirements.

Substantial advance has also been achieved in Microphone design. Firstly, an entirely new lightweight Noise Cancelling Microphone for Aircraft application has been designed. Secondly, due to the considerable growing interest in HI-FI reproduction and Tape Recording, Microphones of high average quality and of miniature design have been introduced.

An entirely new miniature Pencil Ribbon Microphone designed on the new Short Ribbon technique is being manufactured. Providing smooth and wide response, and permitting use as a close talking Microphone without danger of damage to the Ribbon element, this Microphone overcomes the many disadvantages inherent in the general use of the longer Ribbon element.

Other Microphones recently produced by LUSTRAPHONE and showing considerable recognition by all users are the miniature Electro-Magnetic 1″ × ¾″ Lapel Microphone, the Pencil Dynamic range of Microphones for open-air requirements, in addition to other units particularly designed for new Telecommunication and Audio equipment.

Full information on the above and other LUSTRAPHONE equipment can be obtained from the Booth or the above address.

TRADE NAME: LUSTRAPHONE

**M.S.S. RECORDING COMPANY LIMITED**
POYLE FARM, COLNBROOK
BUCKINGHAMSHIRE
Telephone: COLNBROOK 2431

SOUND RECORDING EQUIPMENT

**BOOTH 19**

DEMONSTRATION

**ROOM 242**

**Mastertape Magnetic Recording Tape** has been evolved through twenty-four years of experience in manufacturing recording equipment. It can be claimed that Mastertape is second to none for true reproduction. Experts in many fields use it and it is available to the general public at the same price as other makes.

**Tape Recorder CMR/DE.** A console model designed to make a true to life recording and to reproduce as it was performed. Commercial pre-recorded tapes can be reproduced to the best advantage. It includes the new M.S.S. tape transport mechanism Type 'D'. A British machine, considered by all who have heard it as the best obtainable.

The results of years of research and development have been incorporated in this model, giving the public the opportunity to possess a tape recorder which is reliable and efficient.

The CMR/DE, a console which will add grace to any home, has provision for the insertion of a F.M. Tuner unit (which can be supplied). This gives the owner a delightful instrument, making possible recordings of the highest quality.

**Loudspeaker LSX/1.** We have for a considerable time felt the need for a loudspeaker small in size but capable of really high fidelity reproduction at normal listening levels in the home. The introduction of smaller wide range speaker units has now made this possible and using a specially designed enclosure a substantially level response from 50 c.p.s. to 15,000 c.p.s. free from frequency doubling and external reflection effects has been achieved.

Bearing in mind that this loudspeaker will in general be used in the home the appearance is also of importance. The enclosure is housed in a veneered finish walnut cabinet beautifully finished and of very pleasing proportions. A separate walnut base is provided to bring the speaker to a suitable height for the best distribution of the sound.

**Mixer 4M2W.** A microphone preamplifier giving facilities for mixing four microphones, each with its separate control.

**Blank Disks.** In 1930 C. E. Watts, the founder of this company, invented the first cellulose lacquer-coated disk. Thanks to that pioneering spirit M.S.S. blank disks have remained foremost in the world of sound recording.

TRADE NAME: MASTER SOUND SYSTEMS



**MINNESOTA MINING & MANUFACTURING CO. LTD.**
3M HOUSE, WIGMORE STREET
LONDON, W.1.

MAGNETIC TAPES AND ACCESSORIES

**BOOTH 48**

DEMONSTRATION

**ROOM 231**

The Minnesota Mining and Manufacturing Company Limited is exhibiting and demonstrating their wide range of "Scotch Boy" Magnetic Recording Tapes. The Company is represented in the main Exhibition Hall where Tapes and Tape Accessories are on display and also in the "Tape Clinic" which occupies a two-room suite.

**TAPE CLINIC**

This consists of two sections:—

1. In one room, which seats approximately 24 people, recorded talks illustrated with colour slides will be repeated at intervals throughout the day. These talks describe the handling and use of "Scotch Boy" Magnetic Recording Tapes and accessories and explain the workings of the Tape Recorder.
2. In the other room, 3M personnel are on hand to explain the many applications of "Scotch Boy" Magnetic Recording Tapes.

**SPECIFICATION OF "SCOTCH BOY" MAGNETIC RECORDING TAPES AND TAPE ACCESSORIES**

All these tapes are silicone-treated with a dry lubricant during manufacture in order to reduce friction and wear on recording heads. The coatings are perfect to one ten thousandth of one per cent error. Frequency response is limited by the equipment used but 15 kcs is obtainable at a tape speed of 7·5 in./sec.

**"SCOTCH BOY" NO. IIIA STANDARD**

This cellulose-acetate tape with a reddish-brown oxide coating is the international standard of the recording industry. Believed to be Britain's lowest priced magnetic recording tape, it is available as follows: 200ft. @ 6/3d. 600ft. @ 16/-. 850ft. @ 22/-. 1200ft. @ 27/-. and 2,400ft. @ 61/-.

**"SCOTCH BOY" NO. 111V SUPER P.V.C.**

This P.V.C. base, specially tensilised (stretched) for magnetic tape manufacture gives extra strength and easier handling, and superb conformability to spools and recording heads. Perfect for long storage — it is available in the following reel lengths:— 200ft. @ 7/6d. 600ft. @ 21/-. 850ft. @ 28/-. 1,200ft. @ 35/-. 2,400ft. @ 78/9d.

**"SCOTCH BOY" NO. 150 EXTRA PLAY**

Manufactured from weather balanced super strong polyester, the extreme thickness of the backing gives 50% more playing time than other tapes on the same spool size. Available in the following reel lengths: — Special Dictation reel at 16/- for Office Dictation machines. 300ft. @ 9/6d. 900ft. @ 28/-. 1,275ft. @ 35/-. 1,800ft. @ 50/-. 2,400ft. @ 72/6d. 3,600ft. @ 110/-.

**NO. 41 SPLICING TAPE**

Designed for editing and splicing tapes with all types of backing. Polyester Leader Tape in three colours — red, white and green can also be used to identify selections within the reels. Empty spools in a full range of standard sizes, in strong plastic are also available.

**MULLARD LTD.**
MULLARD HOUSE
TORRINGTON PLACE
LONDON, W.C.1

**BOOTH 32**

DEMONSTRATION
**ROOM 245**

VALVES, TUBES, SEMICONDUCTORS AND COMPONENTS FOR AUDIO, RADIO AND TV EQUIPMENTS

Mullard Audio Valves constitute a comprehensive range from which line-ups can be selected for all types of audio amplifiers. Their world-wide availability has lead to the range being named the Mullard World Series of Audio Valves. They are fitted as standard in domestic and public address equipments made by leading manufacturers, both in this country and overseas.

The range includes three output pentodes, EL84, EL34 and UL84.

The Mullard EL84 can give over 5·0W in a class "A" single-ended output stage. In Class "AB" push pull, two of these valves will yield an output of up to 17W at a very low distortion level. The UL84 is designed for use in series operated circuits.

Two Mullard EL34 output pentodes in push-pull can deliver an output of 20W at 0·8% total harmonic distortion or 37W at 1·3% distortion.

In the semi-conductor field, Mullard have made great advances and present a complete range of p.n.p. alloy junction transistors for battery-operated audio amplifiers and pre-amplifiers. Among the transistors included in this range are OC16, an all-metal power transistor for use in the output stages of medium power amplifiers; and OC72 which may be used as a driver for OC16, or, in matched pairs, in push-pull output stages in portable record players, OC71 being suitable for use in early gain stages.

TRADE NAME: MULLARD



**MULTIMUSIC LTD.**
**REFLECTOGRAPH DIVISION,**
MAYLANDS AVENUE
HEMEL HEMPSTEAD, HERTS

**BOOTH 39**

DEMONSTRATION
**ROOM 128**

MONAURAL PROFESSIONAL TAPE RECORDERS — REPRODUCERS. STEREOPHONIC REPRODUCERS WITH MONAURAL RECORDING AND REPRODUCTION CONTINUOUS TAPE PLAYERS WITH AUTOMATIC REVERSING

The Reflectograph 'hammered gold" and cream tape deck now incorporates push-button playback and record buttons and a neon lit stroboscope on the capstan.

This deck is unique in providing variable speed between 8 and $3\frac{1}{2}$ i.p.s. The stroboscope showing the precise speeds $7\frac{1}{2}$ and $3\frac{3}{4}$ i.p.s. Lever deck controls achieve variable speed, wind forward and back from extra fast to inching for editing, for which sound is available. Three Garrard motors ensure silent and reliable operation. Editing is facilitated by straight slot loading of the tape, a clock type tape position indicator and a " Bib " tape splicer. Reels up to $8\frac{1}{4}$" may be used. 3 heads are fitted and the separate record and replay amplifiers enable instant comparison to be made between the input and the signal recorded on the tape.

The neat instrument panel of the amplifiers include a peak level recording meter, tape-input switch, which is used to compare the input signal with that recorded on the tape and separate gain controls for the amplifiers. The panel of Model 500 has sockets for microphone, radio or pick-up, output from the playback pre-amplifier and to a 15 ohm loudspeaker.

Reflectograph 500 is self contained. The portable duo-tone case is finished in luxan hide and pigskin colours. The replay amplifier provides 3 watts undistorted output and two matched loudspeakers are incorporated.

Reflectograph 400 is supplied in three units for incorporation in furniture: deck mounted on a stand, combined record amplifier and playback pre-amplifier and the power pack. The units, complete with inter-connecting leads, have been designed for operation in conjunction with high fidelity amplifiers. Technical specification is similar to Model 500 but as no output stage is incorporated the output is 100 mv R.M.S. Additional facilities include sockets on the chassis for radio and pick-up. An additional switch on the instrument panel provides instant selection of microphone, radio or pick-up.

Reflectograph 550 has a similar technical specification to Model 500 but provides also for stereophonic reproduction of tape or records. Contained in a cabinet a separate panel permits the leads from a pick-up, radio and to the two loudspeakers to be plugged in and out quickly. The high precision stereo head permits one track of a two track monaural tape to be reproduced with negligible ' cross-talk '.

Models 440 and 540 conversion units enable owners of Models 400 and 500 to have their instruments converted to reproduce stereophonic tapes and records.

Reflectograph continuous players Models 81 and 90 series provide continuous reproduction of tapes on $8\frac{1}{4}$" and 14" reels respectively. Automatic reversal of tracks is achieved by tone or light and all these machines may be operated by a clock or remotely.

TRADE NAME: REFLECTOGRAPH

**PAMPHONIC REPRODUCERS LIMITED**
17, STRATTON STREET
LONDON, W.1

**BOOTH 24**

DEMONSTRATION
**ROOM 224**

SOUND REPRODUCING EQUIPMENT

For more than 30 years Pamphonic have specialised in design and production of sound reproducing equipment for both industrial and domestic use. High Fidelity equipment, listed below, is being shown and demonstrated at this Audio Fair and is the result of those years of development.

**Model 2001/2001A 25 Watt Amplifier and Pre-Amplifier Control Unit**

With a frequency response flat from 2 to 80,000 cycles, hum and noise 90 dB below full output and total harmonic distortion less than 0·5% this Amplifier is unsurpassed in fine engineering and production systems. Other features: achieves a damping factor adjustable to infinity by the use of both positive and negative feedback; the pre-amplifier employs a cathode follower output circuit permitting remote control of amplifier output up to 25 ft. distance without loss; inputs for AM/FM tuner, tape recorder, gramophone and microphone; continuously adjustable bass and treble controls with 4-step steep cut filter.

**Model 1002B Push Button Pre-Amplifier**

Designed as an alternative to the Model 2001A pre-amplifier above, for the discriminating enthusiast. Six buttons give an individual correction network in addition to manual controls.

**Model 1004 10 Watt Integrated Amplifier**

One complete chassis and control panel, on which three correction networks are provided to cover the majority of recording characteristics; separate bass, treble and volume controls and the refinement of a contour control for low level reproduction; inputs for AM/FM tuner, tape recorder, microphone, gramophone.

**Victor Loudspeaker**

The well-proved 15 watt Senior and 10 watt Junior models in specially designed reflex cabinets. Faithful reproduction 30 c/s to 20,000 c/s; Senior bass unit 15″ cone 16,000 gauss, Junior 10″ cone 12,000 gauss; 6″ elliptical treble unit with cross-over network and treble attenuator switch for room matching.

**Loudspeaker Kits, Type 512G**

For fitting in the customer's own suitably designed furniture cabinets. These kits have the same design and performance as the Victor Junior cabinet Loudspeaker internal units.

**F.M. Tuner, Model 640**

Designed for cabinet mounting or for free standing use with High-Fidelity amplifying systems giving perfect reception within the transmission service area of FM signals over the 86-103 megacycle band.

**AM/FM Tuner, Model 645**

The latest addition to our range, designed to provide high quality reception from the BBC VHF transmitters and from stations in the Medium Wave Band (185-565 metres). Features: automatic frequency control; Foster-Seeley discriminator; designed for ½ megohm output load; visual tuning indicator; switched spot tuning on VHF.

**Orpheus Record Reproducer**

A table model, with bass and treble loudspeakers, 4-speed auto change turntable with manual position.

**Model 600W Amplifier**

For 12 volt DC and AC mains input; 10 watt output at 100v RMS for Public Address work; two microphone inputs mixable by independent volume controls.

Other special equipment as announced.

TRADE NAMES: PAMPHONIC, AB-FI, PARAMPHONIC



**PHILCO (Great Britain) LTD.**
30/32, GRAYS INN ROAD
LONDON, W.C.1.

**BOOTH 29**

HIGH-FIDELITY RECORD
PLAYERS AND RADIOGRAMS

DEMONSTRATION
**ROOM 204**

**Model 50.** Philco "Trio" is a handsome 3-speaker consolette giving a 3-dimensional diffusion of sound. Every record sound is reproduced with amazing faithfulness and clarity.

It is housed in a modern styled waxed finished sapele mahogany-veneered cabinet of acoustically balanced construction throughout to eliminate resonance, and is supplied with contrasting black legs with brass ferrules. It is fitted with a Garrard Mark II 4-speed automatic changer with turnover crystal cartridge fitting two long-life sapphire stylii. Separate bass and treble controls, both continuously variable, are provided also a tone-compensated volume control for low-level listening. All the controls can be operated while the lid is closed.

The amplifier has a push-pull output stage with overall negative feedback producing 6 watts, delivered through a front-facing 10″ × 6″ bass speaker and two side-facing 4″ square dynamic speakers. Sockets are provided for use with Philco FM Tuner 3720, which converts the player into a High-fidelity FM radiogram for reception of BBC VHF/FM transmissions.

**Model 3764.** Philco "Phonorama" High-fidelity VHF/FM radiogram is a recent addition to the Philco range. It offers the finest sound reproduction to-day for this size of instrument. It has a Garrard Mark II 4-speed automatic changer with turnover crystal cartridge fitting two long-life sapphire stylii.

The audio amplifier consists of a pre-amplifier and ultra-linear push-pull output stage producing 10 watts. Two speakers are used, both forward facing, a high flux 8″ full range speaker, supplemented by a 4″ dynamic treble speaker in conjunction with a sound diffuser. The instrument should be played with the specially developed lid closed, when the cabinet forms a two-stage loaded enclosure, which, in conjunction with a frequency selective acoustical coupling unit increases the speaker efficiency at very low frequencies and reduces distortion.

It has a frequency response of 60 c.p.s.-15 K/cs with a useful range above and below. VHF/FM gives full International coverage, 87·5-108 mc/s.

The cabinet is constructed of heavy timber, contemporary in style, highly polished walnut-veneered with matching removable legs. The speaker grille is a newly developed concave presentation with gold-flecked speaker silk. The gramophone compartment is lined with washable P.V.C.

