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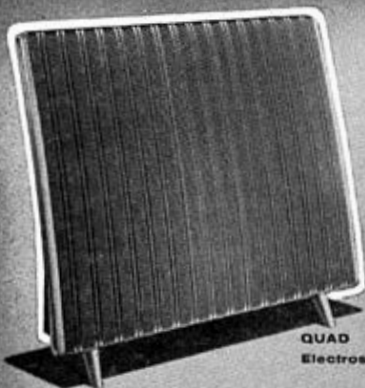
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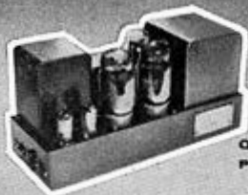
April 1961

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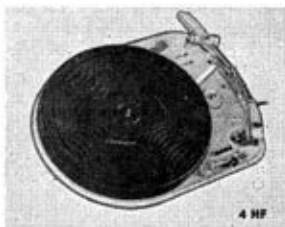
QUAD 11
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QUAD

BOOTH 47
Demonstration room 236

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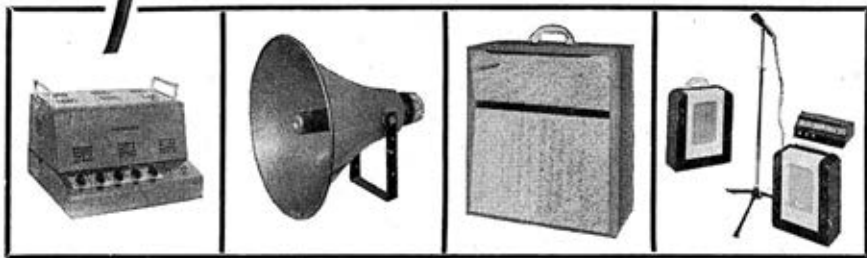
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£7.11.0

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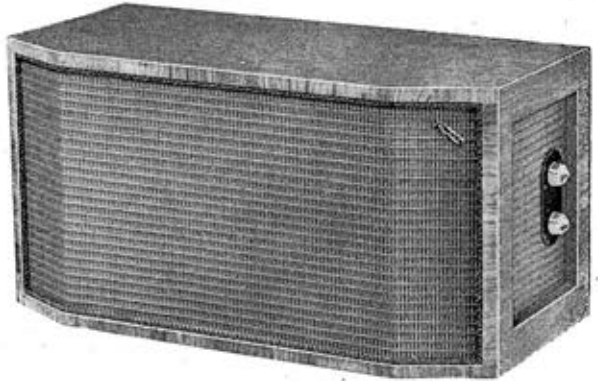


- ★ STAND NO. 21
- ★ DEMONSTRATION ROOM 152
- ★ TRADE ENQUIRIES ROOM 151

GRAMPIAN REPRODUCERS LIMITED
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Model W3

The W3 is a three-speaker system in which compactness has been achieved without sacrificing quality of reproduction and without introducing "small box" tonal character. It is ideal for use on stereo or single channel input where room space is limited, as the cabinet may be stood vertically on the floor or placed horizontally on a table or shelf. The sensitivity is high enough to give full domestic volume with any good commercial FM receiver with about 3 watts output.

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L.F. output is produced by a special 12" unit type WLS/12 fitted with a heavy cone and a new type of suspension which permits large linear excursions and gives a low fundamental resonance of 25-30 c/s.

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The upper registers are handled by 5" and 3" units connected in parallel via a quarter section 1 kc/s dividing network, with an extra series capacitor to protect the smaller speaker.

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Weight 48 lb. complete. Impedance 15 ohms.

Max. input 15 watts.

Effective frequency range 30-20,000 c/s.

£39. 10. 0 complete,
tax free.

The elegant cabinet is available in a choice of walnut, oak or mahogany veneers. Also available in whitewood, price £36.10.0. Tropical model made with resin bonded plywood can be supplied at £2.0.0 extra.



★

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- 5 Mixing.
- 6 Monitoring of both radio or mike recordings.
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- 10 Light in weight—12lb. complete with batteries. Economic battery life—up to 100 hours.
- 11 Mains converter for home use.
- 12 Prompt service facilities.

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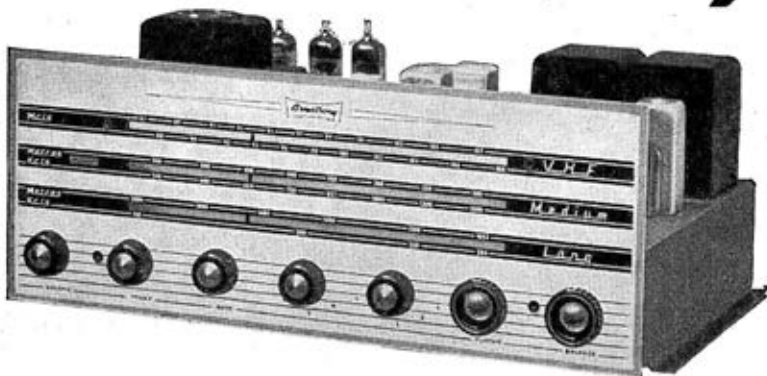
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42 GNS.

TUNER-AMPLIFIER CHASSIS

The Stereo 12 Mk.2 is a new and improved version of the famous Stereo-Twelve. It is the most complete chassis ever produced combining AM and FM Tuners, a comprehensive Control Unit and two High Fidelity Amplifiers in one compact unit. Compare the features and specification of each section with tuners and amplifiers sold separately and then compare the cost.

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Ferrite rod aerial, unique 2nd IF stage and efficient AVC provide good continental reception. Miniature tuning indicator.

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High Fidelity tuner covering the full VHF band (87—108 mc/s). Automatic frequency control ensures complete stability and easy tuning.

★ STEREO CONTROL UNIT

Separate bass and treble controls. Wide range balance control. Inputs for all pick-ups, tape record and playback. Booster unit available for low output pick-ups. Stereo radio input.

★ TWO HI-FI AMPLIFIERS

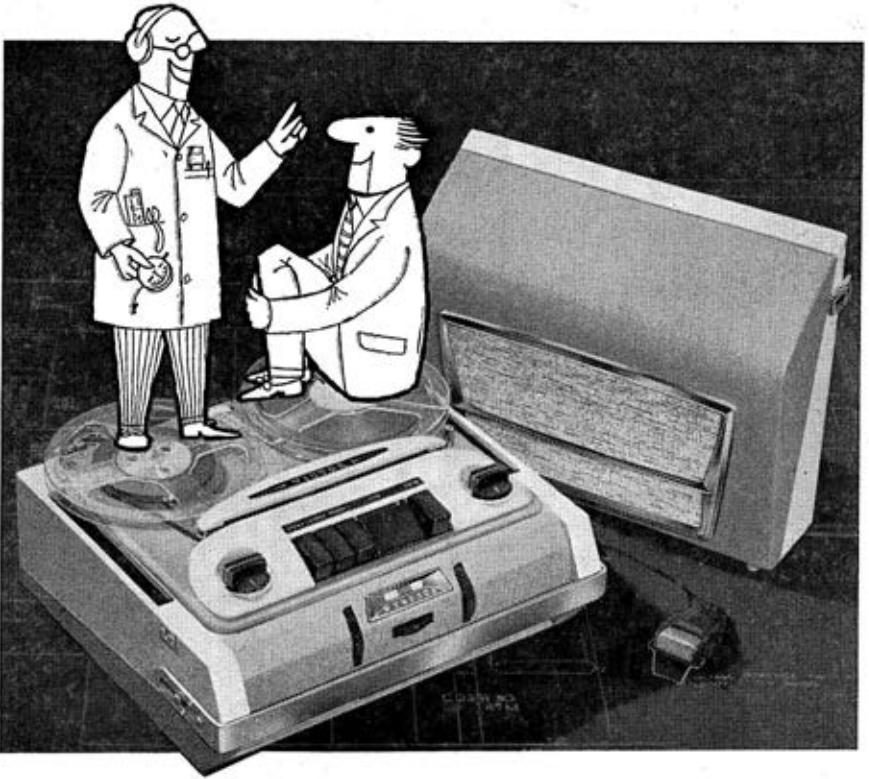
Each amplifier provides 8 watts push-pull output, 16 watts total for mono and stereo. Frequency response 20-30,000 c.p.s.±2dB.

We specialise in the manufacture of high quality tuner-amplifier chassis in addition to our normal range of separate tuners and amplifiers.

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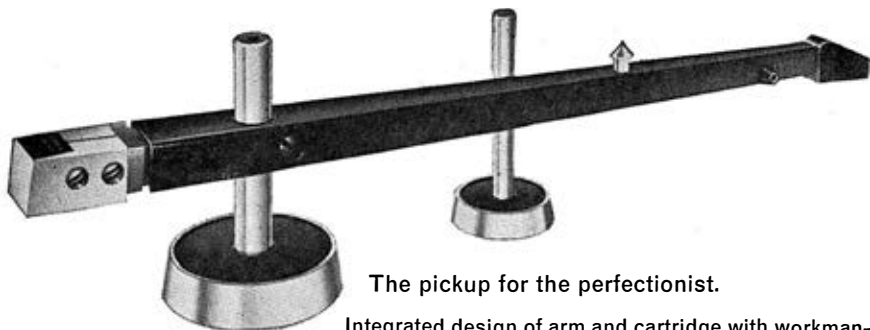
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Gramophone Record Review, June, 1960

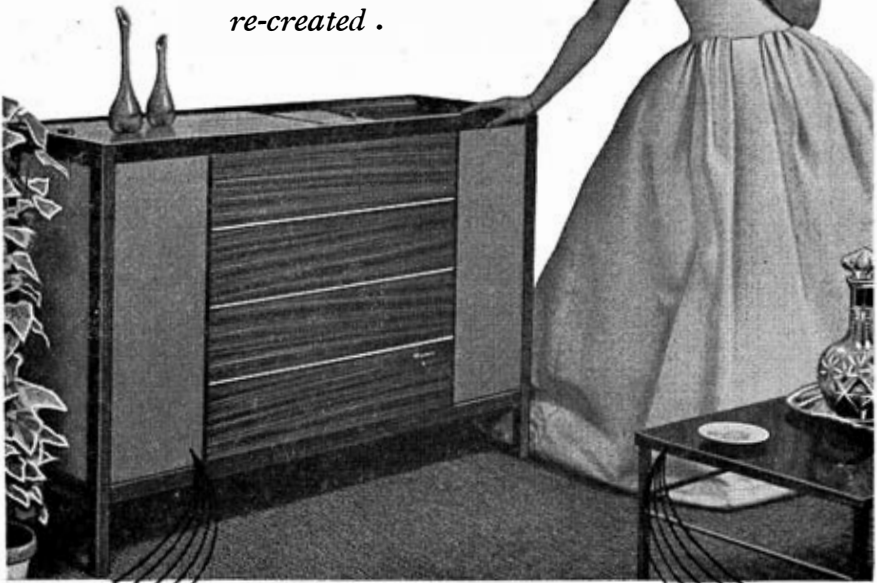
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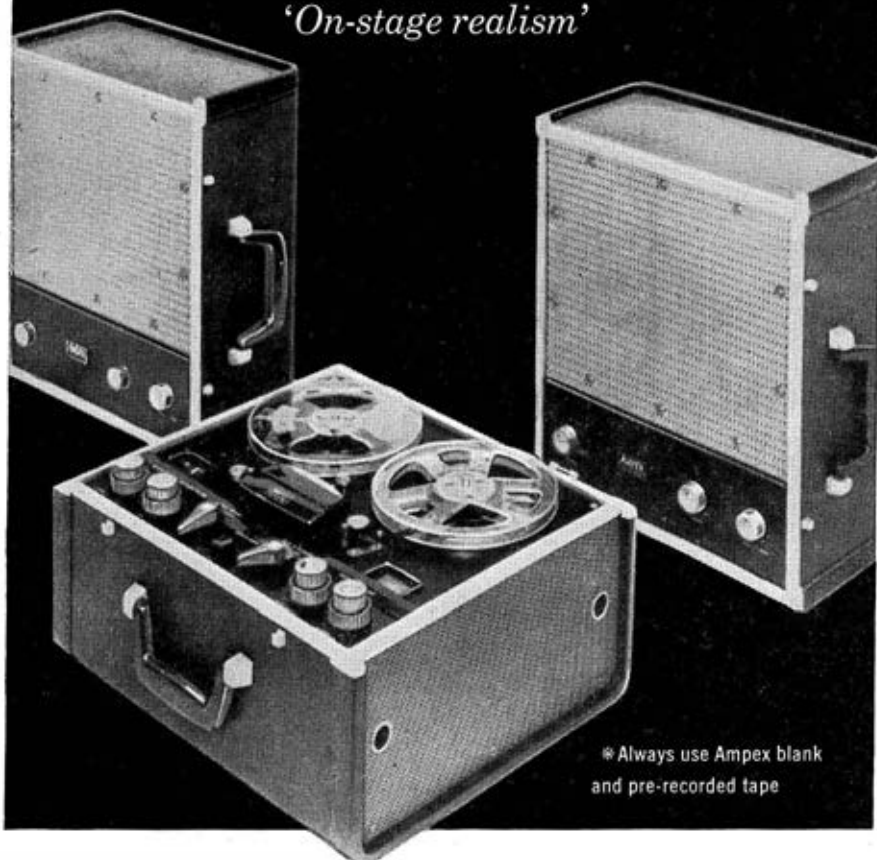
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Mono/stereo cartridge for most arms.

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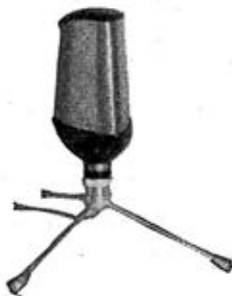
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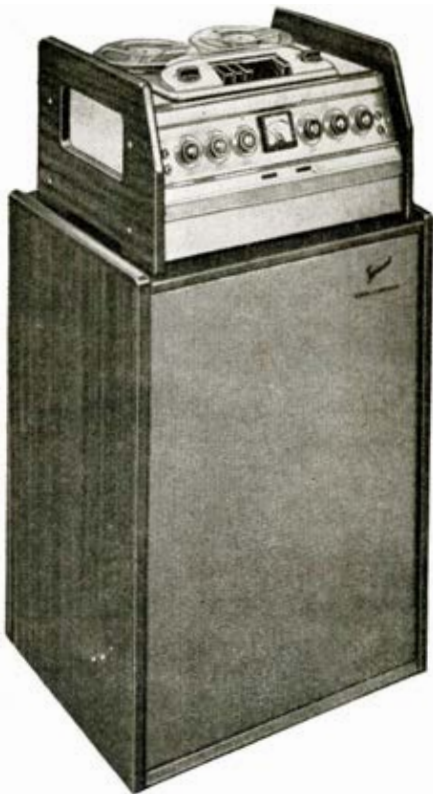


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Record



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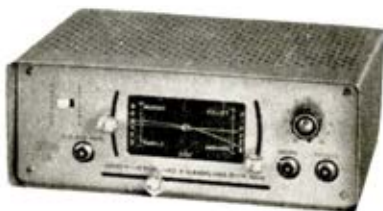
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microphones

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AKG leads the world in the research and development of dynamic and condenser microphones. AKG owns hundreds of patents. Among these are many basic patents covering new principles of obtaining cardioid patterns, extended frequency range, low distortion and new designs.

C 60

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new

K 50

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C 28

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D 19 B

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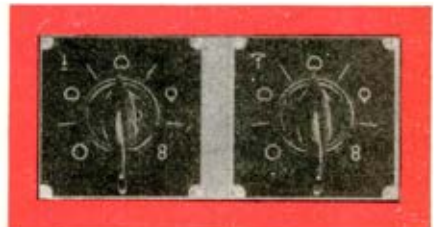
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Ask for detailed information and state your inquiresments.



Werbung Grafik Uran Wien

C 24 Stereo Condenser Microphone








AKUSTISCHE U. KINO-GERÄTE GMBH VIENNA

DESIGN THAT IS

CHITNIS AUDIOGRAPH RECORDERS

are years ahead in quality and design. When you buy the model of your choice, be it stereo or mono, you enjoy the immediate advantage that comes of having a high-fidelity electronic instrument from today's foremost designers, made in up-to-date well equipped factories in Britain and Western Germany. These recorders are so compact, so mechanically robust, so fine in performance and so very easy to use. Where once high-fidelity reproduction was confined to tape speeds of 15 inches per second, Audiograph Recorders give you better standards at $3\frac{1}{4}$ ips. The saving in tape expenditure is enormous. Chitnis Audiograph Recorders are models of elegance and good styling too, and are made to give you all you require of a good recorder whether for home or professional use. Where it is desired to spend less money yet still enjoy Chitnis Audiograph quality, there is Model AF.42 designed essentially for fine domestic standards for modest outlay.

-  **KMS.66 4-TRACK STEREO**
3 $\frac{1}{4}$ ips with 30-16,000 c/s \pm 3 dB. Heavy-duty Papst motor and instantaneously acting controls. 4 watts total output. 3 paired inputs, 3 paired outputs. Magic eye and digital indicators. Pause; superimpose; monitor. TWO LOUDSPEAKERS (one in lid). For A.C. With reel of tape. **66 Gns.**
 -  **9/S4K 4-TRACK STEREO**
Similar in spec. to KMS.66 but with one speaker. With tape. **56 Gns.**
 -  **KM.33 4-TRACK MONO**
Mono version of KMS.66 but with TWO SPEEDS, (3 $\frac{1}{4}$ /1 $\frac{1}{2}$) monitoring speaker with tape. **54 Gns.**
 -  **KM.22** Half track mono version of KM.33. **48 Gns.**
 -  **AF.42 2-SPEED 4-TRACK**
7 $\frac{1}{2}$ and 3 $\frac{1}{4}$ imp. Takes 7" reels. Response at 7 $\frac{1}{2}$ ips — 40-14,000 c/s. With microphone and tape. This AUDIOGRAPH model has been designed essentially for domestic use. With magic eye; digital indicator; monitoring; 2 Volume controls — one recording, one output; Tone control; Inputs for Radio/Gram/Mic. Beautifully styled "attache case" type of cabinet in two tone finish. **To be announced**
- AUTO-SWITCH STOPS MECHANISM COMPLETELY SHOULD TAPE BREAK OR END.
- KMS/66, 9/S4K AND KM MODELS FITTED WITH BOGEN HEADS.
- 5 AND 15 OHM OUTLETS
- LONGER PLAYING TIME PER REEL.
- HIGH FIDELITY STANDARDS OF REPRODUCTION
- SUPERB IN DESIGN AND CONSTRUCTION.

Also available CHITNIS Dynamic and Ribbon microphones.

YEARS AHEAD



KMS/66

— CHITNIS — **AUDIOGRAPH** **RECORDERS**

4-TRACK

STEREO & MONO

30-16,000 c/s \pm 3dB

BOOTH 50

DEM. ROOM 117: OFFICE 116

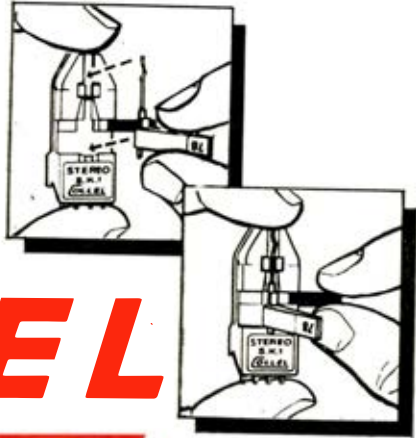
AUDIOGRAPH RECORDERS are supplied to retail shops only through wholesalers. In cases of difficulty, leaflets and name and address of your nearest supplier gladly sent on request.

CHITNIS ELECTRONICS LTD., 66 BOLSOVER ST., LONDON, W.1
Phone: EUSton 4264-5-6

**SNAP-IN
SIMPLICITY**

with

OLLEL



STEREO CARTRIDGES

Collel's experience and knowledge give outstanding advantages of wide frequency range and high compliance permitting tracking and tracing at low needle point pressure, PLUS exceptional channel separation over the entire frequency range.

SK1 CRYSTAL



SC1 CERAMIC



**See them on Stand 55
and demonstrated
in Room 213**

COLLEL LTD

All Saints Passage,
Wandsworth High Street,
London, S.W.18.
Telephone: VANdyke 4377.

THE 1961
INTERNATIONAL
AUDIO

FESTIVAL & FAIR

Festival Director:
C. Rex-Hassan

APRIL

6th, 7th, 8th, 9th

Hotel Russell

London, W.C.2



Catalogue 2/6

Setting New Standards . . .

1945 AMPLIFIERS • LEAK SET A NEW STANDARD — TOTAL DISTORTION REDUCED BY A FACTOR OF FIFTY TIMES

LEAK set a new world standard when, in 1945, they marketed amplifiers having a total distortion content as low as point one of one per cent., this was 50 times better than the then accepted standard for distortion content.

1961 LOUDSPEAKERS • LEAK SET NEW STANDARD WITH VERY-LOW-DISTORTION MOVING-COIL LOUDSPEAKER SYSTEM

The new LEAK "SANDWICH" LOUDSPEAKER SYSTEM is the product of many years of research and development work.

The cabinet is of unique construction which damps panel resonances and permits the loudspeaker motor to reproduce full clean bass without the "boxy" coloration of conventional cabinets. A 3in. and a 13in. moving-coil loudspeaker motor of novel design and a half-section cross-over network complete the system which gives the highest quality of reproduction over the whole frequency range of the input signal from records, radio, tape or microphone. THE GREATEST ADVANCE IN THE DESIGN OF MOVING-COIL LOUDSPEAKERS SINCE RICE-KELLOGG INVENTED THE FIRST UNIT IN 1925 HAS NOW BEEN MADE BY LEAK WITH A NEW INVENTION WHICH ELIMINATES BREAK-UP DISTORTION IN THE WORKING RANGE. The 13in. unit employs a new cone whose stiffness to weight ratio is 200 times better than the best cones which are currently available. The low stiffness of conventional cones results in the flexing of the cone at large amplitudes and break-up resonances. The new LEAK cone which has immense stiffness for no greater weight than a conventional cone has, for the first time, given us a loudspeaker which behaves as the theoretical ideal of a rigid piston; thus there is no flexing of the cone at large amplitudes and there is no break-up distortion within the frequency range handled by the loudspeaker. It is this freedom from coloration, produced in conventional systems by break-up distortion of the cone and cabinet resonances, which distinguishes the superior quality of reproduction of the LEAK "SANDWICH" LOUDSPEAKER SYSTEM from that of the best currently available loudspeaker systems.

The cabinet measures only 26in. x 15in. x 12in.; it can be used in the vertical or horizontal position to suit the convenience of the user.

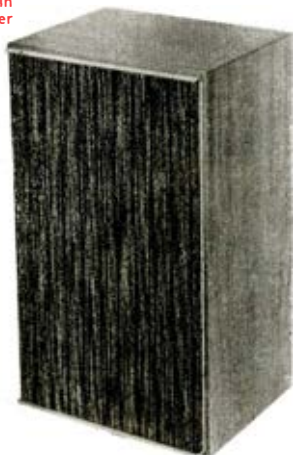
The illustrations show the Trough-Line II F.M. Tuner, the Varislope Stereo pre-amplifier and the Stereo 20 power amplifier housed in the Southdown Cabinet and the new "Sandwich" loudspeaker system.



*Write to
the address
below for
illustrated
leaflets.*

LEAK

the first name in High Fidelity



H. J. LEAK & CO. LTD., BRUNEL RD., WESTWAY FACTORY ESTATE, LONDON, W.3
Telephone: SHEPHERDS Bush 1173. Telegrams: SINUSOIDAL, EALUX, LONDON.

... for the guidance of visitors

This International Audio Festival is divided into two distinct Sections.

In the **First Section** on the ground floor in the Exhibition Halls are Booths on which Exhibitors are displaying their Products. These Booths are manned by expert personnel who are able to discuss any aspect of their equipment.

The **Second Section**, and the one which is considered the most important, is on the First, Second and Third floors of the Hotel. On these floors the manufacturers who are exhibiting are giving live demonstrations. The way up to their demonstration rooms is by means of the main Hotel staircase, situated straight on through the Halls. There are other staircases for visitors to circulate around and down to visit any room, and there is a special staircase from the demonstration room floors allowing re-entry into the Main Halls.

The Festival is well sign-posted, and visitors should not have any difficulty in finding their way about. On the Corridor Walls are plans of the floor; these can be spotted quite easily because of their red frames.

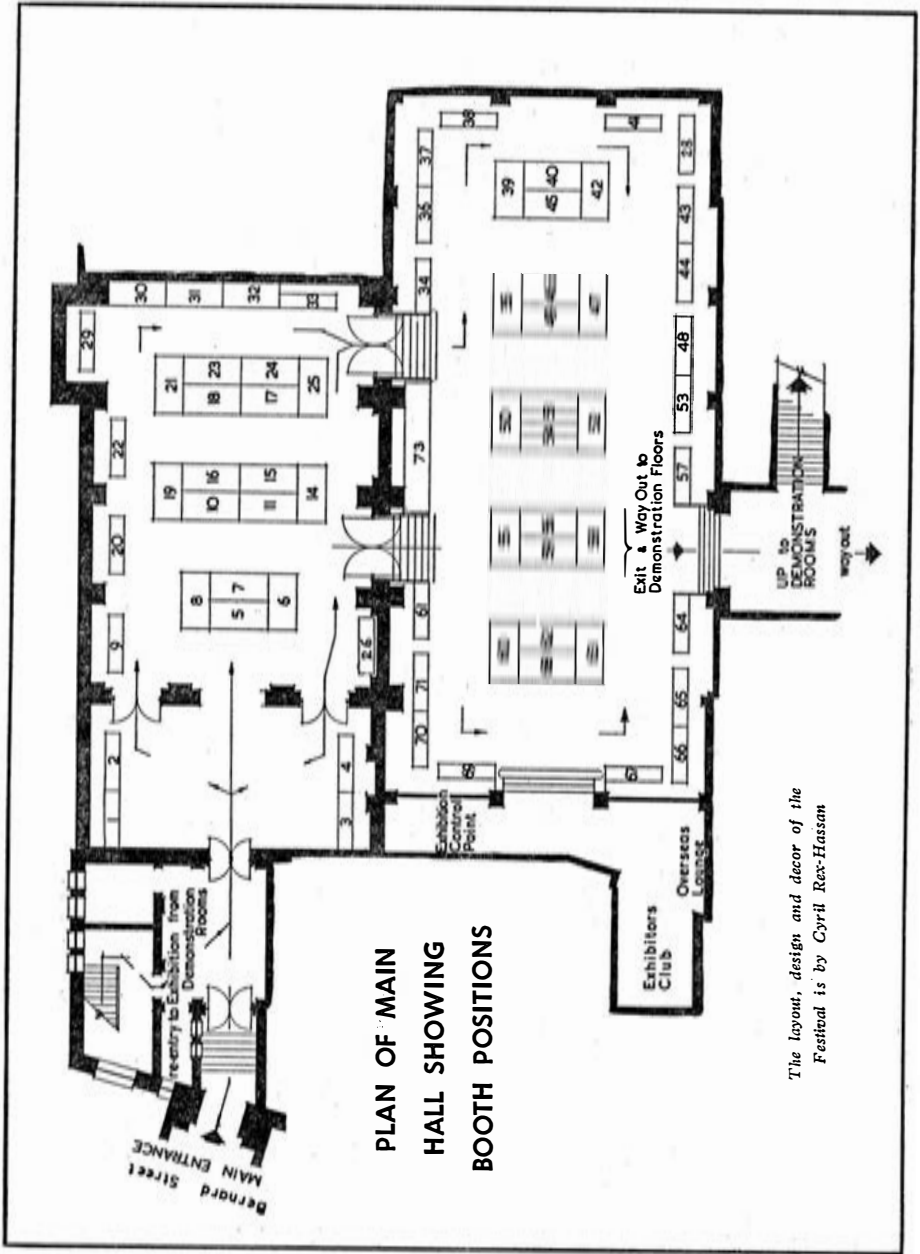
AMENITIES

There are ample cloakroom facilities in the Hotel for visitors who would like to leave their hats, coats and parcels.

