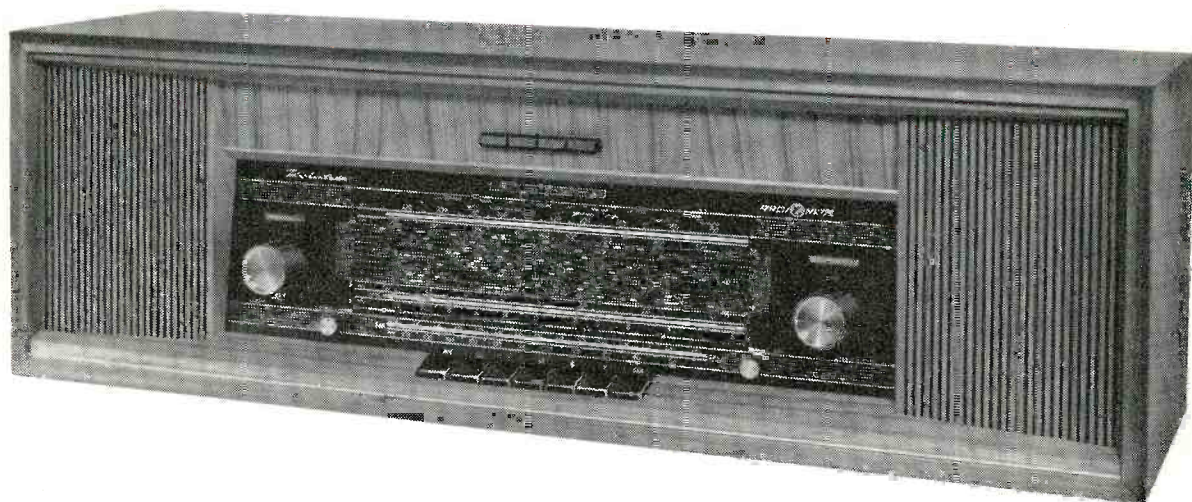


RER**DOMESTIC APPLIANCES****LIGHTING****RADIO · TV · AUDIO**● **PREVIEW AUDIO FAIR****THE LEADING TRADE MONTHLY****The sound of things sublime****RADIO**  **NETTE**

Advanced design meets superb performance in the new RADIONETTE range for the truly discriminating listener. Illustrated is the brilliant Quintett Hi-Fi Stereo table radio—multiplex prepared with decoder as an optional extra. Also from Radionette is the elegant Quintett Hi-Fi Stereogram complete with decoder, the highly successful Menuett AM/FM mains table radio giving crystal-clear world-wide reception on 5 wavebands, the famous Kurer AM/FM portables, and the unique Multicorder single-pool tape recorder.

See and hear the RADIONETTE range on Stand 31 and in Demonstration Room 255 at the International Audio Festival and Fair, April 18th-21st, Hotel Russell, London, W.C.1.

12 month's guarantee on all products. Full service and spare parts available for a minimum of 5 years.

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**For big
growth in the
growing Audio market**

**see Philips at
the Audio
Festival &
Fair**

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April 18-21. Trade pre-view from
11-4 p.m. April 18.

For the biggest future, get with
the biggest Audio range of all – Philips – tape recorders,
cassette recorders, Hi-Fi equipment and
Audio Plan complete stereo systems.



PHILIPS

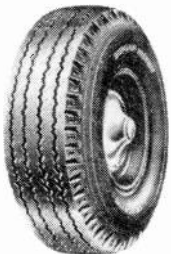
“ the profitmakers ”

From car-type tyres to heavy-truck tyres Dunlop have just the answer to your operating problems. Tough tyres to withstand the constant stop-and-start journeys on city streets; cool-running tyres for the

long, fast, heavily-laden hauls up and down motorways; rugged tyres for the grinding work on-and-off rock-strewn ground such as building sites. Cut your costs by choosing tyres from the Dunlop range.

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D41

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Up to 30% extra mileage, over 30% better braking, improved performance all round.



SUPER ROADTRAK GK82

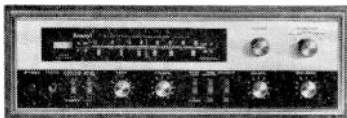
Extra bite on soft surfaces plus equally efficient performance on hard roads.



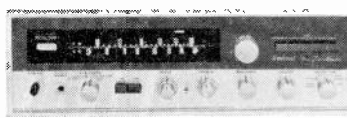
THE PROFITABLE ANSWER TO ALL YOUR TYRE PROBLEMS

Four more good reasons for stocking Sansui Hi-Fi.

* 400 * 2000 * 3000A * AU-777 *



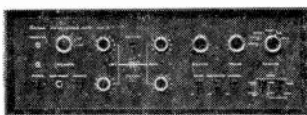
MODEL 400 *Solid-State AM/FM Multiplex Stereo Tuner Amplifier*
RMS power: 20/20 W \pm 1 dB.
Music power: 50 W \pm 1 dB (IHFM).
Harmonic distortion: less than 1% at 1000 Hz RMS rated output.
Frequency response: PA section—15 to 50,000 Hz \pm 1 dB;
FM sensitivity: 2.5 μ V \pm 3 dB (IHFM).
Signal-to-noise ratio: 60 dB.



MODEL 2000 *Solid-State AM/FM Multiplex Stereo Tuner Amplifier*
RMS power: 32/32 W \pm 1 dB.
Music power: 85 W \pm 1 dB (IHFM).
Harmonic distortion: less than 0.8% at 1000 Hz RMS rated output.
Frequency response at normal listening level: PA section—15 to 40,000 Hz \pm 1.5 dB; FM sensitivity: 1.8 μ V \pm 3 dB (IHFM).



MODEL 3000A *Solid-State AM/FM Multiplex Stereo Tuner Amplifier*
The highest-powered model in the Sansui range. RMS power: 48/48 W \pm 1 dB.
Music power: 130 W \pm 1 dB (IHFM).
Harmonic distortion: less than 0.8% at 1000 Hz 48 Watts rated output.
Frequency response at normal listening level: PA section—20 to 40,000 Hz \pm 1.5 dB (IHFM). FM usable sensitivity: 1.8 μ V \pm 3 dB (IHFM).



MODEL AU-777 *Solid-State Stereo Control Amplifier*
RMS power: 30/30 W \pm 1 dB.
Music power: 70 W \pm 1 dB (IHFM).
Harmonic distortion: less than 0.5% at 1000 Hz RMS rated output.
Frequency response at normal listening level: 20 to 100,000 Hz \pm 1 dB.

Technical Ceramics Limited are the sole UK importers for the entire range of Sansui audio equipment, which is right at the top end of the market for quality engineering and styling. The range comprises stereo tuner/amplifiers, amplifiers, tuners, headphones, and loudspeakers. Here are the four latest models, all introduced at the Audio Fair this year.

Exclusive Sansui agencies are available.

Sansui®

If you would like to handle this top Hi-Fi range, write in confidence to:

Technical Ceramics Limited

Cheney Manor, Swindon, Wiltshire, England. Telephone: Swindon 6251

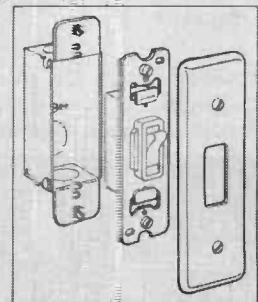
Northern and Midlands Distributors: Audio Distributors Limited,

4 Lion Street, Kidderminster, Worcestershire. Telephone: Kidderminster 3293

TCL219

New! MK architrave switch

Designed to accept the complete range of MK Grid switches - Dolly or Rocker-operated 5 amp or 15/20 amp switches to ES.3675:1963, secret key switches or push button switches. The switch clips to the grid and the unit simply screws to the purpose made steel box. The box is provided with three $\frac{3}{4}$ " knockouts and an earth terminal is riveted to the base of the box. Both the steel grid and box are zinc plated. The MK Architrave Switch is suitable for use in particularly steel office units - and is engineered throughout to the very high standards associated with all MK products.



MK 421



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LABGEAR PATTERN GENERATOR

SIMPLIFIES COLOUR RECEIVER INSTALLATION

Specially designed for the P.A.L. system

**TRANSISTORISED—
BATTERY OPERATED—
PORTABLE**

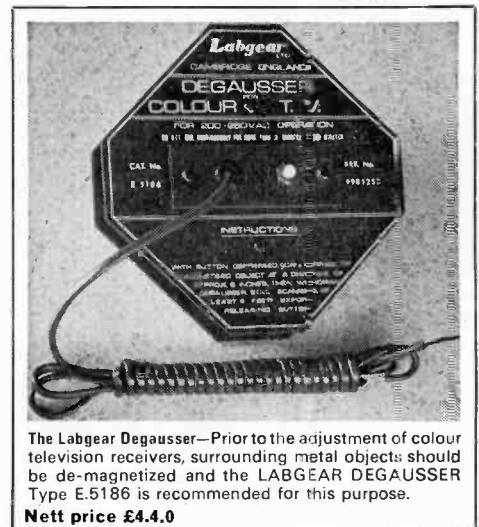
No hum—No valves—No warm up. Just rock-steady patterns for ultra quick convergence adjustment. A 'must' for colour.



Patent applied for

- 4 Patterns: cross-hatch; dots; grey scale; blank raster.
- For 625 and 405 line systems.
- Compensation for mains frequency variation to receiver.
- Covers VHF Channels 6-13, UHF Channels 21-68.
- Size 10½ ins. x 8¾ ins. x 6⅛ ins. Weight 9 lbs. (including batteries and co-axial leads). Uses six HP2 batteries.
- Mains operated power unit available as optional extra.
- Width of vertical lines adjustable from front panel control.

Obtainable from the sole manufacturers Labgear Ltd. of Cambridge, or from Radio and Television Services Ltd., Gloucester Street, Cambridge and leading wholesalers.



The Labgear Degausser—Prior to the adjustment of colour television receivers, surrounding metal objects should be de-magnetized and the LABGEAR DEGAUSSER Type E.5186 is recommended for this purpose.
Nett price £4.4.0



Labgear

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Telephone: 47301 (4 lines) STD OCA3
Telex: 81105 LAB.
Telegrams: Labgear • Cambridge

Me? Specify Vent-Axia?

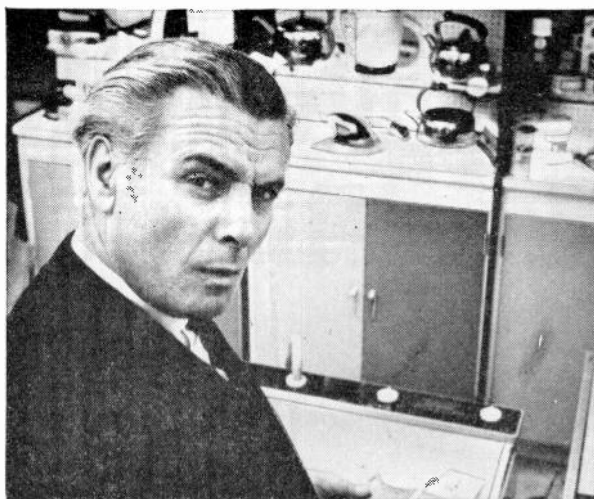
**Why would my
customers need
anything like that?**

**What about
the problems?
Draughts, for instance?**

**How about keeping
the fans clean?**

**Excellent, but is
there a Vent-Axia
to suit every need?**

**Sounds fine.
And what about
advertising support?**



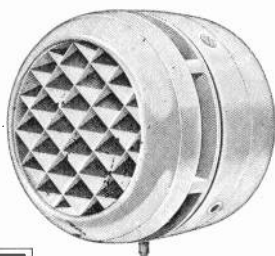
Just because the air all of us breathe needs changing—regularly. Stale, impure air should be removed for comfortable, healthy living. And for efficient, easy working. Good ventilation is *vital* and need not be costly. Specify Vent-Axia Unit Ventilation for homes, offices, factories, pubs, restaurants—in fact everywhere an efficient controlled ventilation system is required.

No problem.
With Vent-Axia, you have a choice of automatic or hand-operated shutter to take care of back-draught.

There again, your clients won't have to worry. Our units are so well designed they can be taken down from indoors for cleaning in a matter of seconds—without the use of tools.

Certainly there is. Vent-Axia gives your customers unit ventilation tailored to their precise needs. We offer a range of sizes (6", 7½", 9" and 12" units) in window, wall and roof models. A Vent-Axia fan is controlled through a simple on-off switch; or a reversible three-speed switch that boosts performance—at the touch of a button, it will extract stale air or introduce fresh.

It's big. Big spaces in the national and provincial press. Full pages to the housewife in the home interest journals. Plus special advertising to specific users. All this and plenty of point of sale material, too. All designed to tell your customers the story of Vent-Axia quality—to tell them that Vent-Axia never cut quality in order to cut price. You can specify cheaper units than Vent-Axia—you can't specify better

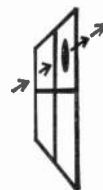


For better air conditions

Vent-Axia

Unit Ventilation

Registered trade mark



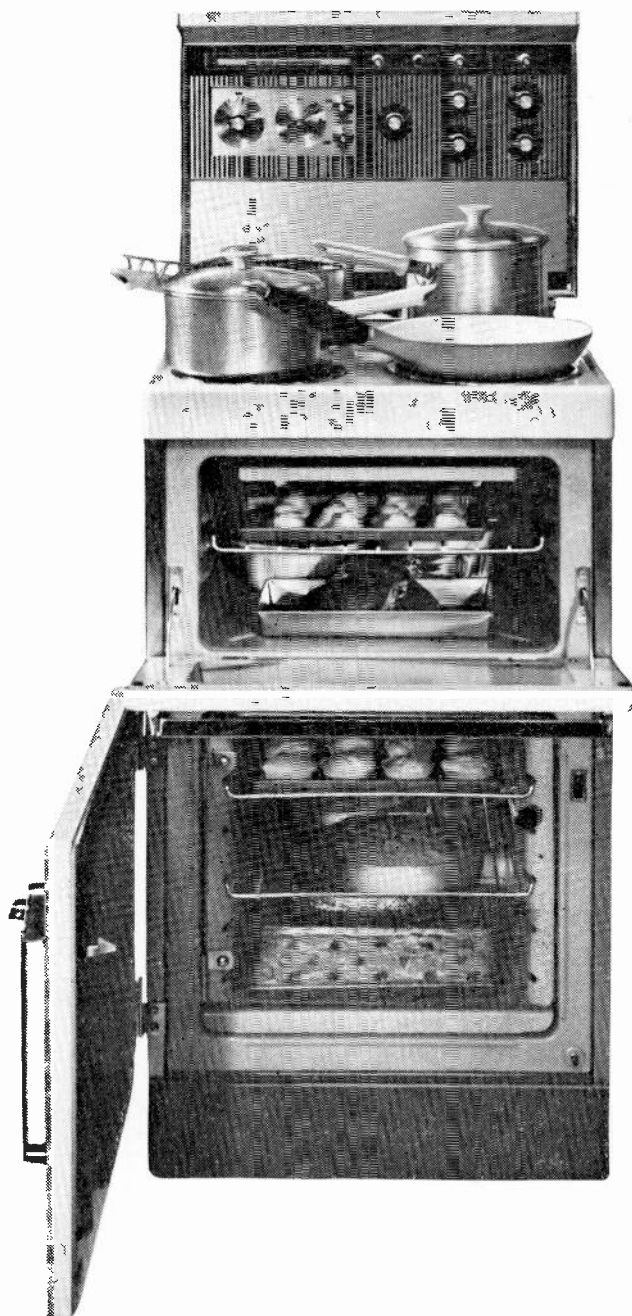
Details of service facilities from these Vent-Axia branches:

London SW1 60 Rochester Row (Victoria 2244)
Manchester 2 18 Lloyd Street (Blackfriars 0634) • **Glasgow C2** 135 Bath Street (City 7167)
Birmingham 1 Lee Bank House, Holloway Head (Midland 4595) • **Leeds 10** 49 Hunslet Lane (Leeds 22985) • **Newcastle-upon-Tyne 2** 42 Jesmond Road (Newcastle 813391)
Bristol 1 Brunel House, St. George's Road (Bristol 27567)



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Every family needs 3 cookers. Here it is.



The English Electric double oven cooker is really three cookers in one.

Small oven on top.

Large oven underneath. Or use them both together.

And that says flexibility and economy in capital letters to your customers. But that's not all. You've got the added assurance of dependable quality and proven design working for you. Backed up by a powerful advertising campaign that's already under way in the leading Sunday newspapers.

So right now's the time to stock up. For faster turnover. Faster profit.