**Model 3762.** Philco proudly present for the first time the "Fashion," a portable high-fidelity 4-speed record player of outstanding appearance and brilliant performance. The changer unit will play any size records from 6″-12″ diameter (not intermixed) and at all speeds, taking 10 records at one loading. Provision for manual play at all speeds for all record sizes.

The amplifier has a push-pull output stage delivering 6 watts through two forward facing speakers. Separate treble and bass tone controls are provided, the treble being continuously variable and the bass of push-button type, three positions.

The easy-carry cabinet of new design is of wooden construction, covered in grey P.V.C. cloth with starched woven cotton speaker grille.

**Model 3720.** This is an outstanding FM tuner designed to convert any AM radio, radiogram, record player or audio amplifier for interference-free reception of VHF radio. The unit incorporates its own power supply and is especially suitable for use with Philco high fidelity record players. It gives full International coverage of 87·5-108 mc/s. The cabinet is of selected walnut veneers with a new type leathercloth employed on front with a well-illuminated horizontal slide rule type tuning scale.

A three-position selector switch is fitted for switching tuner off/on, to Gram or to F.M.

TRADE NAME: PHILCO

**PILOT RADIO LIMITED**
HIGH FIDELITY DIVISION
PARK ROYAL ROAD
LONDON, N.W.10
Tel: Elgar 7353

**BOOTH 27**

DEMONSTRATION
**ROOM 206**

SOUND REPRODUCTION EQUIPMENT
RADIO AND TELEVISION RECEIVERS

In the first twelve months since their introduction, the two Pilot amplifiers have gained, at home and abroad, a reputation as equipment of consistently high quality combined with fine presentation. Model HFA.11 has been selected by the Council of Industrial Design for inclusion in " Design Review " and exhibition at the Design Centre. Model HFS.14 was introduced to cater for those requiring a compact corner speaker unit capable of a very high standard of performance.

**HFA.11 Combined Amplifier and Control Unit — 30 Gns.**
This unit provides 10 watts of undistorted power with extremely low intermodulation and harmonic distortion, and noise level. Controls include rumble and scratch filters and a loudness compensating control. The high sensitivity allows all pick-ups to be used, and also has full facility for tape replay and record.

The smart, compactly styled "pancake" case completely housing the equipment is ideal for table-top and shelf installation or can be panel installed. The cabinet is finished in maroon and gold with brushed brass cover.

**Specification** (for full output): Hum Level — –80 db. Power Output — 10 watts. Sensitivity: Magnetic p.u. — 3/5 mV; Crystal p.u., radio, tape, aux. — 120 mV. Harmonic Distortion — less than 0·1% at 1 Kc/s. Negative Feedback — 21 db. Speaker impedances — 3, 8 and 15 ohms. Power Consumption — 70 watts, 110, 200/250 volts A.C. Frequency response — 20 to 20,000 c.p.s. ± 1 db. Valves: 3, ECC83; 2, EL84; 1, EZ81.

**HFA.12 Power Amplifier and Separate HFC.12 Control Unit Pre-Amplifier — 36 Gns.**
**Unit/Pre-Amplifier — 36 Gns.**
This amplifier system is rated at 12 watts and incorporates all the features of the HFA.11. In addition the unique muting switch allows convenient desensitising of the amplifier for silent record and equipment changeover. The filter has four positions 5, 7, 10 Kc/s and "out". High and low magnetic pick-up sockets increase the signal inputs to six sources.

The HFA.12 amplifier is contained in a gold sprayed case, whilst the HFC12 control unit follows the new "pancake" styling for attractive home presentation.

**Specification:** Similar to HFA.11 except for 12 watts output, additional input socket, stepped filter and muting switch.
Valves: (HFA.12) 1, EF86, 1, ECC82; 2, ELS4; 1 5Z4.
(HFC.12) 2, EF86; 1, ECC82.

**HFS.14 Corner Speaker Enclosure — 28 Gns.**
The speaker enclosure is of the corner reflex type with ports for sound diffusion. The full range 12″ speaker has a plastic foam surround. Sapele mahogany veneers are used for the cabinet which stands on short legs. The front is in washable Tygan.

The cabinet design makes the HFS.14 ideal for positioning in an average room and takes up the minimum of space.

**Specification:** Speaker — 12″ round on cast hammer finish chassis. Frequency response — 30 to 16,000 c.p.s. Flux density — 15,000 lines per sq. cm. Power capacity — 6/8 watts. Impedance — 15 ohms. Cone suspension — plastic foam. Height (including legs) — 3′ 0″. Width — 1′ 9″. Depth — 1′ 2″.

TRADE NAME: PILOT



**PYE LIMITED**
RADIO WORKS, CAMBRIDGE

**BOOTH 57**

DEMONSTRATION
**ROOM 327**

MANUFACTURERS OF RADIO,
TELEVISION AND HIGH FIDELITY
SOUND REPRODUCING EQUIPMENT

**Two Unit Hi-Fi** is the theme of this year's Pye exhibit. The brilliant new HF10 " Mozart " amplifier is now offered in an elegant Lowboy cabinet finished in walnut veneers. The Mozart Lowboy cabinet is built to incorporate a transcription unit and the well-known HFT111W FM/AM Tuner, in a matching finish. The addition of the HF12SMT loudspeaker completes a high fidelity system ideal for any home. Frequent demonstrations are held.

**BLACK BOX RANGE**
The world famous Black Box is exhibited with the Super Black Box, a beautiful instrument featuring the Infinite Throat electrostatic speaker which with two normal speakers does full justice to its High Fidelity Amplifier.

**AMPLIFIERS**
Pye printed circuit reliability is illustrated in the new " Mozart " 10 Watt Amplifier, model HF10. This compact amplifier fits easily into the smallest bookcase and its 10 Watts undistorted output is ample for use with the largest home high fidelity systems. The printed circuit chassis with only 3 valves, a metal rectifier and a minimum of capacitors is a guarantee of outstanding reliability. The Mozart is available in chassis form or in a discreet metal cabinet.

The PROVOST (HF25) amplifier and PROCTOR (HF25A) pre-amplifier provide a distortion free response from 2 to 160,000 c.p.s. at an output of 25 watts. Full compensation, control, input and output facilities are available.

**TUNER UNIT**
The Pye HFT111 is a deservedly popular AM/FM unit designed and built to exacting High Fidelity standards. The tuner incorporates an 8 valve chassis for perfect fringe area reception, drift-free permeability tuning and a phase discriminator circuit for minimum distortion. It has its own power pack and magic-eye tuning. The HFT111 is available in cabinet form, HFT111W with its own internal FM aerial, and in chassis form with a choice of horizontal or vertical tuning scale.

**LOUDSPEAKERS**
A luxury corner loudspeaker system will be shown for the first time and is designed for use with our HF25 amplifier.

The HF12SMT is a 12 watt Contemporary speaker designed to provide high fidelity response at reasonable cost. The 12″ speaker and 'tweeter' assure faithful rendering of all frequencies from 30-15,000 c.p.s.

The HF12BS is a beautifully compact 12 watt Bookcase Speaker for the home where space is the major consideration. Twin 8″ high Flux speakers are mounted in an acoustical chamber for optimum performance.

TRADE NAME: PYE

**PYE RECORDS LIMITED**
66, HAYMARKET
LONDON, S.W.1
GRAMOPHONE RECORDS

**BOOTH 58**
DEMONSTRATION
**ROOM 122**

Pye Records Limited manufacture **Pye, Nixa, Mercury, EmArcy** and **Vanguard** Records in the United Kingdom.

In our Demonstration Room Audio enthusiasts will be able to hear the latest examples of the high quality recording techniques developed by the Company. They will be able to discuss the details of these recordings with members of the Technical Staff actually engaged in their production and thus to learn something of the complex operation needed to produce the high quality gramophone record which is taken so much for granted today. The gramophone record is the starting point in almost every high fidelity system and the quality of the recorded performance has to be maintained at a high level in order to provide a signal source which will enable the playback equipment to give the most satisfactory results.

We believe that this is the first time at any London Audio Fair that the opportunity has been offered to Visitors to explore the technical aspects of professional record manufacture.

Record lovers will be interested to hear recordings of such renowned artists as: **Sir John Barbirolli, Sir Adrian Boult, Richard Farrell, Iso Elinson, Karl Haas, Gwen Catley, Norman Foster, Antal Dorati, Paul Paray, Erich Kunz, Mario Rossi, Felix Prohaska, Anton Paulik, Howard Hanson, Frederick Fennell, Stanford Robinson, Hermann Scherchen, Artur Rodzinski, Badura-Skoda, Mindru Katz, Evelyn Rothwell, Michael Tippett,** and **Alan Schiller** among many others; and of many leading Artists in the Popular and Jazz fields of music.

TRADE NAMES: PYE, NIXA, MERCURY, EMARCY, VANGUARD



**THE RADIO GRAMOPHONE DEVELOPMENT CO. LTD.**
EASTERN AVENUE WEST
ROMFORD, ESSEX

HIGH FIDELITY EQUIPMENT

**BOOTH 17**
DEMONSTRATION
**ROOM 149**

Claimed to be one of the first true high fidelity systems in the world to be supplied in one cabinet, the 418 (Victoria) is the principal—and perhaps the most intriguing—exhibit by this company. The production of this instrument may well be regarded as a logical extension of the thirty years work that has made the Radio Gramophone Development Company—which was founded by two electronic engineers with the sole object of creating perfect sound reproducers—a name respected by every connoisseur of home entertainment.

The elegant cabinet—available veneered in Walnut, Sapele Mahogany or Blonde Oak—houses a high-fidelity system that is advanced in design yet simple to operate. It incorporates a Goldring Reluctance pick-up and preamplifier, with diamond stylus, and the friction-loaded speaker chamber—with acoustic resistance unit—contains five speakers in two cross-over networks. Amplifier response—15 cycles—20 Kc/s. The peak push-pull output is 13 watts, there are 10 valves and the receiver provides full international waveband coverage plus F.M. This remarkable instrument is priced at 147 gns. (tax paid).

The second important exhibit by the RGD company is their VHF/FM-AM T.1 Tuner Amplifier. This unit, supplied in a continental-designed cabinet in a choice of light or dark veneers, has 10 valves (with electronic tuning indicator). There are separate controls for bass and treble compensation, and the " piano-key " type of push-button wave selector. Push-pull output is 16 watts (peak power).

The unit incorporates built-in aerials—Ferrite Rod for AM; Folded Dipole for FM—and covers the following wave bands:—

Long wave: 1000-2000m. 150-300 Kc/s.
Medium wave: 187-565m. 530-1600 Kc/s.
Short wave: 17·5-50m. 6-17 Mc/s.
Ultra short wave: (FM 3·45-3m.) 87-100 Mc/s.

This new tuner amplifier, which costs 49 gns. (inc. tax) will be displayed and demonstrated in conjunction with a Garrard Transcription Motor Unit, Model 301, and two speaker systems — the Goodman 351 system and the Goodman Sherwood system.

TRADE NAME: R.G.D.

**RCA GREAT BRITAIN LTD.**

LINCOLN WAY, WINDMILL ROAD
SUNBURY-ON-THAMES
MIDDLESEX

**BOOTH 49**

DEMONSTRATION
**ROOM 109**

NEW ORTHOPHONIC MATCHED HIGH FIDELITY UNITS AND READY TO PLAY HIGH FIDELITY RECORD REPRODUCERS

Whatever your need in high fidelity, specify RCA. RCA's 30 years experience in professional sound engineering brings you superlative quality in a range of new high fidelity instruments designed to suit every length of pocket.

RCA can meet your every requirement in:—a complete range of matched New Orthophonic High Fidelity Units. A range of self contained, plug in and play high fidelity record reproducers of outstanding quality. Public address equipment, unique in its versatility and quality available in rack, cabinet or transportable form, and professional quality microphones, used by studios the world over.

The range of RCA New Orthophonic High Fidelity is further extended this year by the addition of two new units. A Power Supply Unit for those who prefer an independent FM Tuner arrangement and an elegant lowboy cabinet to house the range of New Orthophonic Units.

**RCA NEW ORTHOPHONIC PREAMPLIFIERS AND POWER AMPLIFIERS** form the nucleus of the RCA Unit high fidelity system. The beautifully engineered preamplifier incorporates every possible refinement for reproduction from records, tape, radio and microphone and presents a stylish appearance which blends with both contemporary or traditional domestic furnishings. The power amplifier is capable of delivering its peak power over the entire audio frequency range, and has an exceptional specification in all respects. With the RCA amplifier and control unit, music lovers can experience a new realism from every recording and sound broadcast.

**THE RCA FOUR-SPEED TRANSCRIPTION DECK AND PICKUP** brings together a precision engineered motor with a heavy, dynamically balanced turntable mounted on high grade bearings ensuring complete freedom from speed fluctuation, with the RCA balanced 8 pole Variable Reluctance pick-up. The pick-up is available in two lengths with single or dual sapphire or diamond stylus arrangements.

**THE SUPER SENSITIVE RCA FM TUNER** is the result of years of painstaking design and reserach in the famous RCA laboratories. Its seven valves (plus 2 crystal diodes and tuning indicator) provide it with a super sensitivity of 2 microvolts for 20 Db quietening giving exceptional results in difficult fringe areas. AFC ensures complete stability whilst the new RCA electron ray tuning indicator makes precision tuning simplicity itself. Designed as a companion piece to the New Orthophonic amplifier, the RCA FM Tuner matches the preamplifier in its appearance. A new Power Supply Unit is also available to power the tuner for those who prefer an independent unit arrangement.

**THE RCA PANORAMIC MULTIPLE SPEAKER SYSTEM** is of the highest quality, its response extending over the entire audio frequency range. It is housed in a ported bass reflex cabinet with attractive alternative finishes.

**THE LOWBOY CABINET,** craftsman built, with beautiful walnut and light oak finishes, can house the range of RCA high fidelity units.

**RCA PLUG IN AND PLAY HIGH FIDELITY RECORD REPRODUCERS,** a complete range of self-contained high fidelity instruments designed to meet your particular need.

TRADE NAMES: RCA, NEW ORTHOPHONIC HIGH FIDELITY



**ROGERS DEVELOPMENTS (Electronics) LTD.**

RODEVCO WORKS
4-14, BARMESTON ROAD
CATFORD, LONDON, S.E.6

**BOOTH 45**

DEMONSTRATION
**ROOM 141**

EQUIPMENT FOR HOME HIGH FIDELITY SYSTEMS

An entirely new inexpensive amplifier and control unit, namely the RD CADET, will be exhibited and demonstrated for the first time at this year's Audio Fair. Designed for the smaller home high fidelity system the amplifier employs a pair of Mullard ECL83 Valves and has a nominal output of 5 watts. It features an output transformer with grain orientated laminations. The associated control unit is essentially a simplified version of the JUNIOR Control Unit with reduced sensitivity and the Low Pass Filter omitted.

The Mk.II version of our JUNIOR Control Unit introduced towards the end of last year has proved immensely popular and, together, with its associated Main Amplifier provides the ideal basis for the average home high fidelity system. Particular features are the inclusion of an effective Low Pass Filter and the high input sensitivity, which permits complete freedom of pick-up selection. The Main Amplifier is continued unchanged and has now entered its 4th year of uninterrupted production.

In the higher price bracket the Mk.II version of our SENIOR Amplifier, which was introduced for the first time at last year's Audio Fair is, also, proving extremely popular and is now available with an improved Mk.IV version of the SENIOR Control Unit, which features greater input sensitivity and the inclusion of a low impedance cathode follower output. Due to its comparatively high output and its complete stability under all forms of load the SENIOR Amplifier is particularly recommended for use with the new Electrostatic Loudspeakers.