A large bar is situated near the front Hotel entrance, and there are also spacious lounges. There are excellent restaurants adjacent to the centre Exhibition Hall, where either *Table d'hôte* or *à la carte* meals can be obtained. Light refreshments are also available in the Hotel lounges throughout the opening times of the Exhibition, and there is an extension of licence for alcohol during the afternoon hours.

An Information Bureau is situated in the Glass Hall with courteous staff who will be pleased to answer any queries and offer any guidance required. Next to this is a special lounge for the benefit of Overseas Visitors. Interpreters are available.

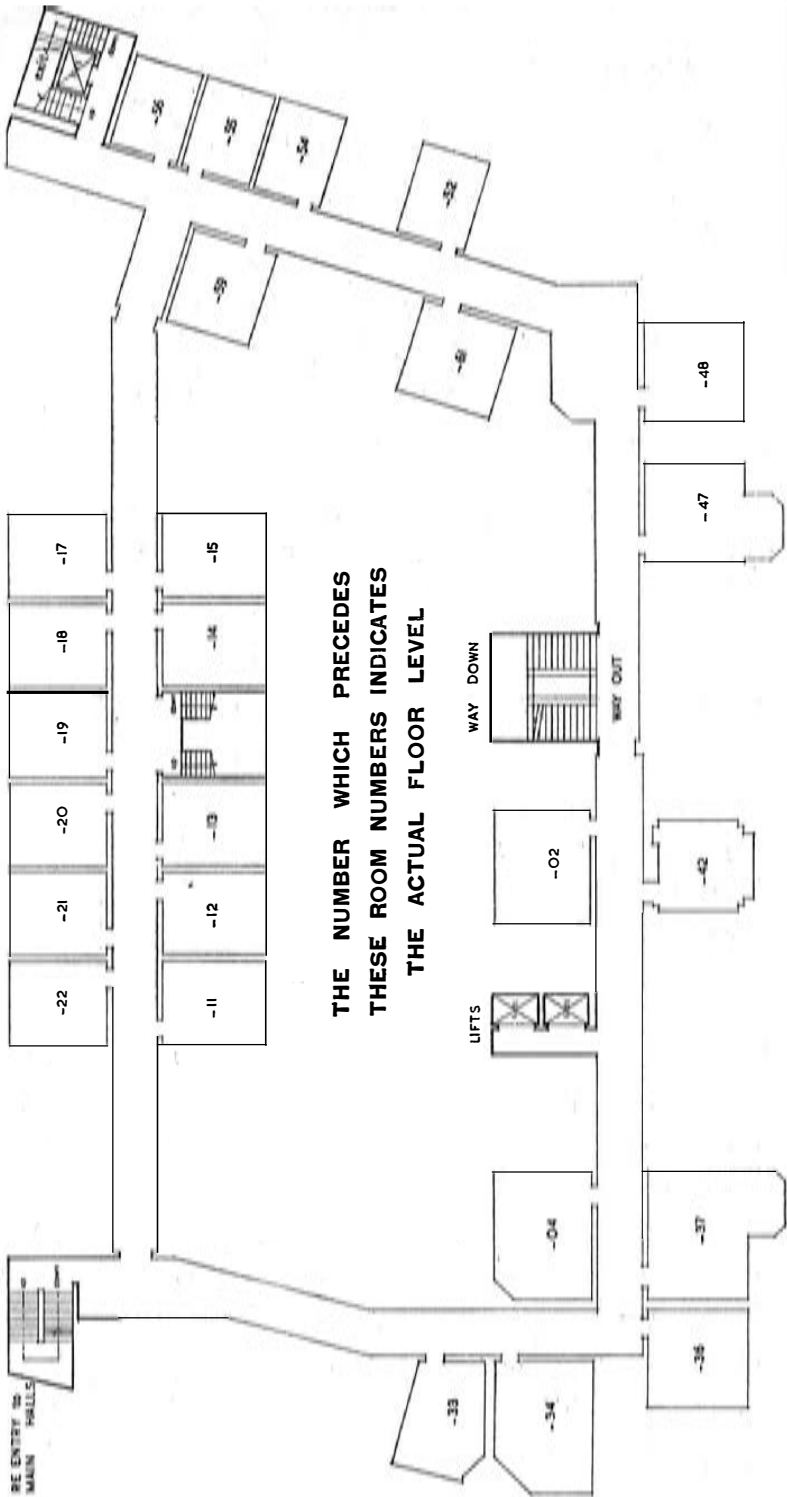
Overleaf will be found plans of the main Halls and demonstration floors. They all clearly indicate the position of the Exhibitors' rooms. They also show how to get about the Exhibition.



**PLAN OF MAIN
HALL SHOWING
BOOTH POSITIONS**

*The layout, design and decor of the
Festival is by Cyril Rex-Hasnan*

PLAN OF THE DEMONSTRATION FLOORS



**THE NUMBER WHICH PRECEDES
THESE ROOM NUMBERS INDICATES
THE ACTUAL FLOOR LEVEL**

Guide to the Festival

*Below is an Index of Exhibitors ; on the pages following is a **Products Guide**, containing a full write-up of what each exhibitor is showing. Exhibitors are placed in this Guide alphabetically, by their Trade names—beneath which is their full title and address, and below that, the type of products manufactured—then comes an article containing fullest details, both technical and explanatory.*

All Exhibitors are Manufacturers, with the exception of some specialised Press.

INDEX OF EXHIBITORS

Against each Trade name below, is the Booth number and the Demonstration Room number. The initial number of each Room indicates the floor.

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ACOS

Cosmocord Ltd.,
Eleanor Cross Road,
Waltham Cross, Herts.

Booth 20
Demonstration
Room 211

Microphones, Pick-ups and Accessories

This year Cosmocord are featuring a live demonstration of stereo sound using the ACOS Mic 44 stereo microphone.

Demonstrations will be given every hour.

The long-awaited production ACOS stereo Hi-Light will be demonstrated on alternate half hours.

Other ACOS pick-ups and microphones will be on display on Booth No. 20 and include a new replacement ceramic stereo turnover cartridge—the ACOStereo 81-2. .

AKG

**Akustische u. Kino-Geräte GMBH,
Vienna, Austria**

**Booth 4
Demonstration
Room 220**

Microphones

AKG are located in Vienna, Austria, and are one of the largest manufacturers of microphones in the world. More than 700 employees are solely engaged in the manufacture and development of microphones and their accessories, producing approximately half a million dynamic and condenser microphones per year. Every microphone undergoes at least two full-scale tests in anechoic rooms of the most up-to-date design, where frequency response, front-to-back ratio, etc., is measured and recorded.

AKG manufacture a very large proportion of the microphones used in Continental tape recorders which are famous names the world over. Hundreds of different versions are supplied and made to individual manufacturers' specifications.

AKG studio microphones (condenser and dynamic types) are used by the leading broadcasting organisations, film studios and recording companies throughout the world where they meet the exacting specifications demanded by such users. Below are described a few of the types from the extensive AKG range.

D 5. New omnidirectional dynamic microphone. Rugged, yet inexpensive. Dual impedance. Frequency range 100-10,000 c.p.s.

D 11 N. Cardioid dynamic microphone with bass attenuation switch and folding stand. Suitable for both low and high impedance inputs. Frequency range 90-13,000 c.p.s. Discrimination approximately 12 db.

D 88. Stereo microphone used by many Continental tape recorder manufacturers. Impedance 200 ohms, double line transformer available for high impedance inputs.

D 19 B. Wide band dynamic cardioid microphone designed for semi-professional applications. Frequency range 40-16,000 c.p.s. Discrimination 15 db. Bass attenuation switch. Shielded against magnetic stray fields.

D 24 B. The studio version of the D 19 8 with built-in wind screen. Flat from 30-16,000 c.p.s. Discrimination approximately 20 db.

D 25 B. Dynamic cardioid studio microphone specially designed for boom operation. Used by leading T.V. and film studios.

C 12. "King of Condenser Microphones," accepted as a standard by many world-famous broadcasting organisations. Provides the choice of nine different directional patterns by remote control, which can be selected during programme pick-up without disturbances or changes in level. Stabilised power unit supplied. Each microphone delivered with individually calibrated response curves.

C 24. Stereo version of the C 12. Suitable for M-S and X-Y stereophony.

C 28/29/30 A. Condenser microphone series for the highest professional requirements. Cardioid and omnidirectional patterns. Make sure you inspect these beautifully engineered microphones.

C 60/61. New miniature condenser microphone, weighs only 2 ozs. C 61 version is supplied with three metre fish-pole, elastic suspension and wind-screen.

St 200 Microphone Floor Stand. See for yourself this uniquely constructed stand which gives maximum stability and shock protection, can be folded for easy transportation.

Please refer to the AKG advertisement in this catalogue. If you require more detailed information on AKG products, please contact: **Politechna (London) Ltd., 3, Percy Street, London, W.1, AKG's exclusive sales organisation for the U.K. and Commonwealth.**

AMATEUR TAPE RECORDING MAGAZINE

Associated British Tape Recording Clubs Ltd.,

Centre of Sound,
Archer Street,
Piccadilly, W.1.

Booth 41

Publishers

The Amateur Tape Recording & Hi-Fi Magazine is the official journal of the British Recording Club.

January, 1959 saw the birth of the Club. In those days it was known as the "Tape Recorder Club," but its rapid expansion created a need for a new title and it became the "British Recording Club." This name is now known throughout the British Isles and in 32 countries overseas as a result of the vast taping network of its members.

Issue No. 1 of the Club Bulletin also appeared in this inaugural month. Then in March, 1959, plans for a national publication were formulated, and August saw its appearance. Since then "Amateur Tape Recording" magazine has had a similar meteoric rise and provides constructional articles, informative series on the fundamentals of sound, news, pictures, playlets for recording, cartoons and competitions, to a constantly growing readership. A taped version of the Magazine is circulated to blind people, through the Tape Reading Circle for the Blind which operates a tape postal scheme of recordings of extracts from the National Newspapers and Periodicals.

The B.R.C. Braille Service assists blind persons who have any type of query relating to tape recording and has thousands of members all over the world to call on for advice.

Members frequently seek the assistance of the Club's Technical Advisory Service which is operated through the Magazine. To date, no fewer than 2,000 technical queries have been answered. The Club's other activities also cover hospitals and schools.

The British Recording Club in conjunction with the Audio Industries Club will shortly be opening club premises in Central London. The "Centre of Sound," as it will be called, will contain amenities encompassing the entire audio field in pleasant surroundings ideally situated for both Londoners and the visitor to London.

AMPEX

Ampex (Great Britain) Limited,
Arkwright Road,
Reading, Berks.

Booth 17/18
Demonstration
Room 312/3

Sound Recording Equipment

Virtually the complete range of Ampex sound recording equipment will be on show in Room 312/3, and on Booth No. 17/18. This represents one of the most comprehensive ranges offered by any manufacturer, and includes domestic recorders, professional units, as used by many broadcasting stations, and the 300 "Master Recorder," for the highest quality masters used in the production of pre-recorded tapes, and gramophone records.

The range of domestic equipment remains unchanged from last year, and consists of two basic machines. The 900 series are monaural record, stereo playback units, available either in desk form for building into an existing installation, or in portable carrying case. The 950 series are of similar design, but allow for stereo recording as well as playback. The 970 series also include two power amplifiers and speakers, in portable case. All these machines will replay four-track tapes, as well as two-track, or monaural. A number of accessories are also on display.

The professional range has been increased from last year with the recent introduction of a Universal series 351. The same transport is used as on earlier models, with the addition of a multi-voltage input tapping to allow for optimum performance on practically any known A.C. supply, whilst the electronics now feature switchable NAB/CCIR equalisation at $7\frac{1}{2}$ and 15 i.p.s. This machine is made in England by Ampex Electronics Limited.

This whole range of equipment together with the Ampex instrumentation and video recorders are now marketed by Ampex Great Britain Ltd., and in the case of the domestic series, a number of franchised dealers.

You are cordially invited to attend these demonstrations. Representatives will be available to give advice on all aspects of magnetic tape recording.

ARMSTRONG

Armstrong Wireless & Television Co. Ltd.,
Warlters Road, Holloway, London, N.7

Booth 57

Demonstration
Room 203

*Complete Tuner/Amplifier Chassis, both mono and stereo.
AM/FM Tuners and FM Tuners. High Fidelity
Amplifiers, both mono and stereo. Tape pre-amplifiers.*

Products in the comprehensive Armstrong range include (prices quoted are inclusive of purchase tax where applicable):

Stereo 12 Mk. 2. Tuner/Amplifier Chassis. Price 42 guineas.

The most complete chassis ever produced, combining an AM/FM Tuner, a comprehensive Control Unit and two High Fidelity Amplifiers on one compact unit. Each amplifier provides 8 watts push-pull output, and the tuner covers the full VHF, medium and long wavebands. There is automatic frequency control on VHF and a ferrite aerial with two IF stages on the AM bands.

Stereo 55 Tuner/Amplifier Chassis. Price 32 guineas.

A junior version of the Stereo 12 Mk. 2 chassis providing 10 watts output, 5 watts each amplifier, and covering the full VHF and medium wavebands. Inputs, both mono and stereo, are provided for pick-ups, tape record and playback and also for possible future stereo radio.

Jubilee Mk. 2 Tuner/Amplifier Chassis. Price 29 guineas.

The high fidelity amplifier provides 8 watts push-pull output and the tuner covers the VHF band, with automatic frequency control, and long and medium bands. There are inputs for pick-ups, tape recording and playback.

AF208 Tuner/Amplifier Chassis. Price 22 guineas.

An AM/FM chassis of 5 watts output covering the VHF and medium wavebands and with inputs provided for pick-up, tape recording and playback.

T4 VHF Tuner. Price 19 guineas.

A self-powered VHF tuner designed to get the best possible results from the BBC's high quality transmissions. Features include automatic frequency control, cathode follower output, variable output and an optional cabinet for those requiring a separately mounted tuner.

ST3 Mk. 2. AM/FM Tuner. Price 27 guineas.

A self-powered tuner covering the VHF, medium and long wavebands. On AM bands the ferrite rod aerial, two IF stages and efficient AVC ensure good Continental reception. The FM circuit is completely stable and the automatic frequency control provides broad easy tuning.

A10 Mk. 2. Power Amplifier. Price £21 10s.

A high fidelity amplifier recommended for use either with the PCU27 Stereo Pre-amplifier or the Control Unit Mk. 2 (mono). Output is rated at 15 watts and frequency response is within 1dB 15-35,000 c.p.s. Total harmonic distortion is less than 0.1% at 10 watts.

PCU27 Stereo Pre-amplifier. Price £26 10s.

This unit provides for every possible sound source and every desirable adjustment is included. The sensitivity is 1mV for 400 mV output, providing full output from any pick-up, tape head, tuner or microphone available.

Control Unit Mk. 2. Price £10 10s.

A mono control unit with comprehensive record equalising and filter controls and separate bass and treble controls. Special pick-up matching switch and inputs for tape recording and playback.

Pabo-3 Tape Pre-amplifier. Price 16 guineas.

Designed to operate as the essential link between any amplifier and most tape decks. Includes radio and microphone inputs and switched equalising for three tape speeds.

AUDIO FIDELITY

Audio Fidelity (England) Ltd.,
44, Crawford Street,
London, W.1.

Booth 40
Demonstration
Room 256

Discs

The little Company with the BIG sound has done it again !

Now comes Audio Fidelity's "Shot in the Arm" to the Hi-Fi industry.

Our aim has always been to get more undistorted dynamic frequencies in the groove of the LP than either your equipment can reproduce or your ear can receive. (Sounds for bats and dogs, you might say). Actually we don't do this because we're animal lovers, but because these unheard sounds clarify and enrich the middle registers to an extraordinary degree—for any kind of reproducing equipment, and for any ear.

With the new "Doctored for Super Stereo and Super Sound" Series which we proudly introduce at this year's Audio Festival we've carried this straining for perfection even further. Now we have sound which has to be **watched** as well as listened to !

It's said of us that we're a "gimmick" company. This may well be so. Certainly when you listen to Audio Fidelity stereo you know you're listening to **stereo**. Certainly we have a greater impact in sound than many others. And—above all—most certainly it's more **FUN** to listen to our records. So we cheerfully admit to the "gimmick" label. Odd thing, perhaps, is that our sounds sell so well . . .

Anyway, come to Room 256 and let Doctors Ridley, Sparks and Ashwell prescribe for you. We have in addition to the excitement of the new doctored "PERCUSSIVE JAZZ AND CHA CHA CHA" the rest of our Spring Tonic—new Dukes, new Jo Basile, new First Component Classics, Revival—all available **NOW** in Audio's exclusive exciting sound. **PLUS, PLUS, PLUS** the finest Folk Catalogue in the world—**ELEKTRA**. Featuring—by special prescription—**JOSH WHITE, OSCAR BRAND, JOYCE GRENFELL, THE LIMELITERS, THEODORE BIKEL** *et al.*

AVEL

Aveley Electric Ltd.,
South Ockendon, Essex

Booth 63
Demonstration
Room 354

Transformers

OUTPUT TRANSFORMERS.

Avel Toroidal transformers supersede conventional type transformers because of their modern compact design and superior characteristics. Wider full-power bandwidth with lower end-of-range distortion coupled with less stray magnetic field are patent advantages. Leakage/capacity ratios ensure maximum h.f. response with ultra-linear connection. Anode to screen coupling eliminate oscillation-stopping resistors and capacitors, required by inferior transformers. High permeability to flux density ratio ensures full power response at low frequency with lower l.f. distortion. Avel transformers have been designed to suit EL 34's, KT 77's and KT 88's in push-pull with ultra-linear connection. They are standard fitments in Avel Dynaco wide-band Amplifiers and may also be obtained separately for customers application, in either polished nickel-plated cans or elegant bronze hammer enamelled castings.

MAINS TRANSFORMERS.

Avel Toroidal mains transformers are standard to Avel-Dynaco Amplifiers but are also available individually. Due to their unique low hum characteristics these transformers are ideally suited for driving wide-band audio amplifiers. Type TM 250 is designed to drive a twin-channel 35 + 35 watt stereo amplifier, incorporating two Avel output transformers. Type TM 120 is used in the 30/40 watt monaural amplifier.

AVEL DYNACO WIDE-BAND AMPLIFIERS.

By arrangement with Dynaco Inc., of America, Aveley Electric have produced a range of power amplifiers based upon the well known Dynakit and employing Avel-Toroid transformers. The patented Dynaco printed circuit and new transformers set performance standards well above those hitherto made in U.K. The range includes the 30/40 watt Mk. IV, and Stereo 70, using EL34's, and the 60 watt Mk. III using KT88's. A minimum number of phase shifts reduces distortion at extremes of frequency, gives outstanding overload characteristic and complete stability under all load conditions. The output valves are operated within their ratings while filter capacitors are used at 85% or less of rated voltage. Both electrical and mechanical hum are at very low levels while the low magnetic fields of the transformers enables full advantage to be taken of the relatively small size of the amplifiers which can be built into compact equipment containing pick-ups, tape decks, etc.

CIRCUITS.

Detailed circuits for use with Avel-Toroid transformers are available free on request.

BASF

BASF Chemicals Ltd.,
5a, Gillespie Road,
London, N.5

Booth 2
Demonstration
Room 222

Tape

Last year, BASF made Audio history with their presentation of the International prizewinning film—"The Magic Tape." It attracted considerable interest, as did the many other "Authentic Sound" features of the BASF participation.

This year, BASF are presenting visitors to the Hotel Russell with a double feature. In Room 222, a combination of sound and pictures has been devised to intrigue them with some of the not widely known facts about tape recording and to show them the outstanding possibilities of BASF Recording Tape.

Visitors to the Festival will also have an opportunity on Booth No. 2 to meet BASF tape recording experts; to discuss Authentic Sound; to collect the new and colourful BASF newsletters; booklets, leaflets, and to hear how they can increase the fun and enjoyment of tape recording.

Facilities for trade talks will be available in Room 223.

BOND SPLICER

Cine Accessories Ltd. (Brighton),
15, Bond Street,
Brighton, Sussex

Booth 44

Tape Splicers

The **Bond Tape Splicer** makes tape splicing a relatively simple process. It is produced in high impact two colour polystyrene with metal cutter cartridge set into a hinged pressure clamp. To the rear of the base plate there is the tape dispenser mounting which houses a removable bobbin unit on to which the reel of jointing tape may readily be placed.

The tape is threaded up through a gap in the base plate and comes through a hole just ahead of the fibre covered tape channel way. The splicing tape remains in position by way of its adhesion before and after splice, to a small "retaining" surface just in front of the channel way. There are two spring loaded tape retainers either end of the channel way, which have rubber protectors just keeping the tape accurately in position when splicing between the raised edges of the tape guide way.

The cutting and pressure unit is housed within a robust pivoted clamp consisting of a cutter cartridge which contains three long life blades along side which are fixed rubber pressure pads. On the top side of the clamp is a visual indicator showing clearly the two positions for splice making, **Cut** and **Trim**. In making a splice the two tape ends are placed either side of the channel way and overlapping. The clamp is set to **Cut** and depressed downward on to the tape firmly.

This brings into operation a single blade for trimming the tapes diagonally, cleanly and quickly. The clamp is then set to **Trim** and the adhesive tape pulled ahead and over the cut, recording tape ends. A firm depression of the clamp combines the pressure of the jointing tape to the recording tape, and at the same time the two slightly inward curved blades trim either side of the recording and splicing tape. The tape is removed from the channel way and is ready for use.

The Splicer is a completely self-contained unit and the cartridge unit housing the cutter blades and the pressure pads are replaceable, as, of course is the reel of jointing tape mounted in the integral tape dispenser.

BRENNELL

Brenell Engineering Co. Ltd.,
1a, Doughty Street, London, W.C.1

Booth 34
Demonstration
Room 254

Tape Recorders, Recorder Decks

Brenell have specialised in the manufacture of really high quality tape recording equipment since the inception of tape recording itself.

MK5 TAPE DECK

The tape enthusiasts' favourite deck. Designed for development as tastes change and ambitions grow, featuring: **Three Motors** (including superb quality Synchronous Drive Motor). **Four Speeds:** 15, $7\frac{1}{2}$, $3\frac{1}{2}$, $1\frac{1}{2}$. **Very Low Wow and Flutter** (The bogey of all tape recorders has been laid low in this model). Less than 0.1% at $7\frac{1}{2}$ l.p.s. **Four Head Accommodation** (No longer will two heads suffice for many enthusiasts—the MK5 deck will accommodate as many as four). **Interlocked Switching, Pause Facilities, Fast Rewind.** **Spools up to $8\frac{1}{2}$ "**. **Large Flywheel** (statistically and dynamically balanced).

MK5 RECORD/PLAYBACK AMPLIFIERS

Developed from the Brenell TP2 Tape Pre-amplifier; whilst retaining the Record and Playback facilities needed in tape pre-amplifier, this amplifier will also drive a 15 ohms loudspeaker. (4 watts available). Ideal for use with Hi-Fi external Amplifiers and Pre-amplifiers requiring a frequency compensated Tape signal of 50 milli volts and upwards.

Features include: Frequency compensation on both Record and Playback at 15, $7\frac{1}{2}$, and $3\frac{1}{2}$ i.p.s. Monitoring facilities: High Impedance Microphone and Radio input; Tone Control effective only on output stage—i.e. not on Hi-Fi take off; Hum balance Control on power unit; Power unit separate from amplifier chassis to enable optimum positioning of each. Available with either Meter or Electronic Eye for Modulation indication.

MARK 5 TAPE RECORDER

Wonderfully robust, High Quality recorder incorporating the MK5 deck, MK5 Amplifier and Hi-Fi speaker in strong wooden cabinet. Deck resiliently mounted. Microphone and mains cable compartment. Completely detachable lid. Supplied with 7" reel of tape 1,200' and 7" empty spool.

Available in Stereophonic form on special rack.

3 STAR TAPE RECORDER

Three Speeds ($7\frac{1}{2}$, $3\frac{1}{2}$, $1\frac{1}{2}$). Very low wow and flutter (less than 0.15% at $3\frac{1}{2}$ i.p.s.). Synchronous Motor Drive. Push button operation of deck. Bass and Treble controls (on playback). Selective Frequency correction (on record). High quality loudspeaker with acoustically corrected wooden cabinet. Straight amplifier facilities for public address, replay from Gram Pick-up, etc. Microphone and Radio input sockets. Monitoring facilities. Extension Speaker socket.

THE BRENNELL 3 STAR STEREOPHONIC TAPE RECORDER

A portable stereophonic Record/Playback machine, incorporating the superb 3 Star tape deck and two independent amplifiers, giving not merely the facility to record and replay stereophonic sound, but also (a) Monophonic Record and Replay on either track; (b) Playback on one track whilst recording on other track; (c) Public address on both or either amplifier; (d) Replay of Mono or stereo disc direct from Pick-up.

Two internal speakers, this machine weighs only 43 lb.

A special addition available is a $\frac{1}{4}$ -Track Stereo head giving playback facilities of $\frac{1}{4}$ -Track pre-recorded tapes and $\frac{1}{4}$ -Track Mono Tapes.

B.S.R.A.

British Sound Recording Association,
"Greenways," 40, Fairfield Way,
Ewell, Surrey

Booth 73

The British Sound Recording Association, founded in 1936, has done much to improve standards of recording and reproduction, through the presentation of lecture demonstrations by specialists, by technical conventions and exhibitions, and by the encouragement of amateurs.