The demand for Rapide double oven cookers is higher now than it's ever been.

ENGLISH ELECTRIC 

RER

RADIO & ELECTRICAL RETAILING

Vol. XXIII No. 4

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NEXT MONTH:

Annual Review of Portable Radios
Report from A.S.E.E.

Radio and Electrical Retailing is published on or about the first of each month. It reaches Radio, Television and Electrical Retailers, Installation Contractors, Music Shops, Electricity Boards, Service Managers and Engineers, Wholesalers and Manufacturers.

Subscribers to R.E.R. also receive the supplement *Service Engineer* including 3 Data Sheets.



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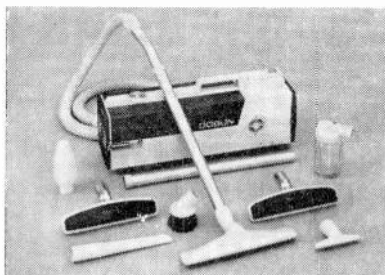
RECENT RELEASES

BERRY'S launched four new heaters at the EDA Exhibition. The model 829 Orbiter is a 2kW heater in teak finished wood frame, the top panel finished in white Irish linen Stelvetite, priced at 8gn. The model LF66 Super Mirage radiant convector—2kW radiant, 750W convection—with Living Flame effect, costs 28½gn; the model LF60 (below) 2.5kW electric fireplace, with Living Flame effect and hearth, shelves and frame in teak finished woodwork, is priced at 32½gn; and the model 489—the Newberry 482 now offered complete with teak finished hearth, shelves and frame at 27½gn. **E182**



New products from **THERMAIR** introduced at the EDA Exhibition included a 2.5kW flame effect focal point heater (model 149), priced at £19 19s. 9d. Also two infra-red wall mounted 'beam' heaters, the model 150 750W at £4 11s. and model 151 1,000W at £4 16s. And a range of three storage radiators, each being 8½in deep, the model 146 1.5kW priced at £20 7s. 6d.; the model 147 2.25kW at £24 12s. 6d.; and the model 148 3kW at £27 10s. All feature simulated teak finish. **E183**

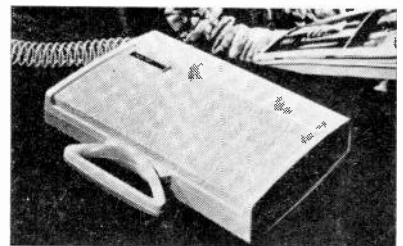
GOBLIN'S new 701 cylinder cleaner was introduced at the EDA Exhibition. It is claimed to be the most powerful cylinder cleaner on the market, with a 750W motor fitted for the first time into a British domestic cleaner. Price ▼ 38gn. **E184**



New products shown by **MONOGRAM** at the EDA Exhibition were an electric hair curler set, a range of vacuum cleaners, a mains operated manicure set and a rotary clothes brush with rechargeable unit. Among the new range of Decorator clocks are four copper etchings of 14th and 15th century monumental brasses framed in African walnut. Two measuring 26 x 9in are priced at 17gn; and two 15 x 6in at 13gn. **E185**

The new Floorsaver range of storage radiators shown by **ELECTRICAL INDUSTRIES OF IRELAND** at EDA come in a choice of stove enamel or wood grain finish and are 9½in deep. Model FS6803 has 1.8kW rating; model FS6804 2.4kW and model FS6805 3kW. **E186**

Among new **SUNBEAM** products introduced at the EDA Exhibition were the International G9 electric shaver with Double-Action twin arch head priced at 11gn; and the Valise hairdryer, 11 x 12½ x 2½in, with 3ft hose, hair bonnet, nail dryer, four heat settings and 'Tick n' Tell' hair-dryness sensor, selling at £12 19s. 6d. (below). **E187**



The new range of Evenstore storage radiators introduced by **P. B. DUNLOP** at the EDA Exhibition are designed specifically for operation from 8-hour tariff. A reservoir of heat is released by an automatic shutter and heat exchanger mechanism. It is claimed to lead to worthwhile economies and improved temperature control. Two models are available, the 2kW DR2 at £29 18s. 6d. and the 3kW DR3 at £34 18s. 6d., in a range of wood finishes. **E188**

For further details about products mentioned on these pages use the prepaid enquiry form on page 176 quoting reference number.

RECENT RELEASES *continued*

The new **SUPERSWITCH** adaptor mentioned last month in *Dealing with Light* is now available at
▼ £3 19s. 6d. **E189**



POWER-LECTRIC announce two additions to their H8 series of ductless cooker hoods... teak and oak finishes now being available. Mechanical specification is unaltered and price is to be advised. The PRL70 Cookerette and PRL75 Tete-a-Tete, currently available in white and grey, are now available in a light Burgundy colour. **E190**

The Airmaid portable unit from **TYRAD** is a device for refreshing stale or odour laden air. A tangential fan draws air through a filter over a battery of ultra violet lamps and discharges it through the front grille. Measuring 12 x 12 x 6in and finished in rosewood melamine, the Airmaid operates from 240V a.c. Price £24 5s. 2d. **E191**

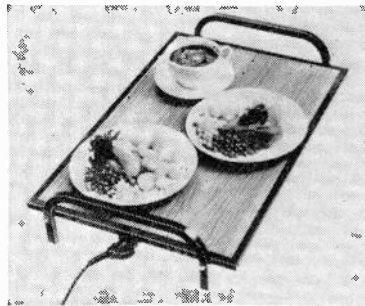
A new range of luxury electric over-blankets, replacing their Nightlong Bliss range, was introduced at the EDA Exhibition by **MORPHY RICHARDS**. In single (LBS), double (LBD) and dual (LBDX) versions, they will be available in June 1968. Prices will be, respectively, £12 19s. 6d., £14 19s. 6d. and £16 19s. 6d. Among other new products were the Carlton Chime in kit form at £2 12s. and the ADP 1011 spin dryer at £33 19s. 6d. with a spin speed of 3,050 rev/min which will take 6lb dry weight of clothes. **E192**



Two new underblankets were launched by **DREAMLAND** at the EDA exhibition. Model XLS is finished in crimson and gold brocade on one side and Courtelle on the other and is 60 x 30in, 80W at £11 0s. 6d.; model XLD 60 x 48in 130W at £13 13s.; and the model XLDD 60 x 48in 130W with dual control at £16 16s. A diode protection circuit with an automatic safety cut-out device prevents local over-heating. The blanket can be safely left switched on in the lower heat range for long periods.

The new four-heat underblanket—blue on one side, pink on the other—has a triple element construction permitting three heat settings over the whole bed and differential heating as required. Model 4FS, 60 x 30in 80W, costs £7 9s. 6d.; model 4FD, 60 x 48in 130W, costs £9 19s. 6d.; and the model 4FDD, 60 x 48in 130W with dual control, £10 19s. 6d. BEAB approved. **E193**

The new Warmett hot tray from **ARNEX PRODUCTS** maintains a constant 90°C—simmer heat. Choice of simulated blue Delft tile or teak. Price £18 1s. The cold tray version costs £4 15s. Trolley frame, to take two trays, on castors, ▼ costs £3 17s. 6d. **E194**

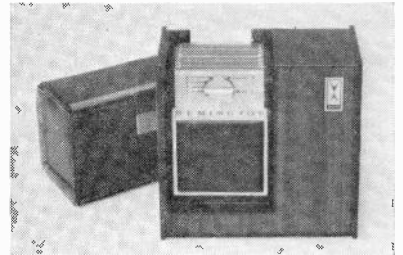


REVO exhibited two new cookers at the EDA exhibition. The new Masterchef, double-oven automatic cooker, model 2352 is finished in dusk pine and white, has four radiant hot-plates—one with 2-in-one control and one with an automatic pan minder—top, smaller oven housing full-width grill. Price £72. The New Chef model 2353—a prototype of which was shown—is similarly styled to the Masterchef, with grill chamber under the hob and 3,100cu in oven. Price to be announced.

The DAH Mark II Electricaire with a 6kW loading, measuring 31½in wide x 20½in x 55½in high, is priced at £114. It is also available with input loadings of 8, 10 or 12kW.

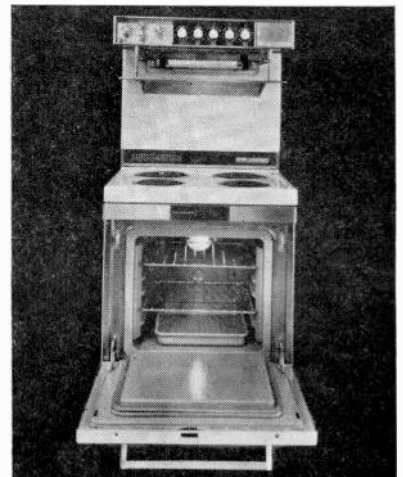
The new Adelphi 2kW fire has a sapele veneer surround. It incorporates a 60W striplight. Model 1311, wall mounting, costs £19 4s. 5d.; model 1312, free standing, costs £19 16s. 4d. **E195**

The new **REMINGTON** Selectronic 500 is automatically recharged by replacing the shaver in its combination wall/table stand. It incorporates the Remington dial adjustment system, and three twin shaving heads giving 50% more active shaving surface than the Selectric model. ▼ Price 15gn. **E196**



BOSCH have introduced two new slim line upright deep freezers—the GS220 7-8cu ft model at 99gn, including table top, and the GS300 9-5cu ft at 129gn. Also two new deep freezer chests, the GT250 8-5cu ft model at 99gn and the GT400 13-5cu ft model at 109gn. All the new models are styled for space saving. Both refrigerators have a two-star rating and working table tops. They are fitted with a push button defrost on the top of the refrigerator. **E197**

The Creda Autoclean cooker from **SIMPLEX** is the first British cooker with an oven that cleans itself electrically. Available by September at about £110, it incorporates four radiant rings, full width grill with hob light, eye level controls. The oven cleaning is automatic, operated by two switches, and maximum cleaning time is three hours, including one hour for cooling down. **E198**



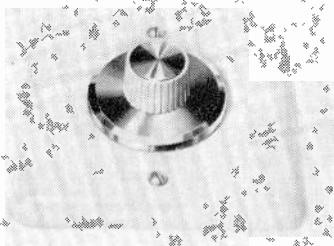
The **DIMPLEX** fuel-effect 2½kW inset fire model FEF.225 will fit into 16in and 18in grates and has an adjustable canopy top. Finish in a choice of bronze, dark grey or light grey. Price £21 12s. 5d. A wooden fireplace surround, model FS.101—supplied in sections for easy assembly—in afrormosia/teak hardwoods and selected veneers at £11 19s. 6d. **E199**



The **HOOVER** 1968 range includes model 6007 2.5cu ft refrigerator, for bachelor flats or small kitchens. 0.1cu ft freezer capacity, 19.3in high x 21.4in wide x 23in deep. Model 6008 8.7cu ft refrigerator has fully automatic defrosting incorporating 3-star 1.6cu ft freezer with a separate door. 58.6in high x 22in wide x 23.6in deep. Prices on application. **E200**

BURCO announce a new washing machine—the Burco Mark Four, the latest version of the Burco 21, with added automatic controls. A 3kW element gives faster heating. Continuous flow rinsing. Finished in white with grey trim, with melamine wood-grain table top. Price £85 1s.; table top £3 3s. 5d. extra. **E201**

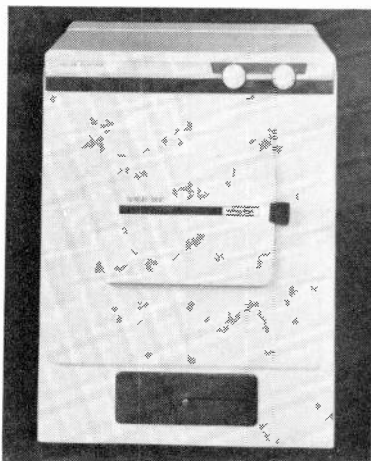
FOTHERBY, WILLIS ELECTRONICS have produced an electronic light controller known as the Ritelite which provides infinitely variable light intensity. It fits into a British Standard conduit box; maximum load 3.5kW. Price £4 19s. 6d. The Rite-speed provides infinitely variable speed control of any universally wound electric motor up to ½ h.p. A standard 13amp. outlet is provided. Maximum load 400W. Price £5 5s. **E202**



ENVIWARM, a subsidiary of the De La Rue Group, introduced a new range of Electricaire heaters at the EDA Exhibition. The four basic heaters have elements of 8kW, 9kW, 10kW and 12kW. Units are all 68½ high x 24 x 24in. Unique features include a sophisticated air temperature monitoring device and a high powered, low revving, direct drive fan unit. **E203**

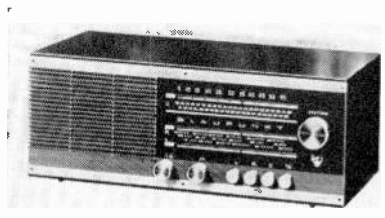
DETA (OVERSEAS) announce the new Inovac moulded p.v.c. waterproof multiple illumination lamp holders, for internal or external display. Available with either 20 or 40 holders at £5 or £10 respectively. **E204**

New from **ENGLISH ELECTRIC** at the EDA Exhibition was the model 4603F tumble-heat clothes dryer with fan heater—which in addition to drying the laundry can also heat the kitchen. It will take 9lb dry weight clothes, and has a two-heat switch and a timer for up to 115 minutes. Price £59 17s. **E205**



TOTAL REFRIGERATION announce the model F130V 4.75cu ft upright freezer selling at £61 5s. 1d. Measuring 21in wide x 21½in deep x 42in high, it has temperature settings from 0°F to -14°F. The new model HF18T 6.2cu ft domestic chest freezer with a table top, measuring 30in wide x 25in deep x 35½in high, is priced at £83 16s. 5d. **E206**

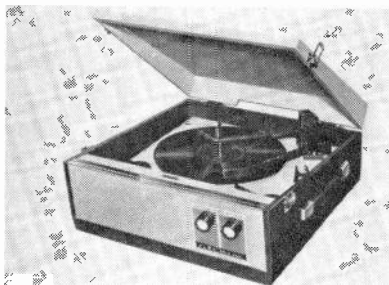
KENTON showed, in prototype form, a new focal point radiant/convector 3kW unit at the EDA Exhibition, designed to complement their Mink Range. Dimensions are 28in long x 18in high x 5in deep. Price to be announced. **E207**



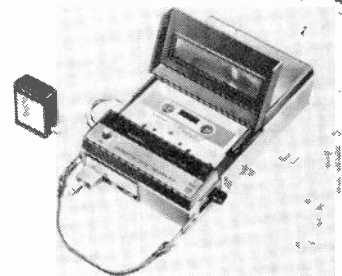
PHILIPS have added a luxurious tuner-amplifier and two pre-amplifiers to their Audio Plan range. Styled in teak veneer, the five waveband a.m./f.m. tuner-amplifier (RB960) has a power output of 10W per channel into 4 ohms. Features include push-button function selection, flywheel tuning, tuning meter, provision for extra loudspeakers, and stereo decoder. Price 99gn. The pre-amplifiers GH921 and GH905 are designed to match dynamic pick-ups to amplifiers normally used with crystal pick-ups. Price 7gn. The transcription record players GA230 and GA217 are designed to work with the above pre-amplifiers. **E208**

The GS5500 stereo system from **SHARP SALES AND SERVICE** provides a compact portable radiogramophone with separate compact speakers. Price £154. **E209**

The new **ALBA** solid-state record player model 332 has a mains operated 3 transistor chassis giving 1.8W output; an 8 x 5in speaker, tone control and 4-speed auto-changer unit. Presented in a wood cabinet covered in leather cloth in two-tone grey or maroon, it is priced at £18 19s. 6d. **E210**



The new **SANYO** cassette recorder model M48 uses the Philips cassette and operates on 4 U11 batteries. Complete with microphone in case, it is priced at £20 9s. 6d. A mains adaptor and carrying case are optional extras. **E211**



BOSCH announce a new solid state, table radio—the Genue—selling at 39gn. It has v.h.f., m.w. and l.w. bands—push button operated. An additional button provides for the use of a tape recorder or record player, and there is an external loudspeaker connection. It has a 3.5W output and bass compensated control. Finished in grey. **E212**

Antiference to market Belling-Lee Aerials

QUESTIONS AND ANSWERS ABOUT THE NEWS.

No. 1 of a series.

Q Is Belling-Lee withdrawing from the aerial market in the U.K.?

A Yes. But Antiference will be looking after all their customer aerial requirements. And Belling-Lee will continue to make components and specialized equipment.

Q What happens to my Belling-Lee customers under the new Antiference agreement?