The RD JUNIOR FM Unit which may be used with any one of the three Amplifiers is now available in a completely self-powered version featuring a contact-cooled rectifier. Otherwise this firmly established design is continued unchanged.

Demonstrations will include both the RD CADET and RD JUNIOR Amplifiers used in conjunction with our JUNIOR Corner Horn Enclosures fitted with Lowther Model P.M.6 Pressure Units. A combination, which is proving increasingly popular. Programme sources will include disc records, tape and FM transmissions and equipment cabinets will include our RD SENIOR Console, which may be used to house both tape and disc record equipment. We would emphasize that all equipment exhibited and demonstrated is standard in every respect and is not modified in any way for demonstration purposes.

TRADE NAME: "RD".

**ROLA CELESTION LIMITED**
THAMES DITTON
SURREY

LOUDSPEAKERS FOR ALL PURPOSES

**BOOTH 61**

DEMONSTRATION
**ROOM 247**

The culmination of many years of research by Rola Celestion engineers has resulted in the production of the " DIAPASON ' and " COLAUDIO " models.

**DIAPASON**

**Model 1510.** This large Direct Radiator Loudspeaker has been specially designed to produce the lower audio frequencies with the utmost fidelity. A marked roll off in the frequency response above 800 cycles eliminates the necessity for elaborate dividing networks. The cast housing couples rigidity with accuracy to form a pleasing design. A feature of this unit is the large voice coil and dust-proof suspension. The latter is of the annular type permitting free cone excursion whilst reducing the lateral movement to a minimum. The correct cone edge termination is achieved by a surround of plastic foam.

**DIAPASON**

**Model 1520.** This model is similar in design to the DIAPASON 1510 but has an extended frequency range that allows it to be used in conjunction with a high note speaker as a complete wide range combination.

**COLAUDIO**

**Model 1550.** This excellent wide range loudspeaker combines the qualities of the DIAPASON units with a high note reproducer of new design employing ' line source ' technique. With this technique the higher frequencies are dispersed over a wide area in the horizontal plane with a narrow vertical lobe; thus achieving the greatest efficiency where required and minimising unwanted reflections.

The high note reproducer incorporates two pressure driven units mounted in column form, within the cone of the bass radiator.

TRADES NAMES: ROLA, CELESTION



**SIMON SOUND SERVICE LTD.**
48 GEORGE STREET
PORTMAN STREET, W.1

RECORDING AND ASSOCIATED EQUIPMENT

**BOOTH 47**

DEMONSTRATION
**ROOM 227**

Recording enthusiasts will be delighted with the new Simon SP/4 on show at this year's Fair. Quite apart from the very pleasing styling which Mr. Peter Bell has devised, a brand new Simon Automatic Deck has been incorporated. This beautifully engineered unit offers the user the facility to play both tracks consecutively without any need for attention—not even a button has to be pressed. The track reversal operation is completely automatic, both on record and replay, although in order to prevent accidental erasure of a recording, the reversal takes place only once in the record position and the deck automatically stops itself, having recorded both tracks. On replay, however, the tape may be repeated as often as is required.

The beautifully styled deck offers full push button control with automatic locking which makes unintentional erasure extremely difficult. Two automatic stop devices are incorporated, one working off the now well-known metallised strip and the other offering mechanical automatic stop should tapes without metal strips be used.

10 Watts output is provided in push/pull into 15 ohms by means of the ultra-linear amplifier built into the unit. The internal loudspeaker system has a limiting device incorporated to obviate overload.

Three-input mixing facilities are built in: (1) high-Z microphone, (2) low-Z microphone, (3) radio/gram. Under recording or P.A. conditions any of these inputs can be mixed, each being provided with an independent volume control. On playback, inputs 1 and 3 can be mixed with the playback tape signal, again with independent volume control.

Independent control of bass and treble gives both lift and cut on playback and P.A. operating conditions, Treble lift at 12,000 c.p.s. + 6db; treble cut — 18db. Bass lift at 50 c.p.s. + 6db; bass cut — 18db.

The new, Simon designed and manufactured, heads ensure that the full advantage offered by the very fine amplifier may be taken from the taped signal. The head design follows closely to the techniques evolved for the very extensive control equipment developed for the Steel Company of Wales.

A good microphone will help you achieve that elusive " professional " result. The Cadenza Ribbon Microphone introduced to the public at last year's Fair, is of course, available for inspection. Its dual impedance head (30 ohms and 80K ohms) provides an extended frequency response with high sensitivity making it suitable for a very wide range of application — domestic and studio recording, P.A. work, communications — in fact for any purpose for which a first class microphone is required.

Overall design responsibility for both products — Eric Tomson, Chief Engineer, Simon Equipment Ltd. Styling — Peter Bell, M.S.I.A.

TRADE NAME: SIMON, CADENZA

**SONOMAG LIMITED**
2, ST. MICHAEL'S ROAD
STOCKWELL
LONDON, S.W.9.

**BOOTH 53**

DEMONSTRATION
**ROOM 222**

TAPE RECORDERS

The Sonomag Adaptatape was the first system successfully to use a special hi-fidelity pre-amplifier, forming an integral unit with the latest Collaro deck. Although imitated, this has never been surpassed. Its effect is to couple a tape transcriptor to your own high-quality amplifier and speaker system. The price of 42 gns. include a special power pack; tape and microphone extra, to choice.

The Sonomag portable tape recorder, built to a very high standard, embodies the latest Collaro deck. The "Classic" in attractive lizard-skin finish, is 54 gns. The "Continental", a very gay attractive contemporary design in red and white polka dot (or black and white polka dot) rexine with superior fittings is 56 gns. Both models include high-grade elliptical speaker, 1200ft of tape, and first grade moving-coil microphone.

The Sonomag "46", priced at only 46 gns., uses the new Motek three-speed deck. The lowest in price of the Sonomag range, this is the most inexpensive quality tape recorder on the market.

The Sonomag "Elon" tape recorder, a long established favourite, is now made entirely at the Sonomag works. It offers a larger speaker, refinements of switching, monitoring, superimposition facilities, and is priced at 66 gns.

The Sonomag "70" is a console model tape recorder and reproducer. The latest Collaro three-speed twin-track transcriptor deck, with the same hi-fidelity pre-amplifier used in the Sonomag Adaptatape, is coupled through a high-quality combined control unit and main amplifier, delivering over 4 watts undistorted output to three loud speakers housed in a special acoustic bass reflex chamber. A radio-tuner or record player may be connected at will. The valve line-up uses nine of the latest valves and two special power packs. Priced at 70 gns., this is phenomenal value. Tape and microphone extra, to choice.

All Sonomag cabinet work and case covering is carried out at our own joinery works. A few examples of this craftmanship are on show. Customers' special cabinet work can be executed, using any apparatus commercially available.

TRADE NAME: SONOMAG



**SOUND SALES LTD.**
WORKS & ACOUSTIC LABORATORIES
WEST STREET, FARNHAM, SURREY

**BOOTH 28**

MANUFACTURERS OF TRI-CHANNEL
AND ALL "A-Z" PRODUCTS
HIGH FIDELITY SOUND EQUIPMENT

DEMONSTRATION
**ROOM 209/210**

The famous Tri-Channel Mark IV/S in Stereo with optional Monaural reproduction. A unique three channel system employing separate Amplifiers with infinitely variable cross-over to separate speakers, working directly from tape head or M.C. Pick-up via transistorised Tone Control-Mixer Units, originated by Sound Sales and demonstrated at the New York Audio Fair.

The A-Z Senior Amplifier (as supplied to the B.B.C.) in Stereo or monaural with transistor Tone Control, working directly from Tape Head or low output pick up.

The New WAL stereophonic system (built by Sound Sales to Wellington Acoustic Laboratories Ltd., specification) exhibited by courtesy of Wellington Acoustic Laboratories Room 210.

The A-Z Mark III Amplifier, in its latest form.

The new Universal transistor Stage Tone Control Unit for use with Mark III or Senior A-Z Amplifiers embodying the latest practice in transistor low noise with high gain, plus wide range Tone Control for direct tape or pick-up.

The new world wide F.M. Unit, self powered covering 87·5/108 Mc/s incorporating synchrolock A.F.C.

The A-Z Precord professional Hi-Fi recording Amplifier self powered for use with existing Hi-Fi equipment in conjunction with Wearite, Truvox and Brenell Tape Decks.

The Phase Inverter Speaker, the complete answer for Stereophonic reproduction originated by Sound Sales and designed for those who require a single speaker or a matched pair for stereo reproduction at a reasonable price.

TRADE NAMES: TRI-CHANNEL AND ALL "A-Z" PRODUCTS
(Regd. Trade Mark)

**SPECTO LTD.**

VALE ROAD, WINDSOR, BERKS
TEL. WINDSOR 1241/2

**BOOTH 22**

DEMONSTRATION
**ROOM 101**

MANUFACTURERS OF HIGH QUALITY TAPE RECORDING AND REPRODUCING EQUIPMENT, AMPLIFIERS, ELECTRONIC MIXERS, AND MINIATURE MOTORS.

**Spectone Portable Tape Recorder, Model 151/B**

This recorder is designed for the high fidelity conscious enthusiast and is fitted with the latest Collaro tape deck, incorporating digit counter. Recordings can be made at 3 speeds — 3¾″, 7½″ and 15″ per second. Other features include:—Recording level meter, high and low impedance microphone inputs, a line-out input for external amplifier, a line-in input for direct recording from FM tuner or gramophone and extension speaker socket. Bass cut control for microphone recording, treble control for replay.

**Price: 76 guineas,** including crystal microphone.

**Spectone Recorder and Stereophonic Reproducer Model 129**

This console cabinet unit incorporating a modified Reflectograph tape transcriptor combines single channel recording and full three source mixing facility with twin channel stereophonic reproduction or single channel reproduction on one or two speakers. Tape speed is 7½″ per second. Maximum output 15 watts on each channel. A Goodman Axiom 150 Mark 2 speaker is mounted in the cabinet.

**Price: 175 guineas.**

**Spectone Range of 5-15 Amplifiers**

These Amplifiers, based on a circuit designed by the research engineers of Mullard Ltd. meet all the basic requirements of high fidelity amplification and yet are remarkably reasonable in price.

**Type 'Windsor'**

This complete amplifier equipment includes power amplifier, pre-amplifier, speech cable, connecting cable and co-axial plugs. The pre-amplifier is housed in a separate remote control unit, designed for easy mounting in a cabinet. Maximum output 15 watts. Equalised output for '78' and L.P. discs.

**Price: £24. 17. 6.**

**Type 'Clewer'**

Same technical specification as the 'Windsor' except that the complete unit is mounted in a handsomely finished leathercloth covered table model cabinet. **Price: £30. 10. 0.**

**Type 'Eton'**

A 15 watt power amplifier with volume control, bass and treble controls and input selector switch mounted on the chassis. Two inputs available Plug-in equalisers available for certain types of pick-ups.

**Price: £18. 18. 0.**

**Type 'Bray'**

Same technical specification as 'Eton' but the unit is mounted in a handsomely finished leathercloth covered table model cabinet.

**Price: £25. 10. 0.**

**Spectone Electronic Mixer**

The unit is enclosed in a light metal cabinet, suitable for easy mounting. Full mixing facility from three sources of sound available. Three separate gain controls entirely independent of each other enable any input signal to be regulated without affecting the other signals. Full equalisation for L.P. and '78' discs incorporated. Two models available:—
**Model 142** (suitable where HT and LT is available from associated equipment). **Price: 17 guineas. Model 142A** (Powered version) **Price: 21 guineas.**

TRADE NAME: SPECTONE



**A. R. SUGDEN & CO. (ENGINEERS) LTD.**
BRIGHOUSE, YORKS

**BOOTH 25**

TRANSCRIPTION TURNTABLES
MAGNETIC PICK-UPS AND ARMS
DISC RECORDERS AND AMPLIFIERS

DEMONSTRATION
**ROOM 248**

**The Connoisseur Super Lightweight Pickup Mark II.** This model employs a permanent diamond or sapphire armature system in which the total mass has been reduced to the order of 5 milligrams. The top resonance on 33·1/3 r.p.m. vinolite discs is in the region of 20/21K. This armature system is a separate fitting, easily replaceable by the customer; only a single screw fastening being necessary for removal and refitting of complete new armature system.

Full provision is made in the system for the vertical compliance to overcome pinch effect. This pick-up head is designed to be interchangeable with the Super Light-weight Mark I, with regard to arm and head fittings and counter-balance weights.

**The Connoisseur Variable 3-Speed Gramophone Motor.** Precision engineering for professional dubbing work. Heavy lathe-turned turntable of non-ferrous material. Phospher bronze bearings and all spindles hardened, ground and lapped. Synchronous motor. Low noise level and hum induction. Three speeds: 78, 45 and 33·1/3 r.p.m. obtained at the turn of a switch.

The speed change is arranged mechanically and gives a 4% variation on all speeds, the synchronous motor running at constant speed at all settings. No braking action is employed to obtain speed change.

**The Connoisseur 16″ Transcription Unit.** This is a precision transcription turntable with 16″ diameter table; the whole unit being mounted on a 4″ deep box frame casting. This unit has been specially developed for use in Broadcasting and Recording Studios.

**The Varigroove Recorder.** All latest developments fully embodied. 33·1/3, 45 and 78 r.p.m. speeds. 100-300 grooves per inch continuously variable. "Hot" sapphire technique. Moving coil cutterhead. 15 ohms impedance. Frequency response 30-15,000 c.p.s. Less than 5 watts required to fully modulate. Associate equipment for recording includes Suction Swarf Removing Unit, DC Needle Heater Unit, Modulation Meter and special Recording Preamplifier.

**"HQ20" Amplifier and Preamplifier.** The "HQ20" Preamplifier control unit is a low noise, low distortion tone control preamplifier. The first stage employs a non-microphonic low noise miniature pentode, Type EF86, and uses frequency selective negative feedback to give correct compensation for most types of disc recordings. The second and third stages utilise high gain miniatur twin tirode Type ECC83, the first half of which contains within a negative feedback loop the treble control and the inbuilt high pass filter. The fourth and fifth stages incorporate the two halves of a miniature twin triode Type ECC 83, operating as cathode followers. The input to the first cathode follower is regulated by the volume control and the ouput from the cathode is fed via the connecting cable to the power amplifier. The second cathode follower receives the full input and the voltage developed across the low impedance output can be used to feed a tape recorder or other auxiliary equipment without the loss of top resonance.

**The "Connoisseur" HQ20 Power Amplifier** is a four stage unit consisting of a low noise non-microphonic miniature pentode Type EF86, which is triode strapped and directly coupled to a high gain miniature twin triode Type ECC 83. This valve fulfils the double function of phase splitter and driver amplifier for two EL 34 high slope pentodes operating under distributed load conditions. Loops of positive and negative feedback are applied from the secondary of the "C" core output transformer to the cathode circuit of the input valve, the amount of positive feedback being adjustable to give a variation in damping factor.

TRADE NAME: CONNOISSEUR

**TANNOY PRODUCTS LIMITED**
NORWOOD ROAD, WEST NORWOOD
LONDON, S.E.27

**BOOTH 43**

DEMONSTRATION
**ROOM 104**

DOMESTIC HIGH FIDELITY SYSTEMS

For more than 20 years the Tannoy organization have been one of the few companies offering a complete range of High Quality Audio Equipment. The policy of perfection rather than price consideration remains unaltered, and as always, all products are designed and manufactured entirely within the Tannoy Group, thus enabling the most stringent quality control to be exercised at all stages.

**The Tannoy Variluctance Phono Cartridge, Mark II** incorporating the exclusive complidex stylus was designed primarily to complete the Tannoy High Fidelity domestic Sound System but is equally suitable for any other amplifier system of high professional standard. The frequency response extends to well above 16 K/cs with complete absence of resonant peaks, and there are no undamped resonances in the sub-supersonic range to produce unwanted intermodulation effects or to colour background noise.