Members learn at first hand of the latest developments and trends in all branches of audio engineering, and are thus enabled to obtain the maximum enjoyment and benefit from their hobby, or employment in this field.

The Journal of the Association—issued free to members—prints the main papers given by our lecturers, and contains contributed articles, reviews of equipment and components, books and recordings, and also gives the latest news and information covering the audio field.

News of forthcoming events of interest to members is circulated at regular intervals.

To encourage construction of equipment by amateurs, the Association organises a Constructors' Competition with suitable prizes for different types of apparatus, ranging from amplifiers, control units, speaker enclosures, tuners, test gear—even electronic organs have been exhibited in the past.

The Association publishes its own booklets, written by experts, which have a wide appeal throughout the world.

In addition to the demonstrations that illustrate our technical lectures, special demonstration evenings are arranged from time to time, where manufacturers and others can demonstrate their range of products or a special item. Questions on the technical side are readily answered, without being engulfed in sales talk.

Members of the Association have at their disposal a Lending Library of books on all audio subjects, and a Tape Library whereby recordings of lectures or special talks are available. These are all free of charge. In addition, certain publications can be obtained at special terms.

Membership of the British Sound Recording Association, open to amateur and professional, is essential to all who are seriously interested in audio engineering and applied acoustics.

The entrance fee is 10s. The annual subscription for Members (over 21) is £1 10s. 0d. or for Associate Members (under 21) 15s.

Full details of membership can be obtained from the Secretary, British Sound Recording Association, at the above address.

BUTOBA

Schwarzalder Uhrwerke Fabrik
Burger. K.G. Western Germany

Booth 52
Demonstration
Room 321

Portable Battery Operated Tape Recorders

Since its introduction to Britain last spring, the Butoba has become a firm favourite with recorder users of all types. It has been taken as far afield as New Guinea by missionaries, and the Himalayas by Sir Edmund Hillary. It has withstood the sands of the Kalahari and the cocktails of New York. If an Abominable Snowman finally manages to discover Sir Edmund Hilary's expedition his first words to an expectant world will be recorded on a Butoba.

Hi-Fi enthusiasts continue to enthuse over the amazing quality and power of the reproduction of the Butoba.

Butoba battery operated Tape Recorders have been produced for over ten years. This company is one of the first ones to produce such a portable. This includes now all the latest developments in transistor Tape Recorders, and must give the user a life-time of faithful service.

All enquiries: Denham & Morley Ltd., Denmore House, 173/5, Cleveland Street, London, W.1. Tel.: EUS 3656-7

CELESTION

Rola Celestion Ltd.,
Ferry Works,
Thames Ditton

Booth 60
Demonstration
Room 334

Loudspeakers

Celestion bring to the 1961 International Audio Festival a new Colaudio loudspeaker. Demonstrations over the past six months to many of the leading authorities in the wide field of Audio have confirmed our opinion that this Colaudio II will set a new high standard of reproduction in the home.

The outstanding feature of the Colaudio II is its very small cabinet of less than 2 cubic feet. This has been made possible by the introduction of a new 12 inch Bass unit having a diaphragm moulded from one of the new expanded plastic materials. Working with this Bass unit is an improved version of the H.F.1300 Treble unit as used by many of the leading recording and broadcasting companies. Together, they reproduce the whole range of frequencies from 30—15,000 c/s.

Housed in a cabinet of simple, yet pleasing design, and finished in selected walnut veneers, the Colaudio II will blend with the decor of the most beautiful home. Whether it be the single note of an instrument or the glorious crescendo of a full orchestra, the rich, living sounds of astounding realism will be appreciated by the most critical music-lover.

We invite you to judge the high quality of reproduction from the Colaudio II for yourself at our demonstration in Room 334.

CHAPMAN

Chapman Ultrasonics Ltd.,
24, Upper Brook Street, W.1.

Booth 19
Demonstration
Room 355

Amplifiers and Tuners

Chapman Ultrasonics Ltd., the well-known manufacturers of high fidelity domestic sound equipment, are showing a considerable range which includes the following :—

FM.95 AM/FM TUNER

The FM.95 Tuner provides first-class drift-free Frequency Modulation reception and excellent reception of the more powerful Continental stations on medium and long-wave bands. It is the ideal tuner for a domestic Hi-Fi system. Complete stable drift-free tuning with the FM band covering 87.5 to 100 Mc/s, having a sensitivity 4 MV for 20 db quieting. Medium and long wavebands cover from 195 m to 550 m and 800 m to 2,000 m, and using A.V.C. circuits, provides high quality reception of good Continental broadcasts.

FM.90 SWITCHED V.H.F. FM FEEDER

This tuner is a high gain, low noise and low radiation receiver ; station selection is by turn of a switch, selecting either the Home, Third or Light B.B.C. FM broadcasts. In addition to the normal fully compensated and completely stable oscillator circuit used in all Chapman FM tuners, the FM.90 is fitted with automatic frequency control.

S6BS/FM SIX-STAGE AM. BANDSPREAD AND HIGH GAIN FM

This is the finest tuner in the Chapman range, combining as it does, the circuits of the highly successful S6BS and FM.91 Tuners, without any compromise on any range. The 9-band AM section consists of 6 electrical band spread wave-bands covering from 11 m—3 m, 2 short wave bands covering 13 m—140 m, and normal medium waves 175 m—570 m, ensures reliable world-wide long distance reception, combining the stability and sensitivity of a first-class communication type receiver with the very low distortion and wide frequency response required by the modern High Fidelity Amplifier.

Sensitivity : AM 2 micro/volts for 20 db. Signal/noise ratio. FM 2 micro/volts for 20 db quieting.

Wave Range : AM 11 m, 13 m, 16 m, 19 m, 25 m and 31 m in six-band spread ranges, 13—43 m, 43—140 m, 175—570 m.

The 10 Watt Output Type 105 Amplifier has great elegance and simplicity of styling, coupled with outstanding performance.

Frequency Response : Within 0.2 db, 30—20,000 cps without filters.

Distortion : Less than 1 per cent. at 1,000 cps.

Output Matching : 15 ohms and 3 ohms.

MODEL 305 STEREA MAIN AMPLIFIER AND CONTROL UNIT

A compact double push-pull amplifier rated at 8 watts per channel, designed for use in high quality stereo systems.

Frequency Response : Within 0.2 db 30—20,000 cps.

Distortion : Less than 1 per cent. at 1 Kcps.

The Control Unit is a comprehensive stereo or single channel control, providing every facility for high quality radio, gram and tape reproduction. It is supplied ready for connection to the 305 Stereo Main Amplifier.

CHITNIS AUDIOGRAPH

Gopal G. Chitnis,
Westfaelische, Strasse 38,
Berlin-Halensee, West Germany

Booth 50
Demonstration
Room 117

Tape Recorders

KMS 66, 4-track stereo with 2 speakers. A craftsman-built full stereo/mono recorder of incomparable quality. One speed $3\frac{3}{4}$ i.p.s., yet provides genuine hi-fi standards, 4-track operation doubles length of playing time. Facilities include three inputs, two outputs, paired throughout (matching for 5 and 15 ohms speakers), pause, superimpose, safety auto switch stops machine if tape breaks or ends. With Bogen/Heads. Simplified controls. With reel of tape.

9/S 4K, 4-track stereo. The world's cheapest full stereo recorder. Similar spec to KMS/66 but one speaker only for monitoring. 30—16,000 c.s. ± 3 dB. Exceptionally powerful, compact instrument plays mono or stereo.

KM33, 4-track, 2-speed mono. $3\frac{3}{4}$ i.p.s. for high fidelity. $1\frac{7}{8}$ i.p.s. for economy running, with four tracks to afford wonderful operating economy and true hi-fi. Bogen Heads, 3 inputs, external speaker and diode outputs. 30—16,000 c.s. at $3\frac{3}{4}$ i.p.s. Pause, superimpose, monitor, tape-position, facilities. Heavy duty precision, Papst motor system. Tone control. With reel of tape.

KM22, 2-speed 2-track mono. Specifications as KM33, but 2-track instead of 4. With reel of tape.

AF42, 2-speed 4-track mono. $3\frac{3}{4}$ i.p.s. and $7\frac{1}{2}$ i.p.s., 7" reel, Bogen Head, control monitor control, digital counter, external loudspeaker socket for 15 ohms, feed for external hi-fi amplifier, high and low gain inputs, 40—14,000 c.p.s. and $7\frac{1}{2}$ i.p.s., fast forward and rewind, very smart case, complete with microphone, recording lead and tape.

Also displayed prominently will be an entirely new tape deck. Made in England. Built to hi-fi standards for semi-prof. applications. Coupled with this exhibit visitors will find at the booth in the Main Hall a novel scheme for them to assist in the manufacture of a complete tape recorder, utilising this deck. The facilities most asked for will be incorporated in the finished article.

Further attraction in the demonstration room will be a variable speed Chitnis tape deck (for professional use).

Commonwealth Representatives: Chitnis Electronics Ltd., 66, Bolsover Street, London, W.1.

CLARKE & SMITH

Clarke & Smith Mfg. Co. Ltd.,
Melbourne Works,
Wallington, Surrey

Booth 58

Audio Equipment

These manufacturers of specialised Audio Equipment will be exhibiting a range of Amplifiers with applications in both domestic and Educational Fields.

Monophonic and stereophonic equipment with ratings from 3-watts to 60-watts, will be displayed, together with typical housing for special needs.

COLLEL

Collel Ltd.,
All Saint's Passage,
Wandsworth High Street, S.W.18

Booth 55
Demonstration
Room 213

Stereo Cartridges

Collel after considerable experimentation and development have produced two outstanding stereo cartridges. The separation between two channels on both cartridges is so wide that the resultant reproduction has clarity and superlative stereo effect that is truly exciting.

The exceptional compliance of **Collel** cartridges will permit tracking and tracing at pressures as low as 3 grams with the resultant increase in record life and quality of reproduction.

The **Collel SK.1** is a crystal stereo cartridge suitable for temperate climates and moderate humidity. The **Collel SC.1** is a ceramic stereo cartridge which is ideally suited for climates such as tropics and all countries with high temperature and high humidity.

Although these cartridges are sensitive to the smallest vibration they are nevertheless so robust in design that they can be handled as easily as any known cartridges.

TECHNICAL DETAILS:

SK.1

Approx. sensitivity when connected to 140 mv/cm/s.
1 M ohm. 200 PF capacity cable eff (MIN).
Lateral compliance (micro tip) 5.1×10^{-6} cm/dyne.
Cross talk damping at 1,000 c.p.s. 20 db (MIN).
Frequency range, 20-20,000 c.p.s.

SC.1.

Approx. sensitivity when connected to 120 mv/cm/s.
1 M ohm, 100 PF capacity cable eff (NOM). cm/dyne.
Lateral compliance (micro tip) 5.0×10^{-6} cm/dyne.
Separation at 1000 cps 20 db (MIN).
Frequency range 20-20,000 cps.

SUMMARY:

The **Collel** stereo cartridges are beautifully engineered and designed to fit into all standard international pick-up arms, and supplied complete with the necessary hardware to facilitate installation. All **Collel** cartridges are supplied with a choice of diamond or sapphire stylii, and the unique design permits the instant and simple changing of stylus arm without requiring special tools.

All **Collel** cartridges are fully guaranteed and create a new high standard of perfection.

Collel have been conducting exhaustive research and development on magnetic heads for tape recorders and have developed a range of heads suitable for the new Columbia tapes, etc. Specifications are available in our Room No. 213.

CONNOISSEUR

A. R. Sugden & Co. (Engineers) Ltd.,
Brighouse, Yorks.

Booth 64
Demonstration
Room 221

Transcription Turntables. Pickups and Arms. Disc Recorders and Amplifiers. Speaker enclosures and equipment housings

The Connoisseur "Craftsman" fixed 2-speed transcription turntable has been designed specifically to answer the stringent requirements of stereo disc playback and, in addition, provides superior performance for monaural reproduction. It considerably exceeds the broadcast specification for transcription turntables in respect of hum, rumble, wow and flutter. Speeds 33.1/3 and 45 r.p.m. Synchronous motor, 12" lathe turned turntable; all shafts precision ground running in adjustable nylon bearings.

Connoisseur Stereophonic Pickup, CS1. Ceramic type with diamond stylus. Developing approximately 20m.V. from normal stereophonic discs. 20db separation channel to channel. Frequency range 20-16,000 cycles plus-or-minus 2dbs. The arm has been designed to accept both stereo and Mark II heads. This arm is also fitted with a precision lifting device.

The Connoisseur Stereophonic Amplifier and Preamplifier forms a compact and versatile unit for the reproduction of high fidelity monaural and stereophonic sound from disc, radio and compensated tape. Utilising ultra linear push/pull output each channel will deliver 6 watts nominal 7.5 watts peak on stereo, and 12 watts nominal and 15 watts peak on single channel working. The preamplifier incorporates sufficient sensitivity for any pickup generally available; accurately matched ganged tone controls; dual concentric volume control; compensated inputs for stereo and monaural pickups.

The Connoisseur Variable 3-speed Gramophone Motor, Type B, with large stroboscopic disc fitted beneath the turntable being viewed through reflecting mirror with internal light source. Heavy lathe turned turntable of non-ferrous material. All spindles hardened, ground and lapped. Adjustable bearings fitted to all points. Synchronous motor. Low noise level and hum induction. Speed change arranged mechanically and gives 4% variation on all speeds. The synchronous motor runs at constant speed at all settings. No braking action is employed to obtain speed change.

Connoisseur Super Lightweight Pickup, Mark III Arm with Mark II Heads for standard and microgroove recordings. The arm is adjustable for height and playing weight and is wired to accept both stereo and Mark II heads. The Mark II heads employ easily replaceable Diamond or Sapphire armature systems. Total mass 5 milligrams; top resonance 20/21K; Frequency range 25-20,000 cycles plus-or-minus 2db.

The Connoisseur Speaker Enclosure has been specifically designed for stereo reproduction. Employing reflex loading with omni-directional characteristics it will provide maximum performance in the minimum of space. Finished in walnut formica it will accommodate one 8" speaker and one high frequency unit. Height 3' 4½", width 1' 4", depth 12".

The Connoisseur Console is companion to the speaker enclosures and is finished in matching walnut formica. Designed to house Connoisseur turntables, stereo amplifier and control unit. Sufficient space is available for a radio tuner. Fold back doors and hinged lid. Height 2' 8", width 1' 6", depth 1' 5".

EMI

EMI Sales & Service Ltd.,
Hayes, Middlesex

Booth 30
Demonstration
Room 113

Tapes

The uses of magnetic tape, both professionally and in the home, continue to expand at a phenomenal rate. To meet ever increasing demand EMI continues to increase its output from the best equipped tape factory in Europe. The full range of Emitape comprises :

Emitape "44" cellulose acetate base for popular home use, standard play in spool sizes 3½, 5, 5½, 7in.

Emitape "77" "Pen tested" for professional use, standard play in spool sizes 5, 5½, 7, 8½, 10½, 11in.

Emitape "88" General purpose, P.V.C. standard play in spool sizes 3, 3½, 5, 5½, 7, 8½, 10½, 11in.

Emitape "99" Long Play P.V.C. in spool sizes 3, 3½, 5, 5½, 7, 8½, 10½in.

Emitape "100" Double play, Polyester in spool sizes 3½, 5, 5½, 7in.

Emifilm for the motion picture industry. **Instrumentation Tape** for Computers and Industry.

Videotape. EMI—first in Europe; second in the world with sound and vision on magnetic tape. Used by the B.B.C. and I.T.A., and other professional organisations, EMI Videotape meets every demand and like all Emitape, it is consistent in quality and always reliable in respect of performance characteristics.

EMI Professional Tape Recorders : Examples from the range of EMI Professional Tape Recorders include an RE321 Transistorised battery-operated portable which is used for such purposes as "On the Spot" interviews; scientific expeditions and film track recordings, and by Broadcast Authorities and film companies all over the world. Also displayed are the TR52/2c, a Twin Channel Professional Portable Recorder and the TR90, a Studio Recorder as used by the B.B.C., I.T.V., and by Broadcast Authorities and Recording Companies in many countries.

EMI RECORDS

EMI House,
20, Manchester Square, London, W.1

Booth 32
Demonstration
Room 120

Records

His Master's Voice, Capitol, Columbia, Parlophone, MGM, Mercury
and "Top Rank" Records.

EMI Records Ltd. are demonstrating their LP and EP Stereo recordings
by world famous artists under the above labels on His Master's Voice
Audio equipment manufactured by The Gramophone Company Limited.

There will be regular demonstrations throughout the period of the
Festival.

FERROGRAPH
British Ferrograph Ltd.,
131, Sloane Street, S.W.1

Booth 36
Demonstration
Room 234

Tape Recorders

The exhibit of the Ferrograph Co. will be devoted to Ferrograph Magnetic Tape Recorders and accessories for use therewith.

It is well known that the Company has made but little change in its instruments over the years, as, having attained a standard of excellence from the outset in 1948, very little has been needed over the years in order to keep abreast of developments. Indeed, many of the features that were apparent on the first Wearite Tape Deck and Ferrograph Recorder are now being hailed by manufacturers as advancements in the Science.

This year sees the emergence of the Series 5 Ferrographs, which whilst being compatible with everything that has gone before, have a number of refinements which further enhance the usefulness and the quality of the instruments. For example, there has now been introduced a modification to the capstan drive assembly whereby the speed of the capstan motor has been doubled and the capstan diameter reduced in accordance therewith. This has made possible greatly improved wow and flutter figures, whereby the usefulness of the $3\frac{3}{4}$ " per second speed has been extended to musical performances. These refinements and modifications have been introduced without affecting the general overall performance of the device, so that tapes made on previous models of the Ferrograph are still compatible and can be used on the current model.

This year also sees the introduction of the Series 808/4 instrument, which, as well as providing the facilities of conventional mono and stereo recording and reproduction, also has the ability to reproduce pre-recorded material of the four track variety. It will be recalled that the Ferrograph Company has gone on record saying that the four track system is not regarded by it as a true high fidelity system of operation, and this opinion we maintain and uphold. Nevertheless, it has become necessary to make provision for those who could purchase pre-recorded tapes made in this manner. No provision is made, however, for recording narrower tracks.

For the rest we are showing the usual accessories viz: Defluxers, Tape Reels and Plugs, and illustrated literature of these is freely available.

In the Demonstration Room will also be working models of the Ferrograph, both mono and stereo.

FI-CORD

Fi-Cord International, Ltd.

40a, Dover Street,
London, W.1

Booth 43

**Demonstration
Room 348**

Tape Recorders

The Fi-Cord 1A portable tape recorder has established itself as one of the world's most portable and versatile tape recorders. It is widely used by Broadcasting Companies, including the B.B.C. and N.B.C., the Admiralty, Ministries and the Services, and by professional and industrial bodies.

Portability.

Real portability is achieved by the following features: Weight 4½lb.; Size 9½" x 5" x 2½"; Will operate in any position (lid open or shut); Requires no power point; Built-in speaker; Full playback volume.

Standard Tapes, Standard Speeds.

An important feature of the **Fi-Cord**, is its use of standard magnetic tapes and spools operating at standard speeds—7½ and 1½ i.p.s. In addition, the specially designed constant speed motor really lives up to its designer's intentions under all conditions. Thus tapes recorded on **Fi-Cord** can, if desired, be played back or re-recorded with complete success on any standard hi-fi tape deck.

Excellent Frequency Response.

The **Fi-Cord** has a frequency response from 50 to 12,000 c.p.s. with a maximum attenuation of ± 3db.

Re-Chargeable Batteries.

The **Fi-Cord** is supplied with four sealed lead acid cells which operate the recorder—at the hi-fi recording speed of 7½ i.p.s., for 1½—2 hours, and at 1½ i.p.s. for 3—3½ hours. These batteries, which can be changed in seconds, are then re-charged in the special battery charger supplied with the **Fi-Cord**. This charger operates from all A.C. mains and cuts out automatically when the cells are fully charged. This feature obviously reduces running costs considerably when the recorder is in continual use, and also ensures constant availability.

No Extras to Buy.

The price of the **Fi-Cord**—59 guineas retail—is a truly inclusive price. It includes the recorder, integral monitoring speaker, dynamic microphone, spools and tape, 4 batteries and automatic battery charger. For most purposes this is all you need, although for hi-fi musical recordings a special microphone supplied as an extra, may be advisable. Full technical details of the **Fi-Cord** may be obtained from the **Fi-Cord** stand, together with full particulars of its many uses—for cine sound, musical recordings, business purposes, scientific use, etc. Comprehensive demonstrations will take place in the special demonstration room.

GARRARD

Garrard Engineering & Manufacturing Co. Ltd.,
Newcastle Street, Swindon, Wilts.

Booth 65
Demonstration
Room 302

Sound Reproducing Equipment

Laboratory Series Auto Turntable Type A: A transcription record player with a heavy sandwich constructed turntable which includes a non-magnetic outer turntable. It has a fully counterbalance pick-up arm. Records may be played automatically if desired.

Model 210 Record Player and Automatic Record Changer : A compact and inexpensive unit which can be used as a single player.

301 Transcription Motor : A unit of the highest class which is used by the B.B.C. and many other Broadcasting Stations. It is incorporated in high fidelity systems throughout the world.

Magazine Tape Deck : A unique compact deck, it has the magazine loading principle. It is the most easy and most simple mechanism to operate. A Tape Position Indicator is available.

T.P.A. 12 Transcription Pick-up Arm : Is precision made and has all the latest requirements for the critical expert who requires the best. The Plug-in pick-up head will house nearly all types of pick-up cartridges.

Pick-ups : Model G.C.8. Turnover Crystal Monophonic suitable for long playing and 78 r.p.m. records. E.V. 26 Turnover Ceramic which may be used for both stereophonic and monophonic records, including 78 r.p.m.

Single Record Players : The 4 H.F. Unit is a high quality model with a 12" Turntable. It incorporates the T.P.A.12 transcription pick-up arm. The T.A. Mark II is an inexpensive record player of sound design. It has the plug-in pick-up head feature.

Stylus Pressure Gauge Model SPG.3 : An indispensable accessory for those who value their records. Easily readable scale, 0-12 grammes. Supplied complete with a 5 gramme checking weight.

Styli : The complete range of replacement styli is available for all Garrard pick-ups. Diamond styli can also be supplied.

GEVAERT

Gevaert Photo-Producten N.V.,
Mortsel, Antwerp,
Belgium

Booth 23
Demonstration
Room 255

Magnetic Tapes

Gevaert are taking part in this Exhibition for the first time this year, and will be showing and demonstrating the Gevasonor range of magnetic tapes. Gevaert are well known for their photographic materials, and over 60 years' experience in producing these lies behind their manufacture of magnetic tapes.

Although Gevaert have been making magnetic tapes for a number of years, they have only recently been able to offer a full range of types and sizes. These will be shown in this country for the first time. The full Gevasonor range comprises :

Gevasonor Type M Standard Play tape on cellulose triacetate base. An inexpensive tape of high quality for all general purposes. In spool sizes 4", 5", 5½", 7", 10". Also 2,400 ft. lengths on NAB cores.

Gevasonor Type LR Long Play tape on cellulose triacetate base. An inexpensive tape of high quality. In spool sizes 3", 4", 5", 5½", 7", 10".

Gevasonor Type LRP Long Play tape on tensilised polyester base. In spool sizes 3", 4", 5", 5½", 7", 10". Also 3,600 ft. lengths on NAB cores.

Gevasonor Type DP Double Play tape on tensilised polyester base. In spool sizes 3", 4", 5", 5½", 7".

Gevasonor Type F Standard Play tape on cellulose triacetate base, with rough backing. For use on professional recorders working with open rolls. Supplied in 1,000 metre (3,290 ft.) lengths on European cores.

In the demonstration room (on the 6th, 7th and 8th April only), Mr. Leslie A. Guest will be presenting a programme under the title "High Fidelity in Sound and Colour." This will consist of music on Gevasonor magnetic tape accompanied by colour slides on Gevacolor film. Mr. Guest has become a familiar figure in photographic and audio circles through his lectures. This demonstration will be a new one specially prepared for the occasion.

U.K. Sales & Enquiries: Gevaert Ltd., Great West Road, Brentford, Middlesex.

GOODMANS

Goodman Industries Ltd.,
Axiom Works, Wembley, England

Booth 56
Demonstration
Room 315

Loud Speakers

12" Full Range: Twin-Cone loudspeakers Axiom 300 (15W.—£11/5/9), Axiom 400 (20W.—£16/1/0), and the triaxial unit Triaxiom 12/20 (20W.—£25/0/0).

12" Audiom Range: Specially designed bass loudspeakers for use with high frequency and mid-range pressure driven units. Audiom 60 Bass (15W.—£9/12/9), Audiom 70 Bass (20W.—£15/2/0), Audiom 80 Bass (25W.—£22/10/0).

10" Full Range: Axiom 110 (10W.—£3/15/9 + P.T. £1/4/3), Axiom 112 (12W.—£6/8/8 + P.T. £2/1/4). A specially designed pressure unit can be added to make a most economical and effective 2-way system. This is the Trebax 5K/20XL (£7/0/0) (with in-built crossover and attenuator).

8" Full Range: Axiette (6W.—£5/0/0 + P.T. £1/12/1). Available with 3 or 15 ohms voice coil. Triaxiette (10W.—£10/4/3 + P.T. £3/5/9). Triaxial 8" with integrated high frequency pressure unit, crossover and attenuator.

9½" Full Range: Axiom 80 (6W.—£17/10/0 + P.T. £5/12/4). Hand built Reproducer for the connoisseur.

Pressure Units: High Frequency. Trebax 100 (25W. in systems—£6/4/0). Very high frequency horn loaded pressure driven high frequency unit. Trebax 5K/20XL (20W. in systems—£7/0/0), high efficiency pressure driven horn loaded high frequency unit with built-in crossover and attenuator.

Mid-Range: Midax 650 (25W. in systems—£9/10/0), distortion free high efficiency horn loaded mid-range pressure unit.

Attenuator: Constant impedance switched Attenuator (£2/8/9) designed for use with Midax and Trebax; gives easy and accurate balancing control for 2 and 3 way systems.

Crossover Networks: XO/5,000 (£1/19/0) for use with Trebax and Axiom 300 or Axiom 400. XO/950 (£5/5/8) for use when converting from 2 to 3 way systems by adding Midax. XO/950/5,000 (£7/0/6), multiple crossover for use in 3 way systems.

ARU's: Accoustical Resistance Units. 172—(£3/5/6), 180—(£3/5/6), 280—(£2/19/6), 480—(£4/4/0). Specially designed for use with enclosures made to Goodmans specification.

Complete Systems in Enclosures: A.L./100 (12W.—£23/10/0), 12" Two-way High Fidelity Loudspeaker mounted in handsome enclosure only 24" x 11½" x 14½" (Walnut or Mahogany veneer). A.L./120 (15"—£29/10/0). 12" Triaxial High Fidelity Loudspeaker in dignified enclosure (size as A.L./100). High Frequency control provided.