A Terms have been drawn up to give the maximum possible continuity of supplies and service. Antiference is acquiring Belling-Lee Aerial stocks, design rights, patents and tools, as well as the licence to use their brand-names and trademarks.

Q How will this arrangement affect my aerial business?

A You can be absolutely confident of better aerial products as a result of combining the technical know-how of the two companies. Antiference will also be in a position to increase overall efficiency to ensure you even quicker and more effective service.

Q Will I be getting additional information from Antiference on future developments?

A Most certainly. Our representatives will be keeping you informed over the next few months. And we will be publishing "Questions and Answers" No. 2 soon.

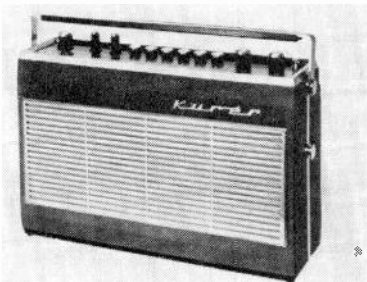
Antiference

Antiference Limited Aylesbury Bucks Tel: 2511

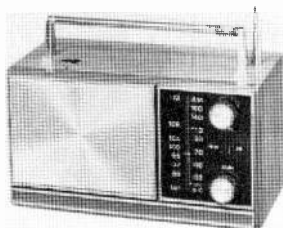


RECENT RELEASES *continued*

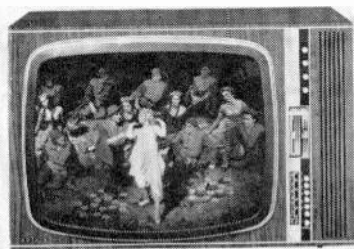
The Radionette Kurer automatic from **DENHAM & MORLEY** is a battery/mains portable with four wavebands—with ferrite rod aerial and auto button for disconnecting ferrite aerial when using a car aerial. Uses six U2 batteries. Wooden cabinet finished in simulated leather and measuring $11\frac{1}{2} \times 8\frac{1}{2} \times 3\frac{1}{4}$ in. Price on application. **E213**



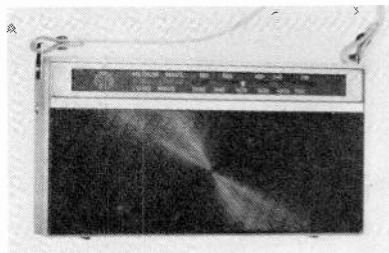
The new Wien 9 battery/mains receiver from **H. O. THOMAS** covers v.h.f. and medium wave bands. Ten transistors and 4 diodes powered by 6 x 1.5V Ever Ready HP7 batteries or equivalent or 220-240 mains. Price 13½gn. **E214**



BROWN BROTHERS are marketing the Korting single standard 625 line colour television receiver. Table and console 25in models are available. The cabinet is in matt finish walnut. The 8441 table model costs 309gn and the 8451 console 329gn. Brown Brothers hold a comprehensive stock of spares to ensure continuity of after-sales service. **E215**

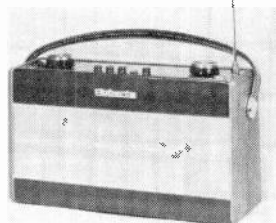


PYE announce the Olympic 58 19in television receiver which incorporates the rotary multi-band tuner and has a formica wood grain finish cabinet. Price £72 10s. A matt black stand is available at £1 10s. or chromium-plated at £2 5s. The model 1375 Poppalong is Pye's smallest am/fm set. It weighs only 13oz and is priced at £9. The restyled Playalong model 1376 (below) covers long and medium wavebands with bandspread. Price £8 8s. The Viking model 1008 is a transistorised record player with a BSR UA25 changer. Output is 2W into a 7in elliptical speaker. **E216**



First of the 1968 models in the **ULTRA** range of television receivers by **B.R.C.** is the 25in model 6655 priced at 95gn. It has a transistorised u.h.f. push-button tuner. The latest BRC chassis, the 1400 series, is incorporated. Walnut veneered cabinet with satin finish and grey moulded tube-surround. A wood stand (SU8) is available at 3gn. **E217**

ROBERTS RADIO announce a new v.h.f. transistor portable model R600, priced at 23gn complete with battery. A waterproof zipper cover is available at 38s. 6d. This a.m./f.m. radio has a telescopic f.m. aerial and socket for car aerial. Finished in soft black leather cloth and teak. **E218**

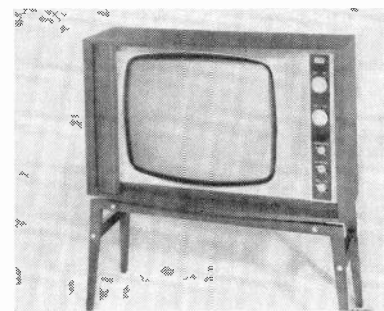


Two new 7-transistor car radios are launched by **PYE** and **EKCO**—the Pye Minor, model 2070, and the Ekco Ensign, model CR938, covering long and medium wavebands. A 4W output stage gives high

quality sound. There are five push button controls. Price of each is 18gn plus fitting kit at 2gn. **E219**

First of **KB's** 1968 introductions is the KV128 23in console television. It has a single tambour door, elegantly curved frontal treatment and is polyurethane finished in paldao walnut veneer. Price 102gn complete with stand. The KV128 uses the latest development of the hand-wired VC51 chassis.

Also announced is the **RGD** version—the RV328—which is finished in a much darker walnut. **E220**



BOSCH announce two new solid state radiograms, the Barcelona Mark III, priced at 149gn; and the Arkansas Mark III, priced at 139gn. Both are in dark gloss finish, with in-built stereo decoder and have an output of 10W per channel. Selection of wavebands is by push button and the Barcelona includes a marine waveband. In addition to the illuminated cocktail cabinet, there is also ample space for record storage. **E221**

Also from **BOSCH** are two new battery portable transistors—the Diva L priced at 29gn and the Derby De Luxe priced at 49gn—which can be fitted into cars and work from car batteries. When fitted into a metal bracket in the dashboard the dial lights up automatically and increased power output is also available. Both cover medium, long and f.m. wave bands. The Derby includes a short wave band. Both are equipped with tape, ear phone and external loudspeaker sockets. **E222**

ULTRA ELECTRONICS announce a new range of solid state audio amplifiers, providing outputs of 10W, 25W and 50W. The 10W amplifier type TA10 has 3 inputs with mixing facilities, low and high impedance. Speaker outputs are provided. The 25W and 50W amplifiers have 5 inputs with mixing and tone control facilities. Override facilities can be provided. All units can be mounted on standard 19in racks. **E223**

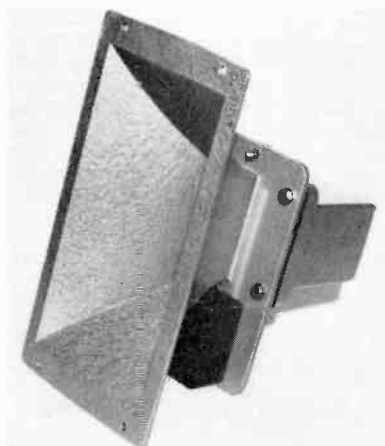
see these RECENT RELEASES at the

Full details of these products
on pages 149-162.

AUDIO FAIR



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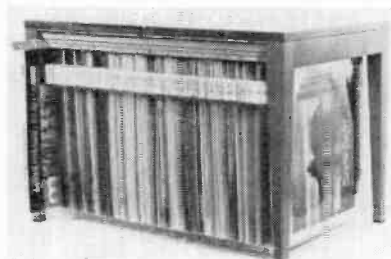


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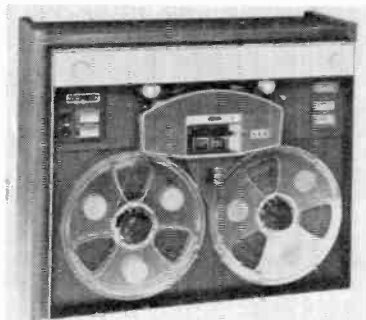


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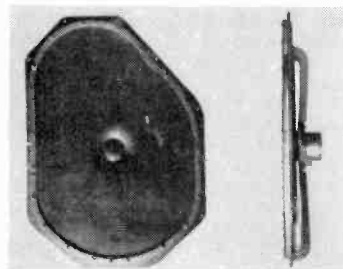


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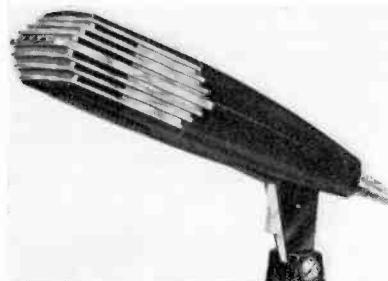


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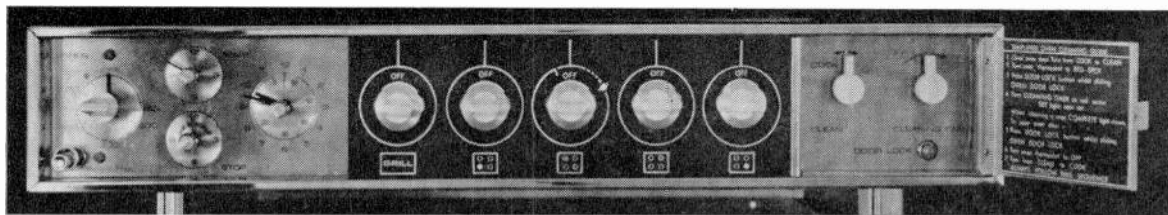
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1 Ferrograph Series 7 tape recorder. 2 Recordaway Span 80 unit. 3 Ampex 753 stereo tape deck. 4 Design Furniture model EQC22. 5 Decca DK30 ribbon speaker. 6 Shure Gard-a-Matic cartridge. 7 Yamaha Natural Sound speaker. 8 Armstrong 426 tuner/amplifier. 9 Garrard AP75 single play deck. 10 BASF Hobby Box. 11 BSR UA75 autochanger. 12 Beyer Soundstar from Fi-Cord.



Look Mum— NO CLEANING

Self-cleaning ovens have proved a great success in the two years that they have been available in the USA. The development is the most significant advance in domestic cooker design ever made. In this article Wm. RUSSELL, technical director of Simplex Electric, describes some of the special problems which arose in designing a self-cleaning oven for the British market, and the way they were tackled to produce the newly introduced Creda self-cleaning oven.

HEATING A DOMESTIC OVEN to around 480°C (900°F) converts food soils into smoke and a very small amount of ash. A typical residue would equal about $\frac{1}{4}$ in of cigarette ash which is easily blown or dusted from the oven.

Because it renders unnecessary the otherwise unpleasant task of manual cleaning such an arrangement may well alter the trend apparent over the past few years away from oven cooking.

UNIFORM HEATING

American practice is to have a grill mounted in the top of the oven and a bake element above the floor of the oven, both of which are used during oven baking. Because a deflector is already present above the grill element and in the large US ovens there is a good space between the floor element and the floor little difficulty is encountered in heating all the oven surfaces to the required temperature without local overheating.

For a typical British oven the first problem to be overcome was to provide an even surface temperature throughout without taking up oven space—a very different pattern from that required for good cooking performance.

We discarded the idea of moving up to an American sized oven, and achieved the desired result by placing additional elements around the oven box. These elements are switched in during cleaning at the same time as the bake elements are de-rated.

The problem is complicated by the limitations of what can be achieved by series and parallel switching on a single voltage. In the USA they are able to take advantage of the availability of 110 and 220V supplies.

ENAMEL STABILITY

A parallel development was to produce an enamel which would satisfactorily withstand some hundreds of hours of these higher temperatures. American practice did not help us much here.

The answer was found only after an exhaustive study of the mechanics of enamelling and a wide range of frits and additives with many thousands of hours of testing.

COOKER LAYOUT

Market research indicated that grill units within the oven are unacceptable in this country, and the necessary size and weight for the door indicated a drop-down type. This, in turn, led us to a high level grill since drop-down doors at the low level resulting from an under-hob grill we judged to be uncomfortable to use.

We were not satisfied with the American practice of having an air inlet in the bottom edge of the door seal as this allows vapours to escape which lead to soiling beyond the self-cleaning zone. In addition we found that such an arrangement did not give us the control we required over the inlet air to produce an oxygen starvation situation.

We chose a door with a continuous seal, closed by latches in the normal bake conditions. Air is introduced through carefully placed vents, and in this way the quantity admitted during the critical part of the cleaning period is always controlled.

Serious problems had to be overcome to produce a door which would hold flat with its inner surface at around 500°C and its outer surface at room temperature.

The 'cleaning' controls of the Creda Autoclean are grouped at the right-hand side of the main control panel. A simplified guide to the cleaning sequence is on the inside of the door which covers the controls.

CONTROL

In our search for a means of control we soon discovered that there is nothing like the range of controls available in the USA, and in the end we found it necessary to develop our own control in association with an instruments maker.

To find a type of control common to both cleaning and cooking and with the necessary accuracy and differential at ordinary cooking temperatures as well as at 500°C was a major problem. The system we are now using—including a specially developed stem-type thermostat—is superior in stability to and lower in cost than the equivalent American control.

SAFETY

High in the design brief was the need for a foolproof fail-safe protection system to prevent access to the oven when above normal cooking heat, and protection against the failure of the thermostat during ordinary baking.

The additional thermal insulation in the new oven allows very high temperatures to be reached inside the oven should the thermostat fail.

SETTING UP

Setting up for the self-cleaning sequence, we decided, should consist of a number of positive steps demanding some thought from the user. The American practice of using two dial timers we thought rather complicated for the average housewife.

On the Creda Autoclean we have provided a simple timer for cleaning only in addition to the standard cooking timer. The 'cleaning' controls are separate and behind a door in the control panel. The timer is spring driven and is set up by merely rotating it.

In locking the door we have followed American practice. The bolt which must hold the door closed before the cleaning cycle can start cannot be withdrawn unless a solenoid is energised. A thermostat set to 550°F ensures that once the oven temperature has reached this point the circuit cannot be completed and the door cannot be opened.

—continued on page 143

Courtesy: 'Evening Standard'

RENTAL— WITHOUT the STING

THE BAIRD AGENCY SCHEME

TAKING THE STING—the need to find adequate finance—out of the rental business for the small dealer is the aim of the scheme offered by Baird TV Distributors, a part of the Radio Rentals Group, to their appointed dealers.

'The scheme is open to any accredited Baird agent,' Cyril Hillier, Baird sales manager, told *RER*. 'To obtain the Baird agency a dealer must have reasonable shop premises, he must have adequate service facilities and he must be prepared to take into stock a number of Baird sets. Once he satisfies us on these points, he is eligible for a Baird agency and can also take advantage of the rental scheme.'

Care is taken that the agencies do not get too thick on the ground, so that every appointed dealer and agent has an adequate area from which to draw his trade.

FULL CREDIT

Baird supply the sets to the dealer on the normal invoicing procedure, but allow full credit to the dealer as soon as a renting agreement is reached with a customer.

'In practice,' said Mr. Hillier, 'this means that in most cases the dealer does not have to lay out any money, or if he does, he gets it refunded within a very short space of time. In all cases he gets a substantial part of the initial deposit, which in the case of a colour set can amount to some £20.

'It will, of course, be to the advantage of the dealer to have a permanent display of Baird rental sets in his showroom, and these will represent capital tied up, but they can always be disposed of in due course as the need arises.'

A selection of sets is available to the customer—table, console or console in 19in or 23in models with a choice of cabinet finishes. The range of Baird 25in colour TV sets is also available to renters.

The statutory seven months advance payment is required from the renter after which payments are made monthly. An alternative scheme allows a discount for yearly payments.

Rather less than half the monthly payment is retained by the dealer. 'The average revenue from a black and white

set accruing to the dealer amounts to about £12 per year,' said Mr. Hillier. For a colour set the figure is £32.

DEALER SERVICE

Out of this amount the dealer is expected to provide customer service but not to provide replacement picture tubes. Valves, of course, are covered by the normal BVA guarantee.

All the paper work required by the customer and for the dealer's own records is provided by Baird. Point-of-sale literature is available as well as in-store display and promotional material.