**The Tannoy 12″ and 15″ Dual Concentric Loudspeaker Systems** consist of a direct radiator low frequency unit mounted concentrically with a horn loaded high frequency unit. A series gap magnetic system is employed, and the low frequency cone has a plastic treated surround to prevent subsidiary resonances. Very even distribution of high frequencies over a wide angle is achieved and every care is taken to ensure that the entire system is truly aperiodic.

The adoption of the Dual Concentric as a listening standard by Broadcasting, Television and Recording Companies throughout the world is an indication of the supremacy of its performance.

**TANNOY LOUDSPEAKER ENCLOSURES**

**The Guy R. Fountain Autograph Enclosure** provides both front and rear horn loading for the 15″ 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 smaller size thus increasing its appeal. This enclosure provides horn loading and is fitted with a 15″ Dual Concentric, being used by many leading British record manufacturers and Television companies as a quality standard.

**The York, Canterbury and Lansdowne** dual throated port bass reflex enclosures are of simple design, suitable for home construction and give excellent results. The York will accommodate either the 12″ or 15″ Dual Concentric, the Lansdowne and Canterbury being suitable only for the 12″ unit.

**The Tannoy Autograph Pre-Amplifier** is provided with eight separate record characteristic corrections, as well as bass and treble controls and a treble filter with a slope control. It is available either as a free standing model or for panel mounting.

**Tannoy Power Amplifier** has been designed as the perfect compliment to the pre-amplifier described above. An important distinguishing feature is that it will deliver its rated power of 20 watts for less than 0·1% total harmonic distortion at any frequency between 20 and 20,000 c.p.s. This is largely the result of the entirely new "C" core output transformer which is now incorporated.

TRADE NAME: TANNOY



**TAPE RECORDING MAGAZINE**
426, CAMDEN ROAD, LONDON, N.7

**BOOTH 4**

The development of tape recorders and associated equipment during the past year has been phenomenal; no aspect of this progress has been more striking than the story of **TAPE RECORDING AND HIGH FIDELITY REPRODUCTION MAGAZINE.**

Its first issue was dated February 1957. The Special Audio Fair number now on sale on our stand is thus the sixteenth. But it is more than twice the size of the first issue, it has over twice the circulation, and its standing is such that it has the enthusiastic support of the whole industry.

In return for the support and loyalty given the magazine, it has endeavoured to play a full part in the development of tape recording in Britain.

It inaugurated and sponsors the British Amateur Tape Recording Contest which, with the full support of the industry, now ranks as a major event in the world of entertainment. It now has sections for individual competitors and for schools and it is linked to the International Contest covering seven other countries.

The first Tape Recording Yearbook will be published this Summer and will give the only current full guide to the subject, with details of all available equipment.

Tape Recording Diary made its appearance five months ago and sold out in a few days. It will be published annually.

**TAPE RECORDING AND HIGH FIDELITY REPRODUCTION MAGAZINE** is giving vigorous support to the establishment and development of tape recording clubs up and down the country and it is the only publication that gives news of their activities.

In all these ways, Tape Recording Magazine seeks to render service to individual users of tape and high-fidelity equipment, to manufacturers and to the trade.

In 1958-9 we aim to remain in the vanguard of progress in this field.

**TRIX ELECTRICAL CO. LTD.**

1/5 MAPLE PLACE
TOTTENHAM COURT ROAD
LONDON, W.1

**BOOTH 37**

DEMONSTRATION
**ROOM 244**

AMPLIFIERS, LOUDSPEAKERS
MICROPHONES, HIGH FIDELITY
EQUIPMENT, RECORD REPRODUCERS

The Trix Electrical Company will be exhibting and demonstrating a wide range of equipment including High Fidelity Amplifiers and Sound Reproduction Equipment for high quality Public Address Systems.

The T.43 Amplifier is a compact and simple Amplifier Unit for Home use comprising 2 units, the Amplifier proper and the control panel. This carries bass and treble controls, volume control and input selector switch. This is a 6 watt push-pull amplifier with a frequency response of 50 to 15000 c.p.s. with wide range bass and treble controls. The price complete with control panel is 19 guineas.

The "Everyman" High Fidelity system incorporates the T.43 Amplifier described above, mounted in a chair-side cabinet with legs and having space provided for the appropriate sound source, (the equipment on view is shown with a Garrard Changer complete with variable reluctance pick-up and this unit can be supplied separately if required). The corner loudspeaker enclosure contains three units, including a 12″ bass speaker and high frequency tweeter. This assembly and the amplifier are in matching cabinets.

Also demonstrated will be the T.800 High Fidelity Amplifier which gained a Gold Medal at the California State Fair, and has also been accepted by The Council of Industrial Design. This amplifier is complete in one compact unit with compensating loudness control, wide range treble and bass controls and other important features. The price is 30 guineas.

Another Medallist at the California State Fair is the A.720 Table Model Record Player with push-pull amplifier and twin speakers, priced at 42 guineas.

In the Public Address range, we shall be exhibiting Amplifiers, Rack Equipment, Microphones and Column Loudspeakers of various types, forming part of the wide range of high quality Sound Reproduction Equipment which has built up the world-wide reputation of The Trix Electrical Company during the past 30 years.

TRADE NAMES: TRIX, TRIXONIC, TRIXETTE, INTERVOX, TRIXADIO, UNICORN



**TRUVOX LIMITED**

15 LYON ROAD, HARROW
MIDDLESEX

**BOOTH 14**

DEMONSTRATION
**ROOM 249**

TAPE RECORDERS

A demonstration of Stereophonic and half-track Tape Recording will be given in the Demonstration Room and assistants will be available for technical information regarding Truvox products.

The following equipment will be displayed in the Main Hall:—

Truvox R.2 Tape Recorders

Truvox Tape Decks, Marks III and IV

Truvox Type K Amplifier. This is an entirely new production and is the only packaged Tape Recording amplifier available to the public having a frequency response of 50-15,000 cycles per second and an output of 4 watts.

Stereophonic Heads

Telephone adaptor

Foot control

Radio Jacks. There are now four models; two Standard Radio Jacks covering two medium wave stations; and two Senior Radio Jacks covering two medium wave stations and 1500 metres. These Jacks are supplied with B.S.S. or Metric Plugs.

TRADE NAME: TRUVOX

**VITAVOX LIMITED**

WESTMORELAND ROAD
LONDON, N.W.9
Telephone Colindale 8671/2/3

**BOOTH 31**

DEMONSTRATION
**ROOM 225**

DYNAMIC MICROPHONES AND ACCESSORIES, CONE TYPE LOUDSPEAKERS, MULTICELL HORNS, DIVIDING NETWORKS, DUAL CHANNEL REPRODUCERS

Vitavox Loudspeakers and Microphones enjoy a world wide reputation for sound design, faithful reproduction and reliability in service.

**AK120 SERIES LOUDSPEAKERS**

Of recent introduction, this range of 12 in. moving coil loudspeakers, represents the most modern technique in audio engineering. Magnet systems employ the latest high efficiency materials to give maximum flux density with minimum weight. Accurately machined locators ensure that the size of the gap is held within fine limits and cannot accidentally be disturbed. Cone assemblies are easily replaceable should damage make this necessary.

Models suitable for use either as single unit reproducers or as part of multi-channel systems are available as follows:—

AK120 — General purpose, 15 ohms, dust-excluding construction.
AK121 — Bass reproducer, 15 ohms dust-excluding construction.
AK122 — Bass reproducer, 7·5 ohms, dust excluding construction.
AK123 — Heavy duty general purpose, 15 ohms, open construction.

**DU120 DUPLEX — CO-AXIAL LOUDSPEAKER**

Designed for realistic listening in the home or studio, the DU120 Duplex — Co-axial Loudspeaker incorporates separate direct-radiator type units for low and high frequency reproduction with an electro-mechanical filter system to divide the frequency spectrum between the two units. The units are designed to have complementary characteristics resulting in a loudspeaker with a smooth, extended frequency response and excellent spatial performance. The bass cone is of the felted paper type with incorporated plasticised flexible surround. The purpose-built HF unit incorporates a diaphragm of polyester film combining extreme lightness with rigidity over the frequency range involved. The DU120 Loudspeaker has been designed to give optimum results in a cabinet of not less than 6 cu. ft. capacity but may also be used with advantage in any of the standard types of enclosures currently available.

**K15/40 LOUDSPEAKER**

A robust 15″ loudspeaker particularly suitable for horn loading and widely used in dual-channel reproducers for auditorium and studio applications.

**S.2 PRESSURE UNIT**

A high-grade pressure unit for high frequency reproduction, particularly in conjunction with the K15/40 Loudspeaker. Multicell and Dispersive type Horns are available for use with these units.

**DIVIDING NETWORKS**

Designed with cross-over frequencies of 500 and 1,000 c/s, Vitavox Dividing Networks are of the half-section series type and incorporate high grade paper-insulated condensers and air cored inductances. Balance controls are fitted to attenuate the input to the HF channel.

DEMONSTRATION

The DU120 Duplex Co-axial Loudspeaker will be demonstrated in conjunction with standard amplifying equipment. The reproduction of stereo tapes will be of particular interest.

TRADE NAME: VITAVOX



**VORTEXION LTD.**
257/263 THE BROADWAY
LONDON, S.W.19

**BOOTH 26**

DEMONSTRATION
**ROOM 217**

TAPE RECORDERS, AMPLIFIERS, PUBLIC ADDRESS AND ELECTRONIC EQUIPMENT

**VORTEXION WVA AND WVB RECORDERS**

Detail improvements will be noticed on the Vortexion recorders which are otherwise unchanged.

Accurate control of the frequency response and distortion is achieved by using the meter to check bias voltage. A control for adjustment is provided which will compensate for valve ageing and head wear, and every recorder is calibrated for the optimum setting.

Special low noise resistors are selected for the input stages, and these are carefully positioned in the coolest possible position to avoid unnecessary noise generation. The mu metal shields are also measured and selected for their effectiveness and orientated for minimum noise. These and many other details help to achieve a noise level better than — 50 db unweighted at 7½″ per second.

The ventilation throughout has had particular attention to give long component life and prevent print through even with continuous operation.

Separate bass and treble controls are fitted which operates on play back only.

The microphone transformer is built in for low impedance ribbon microphones, balanced line, so that cables up to a mile in length may be used, or a full recording made up to a distance of 20 feet from the microphone.

The amplifier, which provides 4 watts output heavily damped by feedback, may be used separately for the microphone input, or the radiogram input, as well as while a recording is being made. A power plug is provided to supply up to 280V — 40 mA and 6·3V at 2A.

The specialised monitor head model WVB has an additional amplifier and replay head by which an additional recording may be superimposed on a tape while listening to the first. The additional recording may be the first repeated to form an echo, or alternatively this channel may be used to listen to the recording made by the first head while the recording is in progress. By means of a comparison signal switch "before record" and "after record" the tape may be proved without a further run through test.

4 CHANNEL and 12 CHANNEL electronic mixers with built in magnetically screened power pack for 30-50 ohms balanced line microphones or to order. 3 CHANNEL mixer and peak programme meter calibrated in 2 db steps 1 second time constant balanced or unbalanced output to + 12 db, 1 mW 600 ohms.

EQUALISERS and TRAP VALVE amplifiers 20-20,000 c.p.s. <·1% 75-600 ohms in, 75-600 ohms out and several types of amplifiers will also be on view, 20-50,000 c.p.s. within 0·2 db <·1% at 10W, 25W and 50W.

TRADE NAME: VORTEXION

**W. & N. ELECTRONICS LTD.**
80/82, UXBRIDGE ROAD
EALING, W.13
EALING 4774 (3 lines)

AMPLIFIERS

**BOOTH 50**

DEMONSTRATION
**ROOM 124**

The Audiomaster Amplifier exhibited and demonstrated by W. & N. Electronics Ltd. has achieved a reputation as one of the finest examples of audio engineering ever marketed.

The equipment has been designed and produced as a result of a long period of research, development and careful study of the market's requirements. It meets completely and without compromise of any sort the most stringent demands of the most critical listener, to whom such equipment, produced to the highest attainable standards, represents a valued investment.

Audiomaster offers such facilities as direct replay to C.C.I.R. and N.A.R.T.B. characteristics from any high quality tapehead without the use of a separate stage of pre-amplification; correct compensation for ribbon, moving coil and crystal microphones; elaborate low-pass filter network and up-to-the-minute compensation for the various recording characteristics. It will achieve with masterly perfection and superb ease a quality of reproduction of the very highest fidelity, from records, radio, tape or microphone — and will maintain these standards over many many years.

Rigid adherence in production to published specifications ensures that the Audiomaster's high standards of performance, component quality and craftsmanship are strictly preserved.

Also exhibited and demonstrated is a Tape Record Unit, a new accessory for the Audiomaster. When used with an existing Tape Deck this new unit makes it possible for the Audiomaster to offer all the recording and playback facilities of a Tape Recorder to highest professional standards.

20-minute Demonstrations will be given every hour and those wishing to attend are advised to arrive a few minutes before time as the room will be closed for the period of the demonstration.

Dealers will be welcome and we shall be glad to discuss the question of agencies. Overseas Representatives are also assured of a warm welcome and prompt discussion of their requirements.

TRADE NAME: AUDIOMASTER



**WESTREX COMPANY LTD.**
LIBERTY HOUSE, REGENT STREET
LONDON, W.1

LOUDSPEAKERS

**BOOTH 10**

DEMONSTRATION
**ROOM 115**

The Westrex Acoustilens 20/80 loudspeaker system embodies a two-way loudspeaker assembly of exceptional performance. The musical frequency range is divided into two by an electrical dividing network, and each range is reproduced by a unit specifically designed to cover that range. The low frequency range up to 675 cyc. is reproduced by a 15-inch diameter direct radiator, and the high frequency range above 675 by a moving coil dynamic unit associated with a coupler unit of very advanced design.

The following is taken from the " Hi-Fi News " extended listening test:—

" The immediate impression was excellent, and continued listening to a very wide range of material over a period of some weeks failed to show up any flaw in its performance. The bass response was exactly as expected from the excellent design of unit and cabinet. Everything was there, but only as long as the signal provided it. Double basses, orchestral drums, and deepest organ pipes were properly reproduced, never exaggerated. Being such a large driving unit and cabinet, it was not necessary either to use bass boost on the amplifier, or to place the unit in a corner to enjoy the full bass response. The most striking feature, though, was the overall result, due mostly to the HF unit, since a low crossover is used. Never before has the listener enjoyed horn-loading over such a wide range. Without prior knowledge of the construction it would have been impossible to guess it; there was absolutely no detectable taint. The acoustic lens certainly puts the finishing touch to an already good HF system. Using ears only, it was very difficult to get on the geometric axis; there was no change in high-frequency content over more than 90°. The sound source, too, appeared to be very wide, and gave the illusion of an incredibly clear view of the orchestra, say, through a very wide double door. The whole system has been designed to a very high standard of performance, not to a particular price range. It can confidently be recommended to the most fastidious listener."

In developing this unusual and very advanced loudspeaker system the importance of correct cabinet design has been fully recognized and is observed in the cabinet employed by Westrex. The equipment is available in this form as a complete assembly. Alternatively, the loudspeaker units and associated parts can be supplied as a kit contained in which are drawings and specifications of alternative cabinet designs from which a suitable cabinet can be built for or by the user.