Full details of High Fidelity Loudspeakers and suggested designs for enclosures available in High Fidelity Manual. Enclosures are made by several reputable cabinet manufacturers to our specifications. Details of those enclosures which have received Goodmans Laboratory approval available upon request.

THE GRAMOPHONE

General Gramophone Publications Ltd.,
The Glade,
Green Lane, Middlesex

**Press
Lounge
246**

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 Deryck Cooke, Roger Fiske, John Freestone, Edward Greenfield, Trevor Harvey, Philip Hope-Wallace, Malcolm Macdonald, Jeremy Noble, Andrew Porter, Alec Robertson, Lionel Salter, Denis Stevens and Roger Wimbush.

Lighter records, together with Jazz and Swing are reviewed by a panel which includes W. A. Chislett, Charles Fox, 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, including John Gilbert.

The Classical LP Catalogue is published quarterly (March, June, September and December) at 5s. per copy (annual subscription 20s.).

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, with the exception of the April edition which is priced at 3s. 6d. (annual subscription 11s.).

GRAMPIAN
Grampian Reproducers Ltd.,
Feltham, Middlesex

Booth 21
Demonstration
Room 152

Sound Equipment

Among the items being shown for the first time will be a new Cabinet loudspeaker of the horn loaded type. This speaker is rather more compact than the usual reflex type and has a really remarkable "presence" in its performance.

Also being shown is a new stereo amplifier of unit construction and which has ample sensitivity to operate from lower output pick-ups.

For the guitar player there is a new amplifier with twin speakers and a built-in tremolo unit.

Tape recordists will be interested in the modified Parabolic Reflector and a new smaller microphone, the DP/5.

For the P.A. man there is a transistor amplifier, 12V D.C. operation, having an output of 15 watts (over 20 watts peak), and with three separately controlled inputs.

GRUNDIG

Grundig (Gt. Britain) Ltd.

39/41, New Oxford Street, W.C.1

Booth 15

Demonstration

Room 147

Tape Recorders

Grundig exhibit their TK 1, TK 20, TK 24, TK 35, and TK 60 Tape Recorders.

All models are well established with the exception of the TK 1, a small transistorised battery operated model with full tape recorder quality, which has only just been introduced by Grundig (Great Britain) Limited.

The TK 1 Recorder has outstanding quality for a machine of such small size, low weight and low cost and, unusual for battery operated instruments, it is supplied complete with a full set of highly efficient industrial type batteries. These give a recording/playback time in excess of 20 hours assuming usage of up to 2 hours per day and enable the instrument to be used out of doors for all recordings where a mains operated instrument could not be employed.

The speed of the TK 1 is a fixed speed of $3\frac{3}{4}$ " per second so that recordings made on the TK 1 can be played back on any other Grundig instrument or any other tape recorder fitted with a $3\frac{3}{4}$ " speed.

The chart below gives the main facilities and specifications of the various models as well as their prices. Leaflets containing the full technical specification are available for all recorders.

	Speed(s)	Spool Size	Weight	Frequency Response
TK 1	$3\frac{3}{4}$ "	3"	8lbs.	100- 8,000c/s \pm 3dB
	*Price: 29 Gns. , including microphone and 2 connecting leads.			
TK 20	$3\frac{3}{4}$ "	$5\frac{1}{2}$ "	21lbs.	60-10,000c/s -4 +5dB
	*Price: 42 Gns. , including microphone.			
TK 24	$3\frac{3}{4}$ "	$5\frac{3}{8}$ "	23lbs.	60-12,000c/s +3 -5dB
	*Price: 55 Gns. , including microphone.			
TK 35	$1\frac{7}{8}$ " $3\frac{3}{4}$ " $7\frac{1}{2}$ "	7"	34lbs.	50-18,000c/s \pm 3dB
	*Price: 75 Gns.			
TK 60	$3\frac{3}{4}$ " $7\frac{1}{2}$ "	7"	55lbs.	50-15,000c/s \pm 3dB
	*Price: 128 Gns.			

* These figures refer to the highest speed of the particular recorder. All Grundig Recorders are supplied with Spare Spool, 1 reel of Grundig Tape and a Spare Lead. In the case of the TK 1, two spare leads are supplied.

All Grundig Tape Recorders make use of latest development in Tape Recorder techniques and no Grundig Recorder or accessory is an exception.

The Grundig Channel Reproducer type C.R.1, a small column type loudspeaker enclosure with self-contained built-in amplifier, was specially designed for use with all Grundig Tape Recorders. A connecting lead is supplied and separate Volume, Bass and Treble Controls are fitted as well as a Mains On/Off Switch and Pilot Bulb. A loudspeaker phasing switch is contained in the base of the Channel Reproducer to allow correct phasing of the tape recorder loudspeaker and the Channel Reproducer itself.

Members of the Grundig staff will be available on Booth No. 15 and in the Demonstration Room No. 147 to answer all queries, whether of a general or technical nature and to give demonstrations.

HI-FI NEWS

Miles, Henslow Publications Ltd.,
99, Mortimer Street, W.1

Booth 67

Magazines and Books

Hi-Fi News first appeared on the bookstalls in the Spring of 1956, to serve the interests of Audio Enthusiasts—users, dealers and manufacturers. Since then its scope has been considerably widened, and its readership has steadily increased from an initial 5,000 to nearly 24,000—which must be its own best recommendation (and for our many supporters in the advertising world we add the note that our latest, officially published ABC figure was 20,675). **Hi-Fi News** is read regularly in all parts of the world, and is held in high esteem for its reliable reviews, its informative articles, and its lively but well balanced interest in all audio matters. (Published Monthly, 2s.).

The Tape Recorder.

The Tape Recorder, serves the tape recording enthusiast, the manufacturer and the dealer on parallel lines with its sister journal, **Hi-Fi News**, and has also made many thousands of firm readers since it first appeared in February 1959. (Our advertising supporters will again like to note that its latest, officially published ABC figure was 17,736). **The Tape Recorder** is a well-balanced publication for the newcomer, the hardened enthusiast, and the experimenter. Its reviews of equipment and accessories are the finest to be found anywhere—reliable, readable and well presented. Its editorial features are always well illustrated and full of information. **The Tape Recorder**, like **Hi-Fi News**, is read in all parts of the world, and is regarded by the user and the Trade alike as the leading journal in its field. At 1s 6d. monthly it is a monthly “must” for everyone who is seriously interested in “Tape.”

Hi-Fi Year Book.

Hi-Fi Year Book was founded in 1956 for the purpose of collecting and presenting all the usefully available data on Audio Equipment. Year by year since, it has reliably filled this need, increasing its directory sections to follow the expanding and changing market. This year, the 1961 edition provides a remarkably large summary of audio products, ranging right through the many groups, from pickups to speakers, and taking in all accessories, including a section devoted to equipment for “Cine Sound.” **Hi-Fi Year Book** is the buyers’ guide for all things audio, and is referred to annually in more than 8,000 homes, shops and laboratories. (Annually, 10s. 6d., posted 11s. 6d.).

Hi-Fi Books.

Hi-Fi For Beginners, by John Borwick, is the first of the series of **Hi-Fi Books** announced by the publishers of **Hi-Fi News**, **The Tape Recorder** and **Hi-Fi Year Book**. Now available, price 7s. 6d. Write for details of other books in preparation.

H.M.V.

The Gramophone Company Ltd.,
Hayes, Middlesex

Booth 31

**Demonstration
Room 121**

A wide range of sound reproducing equipment is exhibited, including a number of products which are on show and demonstration for the first time at an Audio Exhibition.

EMI Voicemaster 65. A completely new four-track, high quality tape recorder with a number of unique features, including instant adaptation as a High Fidelity Record Player by the use of the EMI Disc Kit.

This model has the following special features:

Attractive contemporary styling. A new tape deck specially designed and precision built by EMI. Twin $\frac{1}{2}$ track tape heads, giving double recording time. Three high quality tape heads—erase, record and replay. Two tape speeds— $7\frac{1}{2}$ " sec. and $3\frac{3}{4}$ " sec. Three specially designed and precision built EMI motors. Precision built clock type resettable tape position indicator. Pause control for instant tape stop and start. Rapid forward and reverse winding. Self-compensating brakes. Separate record and replay amplifiers. Automatic compensation on record and replay characteristics for tape speed. Moving coil meter for recording level indication. Input sockets for microphone, radio or other high impedance signal sources. Sockets for extension loudspeaker, high quality output and pick-up output.

PLUS

★★ 7", 10" and 12" disc reproduction by using EMI Disc Kit, comprising turntable, L.P. crystal pick-up and pick-up rest

★★★ Head and track switching enabling monitoring and re-recording and mixing without loss of level previously obtainable only by using TWO separate tape recorders.

GLYNDEBOURNE IV STEREOGRAM CONSOLE

An instrument of supreme quality for domestic use. Equipment for high fidelity reproduction has never been more conveniently arranged. At the top is a precision engineered 4-speed autochanger playing unit with a turn-over pick-up for mono L.P., 78 r.p.m. and stereo discs. To the right is a rack to accommodate 12-inch discs. On a recessed panel below the playing unit is the amplifier control panel with system selector, volume control on/off switch, stereo balance and independent bass and treble tone controls. Below this again is the tuner panel of five-valve radio unit designed for reception of the interference-free FM/VHF transmissions. In the cupboard at the base of the console are compartments for the vertical storage of discs. Altogether, about 150 discs can be housed.

Shown with this Console are the new EMI Model 9204 Loudspeakers designed for use with high quality sound reproducing equipment.

HMV AUDIO EQUIPMENT

This range of stereo pre-amplifiers and amplifiers will be demonstrated continuously with new EMI High Fidelity Loudspeakers. This equipment includes the HMV Model 555, a 10 + 10 watt Integrated Stereo System, providing the greatest range of facilities for disc, tape, radio and microphone sources ever offered in a single complete unit, and incorporating the exclusive "Stereoscope" Cathode Ray Tube for balancing and loudspeaker phasing purposes.

WIRELESS WORLD, ELECTRONIC TECHNOLOGY, WIRELESS AND ELECTRICAL TRADER

Iliffe Electrical Publications Ltd.,
Dorset House, Stamford Street, London, S.E.1

Booth 5

Publishers

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 recognised experts deal with design data and circuits for every application. High fidelity receives continuous and searching attention. **Wireless World** is published monthly, 2s.

Electronic Technology caters for the world's advanced technicians and designers in electronics, radio and television, with an authority and understanding of their needs based on many 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, 5s.

Wireless and Electrical Trader is the leading trade journal of the radio, television and light electrical industries, widely read by dealers, service engineers, manufacturers and wholesalers. Obtainable only on subscription basis by bona fide members of the trade, it provides an invaluable weekly survey of trade trends, experienced observers reporting on every development, technical or commercial. "Audiotopics," a regular feature now in its fourth year, presents the latest technical and commercial aspects of the audio field—an invaluable aid to dealers in keeping right up-to-date in this increasingly important subject. Practical details of new products, sales promotion and display schemes are supplemented by service sheets compiled in the Trader's own laboratory. **Wireless & Electrical Trader** costs £3 a year, including postage.

Technical Books. Authoritative and up-to-date works on many aspects of radio and television are also on show, together with sales aids, etc., for the trade.

IRISH BRAND

Wilmex (Distributors) Limited
St. Stephen's House, Westminster,
London, S.W.1

Booth 9
Demonstration
Room 212

Magnetic Recording Tape

The theme of the **Irish** display this year is "from economy to luxury," and a complete selection is on display ranging from the budget priced Standard Play 3" Message Spool to the special purpose Sound Plate 220 Standard Play mylar tape. Thus the discriminating user, whether amateur or professional, will be able to choose from this range a tape to suit his particular requirements.

Irish Brand Tape is manufactured in American by Orradio Industries Inc. A unique process is incorporated into the manufacture of **Irish** Tape known as the Ferro-Sheen process. It represents a radical departure from the conventional "coated tape" and is a completely individual method of controlling the physical properties of the magnetic oxide layer and its lamination to the tape base. The Ferro-Sheen process produces a most firmly anchored and homogeneously bonded oxide surface, which is also of mirror smoothness. This offers exceptionally high frequency response, minimum headwear and freedom from head contamination from oxide build-up. There is also a considerable reduction in background noise, and furthermore, signal "drop-outs" are minimised.

In addition to the display of **Irish** Tape, there are regular showings of a colour film describing the manufacture of this product, entitled: "Objective Perfection." Among other things this film indicates the very high degree of quality control which is employed at the **Irish** factory. In Room No. 212 demonstrations of commercial pre-recordings take place which use normal grades of **Irish** Tape.

JASON

Jason Electronic Designs Ltd.,
3-4, Gt. Chapel Street,
Oxford Street, London, W.1

Booth 70
Demonstration
Room 314

Tuners

From the time of the first Jason FM Tuner (FMT. I) the company's activities have always been closely associated with tuner design and production. Jason were first to produce a stable switched FM tuner for reception of BBC transmissions. Jason next pioneered tuners (FM and AM) in various forms which matched with Jason Mono and Stereo Amplifiers, and both ready-built and constructional kits were made available. Tuners (which are sold by all leading stockists) offer a wide choice of models designed to meet present-day listening requirements.

The Jason range of tuners comprises Model FMT. 1, Model FMT. 2, Model FMT. 3, Model FMT.3/K, Model JTV.2, Model JTV.2/K, Monitor, Mercury II.

J2-10 Mk. III Stereophonic Amplifier

The J.2-10/Mk. III will meet developments for years to come. Every possible combination of speakers and amplifier-sections is obtainable from front-mounted controls which assists and simplifies matching to room environment. Stereo tape heads and high-sensitivity stereo P.U.s may be fed directly to the amplifier, and there is even correction for using the latter with mono records. High-Z stages for crystal pick-ups prevent record wear. D.C. heating for valves in first stages reduces hum risk. Good circuitry and mechanical design results in complete operational stability under the severest working conditions, and all controls are front-mounted. Power output 12 watts per section, within 1 dB from 30 to 10,000 cycles with greatly extended frequency response. Outputs adjustable for 4, 8 and 15 ohms. A.C. mains, 100/110 and 200/250 volts.

J10 Mono. Amplifier

Although the trend is strongly towards amplifiers with stereo facilities, the demand for a first-class single channel amplifier continues, and this is well met by the redesigned J.10 (Mk. III) amplifier. Any good commercial pick-up may be used directly with it, 12mV loading being sufficient for the full ten watts output, when distortion is less than 0.1%, and the response level within ± 0.5 dB between 20 and 20,000 cycles. Provision is made for 5 inputs, and there are improved variable low-pass filter and tone correction systems. Multiple feed-back loops and ultra-linear output ensure unconditional stability and good recovery after conditions of overload.

LEAK

H. J. Leak & Co. Ltd.,
Brunel Road, Westway Factory Estate,
London, W.3.

Booth 22
Demonstration
Room 304

F.M. Tuners, Pickups, Amplifiers, Loudspeakers

Leak, who gave the world the first very-low-distortion amplifier, now presents a very-low-distortion moving-coil loudspeaker system which sets a new standard.

The cabinet, which measures only 26" × 15" × 12", is of unique construction, which damps panel resonances and permits the loudspeaker motor to reproduce full, clean bass without the "boxy" colouration of conventional cabinets. A 3" and a 13" loudspeaker motor of novel design and a half-section cross-over network complete the system, which gives the highest quality of reproduction over the whole frequency range of the input signal from records, radio, tape or microphone. The 13" unit employs a new cone, whose stiffness to weight ratio is two hundred times better than the best cones which are currently available. This invention is the greatest advance in moving-coil loudspeaker design since Rice-Kellogg invented the moving-coil loudspeaker in 1925. The low stiffness of conventional cones results in the flexing of the cone at large amplitudes and break-up resonances. The new Leak cone which has immense stiffness for no greater weight than a conventional cone, has given us, for the first time, a loudspeaker which behaves as the theoretical ideal of a rigid piston, thus there is no flexing of the cone at large amplitudes and there is no break-up distortion within the frequency range handled by the loudspeaker. It is this freedom from colouration, produced in conventional systems by break-up distortion of the cone and cabinet resonances, which distinguishes the superior quality of reproduction of the Leak "Sandwich" Loudspeaker System from that of the best currently available moving-coil loudspeaker systems.

"VARISLOPE STEREO" PRE-AMPLIFIER

This latest edition to the Leak range of amplifiers is designed to give optimum results—Stereo or Monaural—from Records, Radio, Tape, Microphone. It incorporates facilities which make it the most comprehensive pre-amplifier currently available.

"STEREO 20" POWER AMPLIFIER

This unit consists of two identical power amplifiers electronically separate but physically combined on one chassis. Each amplifier is built to the same standards and has the same high quality performance as Leak amplifiers supplied to the B.B.C., I.T.V. and many other Commonwealth and overseas broadcasting and T.V. systems who use them for monitoring (quality checking) the transmissions.

"TROUGH-LINE II" F.M. TUNER

This tuner is unique in that the oscillator employs a trough-line as a tuning inductor, and this novel component in conjunction with the application of Automatic Frequency Control results in tuning stability within 3 kc/s from the instant of switching on.

The above and other Leak products, including monaural and stereo amplifiers from 12 watts to 50 watts output, may be inspected at Booth 22 and heard in Room 304.

L/P RECORD LIBRARY

The Long Playing Record Library Ltd.,
Squires Gate Station Approach,
Blackpool, Lancs.

**Press
Lounge
341**

Library Catalogue

Since its inauguration in 1954, the Long Playing Record Library Ltd. has built up a nation-wide (indeed, one might say world-wide) reputation for its postal record lending library service. The Library Catalogue is completely comprehensive, and in the mono field, includes **every** LP of classical music of any merit. Since the very first stereo release the Stereo section of the Library has maintained a complete coverage and as a new venture, light music was included as well as serious issues. Poetry, plays, and the spoken word are included in both mediums.

Moderate hiring charges and the simplest possible form of permanent packing (the member has merely to reverse an address card and re-secure the outer casing—an operation taking about 45 seconds—and records are ready to return), have attracted the Library service not only to thousands of private borrowers all over the British Isles, including the Shetlands and Western Isles of Scotland, but also to universities and educational institutions of all kinds. A special **Society Subscription** enables such organisations, together with Gramophone Societies and Music Clubs (of whom over a hundred are permanent members) to reserve records in advance for specific recitals.

Besides its loaning service, the Library also operates a superior **Factory Fresh Sales Service**, enabling customers to obtain guaranteed unplayed and blemish-free copies of new records to order, such records also being **Parastated** without charge. This service is used extensively by public libraries as well as private purchasers.

During 1960, the Library extended its operations to begin the first of a planned chain of branches where members can change records personally, rather than by post, and such branches were opened at Blackpool and Manchester. In 1961 it is hoped to open such a service in central London.

It is as publisher that the LP Record Library Ltd. participates at the Audio Festival. Its selective Classical Catalogue has long been world-renowned and a new edition of this is in preparation. In 1960 the Library followed up with a publication which was an even greater success: **The Stereo Record Guide**. Beautifully produced and luxuriously bound, this book was a comprehensive review of all stereo LP's and included a section on light music. The co-authors were Edward Greenfield, Denis Stevens and Ivan March. Later in 1960, Volume I of **The Stereo Record Guide** was published in America and during the year reached readers in nearly every other country (including Russia!) It is hoped that Volume II of **The Stereo Record Guide**, which is supplementary to Volume I, should be published in time for the 1961 Audio Festival.

LOWTHER

Lowther Manufacturing Company,
St. Mark's Road,
Bromley, Kent.

Booth 69
Demonstration
Room 237

Electronic and Electro-Acoustic Engineers

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

Recent developments presented, include :

A symmetrical push-pull transformer **LESS** transistor—5 watt amplifier !
Reproduction of the like has never been heard before.

A redesigned Acousta enclosure of both, advance and novel design.
Horn loading mid and high frequencies, dispersion 270° horizontal with folded bass horn.

The Lowther Corner Reproducer Type T.P.1 maintains its unique position as a major development in Electro-Acoustics, supported very ably by the Audiovector and Acousta enclosures.

The Lowther Acousta-Twin enclosure now has a counterpart "SUPER-TWIN" whereby the wonderful presentation by the enclosure is further enhanced dynamically by the fitment of Lowther Drive Unit type P.M.2 MK. 111.

Control Units, Power Amplifiers, Tuners, all enjoy improved performance, for details see current literature.

A further introduction : pick-up head transistor amplifier so necessary with most stereo cartridges.

Enquiries on problems relating to reproduction of sound will be welcomed by members of our staff in attendance.

LUSTRAPHONE

Lustraphone Ltd.,
St. Georges Works, Regents Park Road,
London, N.W.1

Booth 39
Demonstration
Room 114

Microphones, Microphone Accessories

Lustraphone exhibits at this Audio Festival have been grouped to show the numerous Microphones, Transistor Amplifiers, Transistor Microphone Mixer Units, Matching Transformers, Floor and Table Stands as well as many convenient accessories available for: Educational Services, Public Address, Broadcasting, Recording Studios, Tape Recorder Users and Social Services.

The Microphones which cover a very wide range from the well known "Stereomic" (dual head) Stereo Microphones, Studios Ribbon Velocity Microphones to the general purposes moving coil Microphones offer a most unique selection for every Tape Recorder user who wishes to obtain the best possible reproduction from the Recorder—the Music and the voice spectrum.

Two special Microphones have been designed to enable users to record and announce with full freedom of hands and movement. These Microphones are Models LV/59 "Lavalier" complete with adjustable swivel for positioning the Microphone to the person being interviewed, as well as an adjustable neck band.

A well favoured addition to the special dual head Stereo Microphone is the new "Stereolus" which has the identical performance characteristics, but without the particular phase switching facilities. The substantial difference in cost makes this high quality instrument available to a wider and non-professional circle of those interested in Stereo recording.

The Model MU/577 Transistor Mixer Unit permits a variety of combinations for Microphone mixing, as up to four channels can be provided for Microphones, or alternatively less channels for Gram or Pick-up facilities.

There is a wide selection of Floor Stands—heavy base and folding, Table Stands of varying heights and Table Bases that allow for consideration of every requirement.

Additionally to the fully Mumetal Screened Matching Transformers, there are available many very useful accessories such as:—

1. Flexible "Stayput" positioning tubes of various lengths.
2. Cable exit bushes and plug and socket releases enabling Microphones to be lifted from Stands, used as a Roving or Hand Microphone and just as readily replaced without interfering with any of the cable connections.

All these accessories are most valuable to orchestral and singing groups and individual recordists.

The equipment described can be seen at the Booth or in the demonstration room where descriptive leaflets are available.

MAGNAVOX

Magnavox Electronics Ltd.,
129, Mount Street, W.1

Booth 42
Demonstration
Room 361

Amplifiers and Speakers

The Magnavox Company, formed in America in 1911, this year celebrates its Golden Anniversary. During this time it has established a world-wide reputation as leaders in stereophonic high fidelity, and in fact, the first Electro-Dynamic loudspeaker was invented by Magnavox in 1911.

Magnavox products are manufactured to an exceptionally high standard of quality and provide outstanding value at competitive prices. The design of all models is of very high calibre.

In 1960, a subsidiary company, Magnavox Electronics Limited, was formed in the United Kingdom to offer the same high standard of quality workmanship at all price levels.

All in one Beautiful Cabinet.

All Magnavox self-contained instruments incorporate two complete sets of treble and bass speakers, one set on each side of the cabinet . . . and two amplifier systems to reproduce the full high fidelity range. No "outrigger" speakers are needed to give direction and identification of musical instruments and entertainers.

Automatic 4-Speed Record Changer. **Exclusive Magnavox Imperial High Precision**

Only from Magnavox is the perfect precision mechanism available that will play your records without distortion and without discernible wear to either record or stylus. More, it will play them automatically with far greater care than human hands. "Wow" and "flutter" are virtually eliminated and turntable speed is certified plus or minus 1% of absolute. The "Feather Touch" diamond stylus exerts only 1/10 oz. pressure, yet tracks perfectly during its entire years of life. Records retain all their musical quality, even after 1,000 plays in normal use.

Demonstration.

A representative selection of Stereophonic High Fidelity Radiograms from the Magnavox range will be demonstrated in Room 361 ranging from the SG400 "Serenade" which incorporates two 12in. base speakers, and two 4in. tweeters with cross-over networks. Other features include separate controls for volume, bass treble and balance, and output socket from left and right hand channels for connection to tape recorder.

The Model ST233L "Imperial Classic"—30 watt two channel divided frequency stereo amplifier (60 watts peak power) incorporates 11 valves including rectifiers. Base and treble responses are amplified separately within each of the two stereo channels with treble tones being directed to the treble horns and base tones to the 15in. base speakers, thus eliminating intermodulation distortion. It provides the tremendous power and flexibility necessary for full range, reproduction high fidelity stereophonic sound and for balanced response at all volume levels throughout the entire audible frequency range.

Prices of the models range from 74 Gns. to 250 Gns.

MINIVOX

Challen Instrument Co.,
(London Office),
4, Stratford Place, W.1.

Booth 37
Demonstration
Room 261

Tape Recorders

The **Minivox "C"**, recently introduced by the Challen Instrument Co., is an entirely new, all-British, precision-engineered, portable tape recorder, powered by standard batteries, which offers a quality of reproduction and play-back equal in every way to that of a mains powered machine.

This fully portable transistorised tape recorder, which weighs only 10 lb. and measures $10\frac{1}{2}'' \times 10\frac{1}{4}'' \times 5\frac{1}{2}''$, has a solid $\frac{3}{8}''$ duralumin deck and a sturdy all-timber case, specially designed to give maximum acoustic efficiency. In addition, the **Minivox "C"** has an exclusive and ingenious circuitry which includes seven transistors and three constant speed motors.

Other special features of the **Minivox "C"** are direct mike recording, mixing and super-imposing facilities; a 4 ft. auxiliary lead for direct recording, which can also be used for replaying from the **Minivox** through an external amplifier or loudspeaker; two tape speeds; a magic eye indicator which operates even when the machine is not running to ensure pre-recording "balance"; a monitoring jack, and a 5" Hi-Fi speaker.

The controls are extremely simple to operate and an easy-to-follow instruction leaflet is issued with every machine, specially written for users who are not technically minded.

Technical specifications: Standard equipment 400' tape on $3\frac{1}{4}''$ spool; variable reluctance microphone; direct recording lead; batteries—one AD42, two B123, life approximately 100 hours of normal use; transistors—three OC71, four OC81, one OA81; recording level meter—magic eye; tape speeds— $1\frac{7}{8}''$ p.s. and $3\frac{3}{4}''$ p.s.; wow and flutter—in audible; recording sense—left to right—top track; bias—H.F.; erase—low noise balanced magnetic; L/S—5" moving coil; output—600 mw.; frequency response—maintained to 10 kc. p.s.; approximate running times (both tracks at $1\frac{3}{4}''$ p.s.) 400 ft. tape $1\frac{1}{2}$ hours, 250 ft. tape 1 hour; fast winds—power drive with no increase in battery load; Pause control—mechanical; inputs—2,000 ohm. mic.—1 meg. direct, mixed or superimposed; extension L/S—3 ohm.; monitoring—high impedance socket to head—microphone can be used as monitoring earpiece.