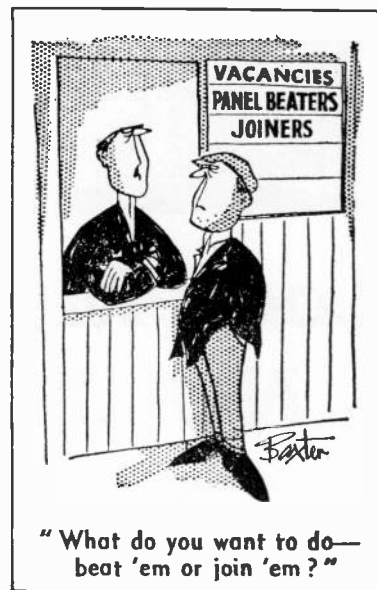
All the sets rented are brand new, but there is nothing in the agreement to prevent a dealer re-renting sets which he may have called in for any reason. The procedure in such cases is that the dealer continues to rent the set from Baird on the original terms and is free to put the reclaimed set out on terms which are economical for him.

Norman Twemlow, chairman of Radio Rentals, told *RER*, 'In the seven years we have been operating the scheme we have found it increasingly welcomed by dealers, and now that colour is with us dealers are going to find it even more to their advantage to be able to rent sets without the burden of financing the scheme themselves.

COLOUR AIDS

'We recognise all the problems which beset the small man in our trade, and we believe that a straightforward renting agreement such as we are operating should be of immense help to him. We are doing all we can to help him with the special problems attaching to colour television. One important aid we offer is a free four-day course in colour television techniques and servicing. These are frequently held in convenient centres throughout the country. And in addition we are always ready to provide the dealer with any advice he may need on servicing of either black and white or colour sets.'

All Baird's representatives are fully conversant with the renting scheme, and will be glad to explain it to any interested dealer.



RENTAL IS ESSENTIAL

Marlow is a pleasant Thames-side town of some 9,000 inhabitants and well sited in busy West Street is the business of Marlow Telerentals owned by G. Wells.

Mr. Wells started in business about 1957 selling at that time mainly gramophone records. He took up a Baird agency in 1959 and with it the rental scheme.

'The principal attraction was the fact that I did not have to lay out any of my own capital. I had been looking into the question of going into renting and had decided that I should need about £10,000 to really make a go of it.

'That sort of money takes a lot of finding for a small dealer such as myself. I reckon it would take me at least five years before I even began to show a reasonable profit if I had to find my own money.

'The Baird agency helped me over this hurdle, and over the years I have been very satisfied with the way it has operated to my benefit.

'On average I should think I put out about 100 sets per year.'

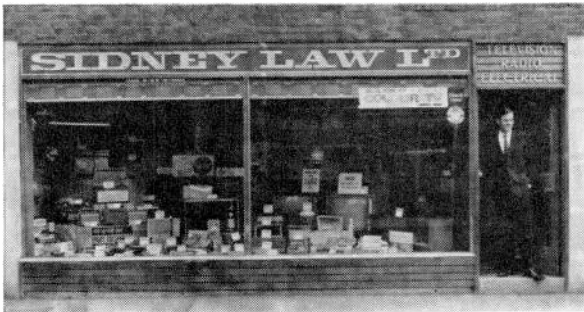
In answer to the direct question Mr. Wells said, 'Yes, I think it is essential for any radio dealer these days to be able to offer rental. With such a large percentage of the market going in this direction it is a matter of simple survival.

'I am the only Baird dealer in the town and I have always been pleased with the friendly atmosphere which has existed between the company and myself. I would particularly like to pass my thanks to Cyril Hillier for his constant attention and helpfulness.'

One problem which Mr. Wells has learned to live with is due to the fact that Marlow is a growing town with a large percentage of commuters. This means that a lot of trade goes out of the town. 'We notice this on a wet Saturday morning,' he said. 'A wet Saturday morning is always a good morning for trade.'

G. Wells
of
Marlow ▶

S. Law
of
Chesham ▼



A REGULAR INCOME

Another town with a high percentage of commuters amongst its residents is Chesham in Buckinghamshire, although unlike Marlow, it has a number of light industrial companies.

Sidney Law of 87 High Street, Chesham, has been operating the Baird rentals scheme since its inception.

He was, he told *RER*, at that time looking for a way of getting into the rental business, recognising that it was going to be increasingly difficult for the small dealer to turn his back on such a popular method of obtaining a TV set.

'The scheme gives me a regular income and relieves me of the necessity of providing many thousands of pounds of capital to get into the business.'

'I prefer a scheme which allows me to do my own service on rented sets. I think it makes for good customer relations if the customer comes to rely on me rather than some impersonal remote organisation as the man to call upon should he be in trouble.'

Mr. Law also praised Baird for their good service to him. 'Although I come under the Nottingham branch, which you might think rather remote from Buckinghamshire, I have no complaints with the way in which any rental matters are dealt with by Baird.'

'Any improvements you would like to see in the scheme?' we asked. 'Well,' said Mr. Law, 'I would like perhaps to see a quicker turn round of credit notes. But that is not a gripe against Baird alone—you can send a round-robin to all manufacturers on that one!'

DESIGNING

A SELF-CLEANING OVEN—*continued*

Although we know that in no circumstances can access be gained to the oven until it has cooled to normal temperature, the user is given reassurance by the operation of three separate lamps.

A red light—Set—comes on only when all the set-up operations have been carried out. An amber light—In Progress—shows when normal baking temperature has been exceeded. Up to this time anything which has inadvertently been left in the oven can be retrieved. After this time the only alternative is to switch off and wait for the oven to cool down again. A green light—Complete—shows that cleaning is complete and the oven temperature has fallen sufficiently to allow the door to be opened and normal usage resumed.

SMOKE ELIMINATOR

During cleaning smoke and fumes are produced inside the oven. This passes through a heated catalytic oxidation unit mounted in the oven roof with the outlet passing through the lagging to the hob top. The resultant emergent is completely harmless and odourless.

Ordinary cooking vapours pass through the unheated eliminator which

therefore does not remove what are usually thought of as the pleasant cooking odours.

OTHER PROBLEMS

Many other lesser problems had to be solved, including: thermal insulation without an offensive binder; lubrication for oven shelves, since all grease is removed from inside the oven during cleaning; door seal materials; design of a satisfactory vent system, etc.

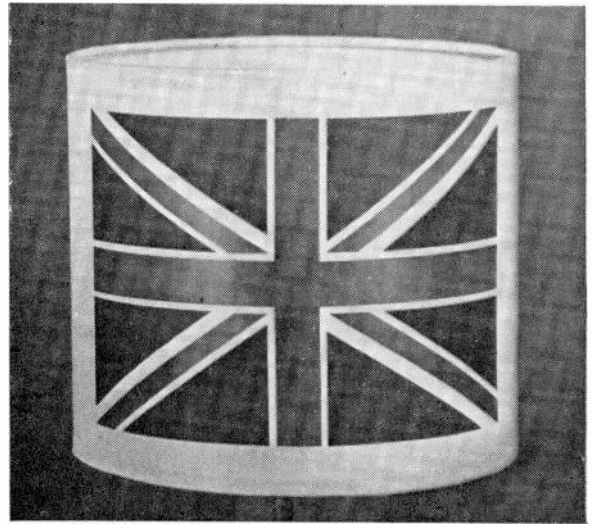
FOR THE HOUSEWIFE

The housewife will appreciate that every interior part of the oven is scrupulously cleaned, including the many inaccessible places which no method of manual cleaning can reach.

The additional insulation and air spacing which is provided all round the oven to keep the cooker surfaces within British Standard limits during cleaning mean that during normal cooking the Creda Autoclean is considerably cooler than the conventional oven. The saving of energy during cooking virtually equals the costs of cleaning about once a fortnight.

The Creda Autoclean self-cleaning oven was shown with great success at the EDA Exhibition at Brighton and at the Ideal Home Exhibition at Olympia, London. Other companies with self-cleaning ovens are: Moffat—theirs is made in Canada—and English Electric—their model is still in the prototype stage.

A pity this photograph did not come in time for me to use with last month's column! The Editor tells me the shade is made by Knightshades of Hastings and is available in 8 or 15in sizes. All British, of course!



SQUEEZING THE ADS.

LET us express the hope that manufacturers will react in the correct way to the new year of squeeze. The right way is to increase advertising. This is a standard, classic principle. It is in all the textbooks. Every marketing and advertising man knows. Everyone at the top in any industry certainly ought to know it.

The reason is simple. The business of advertising is to bring about increases in sales. When times are difficult and sales are harder to come by more effort must obviously be put into obtaining them. Therefore there must be more advertising.

Yet in many, perhaps most cases, experience tells us that advertising is not likely to be increased. Indeed, it may well be cut back. How does this come about?

The Appropriation

What is usually called the advertising appropriation, i.e. the amount to be spent on advertising, is arrived at in different companies by various ways. There is no single standard method.

The appropriation may be fixed as a percentage of last year's sales. Or the criterion may be the projected volume of sales—the sales target—for the coming year, and the appropriation is a percentage of that.

The amount of the percentage varies not only from industry to industry but from company to company.

Another way in which the advertising appropriation might be reached is simply by setting aside x per cent of the price of each single article as advertising cost and multiplying it by the number of articles to be produced.

Yet another way is to set the advertising its own target, and then work out how much money is required to achieve that target. This method, which might appear on the face of it to be the most logical, is however the one most seldom seen in practice.

CROXLEY'S COLUMN

An advertising appropriation should not always be of the same proportion. A large investment in advertising is normally needed to launch a new product. When the product is established on the market, the advertising expenditure conventionally eases off. It may then establish a level at which it remains for some time, perhaps several years.

From time to time the product may be modified in order to boost sales. Something new is added. The new element is normally accompanied by a fresh upsurge in the advertising.

In many fields it is considered that products have a given life span and beyond a certain time their sales will inevitably diminish. The product is considered to be dying. Companies with this philosophy will then virtually withdraw advertising support, leaving the product to make what sales it can before production finally ceases for ever.

Outside forces

Marketing, however, is at least as much concerned with forces completely outside the product as those which are directly related to it.

The most important of these forces is the condition of the national economy. Is it a time of boom or one of recession? In boom times, less advertising is probably necessary. People are in the mood to buy and have the money to do so. The product will come near to selling itself.

Flushed with success at such times, many companies tend to become lavish with their advertising expenditure. They spend more when there is no need to do so. Far better if they set some money aside.

As we well know in the radio and electrical business, our own particular world is beset by recessions and booms, even if the national economy as a whole remains stable. We have had enough lessons over the last twenty years and more to realise that the government, whatever its complexion, is itself governed by the stop-go mentality.

So it is obvious that a company should be ready to deal with each recessive period by, among other things, increasing its advertising and making it more forceful.

Pressures

A number of pressures, however, operate against this marketplace logic.

Accountants tend to be against it. They point out that profits are going to be lower—which of course they will be. They seek to save money all round, regardless of whether there is a need to spend the money or not.

Other departments which might rightly be cut back expect advertising to be reduced as well, illogical though this is.

Company committees, from board level downwards, are likely to become imbued by desire to lower expenditure. No matter how closely argued the case

for necessary expenditure in a certain direction may be, it is likely to be over-ruled.

I recall a case where sales level depended on the number of trips abroad made by salesmen in a company which flourished on the strength of its export trade. Came the squeeze and one of the first edicts was that salesmen's trips abroad should be drastically cut down. This company was shortly forced, by the logic of events, to ensure that those trips were restored.

An exactly parallel case can be made for advertising in a bleak period. It is *the* time to advertise.

Not only is more advertising of the first importance, but it benefits the go-ahead company twice over. For such a company benefits from the failure of any of its competitors who reduce their advertising. It can pick up the sales they lose and emerge at the end of the recession in a far stronger position than ever before.

I have pointed this out before when times of recession have been upon us. The lesson is still there to be learned, as much as ever, with a few shining and honourable exceptions.

THE MERGER GAME

MERGERS and take-overs have never been more popular. The recent giant one in our field has shaken many people, and not without reason. But the fashion spreads far beyond our own field. Even the banks have caught the fever.

The television and radio business was in fact an early starter in this kind of thing. How many different brand names in fact come from the same companies nowadays. The principle of ever larger units has been strongly supported, perhaps oddly enough, by the government.

From the point of view of the retailer, fewer sources of production mean less real choice, and inevitably tend to give the producers a stronger influence over the retail trade. Even more significant is the situation where we have manufacturers controlling their own outlets.

From every point of view, there are advantages and disadvantages in having a really big organisation. There is, for example, the concept of optimum size. Up to a certain size, so this rule goes, an organisation will gain through the economies of scale. Beyond a certain



Visitors to the Philips Electrical stand at the Royal Lancaster Hotel for Display Market Week were invited to bring samples of coloured fabrics to compare the colour rendering properties of a range of fluorescent lamps. Seen here are W. P. Percival and his son from Percival & Co of Walthamstow.

point, however, the reverse effect will occur, and the organisation starts to become less efficient again.

Big concerns have always had to face this fact of economic life. Size can render a group almost totally unwieldy. It may become almost impossible to control it thoroughly from the top. The organisation can easily incur huge losses (unlike the small company it will not immediately go bankrupt, but may stagger on for years before the harsh facts are brought to life).

So real is this kind of problem that

some giants deliberately decentralise and try to split themselves into a number of smaller autonomous units.

There is already a tendency throughout highly developed societies to minimise the number of companies in any sphere while maximising their size. It seriously lessens competition and, above all, stifles the initiative of brilliant, small newcomers, for whom there should always be room.

If competition is a good thing, there should be more separate manufacturers, not fewer.

VIGOROUS BOARDS

THE electricity boards are learning from the private sector. Some while ago I pointed out in these columns the need for up-to-date marketing policies in the electrical field. I specifically considered the various types of promotion, including money-off offers and free gifts and so on.

Since then, companies throughout the country have been modernising their marketing methods. The electricity boards have now followed suit.

In a recently issued report, the special offer last spring of a food mixer with each cooker sold, gave, it is said, "a

greatly increased gross profit to the boards". Over the year, cooker sales increased by 16.7 per cent compared with the year before.

All area boards in England and Wales and the North of Scotland Hydro Board are offering approximately £9 reduction on the recommended price of a Hoover washing machine and giving away a steam iron and six large packets of Daz.

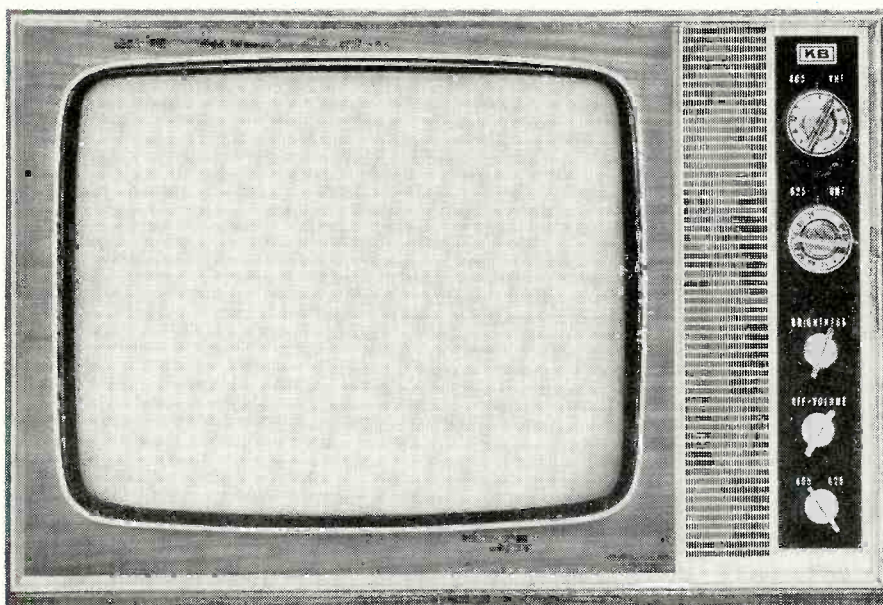
The Electricity Council says, "This is an example of the way in which the boards are now showing the kind of enterprise which private retailers have been using in their own promotions."

A straight money-off offer is being provided for storage radiators, not only simply to increase sales but to help even them out through the year.

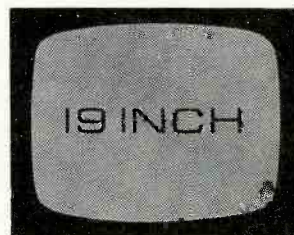
Altogether, the Electricity Council is becoming more and more sales-minded. It is notable that, to quote, the "Commercial Development Conference will this year take the form of a vigorous sales conference."

20" KB Squar

FIRST BIG IDEA IN



A flatter, better-looking picture with straightened sides, squared-off corners and an increase in picture area. Teak veneer cabinet and fascia. Hand-wired chassis.
Model KV027 **74 gns**



1968

ed screen tv

MORE PICTURE IN A SAME-SIZE CABINET

KB have been rethinking their TV range—and they've come up with their first big idea of 1968.