TRADE NAME: WESTREX

**WHARFEDALE WIRELESS WORKS LTD.**
IDLE, BRADFORD, YORKSHIRE
TEL: IDLE 1235-6

LOUDSPEAKERS, TRANSFORMERS
LOUDSPEAKER SEPARATORS, VOLUME
CONTROLS AND CABINETS

**BOOTH 34**

DEMONSTRATION
**ROOM 324**

## FOAM SURROUND UNITS

A comprehensive range of high quality WHARFEDALE loudspeakers will be shown including units fitted with foam plastic surrounds. This type of cone edge suspension was adopted nearly two years ago and has been successfully applied to a wide variety of units from 3″ to 15″ diameter. The foam plastic material is specially manufactured for this application and its use is attended by improved transient performance, smoother frequency response and less harmonic distortion, especially at low frequencies.

## COMPLETE SPEAKER SYSTEMS

Where space permits, the Omni-directional Corner 3-Speaker System is still the first choice and gives the best all round performance with ample bass response which is essential for the full enjoyment of orchestral and organ music.

In smaller rooms and when portability is required, the Baffle 3-Speaker System type SFB/3 will meet domestic requirements. This is a compact 3-speaker system with an exceptionally pleasing full frequency range performance, attractive styling and a price to suit the average pocket. The standard model has an impedance of 8-15 ohms but a special transformer type WMT 1 is available at a small extra charge, which rematches the system to 3-5 ohms for use with commercial radio sets. The quality of many table sets is limited by the built-in speaker and in such cases, the use of a good external unit such as the SFB/3 can fully exploit the high quality F.M. transmissions now available in most parts of the country.

## CABINETS

Compact and attractively designed cabinets are also available. The AF10 Reflex Cabinet is intended for use with 10″ foam surround units and incorporates the well-known WHARFEDALE Acoustic Filter giving smooth middle register and crisp bass reproduction.

The R-J8 has won a big reputation for its distinctive performance and small size. It can be used with either the Super 8/FS/AL or 8″ Bronze/FS/AL units.

The response of many loudspeaker systems can be extended by adding a Super 3 tweeter to augment the output above about 5 kc/s. A special Super 3 cabinet is available to house the unit and is supplied complete with filter capacitor and volume control. A crossover unit is not required.

## DEMONSTRATIONS

These will include reproduction from disc and tape recordings played through various loudspeaker systems. Stereophonic items will be included. The use of different loudspeakers for each channel will also be demonstrated.

TRADE NAME: WHARFEDALE



**WHITELEY ELECTRICAL RADIO CO. LTD.**
VICTORIA STREET, MANSFIELD, NOTTS

HIGH FIDELITY LOUDSPEAKERS
QUALITY AMPLIFIERS, VHF/FM TUNER
AND READY-TO-ASSEMBLE CABINETS
AND PORTLAND TRANSFORMERS

**BOOTH 5**

DEMONSTRATION
**ROOM 306**

Over 30 years of specialisation and complete manufacture within the organization is to be seen in the outstanding range of Stentorian High Fidelity products being displayed and demonstrated.

The complete range of Stentorian High Fidelity loudspeakers from 8″ to 18″ in diameter, as well as special loudspeakers from $1\frac{3}{4}$″ upwards, are fitted with our patented cambric cone providing a quality of reproduction not otherwise obtainable except at many times the price. In addition all 8″, 9″ and 10″ units incorporate our patented tapped speech coil and match instantly to 3, 7·5 and 15 ohms. Following on the world famous HF.1012 unit, we now proudly introduce model HF.1016, which is fitted with powerful 16,000 gauss magnet, cambric cone, and tapped speech coil. This new 10″ unit has an extended frequency response and also an outstanding transient response. There are many models in the Stentorian range suitable for use with stereophonic systems and outstanding amongst these are models HF.816, HF.1016 and HF.1214.

The display includes the well-known Stentorian 10″, 12″ and 15″ Concentric Duplex models, which have been developed from the series gap magnet system (originated by us in 1935). Separate tweeter units T.10, T.12 and T.816 are available with suitable crossover networks to extend the range of single loudspeaker systems to 17,000 c.p.s.

The W.B.12 Quality Amplifier enjoys world wide demand and is available with either the "Standard or "Major" Control Units, embodying the most up to date designs and recently developed valves, and a special Whiteley output transformer. The Major Control Unit enables any pick-up to be used with the W.B.12, and has a nine position selector switch in addition to separate treble, bass, "Filter", "Slope" and volume controls.

A further important addition is the WB.6 combined amplifier and control unit, with 6 watts output, forming a compact unit size $11\frac{3}{4}$″ × 7″ × 4″. It has a selector switch for a range of inputs, full range bass and treble controls and separate volume control.

A new F.M. Tuner is to be shown for the first time with a circuit of advanced design. An important feature is the use of printed circuit techniques to ensure maximum electrical stability, together with rigid mechanical structure, thus ensuring freedom from drift. The complete unit is housed in a sheet steel case designed to match the amplifier.

The ready-to-assemble range of cabinets includes console and table equipment models, and a variety of rectangular and corner bass reflex enclosures in both contemporary and traditional styling, for loudspeakers from 8″ to 12″ in diameter. Provision is also made for the inclusion of a tweeter unit if required. These cabinets are all supplied packed flat complete with screws and are easily assembled in a few minutes using only a screwdriver.

The complete range of Stentorian High Fidelity products may be seen on Booth 3 and heard on continuous demonstration in Room 306.

TRADE NAMES: "W/B", "STENTORIAN"

**WILHELM HARTING**
HUDSON HOUSE
63 GOLDHAWK ROAD
LONDON, W.12

TAPE RECORDERS

**BOOTH 11**

DEMONSTRATION
**ROOM 228**

### HARTING HIGH FIDELITY TAPE RECORDER HM5

Built by a leading German manufacturer who has in the past produced recorders for broadcasting and government use only. This Tape Recorder has the following points:—

(a) Wider frequency response both at 3¾″ and 7½″ than other makes in the same price range.

(b) Wow and flutter at a lower level than in the best professional machines costing up to ten times the price.

(c) More robust construction than other makes in the same price range so ensuring long and trouble free life.

(d) Mechanical and electronic mechanisms absolutely fool-proof and because of scientific design there is no likelihood of high servicing cost.

(e) Modern styling both elegant and tasteful.

(f) Versatile, built to professional standards, simple to use and priced for the domestic market.

**Frequency Response:** 30c/s to 16Kc/s within ± 1½db at 7½″/sec.; 30c/s to 10Kc/s within ± 1½db at 3¾″/sec. **Wow and Flutter:** Total better than ·1 of 1% and total wow better than ·06 of 1%. **Amplifier:** Laboratory High Fidelity amplifier 4 watt output, corrected to C.C.I.R. characteristics. **Valve Line-up:** EF86, ECC81, EL84, EC92, EM840 and bridge circuit metal rectifier. **Signal to Noise Ratio:** Better than 52db unweighted. **Reel Size:** 7″ reels maximum. **Tape Playing Time:** 1 hour at 7½″/sec.; 2 hours at 3¾″/sec. With LP tapes, such as EMITAPE type 99, and B.A.S.F. LP.: 1½ hours at 7½″/sec.; 3 hours at 3¾″/sec. **Recording Tape Measurement:** Precision digital counter. **Input Sockets:** Three input sockets: microphone, radio, phono.

**Outputs:** (a) Internal One/Lorenz 9″ × 6″ High Fidelity bass speaker, coupled through a high-pass filter to a Lorenz 2¾″ polythene cone treble speaker. (b) External speaker. (c) High impendance output (·5 volts into 10,000 ohms) is available for feeding external High Fidelity amplifiers.

**Stopping and Starting Speed:** Instantaneous through positive mechanical braking system without tape spill over. **Case:** Modern style travelling case of extremely robust construction, finished in dual grey simulated leather.

**Weight:** 37½lb. **Size:** 15½″ × 17½″ × 8½″. **Price:** 82 gns. Moving coil microphone type MD403 9½ gns. or Crystal microphone 5 gns.

TRADE NAME: HARTING



**WIRELESS WORLD**
**ELECTRONIC & RADIO ENGINEER**
DORSET HOUSE
STAMFORD STREET, LONDON, S.E.1
WATerloo 3333 (60 lines)

**BOOTH 46**

WIRELESS WORLD is Britain's leading technical journal in the general field of radio, television and electronics. Providing a complete and accurate survey of the newest British technique in design and manufacture, its articles cover every phase of the radio and allied industries. Contributions by recognized experts deal with design data and circuits for every application. High fidelity receives continuous and searching attention. WIRELESS WORLD is published monthly, 2s.

ELECTRONIC & RADIO ENGINEER caters for the world's advanced technicians and designers in electronics, radio and television, with an authority and understanding of their needs based on over 30 years' continuous service. It covers not only the latest results of pure research; original articles by leading physicists open up many new lines of approach and make practical contributions to further progress. Its abstracts and reference section is one of the finest sources of research information published anywhere, whilst the journal has the benefit of an Editorial Advisory Board representing the country's leading technical bodies. Every month 3s. 6d.

TECHNICAL BOOKS. Authoritative and up-to-date works on many aspects of radio and television are also on show.

**WRIGHT & WEAIRE LTD.**
131 SLOANE STREET, LONDON, S.W.1
SIMONSIDE WORKS, SOUTH SHIELDS

MAGNETIC TAPE RECORDERS AND ACCESSORIES THEREFOR

**BOOTH 8**

DEMONSTRATION
**ROOM 201/202**

The exhibit will consist of examples of all Ferrographs viz portable recorders, type 66 for custom-building and portable Stereo recorders. These have all been shown and demonstrated in the past but, in line with Ferrograph practise, small modifications do appear from time to time and the Audio Fair is an excellent opportunity at which to disclose these.

Additionally this year will be shown for the first time, the Ferrograph Continuous Playing Deck. This has been developed in compliance with requests from that section of the industry concerned with background music. The facilities provide for a maximum of 2 hours playing per track, i.e. a total playing time of 4 hours before repetition of the material.

This is accomplished by means of a modification of the standard Wearite deck whereby after transference of the total tape from the left to the right hand spool, an automatic and instantaneous change-over takes place and the second track is brought into operation, the tape passing in front of a lower track head.

There is also to be seen at the stand a further modification of the above deck for editing purposes. This consists of a playback deck only to which can be attached the users own electronics, whilst on the deck are provided the facilities of instantaneous reversal so that editing of recording material can be achieved simply and expeditiously.

A full range of Ferrograph accessories, including tape spools, the Defluxer and other well-known Ferrograph items will also be on view.

The Company intends to give demonstrations of both Stereo and monaural recording throughout the period of the Fair and technical queries can be answered and advice given at the stand in the Main Hall. It is intended that demonstrations only shall take place in the Demonstration Room.

TRADE NAMES: WEARITE, FERROGRAPH

LUSTRAPHONE
THE MASTER MICROPHONE

# microphones for all requirements

*Among the wide range of microphones designed and made by LUSTRAPHONE the following models are particularly suitable for modern tape-recorders and Hi Fi equipment.*

**'Lustrette'** *DYNAMIC MICROPHONE LD/61*
A versatile and extremely efficient instrument which enjoys immense popularity. Its compact size and omnidirectional properties enable it to be used as a standing or hand held microhone. Low, Line or High Impedance.

**'Ribbonette'** *'PENCIL' RIBBON-VELOCITY MICROPHONE VR/64*
Of modern appearance and relatively miniature proportions, the 'Ribbonette' is a quality microphone largely based on the design of the modern short ribbon technique. Complete with base and new type of self-setting swivel mount. Low, Line or High Impedance.

**'Full Vision'** *DYNAMIC MICROPHONE LFV/59*
A slender pencil-type instrument of very high quality for film, television and broadcast studios as well as recording. Available for stand mounting or holding by hand. Low, Line or High Impedance.

**'Studio'** *RIBBON VELOCITY MICROPHONE VR/53*
Bi-directional velocity microphone providing exceptionally high standards of reproduction. A high Level of Sensitivity together with extended frequency response is an outstanding feature. Model VR/53 is a broadcast Studio Class instrument, brought within reach of Public Address and Recorder users through its reasonable price.

★ TRANSISTORIZED P.A. AMPLIFIERS
★ TRANSISTORIZED MIXER UNIT
★ TABLE STANDS, FLOOR STANDS, BASES

FULL DESCRIPTIVE LITERATURE AVAILABLE ON APPLICATION

**BOOTH NO. 56**

**LUSTRAPHONE LTD.** St. George's Works, Regents Park Rd, London N.W.1. *Phone Primrose 8844*

# 4-SPEED GRAMOPHONE TRANSCRIPTION UNIT Model 4T200



***for fully faithful reproduction***

Entirely new type 4-speed mechanism ($16\frac{2}{3}$, $33\frac{1}{3}$, 45 and 78 r.p.m.) ensures absolutely uniform speed, with reproduction free from frequency modulation. A very heavy turntable is fitted with a ground and lapped spindle running on to a ball which takes the total thrust of the turntable, and results in correct speed with no detectable "wow" or "rumble".

The "Studio" transcription arm fitted is of tubular metal which has a very low resonance, and is so designed as to be capable of playing 16" records. Any type of "Studio" turnover crystal cartridge can be fitted. Model 4T200 can also be supplied without pickup.

**RECORD CHANGERS**

"The Conquest" and the RC. 458 Changers—modern 4-speed instruments in a selective range of colour finishes.

**GRAMOPHONE UNITS**

The AC 4/564—a reliable and moderately priced 4-speed Gramophone unit which incorporates an automatic stop and can be fitted with any of the Studio Turnover Crystal Cartridges.

COLLARO

***See Them on Stand 7***
***Hear Them in***
***Demonstration Room 148***

**COLLARO LTD., RIPPLE WORKS, BY-PASS ROAD, BARKING, ESSEX**

*Telephone: Rippleway 5533—Telex 28748* *Telegrams: Korllaro-Telex-Barking*

**Makers of Record Changers, Gramophone Units, Pickups, Electric Motors, etc.**



# THE COLLARO TAPE TRANSCRIPTOR (Mk. III)

*—as used by many of the leading British Tape Recorder Manufacturers.*



This High-Fidelity Tape Transcriptor has been designed on Transcription quality principles for live recording, recording from F.M. Broadcasts, etc., and for reproducing pre-recorded tapes. A twin-track model fitted with two sets of heads, it runs at speeds of $3\frac{3}{4}$, $7\frac{1}{2}$ and 15 inches per second. It has low wattage input motors, and the tape tensioning is automatic.

The operation and the braking are mechanical and performed without the aid of solenoids. The 3-speed mechanism effects the final drive through the periphery of a heavy-weight flywheel and is instantaneously reversible. The drive pulleys retract automatically when the machine is switched off.

Several new modifications are incorporated in the Mark III, including the Pause Control (which enables the operator to record only the required parts of the programme) and removable switches.

***See It on Stand 7***
***Hear It in***
***Demonstration Room 148***

COLLARO

**COLLARO LTD., RIPPLE WORKS, BY-PASS ROAD, BARKING, ESSEX**

*Telephone: Rippleway 5533—Telex 28748* *Telegrams: Korllaro-Telex-Barking*

**Makers of Record Changers, Gramophone Units, Pickups, Electric Motors, etc.**

# MICROPHONES



**MODEL D.19B**
*New design. High-quality Cardioid Dynamic Microphone — 40-16,000 c/s. Built-in compensating switch for speech and music.*







**A.K.G. MICROPHONES** are designed and manufactured to the highest professional standards and are used in the world's foremost broadcasting, television, recording and film organisations. Included in a very wide range of models are three shown here which will appeal equally to semi-professional, amateur and domestic users of tape-recorders and other equipment where only high standards of reproduction will satisfy.