The **Minivox "C"** is available in two duo-tone colour schemes of blue and light grey or two tones of dark and light grey, price 41 gns., complete with mike, tape and direct recording lead. A special tropicalised model of the **Minivox "C"** is also available to special order.

M.S.S.

M.S.S. Recording Co. Ltd.,
Poyles Farm,
Colnbrook, Bucks.

Booth 68
Demonstration
Room 204

Magnetic Tapes

The main feature of the M.S.S. Stand and Demonstration Room will be the new range of four grades of magnetic recording tape in seven spool sizes, now on sale in unique ready-for-your-library book style containers with programme and title panels. Various types of record/replay heads will be shown and demonstrated; and items of particular interest will be a four-track demonstration test unit and a head testing machine (nothing to do with phrenology or lie detecting!).

M.S.S. Magnetic Recording Tape is the result of many years' research. For instance, dispersion thickness which is very critical, is maintained, during manufacture by means of a special radio-active detector unit.

As a result the fine finish of the working surface, combined with the specially treated plastic base, ensures intimate contact with the recording and replay heads and gives excellent spooling properties; it reduces wear on the heads to a negligible value, it gives a high output level from the tape at the high frequencies, allowing an overall flat frequency response with a minimum amount of equalisation and less distortion.

The excellent dispersion of the magnetic oxide in the coating, combined with the exceedingly small particle size, ensures extremely low background noise, giving a very high dynamic range. Print through from layer to layer is negligible.

The theme of the demonstration room exhibits will be "25 Years in Search of Perfection," it being 25 years since the first M.S.S. equipment was designed and marketed.

MULLARD

Mullard Ltd.,
Mullard House, Torrington Place,
London, W.C.1

Booth 10
Demonstration
Room 111

Valves and Semi-Conductors for Audio Applications

The comprehensive range of Mullard Audio Valves and Transistors from which line-ups can be selected for all types of audio amplifiers, is displayed with the latest design information for a wide range of audio equipments.

AUDIO TRANSISTORS.

With the present range of Mullard transistors outputs from 100mW in small personal receivers, to 20 watts in high power audio amplifiers can now be obtained. Details of audio amplifiers are available which provide outputs of 100mW, 200mW, 500mW, 1 watt, 3 watts, 15 watts and 20 watts. Also displayed is the AC107 low noise transistor, a recent addition to the range which is particularly intended for the input stages of audio amplifiers.

AUDIO VALVES

Mullard World Series Audio Valves are already fitted as standard in domestic and public address equipments by leading manufacturers in the U.K. and overseas. Of particular note is the EF86 high-gain pentode for pre-amplifier and input stages in which noise, hum and microphony must be kept to a minimum. For output stages, the pentode specially designed for high power audio amplifiers is the EL34. Two EL34's operated under distributed load conditions can yield an output of 20 watts at 0.35% total harmonic distortion. The latest addition to the Series is the ECL86 combined Triode-Pentode valve designed specifically for audio applications and having a greatly improved performance as compared with the ECL82. Output is raised to 4 watts, and sensitivity is increased by a factor of 3, which permits the use of a large amount of negative feedback.

DESIGN INFORMATION

Design information is available and details of two Mullard publications which are of interest to audio designers can be obtained. In "Circuits for Audio Amplifiers," the first four chapters are devoted to theoretical and practical considerations of high-quality sound reproduction with monaural equipment or with stereophonic systems. The remainder of the book comprises circuit descriptions, constructional details and performance figures of twelve Mullard circuits. These circuits include well known Mullard designs, some modifications and improvements to these circuits and a number of new ones. The latest publication, "Reference Manual of Transistor Circuits" includes four chapters on audio circuitry covering the subjects of Audio Amplifier Stages, Class A Output Stages, Class B Push-Pull Output Stages, and Low-Power Audio Amplifiers, in considerable detail.

PAMPHONIC

Pamphonic Reproducers Ltd.,
17, Stratton Court,
London, W.1.

Booth 7
Demonstration
Room 247

Sound Reproducing Equipment

Having completed the installation of the Sound Reproducing Equipment on board the Union Castle Flag Ship "RMS Windsor Castle," and also on the latest Canadian Pacific liner "Empress of Canada," we feel sure that our products will prove of interest to visitors to the Exhibition.

Many other installations have, of course, been carried out since last April, using our "Beamed Sound" loudspeakers which may be better known by their previous title of "Line Source" loudspeakers.

We are exhibiting five entirely new items, two of which are amplifiers, one tuner and two of which are loudspeakers, and we feel confident that a visit to our Stand and Demonstration Room will prove of considerable interest. We shall also be exhibiting :—

Stereophonic High Fidelity Amplifier Model 3001. An integrated audio amplifier with a new pleasing finish in ivory and terracotta. The pre-amplifier section is arranged for operation from both magnetic and crystal stereo pick-up cartridge; inputs from stereophonic tape and radio are provided. Stereophonic output— $7\frac{1}{2}$ watts per channel; monaural output at 15 watts by switching.

High Fidelity Monaural Amplifier 25 watt Model 2001. Complete with separate pre-amplifier Model 2001A, a well-proved amplifier of extremely high performance.

"Brick System" public address amplifier. Once again we shall be showing our 50 watt model type 602W and the 100 watt model type 603W, both of which have been acclaimed by the trade since the last Audio Fair and used with great success in many installations. This unique "Brick System" has the advantage of providing very flexible microphone, radio and tape input combinations. The amplifier can be provided either in a transportable metal case or in chassis form for rack mounting.

High Quality Public Address Amplifier type 661W. This is a newcomer to our range and provides an integrated transportable amplifier having an output of 30 watts with inputs for two microphones, radio and microphones. We feel sure that this reasonably priced high quality amplifier will meet the requirements of many would-be users of public address systems.

Portable Public Address Equipment Type 600PPA. A complete portable unit with two loudspeakers. Operates from AC mains and car batteries.

PHILHARMONIC RECORDS

Philharmonic Records Ltd.,
6, Paved Court, Richmond, Surrey

Booth 8
Demonstration
Room 217

Records

Philharmonic Records is a new and independent company which has released a number of definitive recordings of Baroque Music during the past few months.

The London Bach Ensemble and Colin Tilney, its Director, record exclusively for Philharmonic Records and their recorded performances have met with wide praise in the national press, as can be seen from a brief glance at our advertisement on page 133, or at our brochures which are available on Stand 8.

All Philharmonic records are recorded stereophonically, although it is not intended to release the solo Harpsichord Records stereophonically in this country. The recordings of the Orchestral Suites and Violin and Clavier Sonatas by J. S. Bach were recorded in three track stereophonic sound which, when reduced to two tracks, gives the domestic listener an even greater sense of presence and natural balance than ordinary two-track originals will usually allow.

At our demonstration room, No. 217, the original three-track tape can be heard before being reduced to two tracks for commercial release; whilst ordinary Monaural disks can be listened to in comfort. This provides a fascinating demonstration of the advantages of stereophonic sound in instrumental Baroque Music.

Philharmonic Records are unlike other records, in that they are pressed in transparent Vinyl plastic, which assists the purchaser in detecting faults—such as bubbles—much more easily than in ordinary black disks. Besides, this, each of the records is accompanied by a fully explanatory Book of Notes and Musical Examples written by an authority on the particular composer and his works. This means that the subject can be dealt with fully and in far more detail than the space on the back of the conventional sleeve allows.

You will, therefore, appreciate the many advantages and improvements represented in Philharmonic Records—a company of which Britain can be justly proud—for it embodies the youthful and progressive outlook, channelled into the services of good music, correctly played and superbly recorded, that has been absent too long from the over-commercialised British record industry.

PHILIPS

Philips Electrical-Ltd.

Century House, Shaftesbury Avenue,
London, W.C.

Booth 6
Demonstration
Room 317

Tape Recorders

Philips research engineers have always kept both the perfection and the lowest possible price targets firmly in mind during the vast amount of time—and money—that has been spent on the development of the company's models currently available in Britain to the public.

Three models now available are the Philips "Family" tape recorder—EL.3541—selling at 34 gns., the Philips EL.3542 at 59 gns., and the Philips EL.3536, which at 92 gns., has been widely praised as one of the most successful stereo models marketed in Britain.

The EL.3536 also offers four-track monaural recording, and with this, as well as with stereo, a built-in superimposing facility can be used.

The EL.3542 also has this super-imposing facility for its four-track high fidelity monaural system for adding further sounds to tapes previously recorded, and with the addition of an external amplifier, this model can also be used for stereo.

Model EL.3536 is housed in an attractively styled wooden cabinet, covered in a two-tone blue and grey washable plastic. Its plastic carrying handle is reinforced.

It is a three-speed instrument: $1\frac{1}{2}$ i.p.s., $3\frac{3}{4}$ i.p.s., and $7\frac{1}{2}$ i.p.s.—allowing up to eight hours recording for stereo, when a 7-inch reel of double play tape is used at $1\frac{7}{8}$ i.p.s., and up to 16 hours monaural recording with the same type of tape used also at $1\frac{7}{8}$ i.p.s.

The right-hand channel loudspeaker has been housed in the cabinet's detachable lid with the stowage compartment provided for the loudspeaker containing the lead. The left-hand channel loudspeaker is housed in the cabinet.

Cut outs at each end of the cabinet allow for easy access to the various input and output sockets, and the mains and screened connecting leads are housed in a plastic stowage compartment on the underside of the cabinet.

The microphone is of the stereophonic moving coil type in which one moving coil element is automatically selected when the recorder is switched to the monaural position.

THREE-SPEED RECORDER

Model EL.3542 is also a three-speed instrument— $1\frac{1}{8}$ i.p.s., $3\frac{3}{4}$ i.p.s., and $7\frac{1}{2}$ i.p.s.—allowing for up to 16 hours with a 7-inch reel of double play tape at $1\frac{7}{8}$ i.p.s.

It is housed in a wooden cabinet covered in washable plastic and this model also has a detachable lid.

A built-in 4-digital programme indicator is provided, also a "magic eye" modulation level indicator.

Controls are of the push-button type, with levers for track selection and superimposing.

The moving coil microphone has a built-in speech/music switch.

"FAMILY" RECORDER

The new Philips "Family" tape recorder, with its four tracks gives up to eight hours recording if a 7-inch reel of double-play tape is used. It has a new tape-deck layout which simplifies operation, and features include a magic eye recording level indicator, programme indicator with zero reset, superimposing facility, headphone monitoring and mixing of microphone with gramophone or radio inputs.

It is supplied complete with 5-inch reel of long-play tape, crystal microphone, spare take-up spool, and is fully tropicalised.

PYE

**Pye Hi-Fi Division,
Faraday Electronic Instruments Ltd.,
Blue Town, Sheerness, Kent**

**Booth 49
Demonstration
Room 342**

Amplifiers, Pre-Amplifiers, Speakers, Tuners

Amongst several new models will be the new AM/FM tuner (Model HFT113), which has been under development for over a year. The result is a compact unit of $10\frac{1}{2} \times 3\frac{3}{8} \times 5$ " deep, available in either chassis or cased form. It has a wide band Ratio Detector, Switched AFC, and a Magic Eye which operates on both AM and FM. Sensitivity for 40db quieting is 14 mv on FM and 40 mv on AM. Tuning range is 87—108 Mc/S on FM and 190—550 metres on AM. Price 26 gns and 28 gns. (cased).

The "Mozart" FM tuner (Model HFT108) continues and has recently been redeveloped. Including greater sensitivity, output attenuation and stereo duplex facilities which are also on the AM/FM tuner. Dimensions are $10\frac{1}{2} \times 3\frac{3}{8} \times 5$ ", the price is 22 gns. and 24 gns. (cased).

The "Mozart" Mono amplifier (Model WF10) continues to fill the requirement for a small, efficient and reasonably priced unit. It is a comprehensive amplifier, and gives an output of 10 watts from an input of 10 mv. It is identical in size to its associated FM and AM/FM tuners, and weighs only 9 lbs. Available in chassis and cased form at 22 gns. and 23½ gns. respectively.

The Stereo version of this amplifier (Model WFS20) is a further development and gives 10 watts per channel from an input of 7 mv. Features include a D.C. heated pre-amplifier which, even in the cased model, can be split for cabinet mounting later if desired. The pre-amplifier has the same frontal dimensions as the rest of the range and is self mounting. The integral cased model measures $10\frac{1}{2} \times 3\frac{3}{8} \times 10\frac{1}{4}$ " deep, and costs 35 gns. The chassis model is £35.

There are now 3 loudspeakers in the Pye range.

The "Mozart" Minor (Model HF8BS) is the smallest and measures only $28" \times 13\frac{1}{8} \times 10\frac{1}{4}$ " deep. It handles 8 watts and houses one 12" and one 10" x 6" twin coned loudspeaker in a unique "air-coupled" arrangement, which results in a performance not usually associated with small loudspeakers. The frequency response is 50—15,000 c.p.s., and it is available in Walnut and Mahogany at 18 gns.

The "Mozart" Major (Model HF15 SM1) is a reflex enclosure of $31" \times 17" \times 13\frac{3}{4}$ ", and contains one Bakers "Selhurst" 12* unit and a Richard Allen 4" tweeter with 6 element crossover network. Power handling is 15 watts, and the frequency response is 45—17,000 c.p.s. ± 5db. Available in Walnut or Mahogany at 27 gns.

The largest is the HF25 SCA corner reflex. It measures $38\frac{1}{2}" \times 28" \times 19"$ deep and houses one 15", one 8" and one 4" loudspeaker. A 7 element crossover network operates at 1,500 c.p.s. and 7,000 c.p.s., and the unit has a response from 30—20,000 c.p.s. Walnut only at 55 gns.

Showing for the first time will be the new "Mozart" Stereo Ensemble. This is the first true high fidelity to be completely "packaged" in this country. The Rosewood and Walnut cabinet is 5' 6" long, and gives good stereo results in most rooms. For optimum performance, however, the separate loudspeaker enclosures may be lifted from the plinth up to 12ft. away. The cabinet houses the "Mozart" FM tuner, Stereo amplifier, and the Garrard Type "A" Auto/Transcription unit, which is specially fitted with a magnetic cartridge with diamond stylus. There is space for fitting a tape deck or, if preferred, an external tape recorder can be used. Price fully fitted is 175 gns. (Tax Paid).

QUAD

The Acoustical Manufacturing Co. Ltd.,

Huntingdon.

Electrostatic Loudspeakers, Amplifiers, Radio Tuners

Booth 47

**Demonstration
Room 236**

The Quad range of units are designed to provide in the simplest way possible, the highest standards of reproduction of recorded or broadcast music attainable with modern techniques.

A leaflet describing these units is available at Booth 47, where our staff will be pleased to answer questions and offer advice on any point arising from the use of Quad units. You are also invited to write to the factory for booklets describing each unit in greater detail.

Quad 22. A compact, easily mounted, pre-amplifier/control unit providing full facilities for either mono or stereo operation. The six pushbuttons perform 19 different selection functions, all clearly marked, and the other controls are equally straightforward in operation. All connections are by means of plugs and sockets and once installed require no further adjustment. Plug-in adaptor units provide a very versatile system of pick-up matching covering most pick-up arrangements likely to be required, with flexibility for future developments.

Quad II Power Amplifier. The use of the now traditional Quad Cathode coupling in the output stage combining low distortion with high efficiency results in a compact unit, which has remained unchanged for over seven years, a testimony to the soundness of design, as also is its use in large numbers by many professional bodies. Stability, and hence performance are entirely independent of signal or load conditions and the amplifier is therefore suitable for use with any loudspeaker arrangement. The performance specification is maintained with random valve replacements without matching or alignment of any kind.

Quad Electrostatic Loudspeaker. The world's first wide range electrostatic loudspeaker (now also made under licence overseas). The leading American journal "High Fidelity" (November, 1960, issue) stated that this loudspeaker represented "the closest approach to truly natural reproduction of sound in the home that we have yet heard," and the steadily increasing demand for this speaker from all over the world indicates that this is a widely held opinion. It is impossible to describe the performance of a loudspeaker—it must be heard, and it may be, in conditions permitting calm appraisal in Demonstration Room No. 236.

Quad FM Tuner. "The Gramophone" (September, 1960), says: "... few (FM receivers), if any, can match its high standards of appearance, performance and overall efficiency," and again, "On test, this tuner outperformed in some detail everything that was tried in comparison." Designed for use under either local or fringe area conditions wherever the FM signal is usable at all, this tuner matches the Quad 22 control unit in size and appearance and is designed for use with it or similar amplifying equipment.

Quad AM II Tuner. This is a new unit recently released on the home market and is available in two models, one (European) covering Long, Medium and Short wavebands and the other (Overseas) Medium and two Short wavebands. Like the FM Tuner it matches the Quad 22 control unit, and in the opinion of "The Gramophone" (October, 1960), "there can be no doubt of this tuner's very considerable ability to make the best of any signal presented to it."

RADFORD

Radford Electronics Ltd.,
Ashton Vale Estate,
Bristol 3

Booth 59
Demonstration
Room 218

Audio Equipment

The new range by Radford has been designed to cater for the listener who wants the ultimate in sound reproduction. To this end no expense has been spared in the development of suitable circuitry to meet the requirement for extremely low distortion, hum and noise levels. The circuitry used is, in fact, in advance of anything so far offered on the audio market.

The units are of small physical size and have been very carefully styled to satisfy the growing demand for attractive appearance. Neutral colours are used for all surfaces, so the units blend easily with varying types of furniture and room decor.

The D.S.M. Control Unit has five stages of amplification per channel. Each stage is designed to do a specific job and to do it correctly. The hum produced by this unit is below the level of the random noise produced by the valves and resistors, which is itself extremely low. The unit is capable of accepting inputs from high quality magnetic pickups and tape heads and will compensate for the modern recording characteristics. The output is via a cathode output follower and the unit will give more than 10 times the normal output before overloading occurs. A very sharp cut rumble filter is built in, thus allowing extremely quiet listening. For records with recorded distortion a treble filter may be switched in. The D.S.M. will give very satisfactory listening with absolute quiet in unmodulated passages. The unit itself is of very small size, possibly the smallest available, and is very attractively finished in ivory with an anodised panel of matt grey background and polished black lettering. The surround is polished chrome and all knobs and buttons are polished black.

The power amplifiers are all based on the same circuit design, with modifications where necessary, to suit the differing power output. The whole basis of the design is the output transformer which is extremely advanced and has a fundamental resonance beyond 200Kc/s. It is possible, with this design, to get full power output at very low distortion over the complete audio waveband. It is also possible to load the amplifier with any sort of load and be unable to provoke instability. The stability margin is, in fact, far better than anything so far offered, and is within Crowhurst's limit for an amplifier. This performance is attained only by careful circuit design using feedback and phase correcting networks. The hum output from the amplifier is not measurable and certainly cannot be heard. Moving coil loudspeakers of 4 Ω , 8 Ω and 16 Ω may be connected, and electrostatic loudspeakers may also be used with every confidence.

RECORD HOUSING

N. S. B. Field & Co. Ltd.,
Brook Road,
London, N.22.

Booth 46
Demonstration
Room 248

Hi-Fi Furniture

Hi-Fi Furniture is our business, but since we happen to be enthusiasts ourselves, it is our pleasure, too. Hence we produce the largest range of hi-fi cabinets not merely in this country, but in the whole world. With fourteen different cabinets, ranging from £5 7s. 6d. to 55 guineas, we cater for a variety of tastes, pockets, needs.

Basically, they are as simple and as flexible as we can make them. For example, all our **Equipment Cabinets** will take every make of turntable—transcription or auto-change—on the market at the present time. This includes both the Garrard 301 and “Laboratory” Auto-changer. Nor is there any limitation on amplifiers, radio tuners, or tape decks. All the recognised makes will fit. Among the finer points, note that all legs are fitted with height adjusters ; air vents allow for heat dissipation, and special provision can be made for very large stereo amplifiers.

The same flexibility applies to our **Speaker Enclosures**. The Viking will house either an 8” or 10”, the Capriol 10” or 12”. Both these, together with the 8” Nordyk, have been officially approved by the principal speaker manufacturers.

The **matching** of cabinets has always been one of our aims in design. The time has passed when hi-fi, housed in a variety of clumsy, ill-matched cabinets (or not even housed at all) could ruin the look of a tastefully furnished room. Whether you wish to house equipment, speakers or records, Record Housing can offer you a wide choice of matching pieces.

You may wonder why our cabinets are so keenly priced. The reason is three-fold : firstly, our designs are basically simple and therefore economical to manufacture ; secondly, the demand enables us to produce them in large quantities ; thirdly, we just don’t believe in fancy prices for hi-fi furniture.

We **do** believe in sound construction, conscientious workmanship, good materials and fine finish inside and out. We believe your hi-fi should be as good to look at as it is to hear. It has taken us a long time to reach our present standards, improving our designs and our quality with increasing experience. And our reward lies in the fact that most of the hi-fi equipment in this country is housed in Record Housing cabinets.

RECORD REVIEW

Hanover Press Ltd.,
31, St. George Street, Hanover Square,
London, W.1

**Press
Lounge**

Magazine Publishers

Record Review has gone through a change of hands since last April. For many years it has been published from St. Austell, Cornwall, and it says much for the editorial staff of the paper that it has reached its present eminence under something of a geographical handicap.

Now control has been moved to London in order that the closest contact may be maintained in the interests of both manufacturers and buyers.

The new publishers intend to build the magazine to a position of greater influence in the world of music. This will be done by an intense drive over the next year to increase its size and circulation.

While doing this, Hanover Press are conscious of the great contribution made by the team which has built Record Review into a paper commanding the respect of the whole industry. Leonard Hibbs, founder-editor of the magazine, will continue as Editor, with Malcolm Rayment as London Editor and Donald Aldous as Technical Editor.

All are present at this Audio Festival, together with three representatives of Hanover Press—David Leader (Editorial Director), Derek Shephard (Business Director) and Derrick Baker (Advertisement Director). All hope to renew old acquaintances, and make new friends.

RECORDS & RECORDING

Hansom Books Ltd.,
21, Lower Belgrave Street,
London, S.W.1

Press
Lounge

Book and Magazine Publishers

Records and Recording, now in its fourth year of publication, is the only illustrated monthly magazine devoted entirely to reviewing all recorded classical music issued in Britain and giving, in addition to more than 100 extended record reviews each month, also news, opinions and ideas of recording artists and technicians.

Experts discuss the latest equipment in terms understood by the general reader, Thomas Heinitz regularly reports on new technical advances and the recording companies' technicians write about new recording techniques and experiments long before official announcements are made.

In *Records and Recording* there is news of recording activities in New York, Paris and elsewhere; lists of all new classical recordings and features on recording artists and the making of outstanding new records. There are more than 40 illustrations each month of recording sessions, sleeves, new equipment and recording artists, many exclusive.

Feature articles in recent issues include "What to Record and Who to Record It" by Decca's classical recording manager, John Culshaw; "A Sound-Museum," by the secretary of the British Institute of Recorded Sound; "Plaster-cast Speakers," by Thomas Heinitz; "Records from Petri," by the Marquess of Londonderry. Typical monthly contributors from past issues include Elisabeth Schwarzkopf, Sir Malcolm Sargent, Andor Foldes, Noël Goodwin, Neville Cardus, Dietrich Fischer-Dieskau, Julius Katchen and Lotte Lehmann.

As a special concession visitors to the Audio Festival may buy both the March and April issues of *Records and Recording* for the price of one (in Room 340) or may obtain a specimen back number free by post from the publishers, Hansom Books Ltd., 21, Lower Belgrave Street, London, S.W.1.

Postal subscriptions are only 13s. 6d. for six months, or copies may be ordered through any newsagent or bookstall in Britain providing a firm order for regular monthly delivery is given. In case of difficulty please let the publishers have the name and address of your newsagent and they will arrange delivery.

Music and Musicians is the companion magazine to *Records and Recording* and is devoted to covering the whole field of live classical music and opera in Britain and abroad. Now in its ninth year of publication *Music and Musicians* is the leading music magazine with the largest circulation in its field in the world.

There is news of musical personalities, feature articles about the music, and those who make it, explained in straightforward writing by experts; famous composers write about their own music; experts comment in advance on first performances of new works, and there is a full chronological list of the coming month's musical events all over Britain, with programmes.

Music and Musicians is obtainable in the same way as *Records and Recording* and the same special two-issues-for-the-price-of-one offer is available to visitors in Room 340, or you may write for a free back number.

REFLECTOGRAPH

Multimusic Ltd.,
Maylands Avenue,
Hemel Hempstead, Herts

Booth 16
Demonstration
Room 336

Tape Recorders

Multimusic Ltd. are now producing a range of four Reflectograph tape recorders, all of them incorporating the Multimusic Tape Deck. Model A, Standard $\frac{1}{2}$ Track Recorder, 105 gns. Model B, $\frac{1}{4}$ Track tape recorder, with facility for playing back stereo tapes, 115 gns. Model C, $\frac{1}{2}$ track stereo recorder, with preamp outputs from each channel, price to be announced. Model D, $\frac{1}{2}$ track playback deck for copying or dubbing tapes, 75 gns.

Although all Reflectograph models are supplied for operation on standard voltages of 200-250 A.C.50 cycles, an alternative version may be supplied for use on 110 volts 60 cycles.

Reliability, consistency in operation and utmost flexibility are provided and although the Reflectograph is in the professional class, it is extremely simple to operate.

The Reflectograph is supplied with detachable wooden sides, the front and back of the actual deck and amplifier constituting the other two sides. When the recorder is built into furniture these sides may be removed completely.

The separate record and playback amplifiers in the Models A, B and C, with specially designed and calibrated skirted knobs, to overcome parallax effect, incorporate separate record and playback gain controls, an entirely new "slimline" edgewise reading, record level meter calibrated in colour, and a Tape/Input switch for comparing any input signal with the signal recorded on the tape.

The frequency response at $7\frac{1}{2}$ i.p.s. is ± 2 dB from 40-15,000 cycles. At $3\frac{3}{4}$ i.p.s. the frequency response is ± 2 dB from 40-7,500 cycles. The signal-to-noise ratio is approximately -50dB (unweighted including hum).

Features of the instrument panel are a record/playback switch automatically illuminating red and green indicator lamps respectively. A safety button has to be depressed before the switch can be moved to the "record" position.

Pre-set controls are provided for zero adjustment for the meter and to adjust the input level to equal the signal on the particular brand of tape being used.