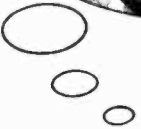
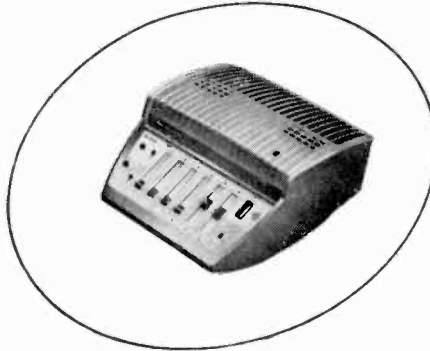
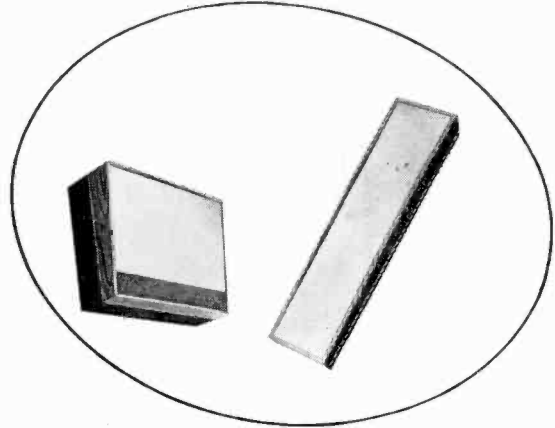
They can see a marketing gap between 19" and 23" TV. They've filled it with Britain's first 20". For you, this unique 'Squared Screen' TV is a new opportunity to trade up out of your nineteen inch market and into a new scale of profitability.

Squared Screen – tv with every plus
KB know there's no point in making a new set that looks like all the others. So in Squared Screen they've made sure your customers can see the difference. More picture in the same 19" cabinet. A flatter screen with straightened sides and squared-off corners. All made possible by KB's exclusive right on the ITT 20" tube. Add to this a teak cabinet that speaks quality. Add to that the hand-wiring that's another KB exclusive. Add to that a price within guineas of an ordinary 19" set. Squared Screen TV turns out to be a sales package with all the pluses—the first 1968 set deliberately

designed to expand the black-and-white market. Ask your KB area representative about it—now.

it's the year of the big ideas at





THINK PHILIPS ...

when it comes to quality sound equipment

Philips have an unrivalled range of audio equipment including microphones, amplifiers, loudspeakers, tape-recorders, record players and loudhailers. In addition, complete systems can be designed and installed for clubs, hotels, restaurants, churches, stadia—in fact any establishment where top quality public address and music systems are required. All backed by the finest dealer and service organisation in the U.K.

So—think Philips!

Write or telephone for more information or ask for our Technical Representative in your area to visit you.

Philips Sound Division

PETO SCOTT LIMITED

Addlestone Rd., Weybridge, Surrey. Tel: Weybridge 45511
Telex: London 262319



PHILIPS sound division of

PETO SCOTT
sound and vision

the 1968 INTERNATIONAL audio festival & fair

18th-21st APRIL

Hotel Russell
RUSSELL SQUARE
LONDON · W·C·1

IN SERVICE ENGINEER this month . . . is a special feature **AUDIO SALES AND SERVICE** which describes how dealers should organise themselves to cope with audio sales and so increase their turnover. It points out how the service engineer or service manager can assist in winning customers and consolidating sales. It also covers the organisation of demonstrations of audio equipment with hints on arranging displays for comparison of units. As the author points out, audio sales and service can be a paying proposition, but it requires rather more planning than is necessary for radio and TV.

Do you receive *Service Engineer* regularly? It goes only to subscribers to *RER*. Make sure you are not missing this useful servicing tool by completing the form on page 175.

The Audio Festival and Fair annually brings together the High Fidelity enthusiast and all that is new in this specialist field.

All these visitors are your potential customers—if you are a High Fidelity dealer—so it will pay you to go to the Fair—otherwise you may find that your customer knows more about the equipment than you do! There is an exclusive showing to the trade by named invitation only on Thursday, April 18th, 11 a.m.-4 p.m.

In the pages which follow we give a preview of the exhibits to be seen, listed in alphabetical order of company names.

Stand by Stand Guide to Exhibits

BOOTH COMPANY	DEM. ROOM BRAND NAME	BOOTH COMPANY	DEM. ROOM BRAND NAME
90 ACOUSTICAL MANUFACTURING CO LTD	604 QUAD	stereo tuner at £89 19s 5d and the Concertino 101 Hi-Fi Stereo tuner with separate a.m. and f.m. tuning and 2 x 15W output at £126 12s. 7d.	
		37 AGFA-GEVAERT LTD	353 AGFA-GEVAERT LTD
		A full range of recording tapes and accessories is on show. For the first time this year the company also has a demonstration room—the Magneton Bar.	
47 AEG (GB) LTD	247 TELEFUNKEN	5 AMPEX INTERNATIONAL	535-6 AMPEX
Tape recorders include: M204 full stereo; ½-track, 2-speed, built-in p.a. system, 2 x 6W output at 104gn; M203 Studio, 2/4-track, stereo recording, stereo playback with separate amplifier at 75gn; M200, 2-track, single speed mono machine at 35gn; M201 4-track mono parallel playback at 37gn; M300 2-track, 3¾in/sec portable at 49gn; M301, same as M300 but 4-track and with parallel playback at 54gn; M302, 2-speed, 4-track at 59gn; M4001, 2-track, mono cassette battery operated, 1¾in/sec at 27gn. Also to be seen is the V201 mono/stereo amplifier giving 2 x 25W out and priced at £108 12s., the T201 a.m./f.m.		Focus is on the model 753 stereo 4-track tape deck. At 91gn. it is the lowest priced Ampex domestic model, but has many professional-type features. Also being demonstrated are the model 1163 and 2163 recorders with automatic threading, reverse and shut-off. Complementary speakers and microphones, Ampex tape, including the new 404 low-noise professional type, and a wide selection of pre-recorded stereo tapes are on show. Professional audio equipment is represented by the AG-20 portable recorder and the AG-440 broadcast recorder.	

audio fair

Stand by Stand

continued

80

ARMSTRONG AUDIO LTD

Series 400 is an all-transistor range including model 421 stereo amplifier, 423 AM-FM tuner, 424 FM tuner, 425 FM stereo tuner-amplifier and 426 AM-FM stereo tuner-amplifier, all with 20W per channel output. Series 27 consists of valved tuner-amplifiers model 127, AM-FM stereo, and 127M and 227M both mono. Stereo decoders M4 and M5 are available for series 400 and series 27 respectively. Optional teak and vinyl cases are available.

65

AUDIO & DESIGN LTD

The established Titanium cone speakers and laboratory pick-up arms are on show and demonstration. New this year is the Titan Minor, a bookshelf unit with 15W handling capacity. Of interest is an enclosure made up by an enthusiast from the company's d-i-y instructions meant to show how easily and cheaply high quality systems can be constructed. New also is the Induced Field cartridge claimed to be one of the very few high quality British-made cartridges. On show to the trade is a production version of a professional record cleaning machine.

63

AUDIO ENGINEERING LTD

In room 355 visitors can hear original stereo recordings made under domestic recording conditions using various pairs of Sennheiser microphones and a B & O 2000 recorder. Playback is through the £500 Sennheiser Philharmonic studio replay equipment, which comprises twin 30W amplifiers built into loudspeaker enclosures, a three-channel stereo mixer and remote control unit. Also on show is the complete range of Sennheiser microphones including three new types designed for the music recording industry. Sub-miniature microphones are also to be seen.

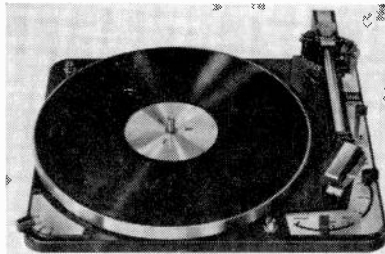
55

BASF (UK) LTD

New from BASF is the PES 35 LH low noise, high output tape specially suitable for amateur users. In six spool sizes—5in to 10½in. Also new is the Hobby Box which contains a splicer, marking pencil, razor blade, 33ft of splicing tape, 80ft lengths each of red, white and green leader tapes, 50 pieces of metallised foil, 25 spool labels and 3 tape clips. LGS 35 long play, LGS 26 double play and PES 18 triple play tapes are now available on 3in spools. BASF leader tape is now available in 80ft lengths. Studio type reinforced

537

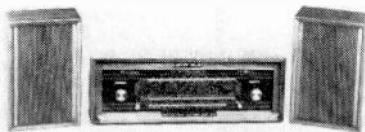
ARMSTRONG



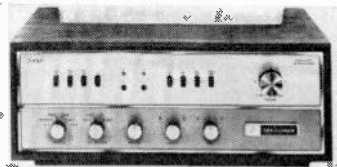
Dual Transcription Deck



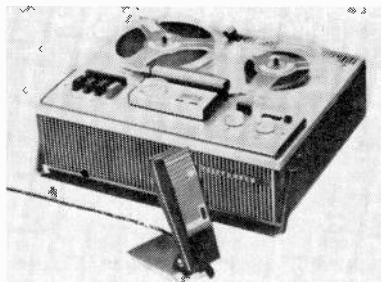
*Highgate Acoustics—Arena T1500F
tuner-amplifier*



Denham & Morley—Radionette Kvintett



Getz Bros—Fisher TX1000



AEG 203 Studio tape recorder

**All prices quoted in this
issue are subject to change
due to Budget changes in
purchase tax**

cardboard boxes with hub retainer are available in 8½, 10 and 10½in sizes. In room 149 can be seen the new BASF colour film—The Timeless Track. Tickets from booth 55.

30

BOSEY & HAWKES LTD

Two new models are added to the range of Jordan-Watts high fidelity speakers. Two new bookshelf speakers are the Janet and Juliet, first shown at Firato last Autumn. The very small size of the Jordan-Watts module makes possible a new standard of compact speaker and the new models stand comparison with many much larger systems. Other models on show include the Jumbo compact 12W, the Juno reflex system, the Gemini 25W assembly and the Jupiter luxury system.

89

BRENNELL ENGINEERING CO LTD

A full range of mono and stereo tape recording equipment, with particular attention on the latest Brenell deck with three outer rotor motors, self compensating braking, balanced flywheel and up to four heads, mono or stereo. Known as the Mark 5 Series 3. The Mark 5 Series 3 amplifier is designed to match the half track heads fitted to the standard 2-head mono deck. The Mark 5 Series 3 tape recorders incorporate the above deck and amplifier in a wooden cabinet with a 9 x 5in speaker. Also on show is the Mark 5 M Series 3 recorder fitted with separate record and playback heads and amplifiers. STB2/5/2 stereo unit also has separate record and playback pre-amplifiers. STB2 monitor amplifier can be mounted inside the STB2 cabinet. Most recent addition to the range is the Hi-Fi link, designed to match a 3-head stereo deck to any make of amplifier. It has two record amplifiers and replay pre-amplifiers with speed equalisation and adjustable output levels.

44

BOSCH LTD

Star of the display is the Uher Royal de Luxe, the first ever Uher tape recorder for horizontal or vertical operation. It is priced at 189gn. It can be fitted with either two- or four-track heads. The ironless push-pull output stages give 2 x 10W, and may be used as straight-through amplifiers. Other features include: four speeds from 7½ to 1½i/s; switchable AB monitoring; mixing facilities, multiplay, echo facilities, built-in diapilot for automatic slide projection, syncro play and physiological volume control.

361

UHER

continued on page 155

Garrard looks after your sales with the widest range of high-quality record-playing units in the world.

This year, with a wider range than ever before there's a Garrard unit to please every customer.

Overleaf you will find illustrations and brief details of every unit in the current Garrard range—all the new models as well as the established best sellers.

At the Audio Fair

Garrard are showing their new range. This is bound to create enormous interest.

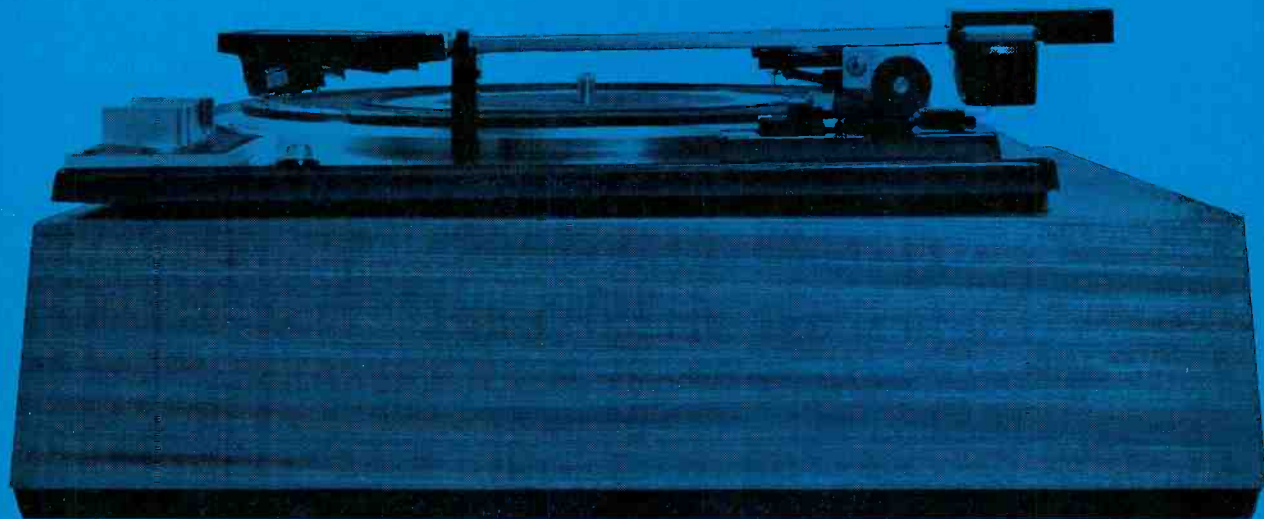
In the Hi-Fi Magazines

Whole page advertisements will appear specially for all who value true sound reproduction.

In the National Press and Reader's Digest

Full-colour advertisements will tell the Garrard story to a wide national audience.

So make sure you can offer separate Garrard units, as well as radiograms and record players fitted with Garrard. Your customers will demand them by name.



Now turn the page...

Garrard—the world's greatest range of

New for 1968

‡SL 95 Automatic transcription turntable with a number of important design features including cue and pause facility, wood and aluminium pick-up arm, gimbal type pick-up arm pivots, slide-in cartridge carrier, calibrated pick-up arm bias compensation and stylus force adjustment, retractable record platform.

‡SL 75 Similar to the SL 95 but with different design of pick-up arm. Both units feature a combined record-speed and size selector for 12" (78 rpm), 7" (45 rpm) and 12", 10" and 7" (33½ rpm).

*SL 65 Four-speed automatic record-changing unit with cue and pause facility, weight-counter-balanced pick-up arm, calibrated stylus force adjustment, pick-up arm bias compensation, and plug-in pick-up head.

*SL 55 Four-speed automatic record changer incorporating cue and pause facility, stylus force adjustment and plug-in pick-up head.

SL 95



SL 75



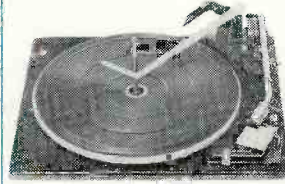
SL 65



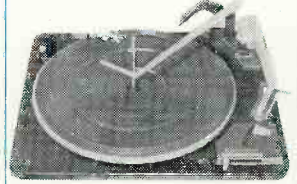
3500



2025 TC



2025



Established best sellers will continue to

401 Transcription turntable designed to meet the most exacting requirements. Heavy non-magnetic turntable, gear-cut stroboscope illuminated by high-intensity neon lamp. Variable speed adjustment, magnetically screened motor.

†LAB 80 Mk II Automatic transcription turntable. Features include automatic play of single records, calibrated pick-up arm bias compensation and stylus force adjustment, record-repeat and cue and pause facilities. Two turntable speeds—33½ and 45 rpm.

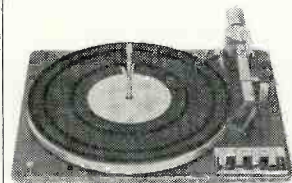
*SP 25 Mk II A high-quality four-speed single record-playing unit with tubular pick-up arm, cue and pause facility, bias compensation and integral calibrated stylus force adjustment.

*3000—4-speed auto-changer with low-mass pick-up arm for use with high compliance cartridges—gives exceptionally low record wear.