**MODEL D.9** — *Omnidirectional general-purpose dynamic microphone. Low and high impedances.*

**MODEL D.11** — *Cardioid Dynamic Microphone for use at close range. Low and high impedances.*

## BOOTH No. 60

**DEMONSTRATION ROOM NO. 331**

**SOLE AGENTS FOR U.K. & BRITISH COMMONWEALTH**

**POLITECHNA (LONDON) LTD.**

**357 EUSTON ROAD**
**LONDON, N.W.1.**
***Phone EUSton 5851-2-3***



# any questions?

**WHERE** will you find the fullest news of all developments in the tape recording and hi-fi field, and the brightest, most informative articles on how to get the most out of your hobby?

**WHO** *sponsors the British Amateur Tape Recording Contest, backed by the industry and trade and offering British enthusiasts the chance of many prizes and of competing against amateurs on the Continent?*

**WHY** are tape recording amateurs finding it so much easier now to get together and establish the local clubs which are appearing all over the country?

**WHAT** *is the handsome new Diary, packed with tape information, which hundreds of visitors to this Audio Fair have in their pockets for the first time this year?*

**WHEN** will the first Tape Recording and High Fidelity Reproduction Yearbook be on sale, with full details of all tape equipment and special articles covering all aspects of tape high fidelity?

**YOU'LL FIND INTERESTING ANSWERS TO THESE QUESTIONS ON STAND NO. 4**

***representing***

**TAPE RECORDING & HIGH FIDELITY REPRODUCTION**



K

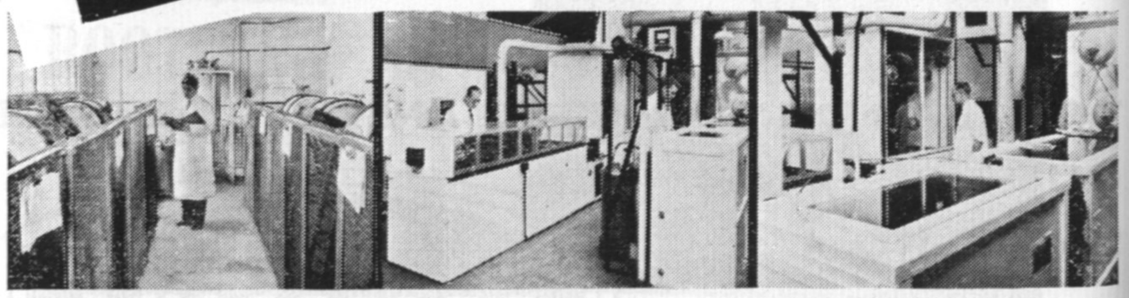
# MASTERTAPE

★ Low background noise

★ High top response




## UNIQUE MANUFACTURING TECHNIQUE



The mixing rooms where, after many hours processing, the specially prepared and tested iron oxide is converted to the final lacquer coating for MASTERTAPE

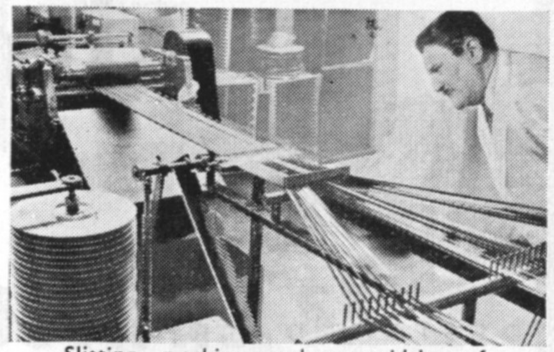
After further testing the lacquer supply is taken to the coating machines shown here



# First in the Field all the Way!

MASTERTAPE comes from manufacturers who were among the first in the field of true high fidelity recording equipment. MASTERTAPE still holds the lead with tape capable of truly wonderful qualities of reproduction *at no greater cost* than many inferior makes. Special processes closely guarded formulas and stringent testing, unique to MASTERTAPE, combine to create a recording tape without equal. This ensures dealers having absolute confidence in MASTERTAPE. It means more and more delighted purchasers who, having bought once, insist on MASTERTAPE every time.

**See Us on STAND 19 & Room 242**



Slitting machines where widths of MASTERTAPE varying from ¼ inch to 7 inch are cut for special as well as audio requirements.



Final testing. Here units are used which make 400 tests on each 1 inch length of ¼ inch MASTERTAPE. A test channel will check and count over 25 million pulses on a 1200 foot reel of 1 inch tape.

## For Sheer Quality...

**Mastertape**

MAGNETIC RECORDING TAPE BY

**MSS RECORDING CO. LTD., Colnbrook, Bucks.**

Telephone: Colnbrook 2431

*The Choice of Expert and Connoisseur*

- SIMON AUTOMATIC DECK
- 10 watts output
- Built-in mixer
- Ultra-linear amplifier

# simon sp.4 tape recorder

DESIGNED TO LEAD IN WORLD MARKETS

**on stand 47 Pump**

- Automatic tape reversal
- Push-pull oscillator and output
- 3-way mixing with separate controls
- Independent bass and treble lift and cut

SEE US ON STAND 47 • DEMONSTRATION ROOM NO 22

.... and the **CADENZA**
**ribbon microphone**
*Dual impedance head*
*Sensibly flat output from 50-12,000 c.p.s.*

**SIMON SOUND SERVICE LTD**
48 GEORGE STREET
PORTMAN SQUARE
LONDON W.1





## SONOMAG PORTABLE

Uses the very latest Collaro tape deck that gives you the flexibility, control and smoothness of three speeds ($3\frac{3}{4}$, $7\frac{1}{2}$ and 15 i.p.s.), four heads, two motors, "pause" button, 3 digit rev. counter, constant tape tension, twin track recording, speaker and input and output jacks.
A professional-quality set at an enthusiast's price — **52 gns.** with mike, tape, spools. Cash or credit terms.

# SEE OUR BOOTH No. 53

## SONOMAG ADAPTATAPE

Basically the same deck ready to mount in your own permanent cabinet. High grade pre-amplifier. Fits any Hi-Fi equipment to make the most inexpensive recording/reproducing system going. "Wow" and flutter content below 0·1%. Double coil wound heads reproduce up to 12,000 c.p.s. at $7\frac{1}{2}$ i.p.s. Azimuth adjustments on all heads. Output of approx. 5 millivolts at 1 Kc. at $7\frac{1}{2}$ i.p.s. Price — **38 gns.** includes special power pack.



Invest five minutes getting to know these Sonomag sets. Compare them, price for performance, with any others you like. We'll be pleased to discuss any points you raise, to answer your questions, to hear what you think. And then, when you've mulled it all over, we're sure you'll find you've decided on Sonomag.

# SONOMAG LIMITED

**2 St. Michael's Road, Stockwell, London, S.W.9.**
***Telephone: Brixton 5441 (3 lines)***

# STRAVINSKY or STRICT TEMPO...

There's no better magnetic tape in the whole world of Hi-Fi than 'Scotch Boy'. High sensitivity and freedom from distortion ensure the highest quality of reproduction.

TRADE MARK
**SCOTCH BOY**
MAGNETIC TAPE
***DOES THE JOB BETTER!***

**BOOTH 48**
**DEMONSTRATION**
**ROOM 231/232**

| IIIA STANDARD ACETATE | IIIV SUPER PVC | 150 EXTRA PLAY POLYESTER |
|---|---|---|
| 3″—200 ft.—6/3 | 3″—200 ft.—7/6 | 3″—300 ft.—9/6 |
| 5″—600 ft.—16/- | 5″—600 ft.—21/- | 5″—900 ft.—28/- |
| 5¾″—850 ft.—22/- | 5¾″—850 ft.—28/- | 5¾″—1275 ft.—35/- |
| 7″—1200 ft.—27/- | 7″—1200 ft.—35/- | 7″—1800 ft.—50/- |
| 10½″—2400 ft.—61/- | 10½″—2400 ft.—78/9 | 8¼″—2400 ft.—72/6 |
| BRITAIN'S LOWEST PRICED RECORDING TAPE | PVC BASE FOR EXTRA STRENGTH AND EASY HANDLING | A POLYESTER TAPE—AT A P.V.C. PRICE |

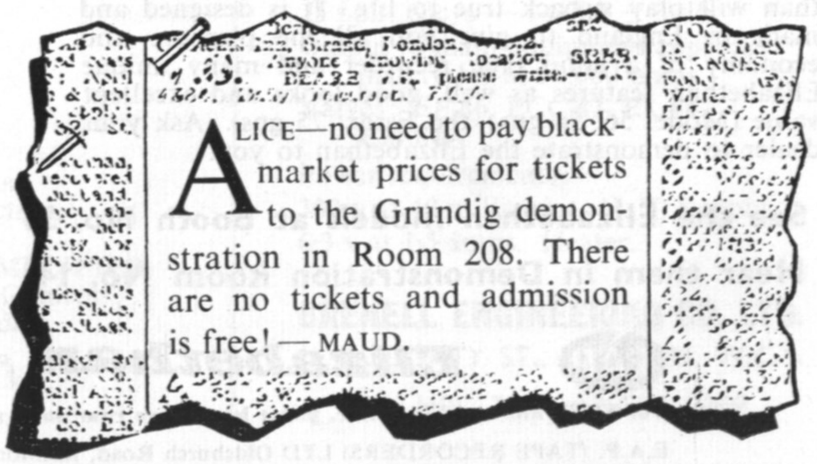
TRADE MARK
**SCOTCH BOY** MAGNETIC TAPES
***'SCOTCH BOY' DOES THE JOB BETTER!***

PRODUCT OF 3M COMPANY RESEARCH

MINNESOTA MINING & MANUFACTURING COMPANY LIMITED
3M HOUSE · WIGMORE STREET · LONDON · W.1.
AND BIRMINGHAM · MANCHESTER · GLASGOW
WORLD'S LARGEST MANUFACTURERS OF MAGNETIC TAPES







TUBA BY BOOSEY & HAWKES

## THE *Elizabethan* PLAYS THE LOW NOTE

Take a really low note — a tuba down a man-hole or a tom-tom down a mine. Record it on the Elizabethan, and you'll hear the original note, the whole note, and nothing but the note. Take any note, any instrument in the orchestra, any sound in the world, and the Elizabethan will play it back true to life. It is designed and made in England to give you all the pleasure and economy of a good tape recorder and many unique Elizabethan features as well, good looks and excellent value (Model 56, 54 gns: the Essex, 75 gns). Ask your dealer to demonstrate the Elizabethan to you.




*The Elizabethan Essex*

**See the Elizabethan models at Booth No. 54**

**Hear them in Demonstration Room No. 140**

EAP ***Elizabethan*** *FOR SOUND, NATURALLY*

**For FREE illustrated literature, please let us have your name and address.**

E.A.P. (TAPE RECORDERS) LTD Oldchurch Road, Romford, Essex Tel: Romford 62366/7



# *Brenell* TAPE RECORDING EQUIPMENT

## *The Connoisseur's Choice*

Why are so many tape recording experts turning to the Brenell Deck? Is it because they want precision engineering, greater speed stability, the best value for money, freedom from troublesome gadgets, high quality materials, multiple speeds?

All these features are combined in Brenell Equipment, you can buy Brenell and know you have bought 'the Expert's Choice'.

Brenell have control during manufacture of all the essential parts — they are not merely "assemblers", and every part must conform to a critically high standard. Skilful design is followed up by high degree of craftsmanship in manufacture, resulting in equipment which is rightly held in the highest esteem throughout the world.

In the Mark 5 Tape Deck, all the proved features which have given Brenell its great reputation are retained, and new features make available TODAY the Deck of the FUTURE.

### BRENELL MARK 5 TAPE DECK

4 Speeds $1\frac{7}{8}$, $3\frac{3}{4}$, $7\frac{1}{2}$, 15 i.p.s.
3 Motors
Up to $8\frac{1}{4}$" dia. spools.
Provision for Extra Heads (up to 4 in all)
Interlocked Switching
Safety Switch to Prevent Accidental Erasure
Pause Control
Digital Revolution Counter
Fast Wind and Rewind

### BRENELL '3 STAR' PORTABLE TAPE RECORDER

This attractive tape recorder combines a deck and amplifier of outstanding quality with a large loudspeaker in a modern styled cabinet; delightful performance and appearance will make this recorder one of the most popular types available.

**Salient features:**

Push button deck control.
Interlocked switching.
Pause control.
3 speeds $1\frac{7}{8}$, $3\frac{3}{4}$ and $7\frac{1}{2}$ i.p.s.
Switched frequency correction.
Digital rev. counter.
PRINTED CIRCUIT AMPLIFIER.
Separate Bass and Treble Controls.
Cathode Ray Type Recording Level Indicator.
Extension loudspeaker socket.
Monitoring facilities.

### TAPE PRE-AMPLIFIER T.P.2

Designed to suit any Brenell Deck, incorporates all the best features of the modern tape pre-amplifier.

Frequency correction for $3\frac{3}{4}$, $7\frac{1}{2}$ and 15 i.p.s.
Monitoring facilities via headphones.
Monitoring facilities via main amplifier equipment.
Head DE-MAGNETISING facilities.
Microphone input sensitivity 2·5 m.V. into 2 megohms for full modulation.
Radio/Pick-up input sensitivity 250 m.V. into 700 Kohms for full modulation.
Erase and Bias oscillator 50 Kc/s.

Frequency response:
$3\frac{3}{4}$ i.p.s. 60c/s — 6,000 ± 3 db
$7\frac{1}{2}$ i.p.s. 60c/s — 10,000 ± 3 db
15 i.p.s. 60c/s — 14,000 ± 3 db
Output to main equipment approximately 1 v at 50,000 ohms.
Valves: EF.86, ECC.83, EL.84, EM.81.

Power requirements:
300 v at 40 milliamps. H. T. Supply.
6·3 v at 1·5 amps. Heater.

**BRENELL ENGINEERING CO. LTD.**

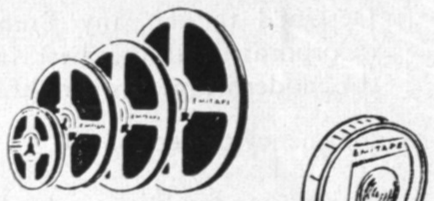
1a DOUGHTY ST., LONDON, W.C.1.

*Tel.: HOL. 7358 and CHA. 5809*

# EMI

## SEE ON BOOTH 21

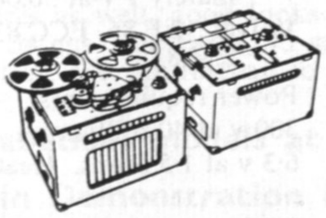
## HEAR IN ROOM 309











### *SEE AND HEAR*

**Emitape,** the world's finest magnetic recording tape, with **Emicase,** the new polystyrene container that protects spools from dust and damage, and allows them to be stored upright on a bookshelf or between bookends.

**E.M.I. Professional Recording Equipment**
Famous for the highest possible standards in sound recording and used by the BBC, ITV and the world's leading recording companies.

- **Model L2** – the well-known battery portable (only 14½ lbs. in weight) used for on-the-spot recording everywhere – under any climatic conditions.
- **Model TR51** – a transportable model, providing highest " studio " quality in a completely mobile form.
- **Model TR90** – a brilliant new versatile recorder of unit construction designed to meet varying needs in recording requirements. Rack mounted, console or transportable.