Whilst the Reflectograph Model A is a standard $\frac{1}{2}$ track recorder and reproducer, the Reflectograph Model B being a $\frac{1}{4}$ track instrument will record on all 4 tracks monophonically, and play back $\frac{1}{4}$ track or $\frac{1}{2}$ track tapes through its own amplifier or, by connecting the head sockets to an external amplifier, will reproduce any $\frac{1}{4}$ track or $\frac{1}{2}$ track pre-recorded stereo tape.

The Reflectograph Model C is a $\frac{1}{4}$ track stereo recorder incorporating self-contained record amplifiers for each channel, and two playback pre-amplifiers enabling the recorder to be connected direct to any external stereo amplifier. The Model C will also record monophonically on all 4 tracks.

Separate playback and record controls are provided for each track, and as in all Reflectograph recorders, the professional facility exists for instant comparison of the input signal with the signal recorded on the tape.

The Reflectograph Model D is a tape player enabling $\frac{1}{2}$ track tapes to be copied with professional quality on to another recorder.

A preamp. output is provided which permits the player to be connected direct to the Radio or Gram socket of another recorder.

ROBUK

Robuk Electrical Industries Ltd.,
559/561, Holloway Road,
London, N.19

Booth 38
Demonstration
Room 122

Tape Recorders

The parent Company of Robuk Electrical Industries have for many years been closely associated with the tape recorder market, although in a very much behind the scenes capacity. They have for almost a decade been making tape decks for the use of other tape recorder manufacturers, and have not until now offered to the public a complete recorder. Robuk Electrical Industries make their first public appearance at a public exhibition at this International Audio Festival, and show their recently introduced Robuk RK3.

Although this instrument has only been offered on the market for a comparatively short time, it has already won enthusiastic comment from dealers and public alike. It is offered in the modestly priced popular market at 36 guineas, at which price the instrument shows remarkable value for money. The deck, as indeed the whole instrument, is manufactured throughout by Robuk. The RK3 is of a conventional twin track design since the designers feel that this offers advantage, having regard to the fact that three tape speeds are available, and that the deck is designed to handle full sized 7" spools—this even with the lid closed. Mixing of microphone and radio inputs is provided for and full monitoring facilities are given.

The RK3, as demonstrated, will have wide appeal to the tape recorder enthusiast who requires to interchange tapes with his friends, and who appreciates a clean, well designed and workmanlike job at a realistic price.

ROGERS

Rogers Developments (Electronics) Ltd.,
"Rodevco Works," 4-14, Barmeston Road,
Catford, London, S.E.6

Booth 1
Demonstration
Room 347

Sound Equipment

Two new models of particular interest are being introduced at this year's Festival and in both cases have been developed from existing designs.

The **HG88 Mk. II Integrated Stereo Amplifier**. First introduced at the 1959 Audio Fair the HG88 scored an immediate success and has since become one of the most popular stereo amplifiers on the British market. The new Mk. II version of the design makes use of the new Mullard ECL86 valve and is rated at 12 watts per channel. A number of detail improvements in both input and control facilities have been incorporated, many as a result of suggestions from HG88 users. New features include provision for compatible stereo pick-ups, simplified speaker matching, separate on/off toggle switch with click suppressors and improved power unit. Although externally nearly identical to the existing HG88, entirely new construction and wiring techniques are employed, following closely those used on the Master Stereo Control Unit and featuring the liberal use of low-loss feed-through insulators. Accessibility is greatly improved as also is reliability. Styling remains unchanged, the amplifier being available in the same choice of Ivory or Brushed Brass panel and with or without Teak case. The control knobs in Ivory with ground brass inserts are an improved pattern with integral pointer.

The **RD Junior Mk. III Stereo Control Unit**. Developed from the Mk. II Control Unit this new model incorporates many improvements in both control and input facilities, typical changes being the inclusion of a High Pass Filter and the separation of Volume, Balance and On/Off Controls. Designed primarily for use with the RD Junior Stereo Amplifier the unit may be used with any high quality amplifier(s) having similar input characteristics. Construction and wiring techniques again follow those used on the Master Stereo Control Unit and the unit has been re-styled to match the Master Unit with main panel in Brushed Brass and a matt black sub-panel. Both RD Junior FM Receivers are already available in this styling and with the introduction of this new Control Unit the present standard RD Junior styling will be discontinued.

Demonstrations will feature the new HG88 Mk. II and the new RD Junior Mk. III Stereo Control Unit used with the RD Junior Stereo Amplifier. A new loudspeaker enclosure, the Rogers Mk. II Horn Enclosure, will be demonstrated for the first time and will be used to house Lowther PM6 Pressure Units.

We would emphasise that the units used for demonstration and static display are standard production models in every respect and have not in any way been modified for exhibition purposes. This applies particularly to the standard of wiring to be seen on the Static Display.

SAGA SOUND

Allied Records Ltd.,
127, Kensal Road,
London, W.10

Booth 28
Demonstration
Room 359

Disc Records and Tape Records

Saga tape records are manufactured by Saga Sound, who also manufacture Saga Sovereigns (21s.) L.P.s and the famous Dandy line of Children's Records (7" E.P.s, 5/11d.).

Saga tape records account for a very substantial part of the Saga Sound general activities, and continuously since they were first issued in 1958 and 1959 their overseas sales have exceeded sales in the U.K.

The Saga tape record catalogue is an extensive one, and copies of the first catalogue issued for the U.K. public, and showing Saga tapes continuously in stock, are available both at the Saga Booth and the Saga Demonstration Room.

Saga's repertoire of famous artists includes, but it is not limited to, such great names as Elizabeth Schwarzkopf, George Chakiris, Leipzig Gewandhaus and London Philharmonic Orchestra. They also issue an extensive range of music from the shows in both mono and stereo. Their Brandenburg Concertos 1-6 are justly famous throughout the world, both on tape records and disc records.

Saga tape record quality is assured by manufacture on Ampex equipment, the finest available in the world.

The Saga Sound catalogue of tape records is now being extensively increased in size to cope with the ever-increasing demand at home and overseas. Already planned are Saga tape records for children, language students, and other specialities.

Saga tape records use Scotch Brand Magnetic Tape exclusively.

TECHNICAL DETAILS

Saga tape records are available in both mono and stereo.

The mono series are sold at both speeds, $7\frac{1}{2}$ " per second and $3\frac{3}{4}$ " per second. They contain half-track recordings in both directions.

The stereo series of tape records contain two-track stereo recordings in one direction only at $7\frac{1}{2}$ i.p.s. This system conforms with the majority of stereo tape replay heads in use at the present time.

The Saga tape record is of the reel to reel type, i.e., the magnetic tape with the music already recorded upon it is spooled upon a plastic spool of conventional type. The tape record is presented in an attractively designed box with a pictorial cover similar to an L.P. disc sleeve.

The spine and back of the box contain complete information as to the composer, artist and order of performance.

Come and see us in Demonstration Room 359.

SCOTCH BRAND

Minnesota Mining & Manufacturing Co. Ltd.,
3M House, Wigmore Street, W.1

Booth 45
Demonstration
Room 352

Tape and Tape Accessories

A healthy development in the Audio world is the increasing awareness of the need for quality in recording materials. As a result, Minnesota Mining & Manufacturing Co. Ltd., makers of the well known "SCOTCH" Brand recording tapes, have increased their range to include No. 102 Polyester All-Purpose Tape.

The complete "SCOTCH" Brand range is probably the most comprehensive available, consisting as it does of three Standard Play Tapes (No. 111 Acetate-base, No. 311 P.V.C.-base and No. 102 Polyester-base), No. 150 Polyester Extra Play Tape, and No. 200 Tensilised Polyester Double Play Tape.

No. 102, the new member of the range, has already proved itself as an ideal tape for professional recording, and in addition to other tapes in the "SCOTCH" Brand range, is being used by many quality-conscious recording studios.

3M Co. have preferred not to issue a "four-track" tape—a term in itself misleading. As most serious recordists realise, the equipment, not the tape, dictates the number of tracks available. However, as four-track recording necessitates closer head to tape contact, 3M are recommending "SCOTCH" Brand No. 200 Double Play Tape, thin and pre-tensilised for strength, which is ideal for head conformability. In addition, the silicone lubrication, exclusive to all "SCOTCH" Brand Recording Tapes, cuts down head wear, an important factor where there is closer head-to-tape contact.

Also on show is the comprehensive range of "SCOTCH" Brand Accessory items, including empty spools, leader and No. 41 Splicing Tape, and the popular "SCOTCH" Brand Accessory Kit.

The "SCOTCH" Brand 'One Five Special,' the 3" mailing spool introduced by 3M at last year's show, had proved a popular item with the growing number of "Tapespondents" and is again featured at this year's show.

In their Demonstration Room, No. 352 on the third floor, 3M will display the consistent quality of their complete range on some of the finest semi-professional recording equipment available, and everyone is cordially invited to come and relax and listen in comfort.

SHURE

Shure Brothers Inc.,
222, Hartrey Avenue,
Evanston, Illinois, U.S.A.

Booth 53
Demonstration
Room 252

Pick-ups, Arms, Cartridges, Microphones

The full range of Shure high fidelity Pick-ups, Arms and Cartridges will be on show together with a representative selection of Microphones and other components.

Introduced to this country only last year, Shure Stereo Dynetic Cartridges, Models M3D and M7D, for use with independent Transcription Arms are already well known to the majority of those to whom high-grade sound reproduction is an absorbing interest.

The Model M212 Studio Pick-up consists of a special Cartridge and Arm complementarily designed to provide optimum performance from stereo records. Tracking at only $1\frac{1}{2}$ - $2\frac{1}{2}$ grams with an extremely high compliance reduces record wear to a remarkable degree. The M212 has been designed with quality of performance and finish as the only criterion.

Released for this exhibition is the M3-N21D Cartridge intended for use with precision Transcription Arm where a maximum playing weight of two grams can be guaranteed. Fitted with the same high compliance stylus as the M212, the M3-N21D provides the exceptional performance standards of that Pick-up for the users of independent Arms.

Also shown for the first time is the Model M8D Standard Stereo Dynetic Cartridge, intended primarily for use in Record Changers and Players.

All stereo products incorporate the Shure Dynetic moving-magnet principle and are fitted with a replaceable Diamond Stylus giving compatible performance from stereo and mono records. Special mono Cartridges are provided for those who prefer a separate Cartridge for this purpose.

Recently announced, and not previously shown to the public, are Models M232 and M236 Professional Transcription Arms for use with practically any Cartridge (stereo or mono) and featuring precision ball bearings at all pivot points, plug-in head, variable height adjustment and visual indication of playing weight.

The range of Shure Microphones is fully comprehensive and includes broadcast, recording sound reproduction and communication grades with moving coil, ribbon, controlled-magnetic, ceramic, crystal and carbon elements, and a variety of directional characteristics. Of particular interest will be the new Model 545 "Unidyne III," a small high quality dynamic Microphone with true cardioid performance.

The Shure demonstration will emphasise the realism, depth and clarity that high fidelity stereo brings to musical listening in the home.

Shure Brothers Inc. U.K. Representative: J. W. Maunder, 22, Orchard Street, London, W.1. (HUNter 4116)

SIMON

Simon Equipment Ltd.,
46, George Street, London, W.1

Booth 48
Demonstration
Room 118

Tape Recorders

The SP/4 is certainly no stranger to the Hi-fi enthusiast, though it has now been on the market for 2½ years, is proving more popular than ever.

The Simon SP/4—95 gns. Tape Deck: Simon Automatic with push button control. **Speeds:** 7½ i.p.s., 3½ i.p.s. **Spools:** Up to 7". **Tone controls:** Bass + 6 to - 18dB at 50 c/s.; Treble + 6 to - 18dB at 12 Kc/s. **Modulation indicator:** Magic eye. **Track change:** By push button or automatic at end of tape. **Loudspeaker:** 10" x 6" elliptical with high note 4" diffuser. **Frequency Range:** 30 - 15 Kc/s + or - 3dB at 7½ i.p.s.; 30 - 7 Kc/s + or - 3dB at 3½ i.p.s.; P.A. Condition 30 - 20 Kc/s + or - 3dB. **Amplifier:** Ultra Linear push pull 10 watts through 15 ohms external loudspeaker. **Wow flutter:** Better than 0.2 per cent. **Weight:** 48lbs. **Size:** 10½" x 15" x 16½".

The Simon Minstrelle "4" and "4S" Companion Unit. Price 63 gns. complete
4-track mono Record/Play back—Stereo Record/Play back—play back or record 2 tracks at once—make two separate recordings side by side and play back as one recording—record one track whilst playing back another track—all these facilities for 63 gns.

These are some of the wonderful features designed into the delightfully polished contemporary cabinet of the new Simon Minstrelle "4" and its companion unit the "4S." These machines of outstanding value are the latest result of the long experience in the tape recording industry of Simon Equipment Limited. The Minstrelle "4" which can be purchased as a separate unit to give ¼ track monaural record/play back for 41 gns., has a Triode push/pull amplifier—7 x 4 Elliptical speaker—2 way mixing—super inposition on all 4 tracks and, as an added attraction, a speech microphone has been built into the set.

Specifications:

Deck: Magazine loading, 4 track. **Speed:** 3½ i.p.s. **Amplifier:** Triode push/pull (2 x EL84) gives 3 watts at 3 ohms with negligible distortion. **Loudspeaker:** 7" x 4" Elliptical. **Output:** To internal loudspeaker, or external loudspeaker with cut out switch for internal loudspeaker. **Inputs:** Microphone, Radio/gram. **Microphone:** Inbuilt high output crystal. **Modulation indicator:** Magic eye. **Total weight:** Approx. 30lbs. **Size:** 19" x 12" x 18½".

The Minstrelle "4S" is the Stereophonic amplifier unit for use with the Minstrelle "4" track and can be purchased as a separate unit for 22 gns.

The two units combine to provide all the facilities demanded by the connoisseurs of first-class tape recording.

The Simon Cymbal at 24 gns. is attractive both in price and appearance and carries the Simon reputation for quality. The two-colour cabinet has been designed to give special acoustical quality, and combines with the Simon amplifier to maintain the Simon reputation for quality reproduction.

Specifications:

Deck: Magazine loaded twin track. **Amplifier:** Simon 3 watt output. **Frequency Range:** 70—9,000 c/s at 3½ i.p.s. **Loudspeaker:** 5" x 3". **Microphone:** Crystal. **Inputs:** Microphone, Radio/gram. **Outputs:** To internal loudspeaker or to external loudspeaker with automatic cutout of internal speaker. **Modulation indicator:** Magic eye. **Total weight:** 22lbs. **Size:** 13" x 6½" x 9½".

S.M.E.

S.M.E. Ltd.,
Steyning, Sussex

Booth 29

Precision Pick-up Arms

The S.M.E. pick-up arms are designed to meet the following essential requirements for optimum playing conditions.

"Minimum vertical and lateral bearing friction": Precision ball races and knife edge bearings reduce pivot friction to approximately .020 gramme measured at the stylus.

"Resonances placed well outside the recorded range, of small amplitude and damped": The rigid stainless steel tone arm has a fibrous wood lining to prevent "ringing." The balance system is decoupled from the tone arm.

"Accurate longitudinal and lateral balance adjustable to suit various cartridges": The special balance system of the S.M.E. meets these requirements and in addition obviates the need for a stylus pressure gauge.

"Good geometry so that tracking error can be minimum": An optimum offset reduces tracking error to an insignificant amount. Set up with the S.M.E. protractor this decreases to zero at the critical inner grooves.

"Flexibility in operation": The standard shell accepts all high grade photo-cartridges and different stylus positions can be quickly accommodated by the graduated bed plate on which the base of the arm slides. A built-in hydraulically damped control effects lowering and raising of the stylus anywhere over the record and eliminates the risk of damage.

"Compensation for the natural tendency of a pick-up arm to move towards the centre of the record": Stereo has increased the significance of this requirement. It has been met by the preparation of a simple accessory which may be fitted in a few moments to any S.M.E. arm and permits dynamic levelling to be carried out without tilting the motor or pick-up arm. It can be adjusted so that the arm remains stationary on an unrecorded disc and the stereo picture benefits from its use.

General Construction

Engineered and finished throughout to instrument standards avoiding the use of springs and viscous damping which can deteriorate with age. All parts precision machined, heat treated and ground where necessary. Finished in satin chrome plate, gun black and polished stainless steel.

Pillar: Adjustable for height through 1". **Pillar bearings:** Fully protected against the entry of dust. **Bed Plate:** Mounted through four soft rubber grommets to reduce the transfer of mechanical vibration. Permits 1" movement for minute tracking adjustment. **Weight system:** Permits longitudinal and lateral balance adjustment. **Socket:** The tone arm terminates in a 4-pin socket for plugs having 2, 3 or 4 contacts in square or diagonal arrangement. **Shell:** Black plastic fitted with detachable pillars and fixing screws at standard $\frac{1}{2}$ " spacing. **D.2 Adaptor (extra):** Permits direct mounting and interchange of Decca heads without the use of a shell. **Arm rest:** Mounted on pillar, embodies a positive retaining clip. **Wiring:** Suitable for all mono and stereo circuits. **Output Socket:** A screened four-pin plug and socket is carried beneath the base, providing a rigid support for the "hard wiring" and the delicate pick-up lead, eliminating a common cause of influence on tone arm movement.

Each arm is packed complete with standard shell, mounting template, alignment protractor, fixing screws, etc., and full instructions for use.

SONY

Sony Corporation of Tokyo,
Tokyo, Japan

Booth 26
Demonstration
Room 320

Tape Recorders, Tapes, Microphones, V.H.F. Receivers.

The Sony Corporation, Tokyo, is a world famous organisation with an unparalleled reputation in the field of electronics, whose products range from sub-miniature radios to data processing equipment. At this Festival they will be showing the following.

No. 521 FOUR-TRACK/TWO-TRACK STEREO TAPE RECORDER

The highlight of the Sony display is their new stereo tape recorder which has an impressive general specification and incorporates the following features :

2 and 4-track stereo recording and playback, also dual track and 4-track.

Built-in stereo pre-amplifiers, stereo recording amplifiers and stereo playback monitor amplifiers.

Separate level controls for microphone and auxiliary inputs provide professional mixing facilities for recording sound over sound.

Special tape tension guide automatically shuts off recorder at end of playing time.

Dynamically balanced flywheel . . . used in advanced "rim-drive" principle . . . no pulleys or belts to wear out.

Instantaneous stop lever ensures precise editing and cueing.

Safety lock recording button prevents accidental erasure of prerecorded tapes.

Separate channel recording indicator lights.

Complete with microphones and all accessories.

No. 362 TAPE RECORDER

Sony tape recorder model 362, one of the famous Sony's products, is a Hi-Fi record and playback unit, with a built-in superheterodyne 3 transistor radio tuner.

No. 262 TAPE RECORDER

A quality small tape recorder, newly designed, embodying all the exacting features necessary for high performance.

Model 262 will satisfy all needs for entertainment and other uses.

No. 111 TAPE RECORDER

A very light portable recorder for professional use.

No. 101 TAPE RECORDER

This is one of Sony's smaller record, playback tape recorders. It is especially suitable for home use.

SONY CONDENSER MICROPHONE C-37A

High quality variable-directional condenser microphone Model C-37A for professional use (T.V., BC) has been successfully developed by Sony Corporation and is now available, in the market. Directional characteristics are easily changeable for use in Studio and Auditorium. Features are stable, trouble-free operation; noise-free; exceptionally smooth frequency response and sturdy construction.

Audio Festival visitors are cordially invited to inspect Sony products at Booth No. 26 and to visit the Demonstration Room No. 320.

For all enquiries: **Tellux Ltd., 44, Brunel Road, Acton, W.3.**

SOUND TAPE RECORDERS

Tape Recorders (Electronics) Ltd.,
784-788, High Road, Tottenham,
London, N.17

Booth 25
Demonstration
Room 115

Tape Recorders

For the high fidelity enthusiast the "**Sound Master**" provides 10 watts undistorted reproduction from an acoustically designed reflex loudspeaker system giving a full range frequency response. Separate linear amplifiers, each 10 watts (13 watts peak) give professional quality and the many features include Mixing, Monitoring and Multiple Superimposing, for every possible sound effect.

A "Sensimatic" level recording meter is provided for precise control when recording and a unique feature of this Tape Recorder is that recording and playback can be effected simultaneously, such a feature being invaluable, for example, for cine-commentaries and learning languages.

Three speeds— $1\frac{7}{8}$ ", $3\frac{1}{4}$ " and $7\frac{1}{2}$ " per second, provide unrivalled versatility and four tracks give maximum tape economy. The "Sound Master" is housed in a polished wood case, which is designed to stand on top of the reflex loudspeaker system and for storage purposes is detachable and contained in the bottom of the speaker cabinet. The price is 105 guineas, complete with all accessories.

Two "**Sound Connoisseur**" Console Tape Recorders are available in both twin-track and four-track versions at 65 guineas and 70 guineas respectively, complete with accessories. These attractive Tape Recorders incorporate a four-matched loudspeaker system for high fidelity reproduction, and the four-track version will provide up to 18 hours recording and playing time.

Three speeds— $1\frac{7}{8}$ ", $3\frac{1}{4}$ " and $7\frac{1}{2}$ " per second are available, with Mixing, Monitoring and Superimposing facilities. The "Connoisseur" can be used as an independent amplifier, and is housed in a beautifully styled console type cabinet of polished wood and fabric on contemporary detachable legs. There is ample storage for microphone, spare tapes, etc.

The "**Sound Prince De Luxe**" is a single-speed Tape Recorder with four tracks at 37 guineas, complete, and provides Mixing, Monitoring and Superimposing facilities and can be used as an independent amplifier. The case is completely portable, of Continental styling, and is extremely light-weight.

The "**Sound Studio De Luxe**" is a three-speed, four-track versatile Tape Recorder, listed at 45 guineas. It is provided with facilities for all sound effects, as are the other Tape Recorders, and is housed in a completely portable two-tone Continental styled case.

The remaining models in the sound range are the "Sound Studio," "Prince," "Belle" and "Belle De Luxe."

S.T.C.

Standard Telephones and Cables Ltd.,

Connaught House, 63, Aldwych,
London, W.C.2

Booth 35

Microphones.

S.T.C., who specialise in the design and manufacture of studio quality microphones as used by the British Broadcasting Corporation and broadcasting authorities throughout the world, will be exhibiting two newly developed models:—

4106 Moving Coil Cardioid. A studio grade microphone with cardioid directional properties. Its performance is similar to that of the well-known 4033-A, but the directionality is smoother over the front hemisphere. It is similar in construction to the 4105-A with added electrical and acoustical components to increase the frequency range.

4108 Condenser Microphone. A high quality electrostatic microphone for studio use. It has an extended frequency response and an accurately maintained cardioid directional response. A special power supply unit with connecting cable is available.

Other microphones on show will be:—

Model 4021-J. The popular "BALL AND BISCUIT" omni-directional moving coil microphone, for high quality studio work and acoustical measurements.

Model 4033-A Cardioid. A composite microphone having moving coil and ribbon elements that can be used separately or in combination.

Model 4035-D Moving Coil. A general purpose microphone for studio work or public address installations.

4037-A & C Pencil Type. Ideal where unobtrusive omni-directional instruments are needed, i.e., television interviewing, etc.

4032 Hand Type. A robust instrument with built-in switch, as used by radio and television reporters, interviewers, etc.

Model 4038-A Ribbon. Specially suitable for all types of musical work. It has an accurate "figure of eight" polar characteristic in both planes, a very smooth response extending to 15 kc/s and an excellent transient response.

Model 4104 Lip Ribbon. A noise cancelling commentator's lip ribbon microphone. Essential to any outside broadcast where the highest quality and signal-to-noise ratio is required.

4105 Moving Coil Cardioid. Particularly suitable for use in high quality sound reinforcement systems where a high degree of intelligibility and a good feed-back margin are required.

The display will include a comprehensive range of stands, adaptors and cables for use with S.T.C. microphones.

Also to be shown are microphone amplifiers. These are designed for use with the range of high performance microphones. An amplifier (MA-70-B) having maximum gain of 70dB will be shown. These have applications in the design of mixers and associated with them will be a distribution amplifier DA-30-E and an equalisation amplifier TC-O-B. Each is of standard mechanical size and is suitable to plug into a jack on a 19 in. rack fitting, one of which will be shown.

From the extensive range of transformers manufactured by S.T.C., a popular microphone input transformer will be shown (B.26/10). A hybrid transformer (CK-4122-9), for both combining and dividing audio signals, will also be exhibited.

TANNOY

Tannoy Products Ltd.,
Norwood Road,
London, S.E.27

Booth 24
Demonstration
Room 145

High Fidelity Systems

For more than 25 years the Tannoy Organisation have been one of the few Companies offering a complete range of High Quality Audio Equipment for domestic and professional use. 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 times.

The Tannoy Varilutance Phono Cartridge, Mark II, is well established as a standard with many companies manufacturing television and broadcasting studio equipment, and has recently been selected for use in quality by the B.B.C. The frequency response extends well above 15 k/cs, and the very low dynamic mass reduces record wear to a minimum.

The Tannoy vari-Twin Stereo Cartridge, Mark II, is designed for the reproduction of stereophonic records in conjunction with equipment of the highest grade. The frequency response extends beyond 16 k/cs and channel separation is in excess of 20 db. It is mechanically very robust and is also insensitive to hum pick-up. Record wear is very low and when mounted in a suitable arm will track at less than two grammes pressure.

The Tannoy 12" and 15" Monitor Dual Concentrics. These dual systems continue to set the standard for high quality Loudspeaker Systems. The adoption of these units as listening standards by broadcasting, television and recording companies throughout the world, is an indication of their supremacy. The frequency response extends smoothly from 20 cycles to beyond 20 k/cs, while distortion products are negligible.

The Tannoy III LZ Monitor Dual Concentric Loudspeaker. The new unit incorporates all of the features which have made the 12" and 15" Monitors supreme, but it is particularly suitable for home listening, since it may be used with enclosures having a capacity of only 1½ cubic feet, and although only recently introduced, this unit has already been chosen as a studio monitor by a number of overseas broadcasting and television organisations.

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 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 Canterbury being suitable only for the 12" unit.

The Chatsworth Enclosure is a critically damped infinite baffle, suitable for either 12" Monitor or the III LZ Monitor, it is available either as a corner cabinet of a rectangular free standing cabinet.

The III LZ Enclosure is designed specifically for the new III LZ Monitor Unit. It is sufficiently small to be placed on a shelf or small table, but nevertheless, provides outstanding reproduction over the entire Audio frequency range, extending to well below 40 cycles in the bass.

TELEFUNKEN

Telefunken G. M. B. H.,
Hanover Linden, Göttinger Chaussee 76,
West Germany

Booth 14
Demonstration
Room 322

Tape Recorders

Telefunken Magnetophon 75K-15.