401



LAB 80 Mk II



SP 25 Mk II



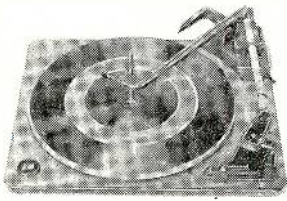
3000



Optional extras Teak finish bases: *WB1, †WB2, ‡WB4 Rigid, clear plastic covers: *SPC1, †SPC2, ‡SPC4

high-quality record-playing units

SL 55

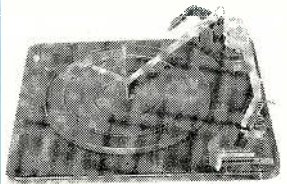


New Garrard Synchro-LAB motor

The Garrard Synchro-LAB motor fitted to the SL Series is a new design of electric motor, incorporating the best features of an induction motor with the advantages of the constant speed of a synchronous motor.

This is achieved by a two-section rotor, one section providing starting torque, the other section pulling the rotor into synchronism with the frequency of the power supply when the optimum rotor speed is reached. This feature gives a true constant-speed motor with the smooth and quiet running of the well tried induction motor.

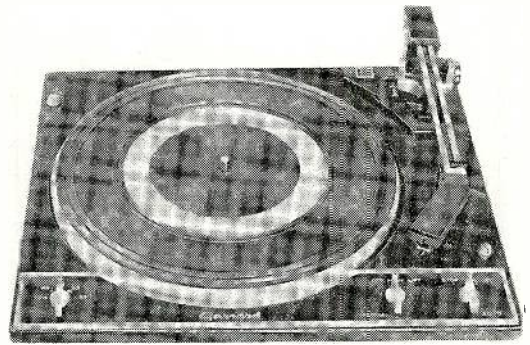
1025



*3500 Three-speed automatic record changer having cue and pause facility, low-mass tubular pick-up arm, and calibrated stylus force adjustment.

*2025 TC Exceptionally attractive four-speed automatic record changer, incorporating cue and pause control and low mass pick-up arm.

‡AP 75 A high-quality, three-speed single record-playing unit. Features include non-magnetic turntable, diecast aluminium pick-up arm with calibrated bias compensation, stylus force adjustment and slide-in cartridge carrier. Facilities for cue and pause and automatic play of single records.



*2025 This four-speed automatic changer has a diecast aluminium pick-up arm and the 10½" turntable is fitted with an easily cleaned moulded mat.

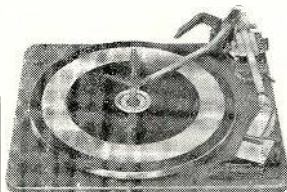
*1025 Similar to the Model 2025, but has 8" diameter turntable. Automatically returns the pick-up arm to its rest and switches off when record play is complete. Battery operated version available.

feature in the Garrard range

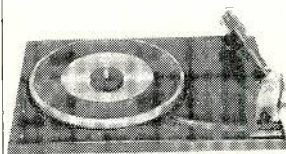
*60 Mk II—4-speed automatic record changer having fully counterbalanced pick-up arm with calibrated stylus force adjustment, bias compensation, cue and pause facility and plug-in pick-up head.

SRP 22—Inexpensive, compact, three-speed single record-playing unit especially suitable for use in portable equipment. Battery operated version available.

60 Mk II



SRP 22



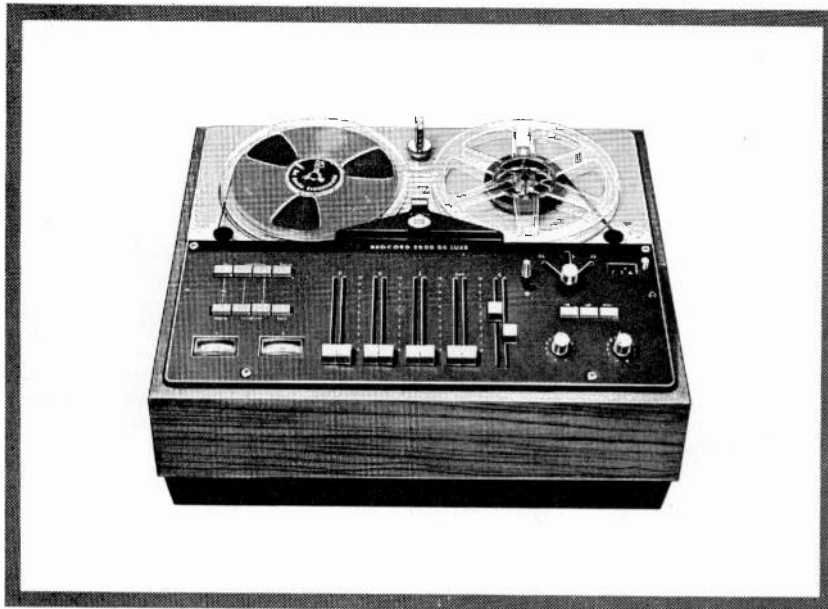

Garrard
 looks after your sales

Garrard Engineering Limited
 Swindon, Wiltshire, England
 Telephone: Swindon 5381 Telex: 44271



42

Is it possible for all these features to be concentrated in ONE tape recorder?



Yes, the BEOCORD has them all!

A highly advanced tape recorder with professional wow and flutter specifications, crystal clear reproduction, and ample volume output, the Beocord 2000 de Luxe is designed for the exacting audiophile who insists on unlimited possibilities in trick and sound-on-sound recordings etc. The Beocord 2000 de Luxe ranks among the five highest priced semiprofessional tape recorders in the world. It ought to be the highest priced of them all!

Bang & Olufsen
U.K. Sales Division
Eastbrook Road
Gloucestershire

London Showrooms
70/71 Welbeck Street
London W1

Solomon & Peres
67/69 Ann Street
Belfast 1

- Built-in 4-channel mixer section with twin slide potentiometers
- Records on 2 tracks. Plays back on 2 and 4 tracks.
- Trick recordings: Multiplay, sound-on-sound, synchro playback, echo
- Usable as microphone-amplifier during tape replay
- 3 tape speeds
- 2 illuminated recording level indicators
- Tape control lever
- 4 Bogen heads
- Monitoring
- Instant pause control
- Slack absorbers
- External impedance switches
- 3 replaceable pre-amplifiers
- DIN standard inputs and outputs
- Input and output sockets on base of cabinet
- 2 separate 8-watt output amplifiers
- Automatic stop for tapebreak and end of tape
- Sockets for two pairs of speakers
- Amplifier can be used with motor switched off
- Separate bass and treble controls
- Headphonejack
- Low-impedance microphone input, balanced
- Line input and output, (tape-copying channel)
- Tape index counter
- Voltage switch
- Fully transistorized



- for those who consider design and quality before price

audio fair

Stand by Stand

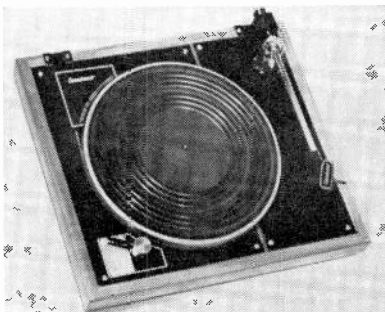
continued

70

BSR LTD

Launched at the Fair is the UA75 turntable unit as an extension to the range of changers for the enthusiast. It incorporates all the features of its predecessors the UA65 and UA70 plus a heavy non-magnetic machined turntable, a muting switch and a 'pop' filter. It can be operated manually if desired. Also featured are the company's wide range of cartridges including the X3M/H compatible units and the C1 ceramic.

259

BSR

Sugden—Connoisseur BD1 deck

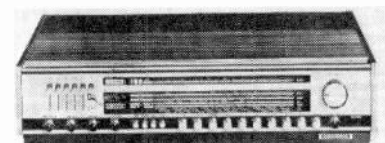
transcription units together with power amplifier, pre-amplifier and tuner unit. In teak only. The EQC23 will accommodate any British-made tape recorder, plus turntable and storage for 160 records. In teak. Model EQC24 has similar capacity to the EQC23, with storage for 100 discs. In wood and plastic. The EQC25 will store 120 records or accommodate a transcription unit with a tuner/amplifier. A larger version is the model EQC26.

77

COSMOCORD LTD

Principal feature is the Acos GP 91 SC stereo compatible cartridge, a new and improved version of the cartridge first shown last year. Also on show GP 91-1, GP 91-2 and GP 91-3 mono crystals; GP 92-1 mono ceramic; GP 93-1 and GP 95-1 stereo crystals; GP 94-1 and GP 96-1 stereo ceramic and the high-capacity stereo ceramic GP 95-4. Acos styli in their new packs are on show.

217

ACOS

Grundig RTV600

40

**DIAMOND STYLUS
CO LTD**

The company makes diamond styli for the trade and customers include most of the country's makers of high fidelity equipment. The Micro-Diamond stylus has been introduced to meet the need for a low mass component.

450

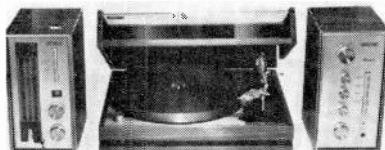
**MICRO
DIAMOND**

3

**DECCA RECORD
CO LTD**

The latest in the Mark 4 series of pick-ups is the model 4RC, a low-priced cartridge equipped with spherical point, and retailing at 16gn. A new speaker enclosure is the Kardiod Thirty which incorporates the new DK30 ribbon mechanism designed by Stanley Kelly. It has a power capacity of 30W.

648

DECCAGoodmans Stereomax tuner, MT1000
record player, Maxamp 30

72

**DUAL
ELECTRONICS LTD**

Released at the Fair is the Dual 1015F transcription manual/auto turntable, with calibrated stylus pressure and bias compensation, cueing control and constant speed motor. Price: 28gn. or 35gn. with Shure M 75 G cartridge. Also new is the 1010F transcription unit at 22gn. or 28gn. with Shure M 3-D stereo cartridge. Both units can be housed in the CKH 5 console to match other Dual units. New amplifiers are the CV 40, 2 x 20W all-transistorised stereo amplifier which features sophisticated switching and is priced at £64 10s. The HS 32 is a complete stereo system comprising an amplified 2 x 6W control unit and high fidelity record player, the 1010F player and low distortion pre-amplifier. In walnut veneer case at 79gn.

147

DUAL

41, 33, 31

**DENHAM & M.B. MIKROFONBAU
MORLEY LTD**

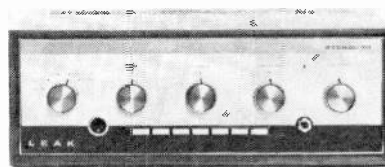
From Radionette: Kvintett Stereo Compact stereo tuner/amplifier, five bands including marine and f.m.; Kurer Automatic 4-band battery/mains f.m. radio; Multicorder 4-track, 2-speed battery/mains portable tape recorder using a single 5in spool.

255, 256

**OKI
RADIONETTE**

From Oki: Model 333 4-track stereo/mono tape recorder. Two speeds with equalisation, two record safety buttons, two record level meters, two slim 2-way speaker assemblies.

From MB: MB190 gold plated pen-type dynamic microphone, with response from 100-10,000c/s; MB220 miniature dynamic stereo microphone set; MKB85 de luxe stereo headset with boom microphone.



Leak Stereo 70 amplifier

35

**DYNATRON
RADIO LTD**
(see page 164)

236

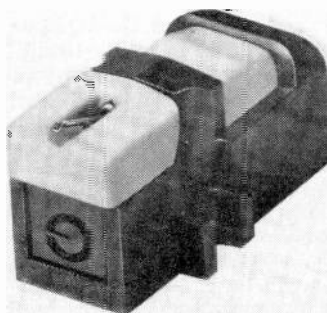
DYNATRON

10

**DESIGN
FURNITURE LTD**

New items to be seen include: The EQC22 cabinet designed specifically for use with Quad equipment. It will house a variety of

140



Goldring GL.75

78

ELCOM LTD

Main feature is a range of sound mixers including a six-channel modular unit which can be built up to customer's requirements from standard units, with particular significance for those with small budgets. A full range of broadcast type quality modules, from input to output, is on show. Components include faders, attenuators, plugs and sockets, printed circuit connectors and switches.

249

ELCOM

68

**ELIZABETHAN
ELECTRONICS LTD**

The Dulci integrated stereo amplifier model 220 Princess giving 10W per channel. Push button control, teak cabinet. Price: 39gn. Dulci 207 stereo 7W per channel

258

ELIZABETHAN

UHER

the ONLY tape recorder for YOU...

4000 REPORT SERIES

Three different models of the Uher 'Report' are now available:

4000 Report - L

As illustrated. Specification: 2 Tracks conforming to international standards-2; Tape reels diam.-5"; Tape speeds (ips) $\frac{1}{2}$, 1 $\frac{1}{2}$, 3 $\frac{1}{2}$, 7 $\frac{1}{2}$; Frequency range (cps) 40-4,500/40-10,000 and 40-16,000/40-20,000; Dynamic volume range (db) 40 at $\frac{1}{2}$ ips, 46 at 1 $\frac{1}{2}$ ips, 50 at 3 $\frac{1}{2}$ ips, 52 at 7 $\frac{1}{2}$ ips; Wow and flutter (max \pm %) 0.2% at 7 $\frac{1}{2}$ ips; Recording mono; half-track; playback mono half-track; Power output one watt.

Monitoring via headphones or speaker; VU meter + three digit tape counter; tape stop-start remote control, collectorless motor controlled by 8 transistors; power supply from 6V, 12V, 24V car battery, from rechargeable accumulator or 5 flashlight cells 1.5 Volt; 17 transistors.

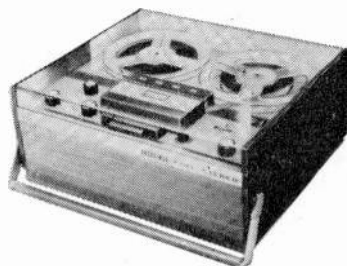
Microphone, radio, pick up input: 1V at 15 Kohms and 2V at 4ohms. Weight 6 lbs (approx). 99 gns.

4200 Report Stereo

Affording all the advantages of the successful 4000 Report-L in size, style and specifications—plus stereo. 119 gns.

4400 Report Stereo

Again with all the advantages of the 4000 Report-L—plus stereo and maximum economy of tape on four tracks without deterioration of reproduction quality. 119 gns.



724 L Stereo

Specification: 4 Tracks conforming to international standards-4; Tape reels diam.-7"; Tape speeds (ips) 3 $\frac{1}{2}$, 7 $\frac{1}{2}$; Frequency range (cps) 40-14,000, 40-18,000; Dynamic volume range (db) 45 at 3 $\frac{1}{2}$ ips, 46 at 7 $\frac{1}{2}$ ips; Wow and flutter (max \pm %) 3 $\frac{1}{2}$ ips 0.2, 7 $\frac{1}{2}$ ips 0.15. Recording mono and stereo; Playback mono and stereo; Power output. 2 x 2 watts; Microphone, radio, pick up inputs, output 1V at 15 Kohms and 2.8V at 4ohms. Weight 20 lbs (approx.) 79 gns.

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BOSCH

Recommended Retail Prices

The range of UHER tape recorders and accessories available in the U.K. satisfy the requirements of every amateur and professional enthusiast.

...when quality is your first concern

... always ask for UHER tape recorders and accessories. Quality is the simple, single aim behind their manufacture. Their production is also the sole pre-occupation of the UHER Company, whose specialisation has led to many outstanding developments, including the first application of printed-circuit techniques in tape recorder manufacture. For further details contact BOSCH LIMITED, UHER Division, 205 Great Portland Street, London, W.1. Telephone 01-580 2672/5.

BOSCH

has established a universal reputation for quality backed by continuous research, development and over 80 years of manufacturing experience. 85,000 BOSCH employees are universally engaged in the research, manufacture, distribution and service of BOSCH products. These include an impressive range of domestic appliances; radios; stereograms; tape recording equipment; automotive accessories and safety equipment; electric tools; hydraulics; language laboratory and closed circuit television systems... all of which are marketed in the U.K. by BOSCH LIMITED... a member of the BOSCH GROUP.

audio fair

Stand by Stand

continued

amplifier with compensated function switch for pick-up, tuner and tape. FMT 7 is a matching all-transistor f.m. tuner with facilities for connecting a decoder. Tape recorders are represented by the LZ 614 portable cassette mains operated unit in a teak and leathercloth cabinet. Output is 2½W. Price is 33gn. LZ 32 Mk II and LZ 34 Mk II are 2- and 4-track recorders, 3-speed, 3W output, for up to 7in spools. Inputs are provided for radio or microphone. Prices are 32 and 34gn respectively. New products, details of which can be obtained at the Fair are: matched speakers for the 207 and 220 amplifiers and playing desks for the same two amplifiers.