*We shall be pleased to answer your enquiries in Room 309*

**E·M·I SALES & SERVICE LTD**

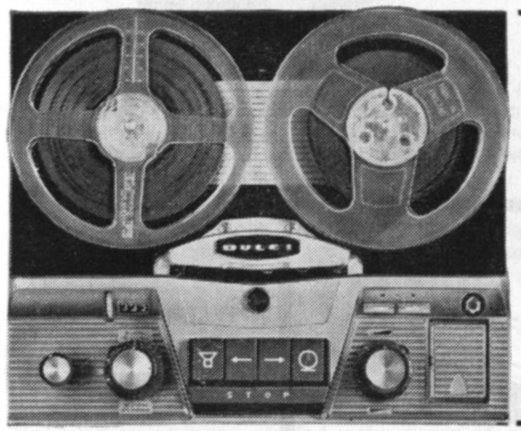
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E5167



# DULCI the home of Hi-Fidelity

Today the accent is on High-Fidelity. And Dulci, always looking intelligently to the future, have prepared themselves thoroughly to meet this need. Backed by many years experience in superior radio chassis construction, they now place before you a technically superb range of High Fidelity equipment. Power amplifiers, pre-amplifiers and control units, self-powered AM/FM tuners, or combined AM/FM tuner, control unit and audio pre-amplifier if you wish . . . all these products add up to a thrilling new listening pleasure awaiting your critical ear. Come and hear Dulci equipment for yourself.




**IT'S HERE ! THE TAPE UNIT FOR THE HI-FI PERFECTIONIST**

The Dulci-Harting is completely new—and all ready for use with any existing equipment. Superbly styled and very handsome, it features a calibrated compensating control, for various tape characteristics; control for superimposition of new recording over old—retaining both. The superior tape unit for the serious enthusiast.

DULCI *Harting*

**DEMONSTRATION ROOM 107**

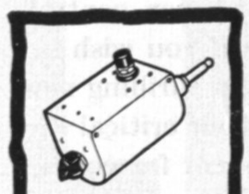
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97-99 VILLIERS ROAD LONDON N.W.2.

# TRUVOX



TAPE RECORDER
MODEL R.2.



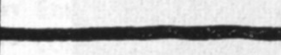
SENIOR
RADIO JACK



TAPE DECK
MK. 1V



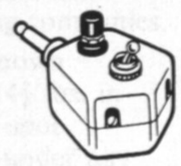
FOOT CONTROL



AMPLIFIER
TYPE "K"



STEREOPHONIC
HEAD



STANDARD
RADIO JACK



STETHOSET
HEADPHONES



TELEPHONE
ADAPTOR

**TRUVOX LIMITED**

**Sales Office: 15 Lyon Road, Harrow, Middx.**

*Telephone: Harrow 9282*

**BOOTH NO. 14 DEMONSTRATION ROOM NO. 249**

**VISIT OUR STAND AND DEM. ROOM**



# Announcing the Harting High Fidelity Tape Recorder Model HM.

**BUILT TO PROFESSIONAL BROADCASTING STANDARDS**

**SIX REASONS WHY YOU SHOULD BUY THE HARTING HM RECORDER IN PREFERENCE TO ANY OTHER MAKE.**

(a) Wider frequency response both at 3¾″ and 7½″ than other makes in the same price range.

(b) Wow and flutter at a lower level than in the best professional machines costing up to ten times the price.

(c) More robust construction than other makes in the same price range so ensuring long and trouble free life.

(d) Mechanical and electronic mechanisms absolutely fool-proof and because of scientific design there is no likelihood of high servicing cost.

(e) Modern styling both elegant and tasteful.

(f) Versatile, built to professional standards, simple to use and priced for the domestic market.

## TECHNICAL SPECIFICATION

**Frequency Response.**
30 c/s. to 16 Kc/s. within ± 1½ db at 7½″/sec.
30 c/s. to 10 Kc/s. within ± 1½ db at 3¾″/sec.

**Wow and Flutter.**
Total of Wow and Flutter better than ·1 of 1%.
Total Wow better than ·06 of 1%.
The Wow and Flutter figures are the results of a number of tests on the GB-Kalee Wow meter manufactured by J. A. Rank (B.A.F. Ltd.) model 564. Note: These figures are superior to those of the best grade professional recorders.

**Amplifier.**
Laboratory quality High Fidelity amplifier designed to professional standards with 4 watt output (6 watt peak) at 5 ohms. impedance.

**Signal to Noise Ratio.**
Better than 52 db unweighted.

**Speeds.**
3¾″ and 7½″/sec.

**Motor.**
Precision quadripolar shaded pole motor of extremely large size and robust construction with 100% power reserve.

**Drive.**
Very heavy indirect fly-wheel drive.

**Mechanical Construction.**
All bearings and shafts are precision ground and honed within micro-inches thus ensuring extreme long life free from Wow and Flutter. All rotating parts such as capstans, fly-wheels and drives are statically and dynamically balanced within micrograms.

**Tape Playing Time.**
1 hour at 7½″/sec.
2 hours at 3¾″/sec.
With L.P. tapes such as EMITAPE type 99, and B.A.S.F. 1½ hours at 7½″/sec., 3 hours at 3¾″/sec.

**Re-wind Time.**
2½ minutes.

**Braking.**
Laboratory designed positive mechanical braking system with the most rapid stop mechanism on any recorder.

**Heads.**
Two heads are used. Record/Replay and Erase. These heads have been specifically designed for the HM and provide a performance far above that of normal commercial types.

**Tone Control.**
Full range tone control for bass and treble.

**Erase Safety Feature.**
Special safety switch on recording button to prevent inadvertent erasure.

**Reproducers.**
One Lorenz 9″ × 6″ High Fidelity bass speaker, extra high flux, giant ALNI magnet. This is coupled through a high-pass filter to a Lorenz 2¾″ high frequency treble speaker, type LPH65 with special plastic cone.

**Start Operating Time.**
Full operating speed on 3¾ or 7½ is reached instantaneously.

**Stopping Speed.**
Instantaneous through positive mechanical braking system. This is the most efficient braking system found on any recorder.

**Recording Level Indicator.**
Uses latest type EM840 Fluorescent beam with broad and narrow indicator paths. Broad shows normal level, narrow denotes over-loading.

**Monitoring.**
Monitoring switch enables recording to be controlled at any required level.

**High Impedance Output.**
High impedance output (·5 volts into 10,000 ohms.) is available for feeding external High Fidelity amplifiers.

**Automatic Stopping.**
Electronic micro-switch fitted. Recorder stops automatically at end of any reel of tape when tape is supplied with automatic stop foils.

**Weight.**
37½ lb. (17 Kg.)

**Size.**
15½″ × 17½″ × 8½″ (10¼″ high with closed lid).
39 cm. × 44 cm. × 21·5 cm. (26·5 cm. high with closed lid).

**PRICE**

**82 Guineas (Excluding Microphone)**

**Obtainable from all high class dealers**

# Reflectograph

## PROFESSIONAL



**MODEL 500 94 GNS**

THE REFLECTOGRAPH tape recorder and reproducer has previously been supplied in limited quantities to Broadcasting Authorities, Recording Studios and Laboratories. It has now been attractively re-styled.

Reflectograph 500 is self-contained. The portable duo-tone case is finished in luxan hide and pigskin colours and is complete with an output amplifier and two matched loudspeakers.

Reflectograph 550 also provides stereophonic reproduction from tapes and records if a suitable pick-up is connected.

Reflectograph 400 is supplied in three units for incorporation in furniture: it comprises the Reflectograph deck mounted on a stand, combined record amplifier and playback pre-amplifier and the power pack. The units, complete with interconnecting leads, have been designed for operation in conjunction with the leading makes of high fidelity amplifiers.

Models 440 and 540 Conversion Units enable owners of Models 400 and 500 to have their instruments converted to reproduce stereo tapes and records.

*Prices apply only in the U.K. and are subject to change without notice. Initial deliveries of Reflectograph models 400 and 500 are now being made to the leading high fidelity and audio retailers. In case of difficulty please write to :*

REFLECTOGRAPH DIVISION, MULTIMUSIC LTD.,
MAYLANDS AVENUE, HEMEL HEMPSTEAD, HERTS.



# RECORDERS FOR THE HOME

***THE REFLECTOGRAPH IS THE ONLY RECORDER IN THE WORLD POSSESSING ALL THESE FEATURES***

- Tape deck finished in "hammered gold" and cream.
- Fitted with 3 heads, separate record and replay amplifiers, enabling instant comparison to be made between signal recorded on tape and the input.
- Variable speed between 8 and 3½ I.P.S.
- Stroboscope, lit by neon lamp, shows precise speeds of 7½ and 3¾ I.P.S.
- Easy tape threading into a straight slot.
- Provision for conversion to stereo.
- Lever deck controls, providing variable speed wind forward and back from extra fast to inching for editing; sound available for editing if required; instant stop and start.
- Peak level recording meter; Push-button record-playback controls with record safety latch; Clock-type tape position indicator; 3 Garrard motors; 2 matched loudspeakers; Accommodates up to 8¼″ reels.
- 3 watts undistorted output; 2 input and 2 output sockets; plays total of 2 hours 8 minutes on two tracks at 7½ I.P.S. or 4 hours 16 minutes at 3¾ I.P.S.
- Fitted with Bib tape splicer on deck, complete with reel of tape, spare reel, 2 screened jack plugs.

Model 400 specification is similar to above, excluding 3 watts output, 2 loudspeakers and 1 output socket. Additional facilities include sockets on chassis for radio and pick-up; socket for microphone on instrument panel, where an additional switch provides instant selection of microphone, radio or pick-up. The combined record and playback amplifier may be mounted vertically or horizontally.

**FOR THE TECHNICAL MAN**

DIMENSIONS

*Model 500* 21″ long x 14½″ wide x 10¼″ high: Weight 50 lbs.

*Model 400* Deck on stand: 17¼″ long, 13⅜″ wide; height above deck 1¾″; height below deck 7½″. Instrument panel 4⅜″ wide, 7″ high. Aperture for chassis 3¾″ wide, 6¾″ high. Depth of chassis 13¼″.

FREQUENCY RESPONSE

± 2 dB. 50—10,000 cycles.
± 3 dB. 45—12,000 cycles.

OVERALL RESPONSE

Strictly to C.C.I.R. recommended specifications.

SIGNAL TO NOISE RATIO:

Better than — 45 dB.
(unweighted, including hum)

OUTPUT FROM PLAYBACK PREAMPLIFIER:

100 mV. R.M.S.

OUTPUTS TO RECORD AMPLIFIER

*Microphone* 1 mV } for maximum record level
*Radio or pickup* 50-200 mV. }

"WOW" OR "FLUTTER"

Better than 0.2%



**MODEL 400 84 GNS**

# VORTEXION

## HIGH QUALITY TAPE RECORDERS



★ The total hum and noise at 7½ inches per second 50-12,000 c.p.s. unweighted is better than 50 dbs.

★ The meter fitted for reading signal level will also read bias voltage to enable a level response to be obtained under all circumstances. A control is provided for bias adjustment to compensate low mains or ageing valves.

★ A lower bias lifts the treble response and increases distortion. A high bias attenuates the treble and reduces distortion. The normal setting is inscribed for each instrument.

★ The distortion of the recording amplifier under recording conditions is too low to be accurately measured and is negligible.

★ A heavy Mumetal shielded microphone transformer is built in for 15-30 ohms balanced and screened line, and requires only 7 microvolts approximately to fully load. This is equivalent to 20ft. from a ribbon microphone and the cable may be extended 440 yards without appreciable loss.

★ The 0·5 megohm input is fully loaded by 18 millivolts and is suitable for crystal P.U.'s, microphone or radio inputs.

★ A power plug is provided for a radio feeder unit, etc. Variable bass and treble controls are fitted for control of the play-back signal.

★ The power output is 4 watts heavily damped by negative feedback and an oval internal speaker is built in for monitoring purposes.

★ The play-back amplifier may be used as a microphone or gramophone amplifier separately or whilst recording is being made.

★ The unit may be left running on record or play-back, even with 1,750ft. reels, with the lid closed.

★ Our special MONITOR HEAD MODEL WVB has an additional head and amplifier which enables this recorder to perform a number of useful functions.

★ The most important of these is to monitor the recorded tape a fraction of a second after it is made, and if necessary compare it by throwing a switch, with the signal before it is recorded. This allows the recording engineer to make certain that he has made a first class recording before the artists leave the studio, without the necessity of waiting while another run through is made.

★ Additional items may be recorded one on top of another while listening to the first, since a switch is provided for the erase, and the bias, which also acts as a partial erase, can be lowered slightly and its new value checked on the meter.

★ In a similar manner the original signal may be fed back and recorded resulting in an echo, the time constant of which is controlled by the speed of the tape and the distance apart of the heads.

**THE FOUR-CHANNEL ELECTRONIC MIXER, THREE-CHANNEL MIXER WITH PEAK PROGRAMME METER** and several models of high fidelity amplifiers from 10-50 watts are also available with less than 0·1% distortion and response level 20-50,000 c/s within 0·2 db.

**VORTEXION LIMITED,** 257-263 The Broadway, Wimbledon, London, S.W 19

*Telephones :* LIBerty 2814 and 6242-3 *Telegrams :* "Vortexion, Wimble, London"



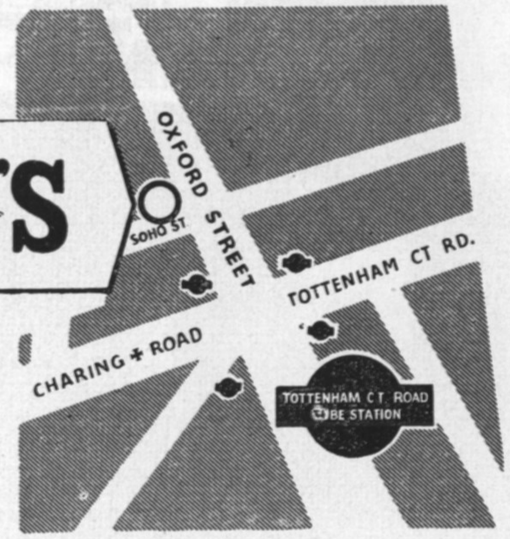


# *the world's finest in high fidelity*

**hear it in comfort . ,**

**at leisure . .**

**WEBB'S** *Radio*




*How to get there. From Tottenham Court Road Tube Station go westward along Oxford Street. Soho Street is the first on left.*

At Webb's Radio you'll find a cheerful, helpful staff who know all the " ins and outs " of high fidelity, as well as one of London's largest selections of the best in hi-fi equipment. You can compare the merits of any combination of Amplifier, Speaker, Pick-up and Radio, and make your choice at leisure in our demonstration room.

*Webb's unrivalled stocks cover everything from a replacement stylus to complete de luxe outfits.*

● **AMPLIFIERS by**

ACOUSTICAL
ROGERS
ARMSTRONG
R.C.A.
LEAK

● **SPEAKERS by**

GOODMANS
VITAVOX
TANNOY
WHARFEDALE
W.B.