Two Tape Speeds— $3\frac{1}{2}$ i.p.s. and $1\frac{1}{2}$ i.p.s.

Frequency Range—60-16,000 c.p.s. at $3\frac{1}{2}$ i.p.s. and 60-9,000 c.p.s. at $1\frac{1}{2}$ i.p.s. $5\frac{1}{2}$ in. spools. Twin track to international standards. Fully automatic press-button controls. Extra-sensitive braking and tape tension control system ensures high performance and long life for tapes and recording head. Telefunken ultra-fine gap recording heads make possible the high standard of reproduction at slow speeds. Tone control on portable model.

Telefunken Magnetophon 76K.

The fabulous four-track system in these models allows for over 12 hours 40 minutes playback on one $5\frac{1}{2}$ in. DP Tape! Two tracks may be played back together giving tremendous scope to cine enthusiasts and effects men. Superimposition effects may be monitored while the other track is being recorded by means of the "Teleset 75-76" Earphone available as an accessory. Multiple superimposition achieved using additional accessories.

Two Tape Speeds : $3\frac{1}{2}$ i.p.s. and $1\frac{1}{2}$ i.p.s.

Frequency Range : 30-16,000 c.p.s. at $3\frac{1}{2}$ i.p.s. and 30-9,000 c.p.s. at $1\frac{1}{2}$ i.p.s. $5\frac{1}{2}$ in. spools.

Telefunken Magnetophon 77K 4-Track Stereo Model.

This stereo tape recorder not only provides full facilities for two-channel stereo recording and playback, but also manifold possibilities for monaural superimposition effects.

Two Tape Speeds : $3\frac{1}{2}$ i.p.s. and $1\frac{1}{2}$ i.p.s.

Frequency Response : 40-16,000 c.p.s. at $3\frac{1}{2}$ i.p.s. and 40-9,000 c.p.s. at $1\frac{1}{2}$ i.p.s. $5\frac{1}{2}$ in. spools.

Telefunken Magnetophon Semi-professional M.24 Recorder available in 4 versions from 169 gns to 192 gns, will be on show together with a range of Telefunken Studio Recording Equipment.

Telefunken Magnetophon 85KL.

In the magnificent 6 watt "Magnetophon 85" models Hi-Fidelity is achieved by using D.C. heaters for pre-amplifier stages, efficient double screening of the motor and incorporation of a Philberth transformer with a specially low stray field. The signal to noise ratio achieved is >50 dB, which remains constant throughout its life and is unaffected by ageing valves.

Two Tape Speeds : $7\frac{1}{2}$ i.p.s. and $3\frac{1}{2}$ i.p.s.

Frequency Range : 30-20,000 c.p.s. \pm 3dB at $7\frac{1}{2}$ i.p.s. and 30-15,000 c.p.s. at $3\frac{1}{2}$ i.p.s., 7" spools.

Welmec Corporation Limited, 147/148, Strand, London, W.C.2; TEM 3357. Sole Distributors of Telefunken Tape Recorders.

TEPPAZ
Teppaz S.A.,
Lyon, France.

Booth 62
Demonstration
Room 242

Sound Reproduction Equipment

Teppaz S.A. announce that two completely new models will be exhibited. They are:—

Oscar Stereo.

Full stereo portable record player mains operated; 4-speed turntable; double amplifiers; 3 watts output each channel; 7" speaker and tweeter in each detachable "Spatio Dynamic" baffle lid. Retail price (U.K. only), 38 gns. inc. tax.

Oscar Record Player.

Mains operated; 4-speed turntable; 3 watts output; valves; 2 (UCL82, UY85); bass and treble controls; 7" "Spatio Dynamic" speaker in detachable lid. Size 13½" x 11" x 6¼". Weight, 10 lbs. Finish: Grey or Beige leatherette. Retail price (U.K. only), 19 gns., inc. tax.

Presence Record Player.

Mains operated; 4-speed turntable; 3 watts output; valves: 3 (EBF80, EL84, EZ80); bass and treble controls; 7" "Spatio Dynamic" speaker in detachable lid. Size 14" x 11" x 6¼". Weight, 11 lbs. Finish: Pigskin, Parchment, Black or Green. Retail price (U.K. only), 23 gns., inc. tax.

Octave Record Player.

Mains operated; 4-speed turntable; 4 watts output; valves 3 (EF86, EL84, EZ80); independent bass and treble controls; 2-7" "Spatio Dynamic" speakers in detachable lid; coaxial socket for stereo operation. Fitted with stereo pick-up. Size: 13" x 10" x 6". Weight: 13 lbs. Finish: Pigskin, Grey, Tweed or Blue leatherette. Retail price (U.K. only), 35 gns., inc. tax.

448 Stereo Record Player.

The complete portable stereo record producer; 4-speed turntable; double push pull amplifier; 6 watts output each channel; valves 6 (4 x ECL82, 2 x EF86); independent bass and treble controls and balance control; 2-7" speakers and a tweeter in each detachable "Spatio Dynamic" baffle lid. Size: 18¼" x 13" x 10". Weight: 22 lbs. Finish: Pigskin or Blue. Retail price (U.K. only), 70 gns., inc. tax.

Also ECO portable playing units in carrying cases; and ECO turntable units for mains, battery and stereo, and high fidelity amplifiers and speaker cabinets.

Sole U.K. distributors: Selecta Gramophones Ltd., Southwark Bridge Road, London, S.E.

TRAV-LER

Casian Ltd.,
37, Grafton House, Golden Square,
London, W.1.

Booth 74
Demonstration
Room 215

Tape Recorders

“Trav-ler” Tape Recorder. The “Trav-ler” is a fully Transistorised Battery Operated Tape Recorder, designed to meet the needs of the Domestic Market for a really portable machine with a performance equal to that of the mains machines in the same price category. The “Trav-ler” incorporates full winding facilities, constant tape speed of $3\frac{1}{2}$ in. per second, and is supplied complete with a superior quality moving coil microphone giving excellent results when used both indoors and outdoors. Models are available with either A.C. or D.C. bias facilities and with $\frac{1}{2}$ or 1 watt outputs.

Casian “Professional.” This machine meets the need for a lightweight portable recorder giving first-class quality with full professional facilities.

These include separate record and playback amplifiers, built-in V.U. Meter, 600 ohms input and output, and switching to provide direct comparison between incoming and recording programme material. Running at a speed of $7\frac{1}{2}$ in. per second and having a frequency response from 30 to 1,200 c.p.s. ± 1 dB.

An additional unit is available containing a 1 watt low distortion amplifier and a high quality loud speaker unit. These two units together provide a complete Portable Studio Record-Playback System.

VERITONE

Veritone Ltd.,

16, Station Close, Potters Bar, Middlesex

Booth 11

Demonstration

Room 159

Tape Recorders

In addition to the now famous Veritone **Venus De Luxe**, we are showing, and demonstrating two entirely new models. The Veritone **Sixteen**, designed primarily for industrial and educational purposes, is an unconventional tape recorder which should also appeal to the enthusiastic amateur. Basically a monaural machine, it has been fitted with Stereo Heads, thus giving—in addition to the normal facilities afforded on a recorder using a three-head system—**fully synchronised** recordings in-line. Obviously, this feature will find many outlets in industry, as with the musical profession, who have been requesting it for some time.

The **Sixteen** has two microphone inputs, which can be “mixed,” a Peak Level Meter, and a Comparitor Switch—now a feature with all Veritone equipment—which enables the operator to compare the input signal, with the signal off the tape.

Being realists, we have designed the stereo version of the above, the **Sixteen “S,”** in console form, because, the four amplifiers and their ancillary equipment, together with two speaker enclosures could not, with any stretch of the imagination, be regarded as portable.

This unit has been handsomely styled for domestic use in a satin finished mahogany cabinet, which will blend with any furnishing scheme, and for use in schools or studios, an extremely robust cabinet in light oak is available.

VITAVOX
Vitavox Ltd.,
Westmorland Road, N.W.9

Booth 54
Demonstration
Room 161

Microphones, Speakers

On the **Vitavox** Booth are displayed some of the wide range of microphones, loudspeakers and loudspeaker systems designed and made by this Company. In addition, you will see Dividing Networks, High Frequency Horns and the Vitavox Vibration Unit. The physical design and readily apparent superb workmanship are indicative of the high quality of performance that has always been a feature of any product bearing the name of Vitavox; performance that is regularly demonstrated throughout the opening of the Festival in Demonstration Room No. 161. Here you may relax comfortably and listen to really superb reproduction of some fine recordings: stereophonic on the Vitavox "Hallmark" Loudspeaker System which incorporates the now famous DU120 Duplex Coaxial Full Range Loudspeaker, and monophonic on the Klipschorn—the reproducer which, throughout the world of sound, has earned for itself an enviable reputation. Technical enquiries may be made, and fully informative literature obtained, at Room 150.

VORTEXION

Vortexion Ltd.,
257-263, The Broadway, Wimbledon,
London, S.W.19

Booth 51
Demonstration
Room 149

Tape Recorders

The Vortexion W.V.A. recorder has provision for a plug in stereo head and can be supplied with this and stereo playback pre-amplifiers with equalisation each having an output of 1 volt from a cathode follower. This is type W.A.V/S.

The W.V.B. recorder has an additional amplifier and head with provision for "before" and "after" record monitoring while the recording is in progress, and this also has echo facilities.

A heavy mumetal shielded microphone transformer is built in for 15-30 ohms balanced and screened line, and requires only 7 micro-volts approximately to fully load. This is equivalent to 20ft. from a ribbon microphone and the cable may be extended to 440 yds. 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.

The playback amplifier may be used as a microphone or gramophone amplifier separately or whilst recording is being made.

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.

The power output is 4 watts heavily damped by negative feedback and an oval internal speaker is built in for monitoring purposes.

The Vortexion W.V.B. or W.V.A/S are eminently suitable for making a high quality recording almost indistinguishable from the original since these models have facilities for monitoring the recording actually put on the tape with only a fraction of a second delay.

By this means, when for any reason the signal is distorted or not as required, the result of the recording on the tape can be heard almost instantly, and adjustments can be made until the results are as required.

Many types of music today have the treble boosted considerably, and may result in greater power being recorded at high frequencies than at middle frequencies, an overload of the tape at high frequencies gives a mushy quality with lots of hiss and background noise.

Adjustment to the bias level while listening to the result is useful in this connection especially where the brand of tape and the bias setting for it are not exactly known.

Again if clean treble recordings at 3 $\frac{1}{4}$ " are of prime importance it is now recognised that no other method is quite so effective in achieving this as reducing the bias slightly while listening to the results. The meter reading of the new bias setting for the particular tape used may be noted for future use.

WELLINGTON

Wellington Acoustic Laboratories Ltd.,

Allways, Kings Lane, Wrecclesham,
Farnham, Surrey

Booth 61

Amplifiers—Accessories

Wellington Acoustic Laboratories Ltd., will be showing :—

Wal Gain Mono Pre-Amplifier. Impedance matching transistorised pre-amplifier, battery operated (3,000 hour life). Noise and distortion too low to measure, gain better than 100. Can be mounted in any position, and due to its compactness, long life and extreme versatility, the **Wal Gain** pre-amplifier has many applications in the Audio, Industrial, Commercial, Medical, Scientific and Cine fields. In fact, for any purpose where it is necessary to amplify a minute voltage into a useful output. Also suitable for direct connection to tape head or for use with low output P/U. Size only $3\frac{3}{8}''$ x $2\frac{1}{8}''$ x $2\frac{1}{8}''$. Price £5

Wal Gain Stereo Pre-Amplifier. Transistorised, battery operated. Gives you the **extra gain** you need, without hum or distortion. This version, too, has a number of applications, including being used to provide extra amplification for microphones, or tape heads, or as a two-channel mixer with a resistive network. Each channel is independent of the other for stereo operation, cross talk between channels being better than -60db , and the **Wal Gain** can be used for operation on two mono channels. Also many Audio, Medical, Commercial, Scientific, Industrial and Cine applications. Size $6\frac{1}{8}''$ x $2\frac{1}{8}''$ x $2\frac{1}{8}''$. Price £7 10s.

Wal Tape Eraser. The ideal accessory for all tape recordists. Wipes both tracks perfectly "clean" in under half a minute. Used in laboratories, colleges, schools, dealers' demonstration rooms, studios, offices, tape clubs—in fact, by anyone who does a lot of recording and wishes to rapidly "clean" up tapes ready for the next session. £7 18s. 6d.

Wal Hi-Gain Tape Pre-Amplifier. The complete answer to your monitor head problems; provides sufficient equalised CCIR voltage to directly couple to a pair of headphones, or to a hi-fi amplifier to add a second "stereo" channel to existing mono equipment. Transistorised, battery operated. Sufficient output to drive the average amplifier without impedance matching tapping to suit various tape heads.

The Wal D-Mag. Mains operated, pocket sized, head demagnetiser. Provides a complete degaussing circuit. Also especially designed for erasing short "unwanted" passages of sound on tape, or striped film.

WHARFEDALE
Wharfedale Wireless Works Ltd.,
Idle, Bradford, Yorkshire

Booth 3
Demonstration
Room 337

Loudspeakers, Enclosures, Transformers, Volume Controls & Accessories

“Airedale” Model. A new, free-standing 3-speaker corner system incorporating the W15/RS, Super 8/FS and Super 3 units. By adopting roll surround suspension on our well-known W15 bass unit it is now possible to reduce the size of the 9 cu. ft. Corner 3-Speaker System to about half its former size. At the same time this most famous of all Wharfedale models has been re-styled to include the 8in. middle and 3in. treble units within the main cabinet.

The **Airedale** Cabinet is heavily reinforced with ceramic tiles to minimise panel resonance. Crossover frequencies are 400 c/s and 5,000 c/s.

The **Airedale** provides accurate matching on stereo for the many brick and sandfilled corner systems still in use. A pair of Airedales gives superb results with all the convenience of free standing systems.

Size : 38in. x 22½in. x 14in.

Weight : 91lb.

Max. input : 20 watts rms.

Impedance : 12/15 ohms only.

Finish : Choice of walnut, oak or mahogany veneers.

Specification :

W15/RS : in resistance-loaded 4 cu. ft. enclosure.

Super 8/FS.

Super 3.

400 c/s half section crossover network.

Price : £65 complete (tax free).

Demonstration. In addition to the **Airedale**, Wharfedale demonstrations will include the **W** range of compact speaker systems which have established a world reputation for smooth, wide-range reproduction from small enclosures.

WHITELEY
Whiteley Electrical & Radio Co., Ltd.,
Mansfield, Notts.

Booth 71
Demonstration
Room 311

Loudspeakers, Amplifiers, V.H.F. Tuner, Ready to Assemble Cabinets

The results of thirty-five years specialisation and complete manufacture within the organisation is to be seen in the outstanding range of W.B. Stentorian High Fidelity products being displayed and demonstrated.

The comprehensive range of loudspeakers includes units varying in size from 1 $\frac{3}{4}$ " in diameter to 18" in diameter and these units are available with a variety of cone construction, speech coil impedance and magnet strength to suit all requirements. Following the success and acceptance of the 8" and 10" units fitted with 16,000 gauss magnets, a complementary 12" unit has been designed. This unit is fitted with a specially designed cone and suspension and has an aluminium voice coil. A selection of these loudspeakers is being demonstrated in examples from the wide range of ready to assemble cabinets. These cabinets are available in sapele mahogany or polished walnut.

The requirements of stereophonic reproduction are catered for by the normal floor cabinets and by the Senior and Junior Column enclosures. Exhibited for the first time will be a "Bookcase" type loudspeaker system designed for either stereo or single channel use. This system used a specially designed nine inch loudspeaker unit in a matched cabinet and has a response over the normal audio range.

To enable users of W.B.12 amplifiers to convert to stereophonic systems a stereo control unit has been introduced which can be used with either two W.B.12 main amplifiers or the W.B.8S stereo amplifier. The W.B.12 amplifier and tone controls and the W.B.2 amplifier are, of course, still available together with the Mk. II V.H.F. tuner and an alternative switched tuner with preset controls. Also available is a 300 milliwatt transistor amplifier using printed circuit technique. This amplifier is suitable for a wide variety of applications particularly in the field of portable sound reproduction equipment.

Of special interest is the Whiteley Entertainment Unit suitable for domestic and hotel use. Housed within the one cabinet is a tape recorder, switched V.H.F. tuner, master control unit and power amplifier. This provides a complete entertainment system.

WYNSOR

WyndSOR Recording Co. Ltd.,
2, Bellevue Road, N.11.

Booth 66
Demonstration
Room 318

Tape Recorders

This Company, one of the very first manufacturers of domestic tape recorders, has been concentrating exclusively in this specialised field for eleven years. This company's remarkable success has been achieved, thanks to a policy of producing quality performance recorders in the medium price bracket.

For those enthusiasts who do not wish to run to the expense and/or operating complexity of professional equipment, WyndSOR has the answer. WyndSOR recorders bring near-professional recordings within the scope of the layman who is able to make recordings himself which compare more than favourably with the sound quality of his radio, T.V. or record player.

WyndSOR recorders are specially designed for quality performance and are meticulously made from close-tolerance components. Every one has to run a gauntlet of test bays as it comes off the line, and only those which achieve WyndSOR standards come out into the great wide world.

The next stop may be Stockport or South Africa, Worthing or West Indies. All over the world people who really know what they are talking about uphold the name WyndSOR and extol it almost fiercely when challenged from any uninformed source. Even on the high seas, many of the luxury liners entertain their passengers with WyndSOR-created music. At the other extr WyndSOR are involved in telemetry recording for guided missiles.

This is not theoretical publicity. It is easy to see how WyndSOR has become so successful, and it is even easier to hear. (In Demonstration Room 318 on the Third Floor for instance). "Hearing is believing" could very well be the WyndSOR motto.

ZONAL

Zonal Film (Magnetic Coatings) Ltd.,
The Tower, Hammersmith Broadway,
London, W.6

Booth 33
Demonstration
Room 214

Magnetic Tapes

Zonatape is introduced at this Audio Festival following a period of intensive research and development.

For some years now **Zonal** have been suppliers of magnetic 35mm. and 16mm. film to the cinema industry and have pioneered the application of multiple magnetic tracks to wide screen and Cinemascope including "Ben Hur" and "Solomon and Sheba."

During 1960 **Zonal** supplied large quantities of magnetic film stock used in the British film and television industry and furthermore supplied all the 16mm. pre-stripped negative stock used by television newsreel producers. It is therefore true to say that if you watch television or go to the cinema you will have heard sound recorded on **Zonal** Magnetic Film.

All grades of **Zonal** film and tape contain non-greasy lubricants to reduce headwear, and are formulated to give the longest possible tape life. Regular particle size, carefully aligned, gives superior ground and modulation noise performance. An improved oxide applicator system combined with a unique surface finishing process gives **Zonal** products a characteristic high gloss ensuring good tape to head contact with consequent improvement in high frequency response.

It is against this background of research and experience that **Zonal** laboratories have developed a magnetic tape range capable of competing with the best in both price and quality. Although in 1961 the range will not be complete it will cover most requirements.

ZONATAPE

Acetate Grade :

500—12	1,200'	Clear	7" spool
500—6	600'	Clear	5" spool
500—1	150'	Clear	3" spool

A superior high quality diacetate base developed for users subject to a tight budget.

Standard Grade :

600—12	1,200'	Red	7" spool
600—6	600'	Red	5" spool
600—1	150'	Red	3" spool

High grade P.V.C. base.

Extra Play Grade :

700—18	1,800'	Green	7" spool
700—9	900'	Green	5" spool
700—2	250'	Green	3" spool

Professional grades of all the above are available on N.A.B. or 7" plastic spools.

ZONAL VIDEO RECORDING TAPE :

Extensive research has been conducted to produce a tape with exceptional wear properties and this can now be offered in limited quantities pending a new production programme. The tape is intended to be compatible with the existing American product. Enquiries are invited.

ZONAL COMPUTER TAPE :

This will be marketed during the autumn of 1961 and will be available in $\frac{1}{2}$ " and 1" widths on normal or precision reels. All grades will be 100% drop-out tested. Enquiries are invited.



**YOU
INFLUENCE
THE
INFLUENTIAL
IN**

The Listener

and B.B.C. Television Review

Over 815,000 influential people read The Listener every week. They are the people throughout our society who are interested in the best things in life including the best of broadcasting, the finest reproduction and top quality instruments. That is why Hi-Fi advertisements are studied with close attention in The Listener, and why Hi-Fi advertisers find The Listener such value for money.

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Advertisement Dept., B.B.C. Publications, 35 Marylebone High St., London, W.1.

CHECK THE

Inside Story



OF THE TELEFUNKEN TAPE RECORDER WITH YOUR DEALER

He will tell you why
the TELEFUNKEN
Magnetophon Range
is in a Class Apart for
Quality, Fidelity
and Reliability.



The exciting possibilities of Telefunken 4-track recording

Four-track recording means you get four tracks on one tape. The perfection of the in-line twin-stacked recording head made this possible by actually allowing a quarter of the tape width to be scanned by each head. Briefly, it is possible to record track one then rewind and record track three in perfect synchronisation. Playing back both tracks together gives an amazing superimposition effect.

Monitoring by Earphone

A unique Telefunken transistorised pre-amplifier actually allows the first track to be monitored by earphones, while the second track is being recorded. This opens up a tremendous field of activity for the tape enthusiast. Voice can be dubbed on to music. The soloist can record himself in a duet! Effects can be added to lectures, speeches and monologues, etc.

The Telefunken Stereo model

The Telefunken Stereo model uses four-track recording and incorporates two separate amplifiers. Using the D77 microphone, two forms of live stereo recordings are possible and many other exciting effects can be produced. Send for full details.

A full selection of Telefunken Accessories, Microphones and Telefunken Tapes is available. Ask for free brochure. All prices excluding microphone

TELEFUNKEN "Magnetophon 75K-15"

Tape speeds $3\frac{3}{4}$ i.p.s. and $1\frac{1}{2}$ i.p.s. with frequency response of 60-16,000 c.p.s. and 60-9,000 c.p.s. Playing time of 6 hrs. 20 mins. on $5\frac{1}{2}$ inch DP tape. Tone control. Extension speaker socket. 47 GNS.



75K-15

4-Track TELEFUNKEN "Magnetophon 76K"

Over 12 hours from one DP Tape. 57 GNS.



76K

TELEFUNKEN "Magnetophon 77K"

Gives full stereo and Four-Track monaural superimposition effects. 2 speeds $1\frac{1}{2}$ and $3\frac{3}{4}$ i.p.s., giving frequency response of 40-9,000 c.p.s. and 40-16,000 c.p.s., 6 hrs. 20 min. stereo recording at $1\frac{1}{2}$ i.p.s. Push-button track selection. Full monitoring facilities. Separate speaker in lid. 85 GNS.



77K

TELEFUNKEN "Magnetophon 85KL"

Tape speeds of $7\frac{1}{2}$ i.p.s. and $3\frac{3}{4}$ i.p.s. with frequency response of 30-20,000 c.p.s. \pm 3 db and 30-15,000 c.p.s. 6-watt push/pull power stage. Separate bass and treble controls. 79 GNS.



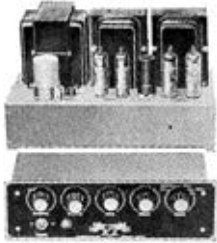
85KL

"Magnetophon M24" Studio Recorder.

Meets the need for a high quality recorder between the conventional domestic recorders and the larger machines for broadcast studios.

TELEFUNKEN
The originators of Tape Recording

WELMEC CORPORATION LTD., 147/148, STRAND, LONDON, W.C.2



Stereo Amplifier and Control Unit, Type S66

Twin channel, delivering 7.5 watts per channel with ultra linear output stage. Inputs for P.U., Tape and Radio, sensitivity being 6mV. Separate treble and bass controls.

PRICE : Pre-amp £16.10.0 (No tax)
 Amp £24.10.0 (No tax)

Connoisseur

*the best
 that money
 can buy*
**FOR STEREO
 OR MONAURAL**



Stereo Pickup Mark III

Designed to accept both monaural and stereo heads. Adjustable for heights of various turntables. Pickup head specification identical with the Type CS1.

PRICE : Arm only £3.19.11 (incl. tax)

Stereo head £7.19.11 (incl. tax)

Mark II

Diamond head £8.13. 3 (incl. tax)

Mark II

Sapphire head £4.13. 3 (incl. tax)



Stereo Pickup Type CS1

Pickup arm fitted with integral lifting device. The pickup head employs miniature ceramic units, frequency range 20-16,000 c.p.s., output 20 mV with channel separation of 20-25 dBs. Downward pressure 3½-4 grams. Diamond stylus. Will accept Mark II monaural heads.

PRICE : Complete £12.19.10 (incl. tax)

Arm only £4.19.11 (incl. tax)

Head only £7.19.11 (incl. tax)



A New Model 2-speed transcription motor
 Finished in black and silver. 33½ r.p.m. and 45 r.p.m. Full 12in. turntable is lathe turned. New nylon graphite bearings. Synchronous motor dynamically balanced. Neon indicator on/off warning light.

PRICE : £14.0.0 plus £4.13.1 P.T.



Variable 3-speed motor

For 33½, 45 and 78 r.p.m. Stroboscope fitted with internal light source. Synchronous motor dynamically balanced, resiliently mounted. Mechanical speed change giving 4% variation on all speeds.

PRICE : £27.16.1 (incl. tax)

Send for
 FREE leaflets

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

Also Available

Omni-directional speaker enclosure.
 Matching Console to take Connoisseur turntables, pickup, stereo amplifier and pre-amplifier.

MARKET STREET, BRIGHOUSE

Tandberg

Stereo Tape Deck

3 Speeds

4 Tracks

3 Heads



The Tandberg Series 6 is a 'no-compromise' instrument capable of delivering consistently fine 'professional' quality when used with comparable amplifier and speaker systems.

Features include

Free-Standing or Build-in Teak Cabinet

Flawless Technical Specification

High and low level mixer inputs & cathode follower outputs

Two Recording and Two Playback Amplifiers

"On and Off the tape" monitoring

Sound-on-Sound Simultaneous record and playback

RETAIL PRICE 110 gns

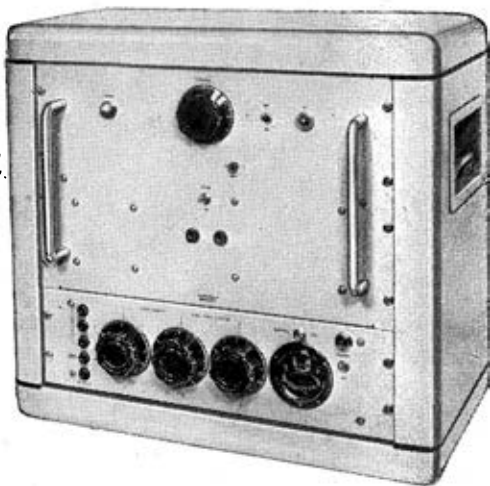
FROM SPECIALIST TAPE RECORDER & HI-FI DEALERS

Tandberg GB ELSTONE ELECTRONICS LTD
EDWARD STREET · TEMPLAR STREET · LEEDS 2
TELEPHONE: LEEDS 3-5111 (7 lines)

Vortexion

120/200 WATT AMPLIFIER

quality
equipment



Will deliver 120 watts continuous signal and over 200 watts peak Audio. It is completely stable with any type of load and may be used to drive motors or other devices to over 120 watts at frequencies from 20,000 down to 30 cps in standard form or other frequencies to order. The distortion is less than 0.2% and the noise level -95db. A floating series parallel output is provided for 100-120 V. or 200-250 V. and this cool running amplifier occupies 12 $\frac{1}{2}$ inches of standard rack space by 11 inches deep. Weight 60lb.