26, 24

**ELSTONE
ELECTRONICS
LTD**

540, 504

**MINICONIC
TANDBERG**

21

EMI LTD

320

EMI

Stereo and mono versions of the BTR4 studio recorder are being demonstrated. Three versions of the portable L4, half track, full track and full track with film sync facility, are also showing. EMI market Sony professional microphones including the battery operated studio condenser type C.28. A wide range of audio recording tapes includes a new professional standard play tape, improved quality domestic tapes, and the C.60 and C.90 cassettes. Matched speaker systems are being demonstrated in enclosures by Bowers and Wilkins. There is a special demonstration of the 13 x 8in elliptical speaker.

76

FERRANTI LTD
(see page 163)

261

FERRANTI

53

**FERROGRAPH
CO LTD**

134

FERROGRAPH

A new generation of tape recorders under the famous name makes its appearance. Known as Series 7, its features are based on the results of an intensive market survey of the needs of informed users. For vertical or horizontal operation it features all-silicon solid-state electronics. Unit construction allows easy removal of tape deck, power unit or amplifier. Amongst other features are three motors, three tape speeds, variable speed spooling, single lever knob operation of deck, endless loop cassette facility, pre-record facility on stereo models, etc. Models are available for mono or stereo operation, in quarter, half or full track versions. Prices range from 110 to 155gn.

58, 57

**FI-CORD
INTERNATIONAL**

254, 253

**BEYER, B
BRAUN**

New Braun equipment to be seen

includes: Audio 250 stereo control unit comprising PS410 turntable, a.m./f.m. tuner with decoder and 2 x 15W amplifier section. Price £279 19s. 9d. CSV500 is a 2 x 45W stereo amplifier with less than 0.5% distortion and frequency response from 10-35,000 c/sec. Price £203 10s. The new tuner CE250 is in a matching cabinet to the amplifier and is f.m. only. Price is £121 15s. The L600 speaker developed for use with the above units handles 30W and uses two mechanisms. Price £75 5s. Other units from the Braun range to be seen include: PS1000 turntable; PS410 turntable; CSV1000 amplifier; CSV250 amplifier; CE1000 tuner; CE500 tuner; TG60 tape recorder, SK55 radiogram and T1000 communications receiver. Also on show is the full range of Beyer microphones, including the new Soundstar dynamic moving coil model designed for both amateur and professional use with pop filter and hum compensation. A version is available with impedance selector switch.

29

**N. & S.B. FIELD
& CO LTD**

442

**RECORD
HOUSING**

Scan Plan and Hi-Flex ranges have been designed to meet the demand for housing audio equipment, and in particular to accommodate the growing range of audio separates. The Scan record unit sells at 8gn, the Scan audio unit at £6 19s. 6d. The Hi-Flex record unit is priced at £14 18s. Hi-Frames complete with eight brackets cost £6 19s. 6d. All are available in walnut, teak or mahogany veneer.

71

**GARRARD
ENGINEERING LTD**

234

GARRARD

The new AP75 record playing unit will be of interest to the enthusiast who requires high quality reproduction at moderate cost. A single play model, it incorporates a slide-in cartridge carrier, cue and pause facility, calibrated pick-up adjustment and bias compensation. Models SL95 and SL75 auto transcription turntables, and model SL65, a high quality auto unit, are in the new SL series, featuring the new Synchro-Lab constant speed motor. Model 3500 is a new moderately-priced auto unit with low mass pick-up arm and pause and cue control. Also on show is the established model 401 professional type transcription unit, and the Lab Mark II auto transcription turntable. The well-known SP25 Mark II single player, the 3000 and other units from the current range are to be seen. Wooden bases in teak with transparent covers are available for all units except 401 and SRP22.

4

GETZ BROS & CO INC FISHER

New Fisher units to be seen include: Model 200-T 70W FM-Stereo receiver which uses integrated circuits and field effect transistors. It has an illuminated tuning and a usable sensitivity of 2µV/m. The front panel is gold plated with copper inserts. A walnut cabinet is available. The model 550-T has a similar specification with a 90W amplifier and a sensitivity of 1.8µV/m. Model TX-1000 is an all-transistor laboratory standard stereo master control amplifier providing 120W music power (IHF). It has a six position programme/selector and switchable centre channel power output. Model TX-100 transistorised control amplifier gives 65W of music power. It has a four programme selector.

93

**GOLDRING MFG
CO LTD**

402

GOLDRING

Highlighted is the recently introduced GL.75 transcription unit with infinitely variable speed adjustment, an entirely new pick-up arm with calibrated pressure adjustment and removable adjustable plug-in head. Bias compensation is included. There is a hydraulic arm lowering device. Also given prominence is the 800 range of free-field stereo magnetic cartridges which feature substantially reduced tip mass and high frequency response above audible range. Other items include the model GL.68 transcription unit with hydraulic lowering device, the G.99 transcription unit with adjustable click-in positions for four operating speeds. Also shown are the stereo ceramic cartridges CS.90 and CS.91/E, and the G.65 and P.77 transcription arms. On show for the first time is the Audio Lead set, which permits any one of 38 different equipment-to-equipment connections to be made.

45

**GOODMANS
LOUDSPEAKERS LTD**

433, 434

GOODMANS

A selection from the famous range of high fidelity loudspeakers. Also the high fidelity amplifier, tuner and record player which make up the Goodmans Audio Suite. In room 434 demonstrations show the capabilities of the Stereo Maxamp 30 transistorised amplifier, the AM, FM, and Stereo FM Stereoamp tuners, and the MT1000 record player. The three M-range loudspeakers are being demonstrated—the mini system, Maxim, the bookshelf cabinet, Mezzo II and the studio quality Magnum-K. In room 433 'High Fidelity in the Home' is being shown, and the full colour 12-page Audio Suite booklet is available.

MORE ON NEXT PAGE

audio fair

Stand by Stand

continued

38

GRAMPIAN REPRODUCERS LTD

GRAMPIAN

The well-known DP4 microphones in various forms are on show with other patterns of dynamic units in addition to ribbon and cardioid types. Among these is a new cardioid in modern styling with on/off switch and replaceable diaphragm/coil assembly. There is a range of accessories, stands, etc. Microphone mixers of all types from simple passive types to semi-professional units with pre-amplifiers are on show. The Grampian Reverberation unit is featured. The Ambiophonic unit enables the user to add variable levels of reverberation and impart a quasi-stereo effect. The well-known T.C.12 dual cone, 12in loudspeaker unit completes the display.

69

GRUNDIG (GB) LTD

GRUNDIG

The full range of high fidelity equipment and tape recorders includes a number of new models. New is the RTV600 integrated tuner/amplifier, the most sophisticated and elaborate unit in the range. It contains 53 transistors and 31 diodes, and has an extremely wide linear power band width. Power output is 20W per channel into specially designed speakers. Radio coverage is f.m., and a.m. including two short wavebands. A stereo decoder is built in. The cabinet is finished in walnut, teak or rosewood. Nine different types of loudspeakers, complete with infinite baffle enclosures can be heard in the dem. room. Many are new to the range and some heard at last year's Fair now have increased power handling capacity. A full range of accessories is to be seen.

19

C. E. HAMMOND & CO LTD

663

REVEX
STUDER

The Revox 77 series of stereo tape recorders incorporate electronically governed capstan motors, with extra motors for spooling; all-transistor plug-in circuitry; calibrated VU meters; photoelectric end of tape switch; 4-digit tape position indicator; headphone monitoring; editing feature; multi-play; echo effect, etc. The chassis only version costs 134gn., or in a teak case 139gn. Either version can be fitted with 10 + 10W amplifier panels at 20gn. extra. Suit-case versions with four speakers cost 165gn. A new 40 + 40W transistor amplifier, forerunner of an entire Revox system, is on show for the first time.

Also to be seen are the Studer professional recorders, including the C37 as used by

the BBC. Agents for Studer professional recorders: F.W.O. Bauch Ltd.

34

HIGHGATE ACOUSTICS

156

ARENA

New for the Fair is the T1500M radio receiver and the T1500F tuner. Both are f.m./a.m. including s.w., and are available with or without decoder. They are of modular construction. The tuner is designed to work with stereo amplifier F210 and HT21 speakers. In addition the well-known Arena range of modular radios and tuner/amplifiers is on show.

59

INSTRUMENT RESEARCH LABORATORIES LTD

I.R.L.

92

KEF ELECTRONICS LTD

542

KEF

The established range of KEF speaker systems will continue unchanged for 1968. The Concerto is new. It is a three speaker system using the B139, B100 and T27 tweeter in a 28 x 17 x 12in walnut or teak cabinet. Priced at £53 10s, it has a 25W rating. A new monitoring speaker system as supplied to the BBC uses plastic diaphragms and is smaller than its predecessor. Improvements include lower colouration and higher power handling capacity at mid frequencies. The older and larger LS5/1A is continued.

54

H. J. LEAK & CO LTD

104

LEAK

Stereo 70 is a transistorised integrated amplifier supplying 25 to 35W per channel at less than 0.1% distortion. Provision is made for the use of two pick-ups, for remote loudspeakers, for stereo headphones and for the use of a tape recorder portable. The cabinet mounting model is priced at £63, a shelf version at £69 10s. The Stereo 30 integrated amplifier is now available either as a chassis model or in a teak case at £52 or £58 10s respectively. The Trough Line 3 and Trough Line Stereo f.m. tuners are also available in teak cases. The Sandwich and Mini Sandwich speakers now have a 25ft lead. The Leak magnetic pick-up is being demonstrated.

1

LOWTHER MFG CO

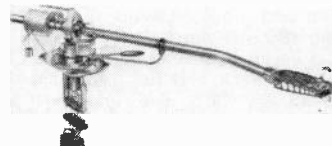
204

LOWTHER

All the items listed in the Lowther current catalogue are on show and being demonstrated, with the exception of the Monoral and Stereo Master control units which this year are completely transistorised. New product: Drive unit P.M.6 Mk I, with an entirely new diaphragm



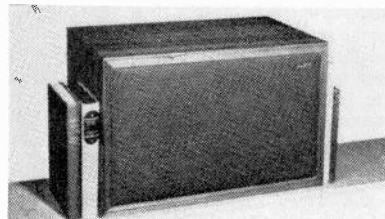
Record Housing Hi Frames and
Hi Flex Units



SME Series II arm

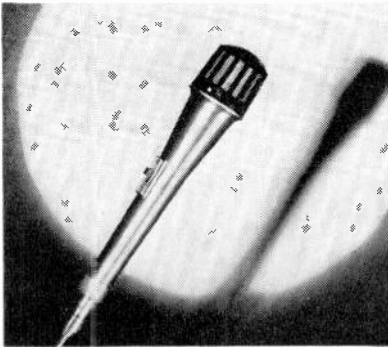


Politechna D1000C microphone



Jordan-Watts Juliet speaker—
Boosey & Hawkes

Opening day is **TRADE ONLY** until 4 p.m.



Grampian DP4 microphone

and silver wire speech coil; Lowther are now making under licence, the Lowther Organino Electronic keyboard instrument for connection to any high quality amplifier. It has five octaves and 54 stop combinations.

250, 251

LUGTON & CO LTD

The company specialise in the distribution of high quality audio equipment and are factors for all the leading makers. On show are amplifiers by Acoustical, Chapman, Decca, Goodmans, Grampian, Leak, Lowther, Rogers and Vortexion. Gramophone units from Decca, Garrard, Goldring and Thorens. Speakers by Acoustical, Decca, Goodmans, Grampian, KEF, Kelly, Leak, Lowther, Rola, W.B., Wharfedale. Tape recorders from Telefunken, Uher and Vortexion.

79

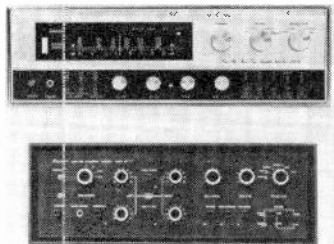
LUSTRAPHONE LTD

A new range of microphones, amplifiers and associated equipment is to be seen, but at the time we go to press details are not available. The established range to be seen includes dual-head stereomatic, ribbon velocity, dynamic and electro magnetic microphones. Other products include the Radiomic system, and specialised equipment for broadcast, sound, public address and recorder requirements.

73

MARUBENI-IIDA CO LTD

Technical Ceramics—Sansui 3000A tuner/amplifier (top)
AU-777 control unit (bottom)



145

LUSTRAPHONE LTD

39

MEDLEY MUSICAL LTD

49, 50, 51

METROSOUND (SALES) LTD

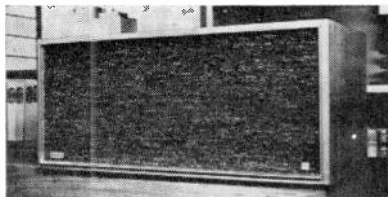
342

SANYO CO LTD

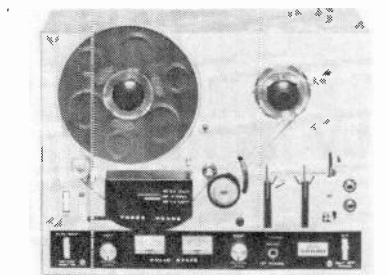
154, 647

SONOTONE THORENS ORTOFON

Sonotone 9TA and 9TAHC are high quality ceramic cartridges offering high compliance and low tracking weight. The Thorens TD.124/II transcription motor continues to occupy a world wide reputation for excellence of performance. The TD.150 series is a 2-speed transcription motor available with or without plinth or combined with the TP.13 pick-up arm. The TP.14 professional pick-up arm has a positive lowering device and is fitted with the TP.50 perforated lightweight shell with adjustment for length or angle. Also to be seen is the TD.224, the restyled transcription unit with auto-change now incorporating the TP.14 arm. The Ortofon SL15 series of lightweight cartridges introduced at last year's Fair continue. Type C is a single channel head with a characteristic flat from 20-20,000c/s. The wide range of pick-up arms and the RS.212, introduced last year, remain in production. The Hi-Jack lowering device is available in models for use with Ortofon arms or with other arms.



Rola Caestion Ditton 15 loudspeaker



Pullin.—Akai 3000A tape recorder

60

MINNESOTA MINING & MFG CO LTD

The qualities of the complete range of Scotch audio magnetic tapes are being demonstrated on professional recording equipment. The range comprises low noise Dynarange, Superlife and the new Cassette. Also to be seen is the new range of tape accessories. Copies are available of Playback, a new quarterly magazine for tape users.

42

B. H. MORRIS & CO LTD

On show and demonstration are: Trio model TK-40E solid state m.w./f.m. stereo tuner/amplifier, 20 + 20W at £89 5s; TK-60BE stereo tuner/amplifier, 20 + 20W at £72 9s; TK-140E stereo tuner/amplifier, 50 + 50W at £138 12s; TK-250E 20 + 20W stereo tuner/amplifier at £49 10s; TK-350E automatic stereo tuner at £57 15s. On show for the first time are: TK-150E, a 13-5W per channel solid state amplifier provisionally priced at £32 12s, and Supreme 1, an integrated stereo amplifier giving 64W per channel and having separate bass, mid and high frequency amplifiers. Price is £280.

36

MULLARD LTD

On show to set makers are the latest additions to the company's range of silicon planar, plastic-encapsulated lock-fit transistors for audio equipment. Advantages of lock-fit include special pins which ensure excellent soldered bonds, elimination of lead cropping and pre-shaping. A new range of complementary pairs of high power plastic encapsulated transistors is introduced. Also on show is a complete f.m. stereo radio receiver containing four types of Mullard circuit modules. On the public stand is a broad selection from the range of audio semiconductor devices. Information on Mullard audio components and literature describing the design and performance of high power audio amplifiers is available. Copies of the 1968 Mullard Data Book are available.