● **F.M. & A.M. RADIO UNITS by**

ACOUSTICAL
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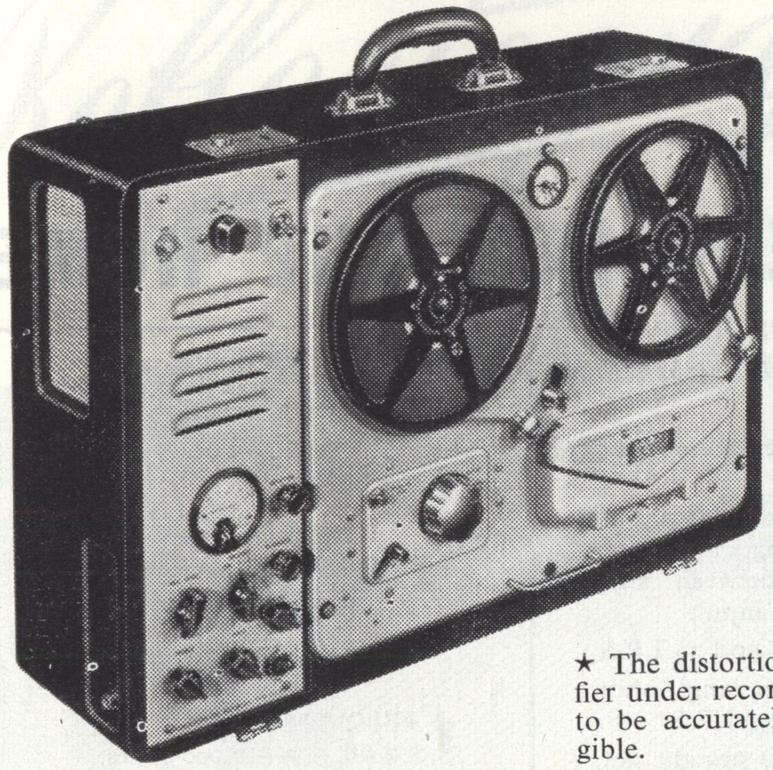
**WEBB'S** *Radio*

**14 SOHO STREET, OXFORD STREET, LONDON, W.1.** *Telephone : GERard 2089*

**Shop Hours** *9.00 a.m. to 5.30 p.m. (7 p.m. Thursday). 9.00 a.m. to 1.00 p.m. Saturdays.*

# VORTEXION

## HIGH QUALITY TAPE RECORDERS



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*Telephones :* LIBerty 2814 and 6242-3 *Telegrams :* "Vortexion, Wimble, London"



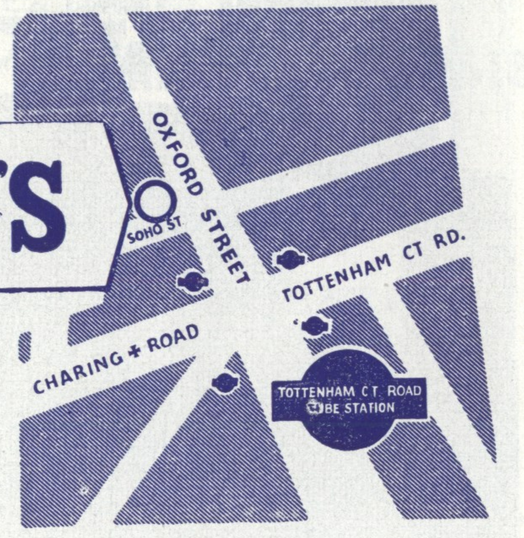
*Retailer's Announcement*

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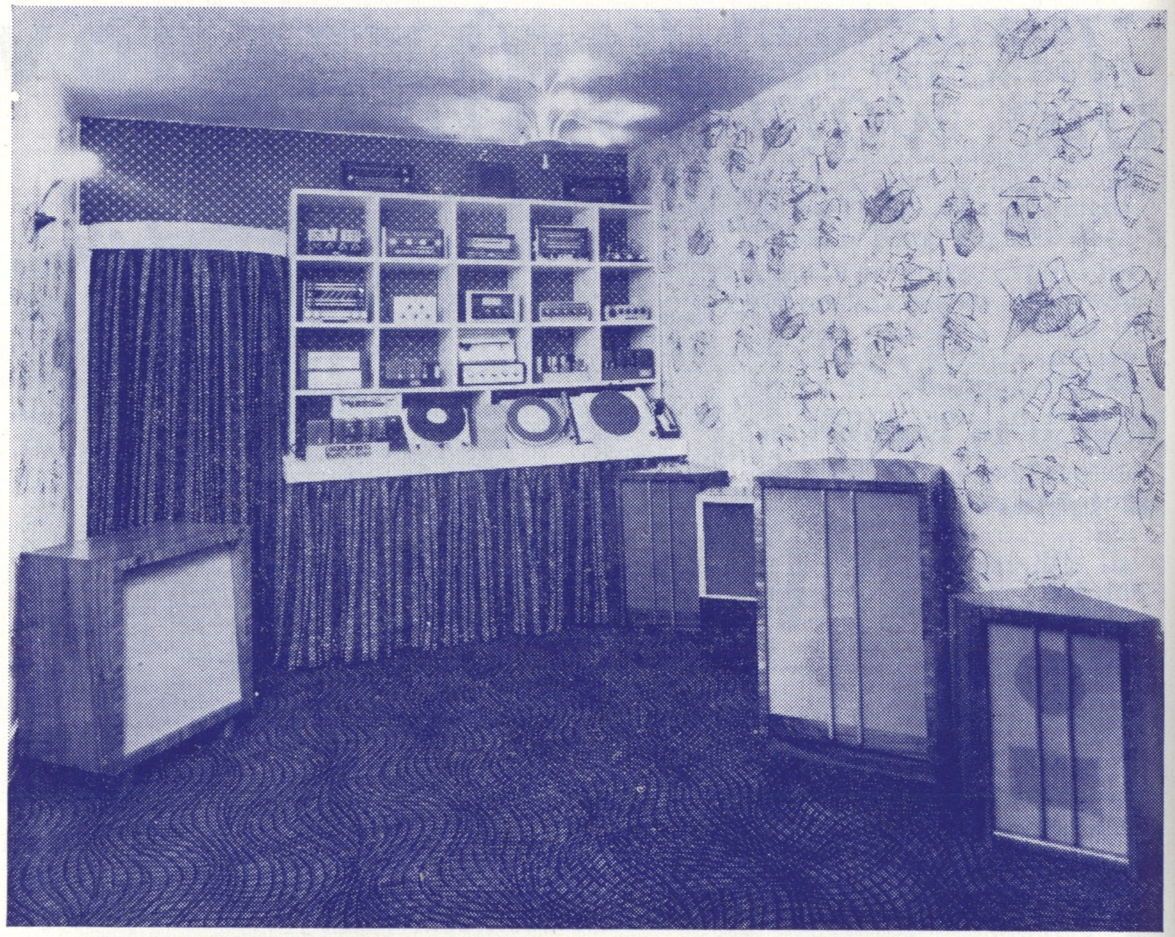
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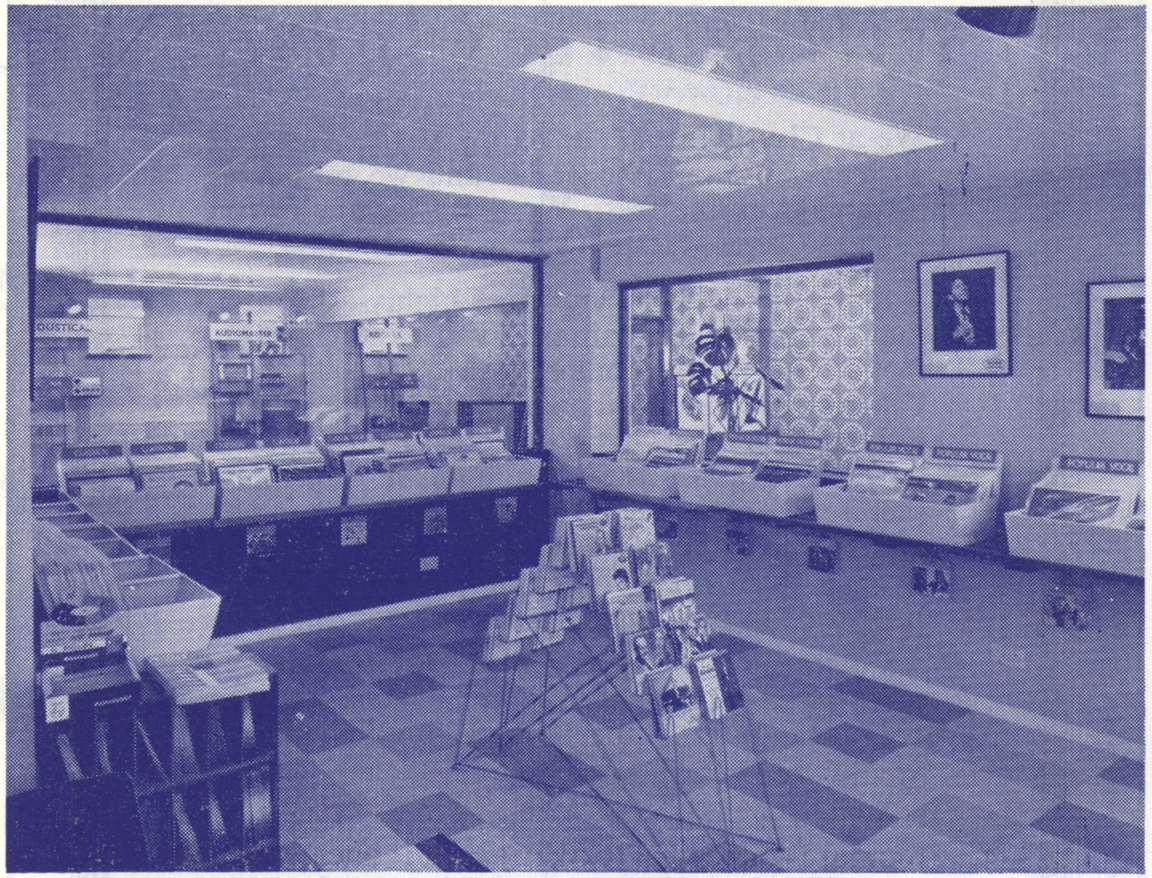






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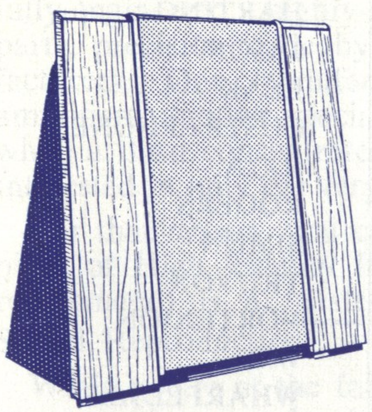
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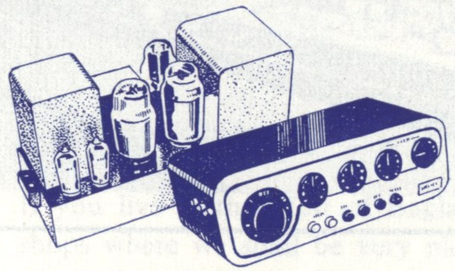
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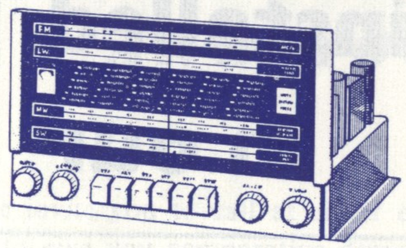
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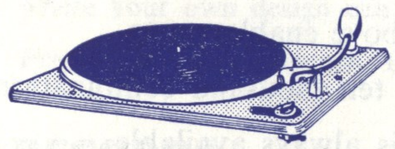
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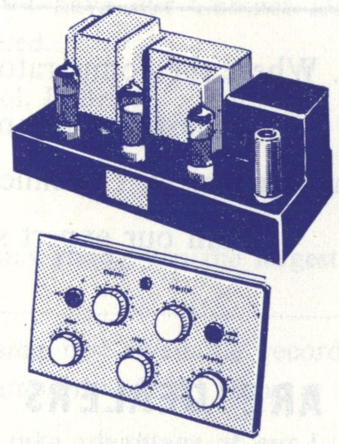


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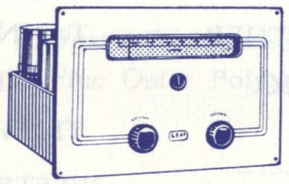
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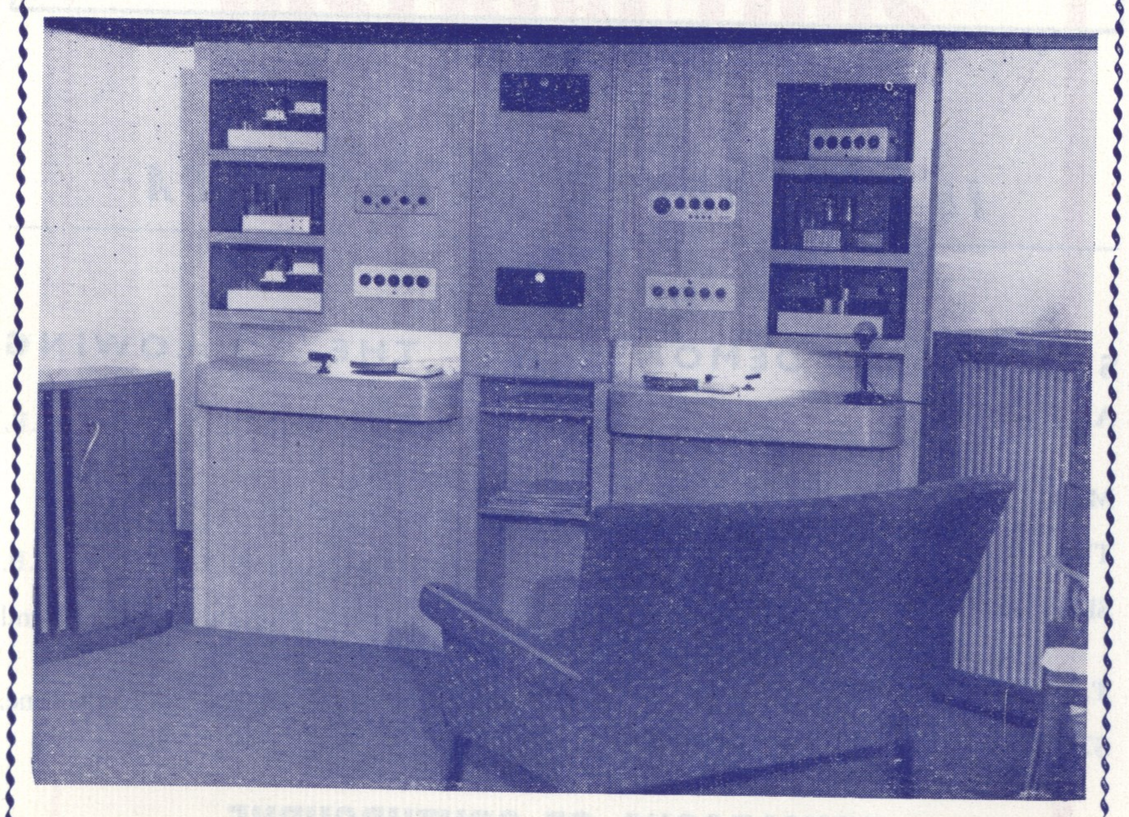
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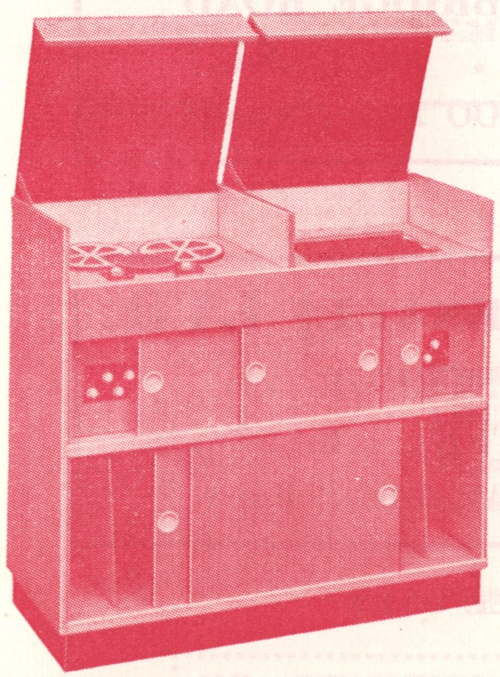
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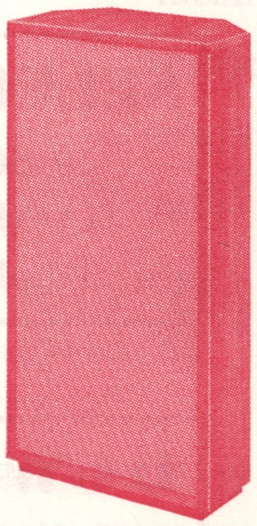
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