FOUR CHANNEL ELECTRONIC MIXER

This is a studio quality electronic mixer suitable for any climate. The controls are hermetically sealed, and great care and selection of components to make certain reliable low noise operation, and individual screens prevent break-through. The built-in power transformer is screened and potted, and all the microphone transformers are individually potted in selected heavy gauge Mumetal boxes. Front or rear inputs and outputs may be obtained to order. The normal output is .5 volt, 1.m.w. 600 ohms also available.

TWELVE CHANNEL ELECTRONIC MIXER

The 12-way electronic mixer has facilities for mixing 12 balanced line microphones. Each of the 12 lines has its own potted mumetal shielded microphone transformer and input valve, each control is hermetically sealed. Muting switches are normally fitted on each channel and the unit is fed from its own mumetal shielded mains transformer and metal rectifier.

The 3-CHANNEL MIXER and PEAK PROGRAMME METER is similar to the above but has the additional meter fitted calibrated in 2 db steps from -20 db to +12 relative to 1. m.w. - 600 ohm. The meter is fed by the full P.P.M. 1 second time delay circuit which includes a stabiliser valve, to ensure accurate gain and calibration. The standard output is screened primary and 1.m.w. -600 ohm balanced or unbalanced by switch. Inputs and outputs may be at the front or rear, and rack panel mounting is available at the same price.

10/15 watt Amplifier with built-in mixers.

30/50 watt Amplifier with built-in mixers.

Stereo Mixers — Stereo record play-back units, etc.

VORTEXION LIMITED

257-263 The Broadway, Wimbledon, London, S.W.19.

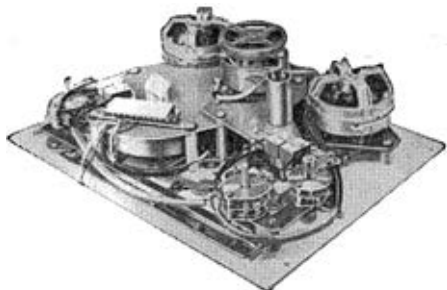
Telephones: *LI*Berty 2814 and 6242-3. Telegrams: "Vortexion, Wimble, London."

Brenell

TAPE RECORDERS

for outstanding performance

★ ALL MODELS now FITTED with HYSTERESIS SYNCHRONOUS MAIN MOTOR—wow and flutter below 0.1% at $7\frac{1}{2}$ i.p.s.



MARK 5 DECK

Four operating speeds $1\frac{1}{8}$, $3\frac{1}{2}$, $7\frac{1}{2}$ and 15 i.p.s.—provision for 4 heads—takes $8\frac{1}{2}$ " spools—only 2 interlocked switches control record, playback, wind and rewind—extended shafts for extra switch wafers—pause control—digital rev. counter—2,400ft. long play tape at $1\frac{1}{8}$ i.p.s. gives over 8 hours—fast rewind (1,200ft. in 45 seconds)—instant stop without spillage. 28 Gns.



3-STAR RECORDER

Three speeds ($1\frac{1}{8}$, $3\frac{1}{2}$ and $7\frac{1}{2}$ i.p.s.) with frequency correction—interlocked push-button controls—pause control—printed circuit amplifier—separate bass and treble controls—high quality $8'' \times 5''$ speaker—modulation indicator. Approved by Council of Industrial Design. 58 Gns. including 1,200ft. of tape and microphone. $\frac{1}{2}$ track available.



MARK 5 RECORDER

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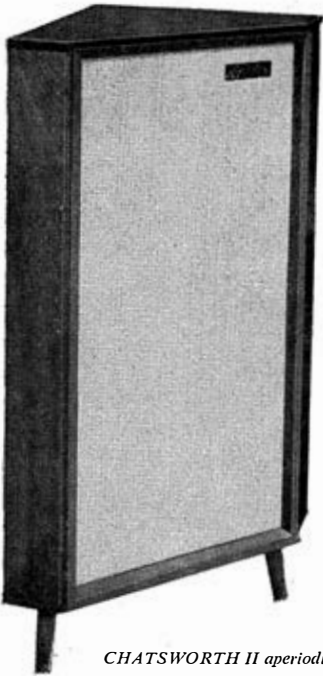
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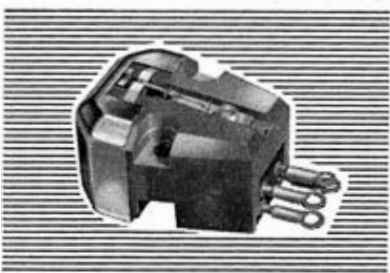
"Monitor" dual concentric 15" and 12" Loudspeakers.



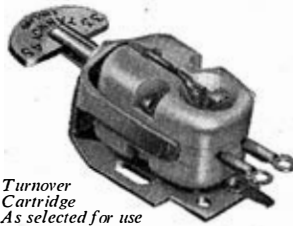
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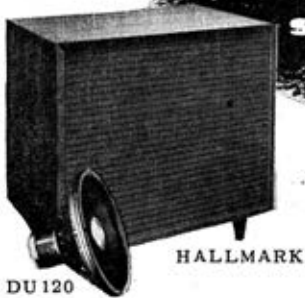
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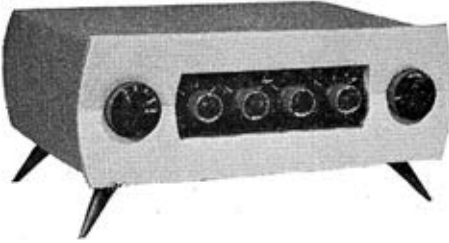
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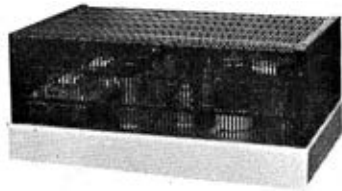


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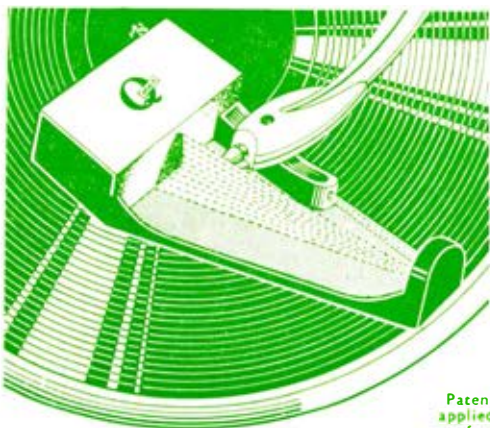
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Martin Cooper in "The Daily Telegraph."

One notable feature of the interpretation is that the Dance Movements really sound like Dances. They have a spring and a lilt such as are not even found in the Thurston Dart recordings. Bach's Dances emerge lighthearted and optimistic, which is a great joy to hear.

Alan Ferguson in "Records & Recording."

This new Company gets off to an exceedingly auspicious start; these are lovely records. The average age of the players is very young and these are young performances, bursting with vitality and eagerness. The recording is full-blooded, forward and crisp. Historically, these performances are **quite** authentic, and have been prepared with the **advice** of Alec Harman.

Henry Stave's Review.

Another fine enterprise by this promising new Company. Both these discs are made in transparent light blue material. This is a departure from the time-honoured opaque black, but readers are assured that both **reproduction** and surfaces are considerably better than many "respectable" black discs this reviewer has heard. In particular, the surfaces are notably quiet.

Henry Stave's Review.

If its (Philharmonic's) future issues are anything like as good as this first, it should quickly **establish** itself among scholars and discriminating music-lovers. Philharmonic Records is to be congratulated on a most auspicious beginning to its activities.

Lionel Salter in "The Gramophone."

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	7"	1200	366	4 16 0	2 8 0	1 4 0	32 0	£1.10.0	—
88 standard-play tape, maximum durability for general use	3"	175	53	37 20	18 40	9 20	4 40	7.6	—
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99 long-play tape on thin base. 50% more recording time than standard	3"	250	76	53 20	26 40	13 20	6 40	9.6	—
	3 $\frac{1}{4}$ "	250	76	53 20	26 40	13 20	6 40	9.6	—
	5"	850	259	3 1 20	1 30 40	45 20	22 40	£1. 8.0	£1.10.6
	5 $\frac{1}{2}$ "	1200	366	4 16 0	2 8 0	1 4 0	32 0	£1.15.0	£1.17.6
	7"	1800	549	6 24 0	3 12 0	1 36 0	48 0	£2.10.0	£2.12.6
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100 double-play tape on extra-thin base. 100% more recording time	3 $\frac{1}{4}$ "	400	122	1 25 20	42 40	21 20	10 40	17.0	—
	5"	1200	366	4 16 0	2 8 0	1 4 0	32 0	£2. 5.0	—
	5 $\frac{1}{2}$ "	1700	518	6 2 40	3 1 20	1 30 40	45 20	£2.17.6	—
	7"	2400	732	8 32 0	4 16 0	2 8 0	1 4 0	£4. 0.0	—

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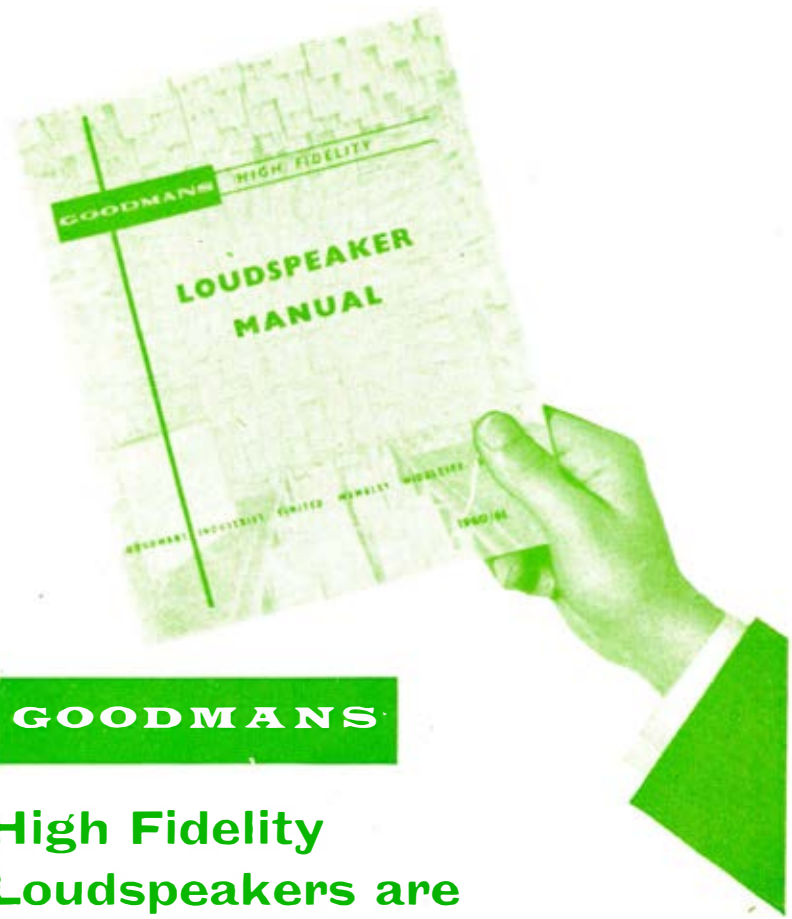
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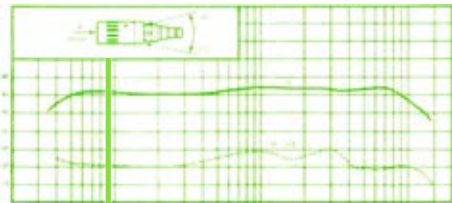
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FROM "THE GRAMOPHONE" DECEMBER, 1960, *P.G.T.* writes:

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(Space prevents publishing the above review in full, but in no way has the substance or intention of either been modified to suit the advertiser.)

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114**

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GEORGE HURST, conductor
STE3006

"Francesca da Rimini"
"The Sleeping Princess"
Ballet Suite
Hamburg Pro Musica
LAWRENCE LEONARD, conductor
STF4010

"The Sleeping Princess"—
Ballet Suite
Hamburg Pro Musica
LAWRENCE LEONARD, conductor
STC1005

Fantasy Overture "Romeo and
Juliet"
"The Nutcracker"—Ballet Suite
Hamburg Pro Musica
ERICH VON KLEINER, conductor
STF4004

** Popular (Stereo)*

ANDERSON, Leroy

Leroy Anderson Favourites
Belle of the Ball; Sleigh Ride;
Syncopated Clock; Blue
Tango; Plink, Plank, Plonk;
Sandpaper Ballet; Sarabande;
Forgotten Dreams; Song of
the Bells
London Variety Theatre
Orchestra
THOMAS HUGHES, conductor
STD2004

**MUSIC FROM THE
FILMS**

Warsaw Concerto; The Night
Has Eyes; Tale of Two Cities;
Jealous Lover; Dream of Olwen;
Slaughter on Tenth Avenue;
Legend of the Glass Mountain;
Spellbound; Cornish Rhapsody
JOYCE HATTO, piano
London Variety Theatre
Orchestra
GILBERT VINTER, conductor
STE3010

Warsaw Concerto; Cornish
Rhapsody
JOYCE HATTO, piano
The London Variety Theatre
Orchestra
GILBERT VINTER, conductor
STC1004



** Shows (Stereo)*

AN AMERICAN IN PARIS

Hamburg Pro Musica
GEORGE BYRD, conductor
STD2001

GIGI

Patricia Lancaster - Peter
Cavanagh - Denis Quilley - Helen
Clare
London Variety Theatre
Orchestra
GERALD GENTRY, conductor
STE3008

KING AND I/CAROUSEL

London Variety Theatre
Orchestra
THOMAS HUGHES, conductor
STE3009

PORGY AND BESS

London Variety Theatre
Orchestra
THOMAS HUGHES, conductor
STC1006

WEST SIDE STORY

Bruce Trent - Lucille Graham -
Mary Thomas - Joyce Berry -
Maureen Fulham
West Side Story Orchestra
LAWRENCE LEONARD, conductor
STE3005

STRAUSS, Johann
(1825-1899)
"Die Fledermaus"—excerpts
Leipzig Gewandhaus Orchestra
OTTO DOBRINDT, *conductor*
STA7010 STG7010

An Evening With Strauss
(Volume 1)
Blue Danube; Pizzicato Polka;
Tritsch-Tratsch Polka; etc.,
etc.
Leipzig Gewandhaus Orchestra
OTTO DOBRINDT, *conductor*
STA7009 STG7009

An Evening With Strauss
(Volume 2)
Tales from the Vienna Woods;
Roses from the South; Artist's
Life; Emperor; Fledermaus;
Acceleration; Vienna Blood;
Eat, Drink and Be Merry
London Variety Theatre
Orchestra
THOMAS HUGHES, *conductor*
STA7025 STG7025

TCHAIKOVSKY, Peter
Ilyitch (1840-1893)
Symphony No. 6 in B Minor,
"The Pathétique"
Bolshoi Theatre Orchestra
MELIK PASHAEV, *conductor*
STB8003 STG8003

Piano Concerto No. 1 in B Flat
Minor
SERGIO FIORENTINO, *piano*
Hamburg Pro Musica
GEORGE HURST, *conductor*
STA7026 STG7026

Violin Concerto in D Major
Valse Scherzo
LEONID KOGAN, *violin*
Soviet State Radio Symphony
Orchestra
NEBOLSKIN, *conductor*
STB8002 STG8002

"Swan Lake"—Ballet Suite
Bolshoi Theatre Orchestra
YURI FAIER, *conductor*
STA7003 STG7003

"Francesca da Rimini"
"The Sleeping Princess"
Ballet Suite
Hamburg Pro Musica
LAWRENCE LEONARD, *conductor*
STB8030 STG8030

Fantasy Overture "Romeo and
Juliet"
Hamburg Pro Musica
HANS JURGEN WALTHER, *conductor*
PROKOFIEV Violin Concerto
No. 1 in D
DAVID OISTRAKH, *violin*
Soviet State Symphony Orchestra
NEBOLSKIN, *conductor*
STB8020 STG8020

Fantasy Overture "Romeo and
Juliet"
"The Nutcracker"—Ballet Suite
Hamburg Pro Musica
ERICH VON KLEINER, *conductor*
STB8031 STG8031

ANDERSON, Leroy
Leroy Anderson Favourites
Belle of the Ball; Sleigh Ride;
Syncopated Clock; Blue
Tango; Plink, Plank, Plonk;
Sandpaper Ballet; Sarabande;
Forgotten Dreams; Song of
the Bells
London Variety Theatre
Orchestra
THOMAS HUGHES, *Conductor*
STA7021 STG7021

GERSHWIN, George
(1898-1937)
George Chakiris Sings
Gershwin:
Love Walked In; My One and
Only; Someone to Watch
Over Me; It Ain't Necessarily
So; Stairway to Paradise;
Embraceable You; Things Are
Looking Up; I Got Rhythm;
For You, For Me, For
Evermore
GEORGE CHAKIRIS with
The London Variety Theatre
Orchestra
NORMAN ST NFALT and
ALAN CLARE, *Conductors*
STA7024 STG7024

**MUSIC FROM THE
FILMS**
Cornish Rhapsody; Legend of
the Glass Mountain; Tale of Two
Cities; Warsaw Concerto;
Dream of Olwen
JOYCE HATTO, *piano*
London Variety Theatre
Orchestra
GILBERT VINTER, *conductor*
STA7022 STG7022



* Shows (Mono)

AN AMERICAN IN PARIS
Rhapsody in Blue
JOYCE HATTO, *piano*
Hamburg Pro Musica
GEORGE BYRD, *conductor*
STB8004 STG8004

CINDERELLA
Elizabeth Lerner-Denis Quilley-
Dudley Rolph-Helen Clare
London Variety Theatre
Orchestra and Chorus
GILBERT VINTER, *conductor*
STB8025 STG8025

GIGI
Patricia Lancaster - Peter
Cavanagh - Denis Quilley - Helen
Clare
London Variety Theatre
Orchestra
GERALD GENTRY, *conductor*
STA7020 STG7020

KING AND I/CAROUSEL
London Variety Theatre
Orchestra
THOMAS HUGHES, *conductor*
STA7023 STG7023

**MY FAIR LADY/AROUND
THE WORLD IN 80 DAYS**
London Variety Theatre
Orchestra
THOMAS HUGHES, *conductor*
STA7018 STG7018

**OKLAHOMA/SOUTH
PACIFIC**
London Variety Theatre
Orchestra
THOMAS HUGHES, *conductor*
STA7019 STG7019

WEST SIDE STORY
Bruce Trent - Lucille Graham -
Mary Thomas - Joyce Berry -
Maureen Fulham
West Side Story Orchestra
LAWRENCE LEONARD, *conductor*
STB8022 STG8022



* Classical

ARNE, Thomas (1710-1778)
"The Cooper"
A Comic Opera in One Act
Intimate Opera Company
ANTHONY HOPKINS, *conductor*
STF4003

BACH, Johann Sebastian
(1685-1750)
Brandenburg Concertos,
Numbers 1, 2 & 3
Hamburger Kammerorchester
HARRY NEWSTONE, *conductor*
STF4012

Brandenburg Concertos,
Numbers 4, 5 & 6
Hamburger Kammerorchester
HARRY NEWSTONE, *conductor*
STF4013

BEETHOVEN, Ludwig van
(1770-1827)
Symphony No. 6 in F Major,
"The Pastoral"
Royal Danish Orchestra
GEORGE HURST, *conductor*
STF4009

Overtures:
Egmont
Coriolan
Hamburg Pro Musica
ERICH RHEDE, *conductor*
STC1003

Piano Concerto No. 5 in E Flat,
"The Emperor"
SERGIO FIORENTINO, *piano*
Hamburg Pro Musica
GEORGE HURST, *conductor*
STF4 7

☆ *Classical* (Mono)

ARNE, Thomas (1710-1778)
"The Cooper"
A Comic Opera in One Act
Intimate Opera Company
ANTHONY HOPKINS, *conductor*
STB8009 STG8009

BACH, Johann Sebastian
(1685-1750)
Brandenburg Concertos,
Numbers 1, 2 & 3
Hamburger Kammerorchester
HARRY NEWSTONE, *conductor*
STB8013 STG8013

Brandenburg Concertos,
Numbers 4, 5 & 6
Hamburger Kammerorchester
HARRY NEWSTONE, *conductor*
STB8014 STG8014

Harpichord Concertos in
F Minor and D Minor
CHRISTOPHER WOOD, *harpichord*
Goldsbrough Orchestra
LAWRENCE LEONARD, *conductor*
STB8015 STG8015

Violin Concerto in E Major
Partita No. 6 in E Major
ALAN LOVEDAY, *violin*
Royal Danish Orchestra
STA7014 STG7014

BEETHOVEN, Ludwig van
(1770-1827)
Symphony No. 5 in C Minor
Hamburg Pro Musica
ERICH RIEDE, *conductor*
STA7011 STG7011

Symphony No. 6 in F Major,
"The Pastoral"
Royal Danish Orchestra
GEORGE HURST, *conductor*
STB8027 STG8027

Piano Concerto No. 5 in E Flat,
"The Emperor"
SERGIO FIORENTINO, *piano*
Hamburg Pro Musica
GEORGE HURST, *conductor*
STB8028 STG8028

Violin Concerto in D Major
ALAN LOVEDAY, *violin*
Royal Danish Orchestra
GEORGE HURST, *conductor*
STB8019 STG8019

Piano Sonata in C Minor,
"The Pathétique"
Piano Sonata in C Sharp Minor,
"The Moonlight"
ALBERT FERBER, *piano*
STA7029 STG7029

BIZET, Georges (1835-1875)
Carmen Suites Numbers 1 & 2
Philharmonia Orchestra of
Berlin
OTTO STRAUSS, *conductor*
STA7028 STG7028

BRAHMS, Johannes
(1833-1897)
Symphony No. 4 in E Minor
Royal Danish Orchestra
JOHN FRANDSEN, *conductor*
STB8010 STG8010

CHOPIN, Frederic
François (1810-1849)
The Best Loved Waltzes
3 Ecossaises
SERGIO FIORENTINO, *piano*
STB8006 STG8006

The Best Loved Works
Studies Op. 10, No. 12; Op. 25,
No. 7; Op. 25, No. 1; Op. 25,
No. 2; Op. 10, No. 3; Op. 10,
No. 5
Scherzo Op. 39, No. 1
Souvenir de Paganini
Fantasie Impromptu Op. 66
Mazurkas Op. 6, No. 2; Op. 7,
No. 3
Prelude Op. 28, No. 3
LIVIA REV, *piano*
STB8040 STG8040

CONCERT OF OVERTURES
DVORAK: Carnival Overture
GLINKA: "Russlan and Ludmilla"
MENDELSSOHN: "Midsummer
Night's Dream"
MOZART: The Marriage of Figaro
Royal Danish Orchestra
JOHN FRANDSEN, *conductor*
STA7001 STG7001

DVOŘÁK, Antonín
(1841-1904)
Symphony No. 5 in E Minor,
"From The New World"
Philharmonia Orchestra of
Berlin
OTTO STRAUSS, *conductor*
STB8029 STG8029

EILEEN JOYCE PIANO
RECITAL
BEETHOVEN: Für Elise
SCHUMANN: Romance
FAURE: Impromptu in F Minor
LISZT: Gnomenreigen
Concert Study in D Flat
GRIEG: Melodie, Op. 47, No. 3
Notturmo, Op. 54, No. 4
SCHUMANN-LISZT: Widmung
STA7006 STG7006

GRIEG, Edvard (1843-1907)
Piano Concerto in A Minor
EILEEN JOYCE, *piano*
Royal Danish Orchestra
JOHN FRANDSEN, *conductor*
STA7017 STG7017

LISZT, Franz (1811-1886)
Piano Concerto No. 1 in E Flat
Major
La Campanella
Liebestraum No. 3
Funerailles
SERGIO FIORENTINO, *piano*
Hamburg Pro Musica
ERICH RIEDE, *conductor*
STB8007 STG8007

Ballade No. 1 in D Minor
Ballade No. 2 in B Minor
Liebestraum No. 3
Funerailles
Hungarian Rhapsody No. 8
Hungarian Rhapsody No. 12
SERGIO FIORENTINO, *piano*
STB8032 STG8032

MENDELSSOHN, Felix
(1809-1847)
Overture "A Midsummer Night's
Dream"

MOZART, Wolfgang
Amadeus (1756-1791)
Eight Overtures:
Clemenza di Tito; Marriage of
Figaro; Così Fan Tutte. Magic
Flute; Entführung aus dem
Seraill; Don Giovanni;
Impresario; Idomeneo
Hamburg Pro Musica
HARRY NEWSTONE, *conductor*
STB8012 STG8012

PROKOFIEV, Serge
(1891-1953)
Violin Concerto No. 1 in D
DAVID OISTRAKH, *violin*
Soviet State Symphony Orchestra
NEBOLSIN, *conductor*
TCHAIKOVSKY Fantasy Overture
"Romeo and Juliet"
Hamburg Pro Musica
HANS JURGEN WÄTHER, *conductor*
STB8020 STG8020

RIMSKY-KORSAKOV,
Nikolas (1844-1908)
"Scheherazade"—Symphonic
Suite
Soviet State Radio Symphony
Orchestra
RAKHLIN, *conductor*
STB8001 STG8001

SCHUBERT, Franz
(1797-1828)
Symphony No. 8 in B Minor,
"Unfinished"
Royal Danish Orchestra
GEORGE HURST, *conductor*
STA7030 STG7030

Symphony No. 8 in B Minor,
"Unfinished"
Overture and Incidental Music to
"Rosamunde"
Royal Danish Orchestra
GEORGE HURST, *conductor*
STB8026 STG8026

SCHUMANN, Robert
(1810-1856)
Piano Concerto in A Minor
SERGIO FIORE TINO, *piano*
Hamburg Pro Musica
ERICH RIEDE, *conductor*
STA7015 STG7015

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