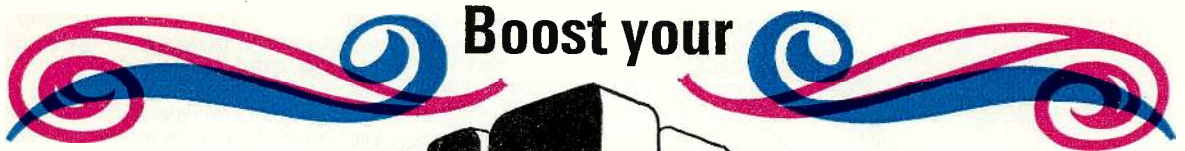
62

MULTICORE SOLDERS LTD

BIB tape maintenance kits are available in two sizes: size E at 12s 6d and the larger size K at £2 16s intended for service organisations and studios. The audio cable and flex shortener enables excess lengths of cable to be shortened quickly without cutting. Anti-static and non-inflammable BIB instrument cleaner is available at 4s 6d per 4oz bottle. Model 8 wire cutter is instantly adjustable for 8 gauges. Model 3 (4s 6d) is pre-set for any one gauge. The 2s 6d pack of Ersin Multicore match melting solder

continued on page 161

See page 164 for LATE ENTRIES



Boost your

PROFITABILITY

with the Mullard

TUBE EQUIVALENT SERVICE

21 Mullard tubes

replace

125 other types

This adaptability means streamlined stocks, with fewer types—less space and less cash tied up!

There's a new tube equivalent service wallchart to speed up selection. Send for one NOW! or ask your Wholesaler. And don't forget Profitability Point 8—the Mullard mix for better tube prices.

Buy three tubes or more—mixed or same type—to get the best product at the best price.

You could save yourself up to £2

Remember

it pays to ask for **Mullard** by name



audio fair

Stand by Stand

continued

contains 50 pieces. Solder dispensers contain 21ft for 3s or 10ft for 2s 6d. The BIB home electrician's kit contains tape solder, screwdriver, three flex shorteners, fuse wire and insulating tape.

82 PARMKO LTD 358 PARMEKO

System 12 is a 10W per channel player unit with a choice of autochanger or single player. System 22 gives 30W per channel and uses a semi-conductor pick-up. System 32 is a double size console which can be fitted with either System 12 or 22 electronics and also has space for a tape deck. All are in teak veneered cabinets. The range of loudspeakers comprises the 10W S10 bookshelf unit, and the similar S11. The S14 mid-range assembly handles 15W with bass and treble units. S15 is a free standing assembly with bass, treble and mid-range units handling 15W. Cabinets are teak finished with green Vynair grilles.

23 PHILIPS ELECTRICAL LTD 336 PHILIPS

25 PHILIPS TAPE RECORDERS 337 PHILIPS

A new tape recorder, model PRO12 is introduced. It is a two-speed, vertical or horizontal machine and is suitable for twin-track mono, dual track mono or twin-track stereo recording and playback. Three motors and three heads are fitted. Approximately 180gn. Tape recorders already released include the 4-track, 3-speed high fidelity model 4408 with detachable speakers. Model N2500 is new to the range of cassette recorders. It is intended to feed into a high fidelity system. See also the car cassette model N2600 which functions through a car radio. The full range of new High Fidelity low noise tapes is also on show and the range of blank cassettes. New amplifiers GH943 and GH949 and a.m./f.m. tuner GH944 are styled in teak to match the other units in the Unit Plan range from which a wide variety of systems can be built up to suit taste and pocket.

88 POLITECHNA (LONDON) LTD 237 AKG

Extensions to the range of two-way system microphones include the D.220—a cheaper version of last year's D.202, and the D.224, a professional type with a three position switched bass attenuator. Another new release is the cardioid D.1000 specially designed for music reproduction. It has a three position response switch, an easily replaceable capsule and the case is finished in 24 carat gold plate or silver grey. For the domestic user there is a new

cardioid D.11 with an adaptor to provide a super and hyper cardioid pattern. Available in 500Ω or 200Ω versions, ro as a stereo twin assembly. Added to the AKG range of headphones are the K.20 and K.60 stereo sets.

8 PULLIN PHOTOGRAPHIC 563 AKAI

Three new models: The Akai 3000D, a tape deck with 4-track stereo/mono recording and playback pre-amplifiers. Two tape speeds, three heads, two lever operation, three digit index counter, VU meters are some of the features. Price is £86. Model X-150D is also 4-track, stereo/mono with record and playback pre-amplifiers, three speeds, three cross-field heads, etc and is priced at £106. The M-9 is a complete stereo/mono recorder replacing the older M-8 and priced at £159. The established models 1710W, X-IV, X-300, X-355 and the Akai speakers are on show.

87 RANK WHARFEDALE LTD 502 WHARFEDALE

20 RECORDAWAY CO LTD 502 RECORDAWAY

The Recordaway cabinet combines the elegance of fine furniture with the practical efficiency of suspended record storage. The fitted track units hold 100 pockets and the drop front gives easy access and selection. In teak or walnut £23 13s 9d. Pockets are available at 2s 11d each. The Recordaway Span unit used alone provides storage for up to 80 records, or it can be stacked vertically for additional quantities. Price is £9 19s 6d. Shelf units accommodating 100 or 50 pockets are available at £8 3s or £5 1s. Individual track units can be used to convert existing shelves or cabinets.

15 RESLOSOUND LTD 348 RESLO

A full display of the standard range of microphones and accessories, and a selection of public address amplifiers and loudspeakers, together with microphone stands, the Boom Arm and the Stereo Twin Mount. A new microphone is the omni-directional miniature MPD.2, efficient yet competitively priced. The UD.1 now has a detachable perspex ring for altering the cardioid response, an anti-pop filter and an optional base reduction connection. The OD.1 is now pop-proof and is slimmer and shorter. The SL.1 stick microphone has a remote universal matching unit with base reduction. A high quality radio microphone is available, with accessories, in an artist's vanity case, together with special microphone and banqueting stand to accommodate the transmitter. A special version of

the ST.40 Stenofon loudspeaking intercom is on show. Improved versions of the Chapman radio tuners are to be seen. FM1000, f.m. only, and FM1005, l.w., m.w., and s.w., are shown in free standing wooden cabinets and in black metal cases for installation in own cabinets. A development stage 15 + 15 transistor stereo amplifier is being demonstrated.

27 RICHARD ALLAN RADIO LTD 642 RICHARD ALLAN

Celebrating their twenty-first anniversary the company announce their entry into the amplifier with two class A units—claimed to be the first such transistorised devices available. Model A21 (£52) is a fully integrated 10 + 10W version in a teak cabinet. A41 is a 20W per channel unit with a separate control unit, model C41. A41 is priced at £59 10s, C41 at £34. New this year is the Pavane, a compact triple speaker system using a high flux 12in bass unit, an 8in mid-range and a 4in tweeter. In teak it is priced at £30. The Chaconne, a twin speaker of bookshelf size, retails at £18 12s 10d. Also to be seen are the Minette and Sarabande reproducers.

74 J. RICHARDSON ELECTRONICS LTD 359 RICHARDSON

Model SCP1 is a stereo pre-amplifier of new design using 2 FET and 14 silicon planar devices. Five inputs are provided. Scratch filter, rumble filter and quiet listening switch are provided. MA135 is a mono power amplifier using valves and a semi-conductor power supply. Output is 30W. A stereo version is the model SA170. MA200 is a mono amplifier for the professional user which can be rack mounted. Output is 70W. Balanced line input and 100V line output can be supplied. DM1 is a 4-channel discotheque pre-amp/mixer with cross fade control and monitoring of disc one whilst disc two is playing. A range of pre-amp/mixers is available to order.

48 ROGERS DEVELOPMENTS LTD 602 ROGERS

22 ROLA CELESTION LTD 534 CELESTION

Demonstrations of the Ditton Compact and bookshelf high fidelity speakers. The Ditton 15 introduced at last year's Fair is back, slightly larger but still under 1 cu ft, and there is a new Ditton complementary to the 15, but larger, with more handling capacity and greater bandwidth.

MORE OVERLEAF

audio fair

Stand by Stand

continued

91 SHURE BROS LTD **404 SHURE**

Highlighted is the V15 type II Super-Track stereo dynetic cartridge first seen last year. The M75 series Hi-Track cartridges provide high trackability at modest cost. M75E has an elliptical stylus, M75G and M75-6 are conical. New for the Fair is the M75E-95G Gard-a-Matic Hi-Track, designed specifically for the Garrard SL95 unit. Model M75E-D19 is designed for use with Dual models 1019, 1009SK, 1015 and 1016. Supplementing model M3D-M in the economy range of cartridges Shure announce the M31E and M32E, both with bi-radial elliptical styli, and the M32-3 for 78s. The Unidyne range of cardioid microphones is augmented by the Unidyne IV series, models 548 and 548S. Other interested products include the model M68-2E transistorised five-way mixer, and the M62 Level-Loc audio level controller. The Solo-Phone amplifier facilitates high quality personal stereo listening at moderate cost.

43 SHRIRO (UK) LTD **202 AUDIO TECHNICA**

46 SINCLAIR RADIONICS LTD **248 SINCLAIR**

61 S.M.E. LTD **SME**
Principal exhibit is the established Series II precision pick-up arm and accessories in conjunction with leading makes of turntables and cartridges. Detailed refinements have been added during the past twelve months.

6 STANDARD TELEPHONES & CABLES LTD **STC**

32 STEREOSOUND PRODUCTIONS LTD **155 STEREOSOUND**

83 A. R. SUGDEN & CO LTD **548 CONNOISSEUR**

There is a new belt drive turntable, the Connoisseur BD1. It operates at 33½ and 45 r.p.m. and incorporates a flexible belt drive which virtually eliminates vibration and transmission noise. The SAU2 pick-up arm first seen last year figures prominently and is being demonstrated. Also to be seen are the Classic turntable systems, and both 2-speed and 3-speed Craftsman turntables in chassis form or as complete assemblies on teak plinths. The Craftsman

omni-directional speakers complete the exhibit.

9 SWISSSTONE LTD **360 PIONEER**

New for the Fair is the Pioneer SX-700T, 30W per channel a.m./f.m. tuner/amplifier, with sophisticated input and output switching. The current range to be seen includes: SX-34B a.m./f.m., 11W per channel receiver with facilities for replay of discs or tapes; SX-300T, transistorised, with 12.5W per channel; SX-600T, 2 x 17.5W output and with inter-station muting on f.m.; SX-1000TA, a professional quality 2 x 40W tuner/amplifier, has a combined monitor switch and mode switch enabling 4-track recording and mono reproduction to be achieved; C6000 is a complete stereo sound system. The range of loudspeakers includes CS88 with a 12in woofer, a 5in squawker, two cone tweeters and a horn tweeter, and is rated at 40W. Playing decks include the PL41, a broadcast quality belt-driven unit with a 5lb die-cast turntable and an oil damped tone arm system. Integrated amplifiers, reverberation amplifiers and stereo phones complete the display of Pioneer equipment.

67 TANNOY PRODUCTS LTD **547 TANNOY**

15 and 12in versions of the Monitor Gold and the III LZ Monitor Gold mechanisms are being demonstrated in the full range of Tannoy enclosures including the Autograph, G.R.F. and Lancaster.

84 TAPE RECORDER SPARES LTD **160**

Some hundred new lines are introduced to what is claimed to be the world's most comprehensive range of pre-packed tape recorder spares.

16 TAPE RECORDER DEVELOPMENTS LTD **447 T.R.D.**

28 TECHNICAL CERAMICS LTD **159 SANSUI**

New: Model 400 stereo tuner/amplifier featuring minimum distortion at low listening levels; model AU-777 stereo control amplifier suitable for amateur or professional usage; model 2000 stereo tuner/amplifier with striking new styling; model 3000A stereo tuner/amplifier, a successor to the 3000, with higher power output and double speaker system; the Q55 power amplifier and the MX10 audio mixer/pre-amplifier. Also on show is the current range of Sansui amplifiers and tuner/amplifiers and loudspeakers.

Sonotone ceramic cartridges are being demonstrated.

64 TELETON ELEKTRO (UK) LTD **158 TELETON**

94 TRUVOX LTD **636 TRUVOX**

52 UNIVERSITY RECORDING LTD **117 SLOT STEREO**

2 VORTEXION LTD **334 VORTEXION**

Principal exhibit is the Vortexion Series 7 tape recorder featuring solenoid stop/start with provision for remote control and voice operated control. An all-silicon version has a 10/15W per channel amplifier with less than 0.1% distortion at 10W and low noise FET's for low intermodulation distortion. Also to be seen are the new 20/30W amplifier, CP50 amplifier and 100W all-silicon amplifier.

85 WHITELEY ELECTRICAL RADIO CO LTD **304 W.B. STENTORIAN**

The new Stereo 30 amplifier is an all-transistor integrated unit for use with all types of pick-up and facilities for tape or microphone input. In teak veneer cabinet for shelf mounting, or can be used in the new compact equipment cabinet. Stentorian loudspeakers are to be seen ranging in size from 2 to 18in diameter with a variety of cone constructions, speech coil impedances, and magnet strengths. Three high quality speaker systems are the LC93 bookshelf unit, the LC94 with 9in graded cone unit in a compact housing and the bass reflex LC95. All are available in teak or rosewood. A range of acoustically designed enclosures in kit form can be assembled with the aid of a screwdriver only.

K. H. WILLIMAN & CO LTD **346**

The company are sole world exporters for Jordan Watts speakers and Rogers high fidelity equipment.

WILMEX LTD **363**

18 YAMAHA EUROPA GMBH **161 YAMAHA**

The Yamaha Natural Sound speaker is unique in having an asymmetrical shaped cone especially developed to eliminate standing waves. On show are models JA6002, JA5002 mounted in cabinets NS-30 and NS-20.

powerful sales make powerful profits

and we sell more batteries than all the rest put together—
so stock the ones your customers want!



Ever Ready pack the power in



BELLING-LEE DROP AERIALS

ANTIFERRENCE TAKE OVER MARKETING

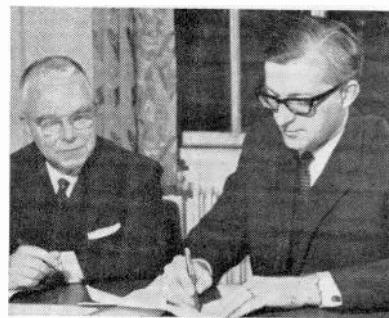
Belling & Lee, after thirty years in the domestic television aerials business, will cease its activities in this field during the current year.

Belling and Antiferrence have negotiated an agreement which will allow Belling-Lee Aerials to withdraw from the market without disrupting continuity of service to customers.

Under the terms of the agreement Antiferrence will take over Belling-Lee's stocks, brand name, design rights, products, tools and specialist knowledge. The arrangement will assist Antiferrence in its efforts to achieve a measure of aerial rationalisation and give a better service to the user.

For an initial period Belling-Lee will continue to meet demands for their aerials and components from their Liverpool, Enfield and provincial depots.

A consolidated Antiferrence/Belling-Lee range of domestic aerials will ultimately be marketed by Antiferrence and both companies will collaborate in the technical sphere to ensure that the fusion of their joint expertise will be reflected in improved aerial products.



E. M. Lee, Belling-Lee Aerials (left) and J. Rawicz-Szczerbo, Antiferrence—sign the agreement.

HEATHKIT at the GRAND HOTEL

The latest Heathkit Hi-Fi stereo amplifiers, tuners and speaker systems are being shown and demonstrated during the run of the Audio Fair at the nearby Grand Hotel in Southampton Row.

Stereo record players and tape recorders are also on show, as well as many models from the Heathkit radio and test instrument ranges.

AUDIO '68 SHOW

SONY, B & O and RADFORD at TAVISTOCK HOTEL

Just round the corner from the Audio Fair, Sony and Bang and Olufsen are holding their own Audio '68 Show. The Show will be open from April 18 to 21 with the first day reserved for the trade only.

Sony are presenting their Ultimate Precision high fidelity equipment and range of semi-professional tape recorders. Models to be demonstrated include: TTS. 3000 transcription unit with low speed servo-controlled d.c. motor; model PUA-286, 16in balanced tone arm, with gimballed mounting, bias compensator and hydraulic lowering device; model TA. 1120 integrated stereo amplifier giving 50W per channel and model TA. 1080 30W integrated stereo amplifier.

Tape recorders include: TC. 250A, 4-track stereo deck; TC. 350, 4-track, 3-head stereo deck; TC. 530 stereo unit with quadraxial sound system.

New for the Show is the ST. 5000 tuner and new tape recorders.

Bang and Olufsen are showing their new Beolab system and the Beomaster 900 and 1000 series tuner/amplifiers in conjunction with Beocord tape recorders and Beovox loudspeakers.

There are three new Beovox speakers, Model 800 is a flat, wall-mounted unit handling 10W with one bass speaker and one tweeter. Price is £21. Beovox 2200 is a bookshelf model handling 10W and priced at £23 10s. Beovox 2400 has bass, mid-range and tweeter units, handles 20W and has a bass resonant frequency of 35-40 Hz. Suggested price is £32.

Radford, now marketed by Tecno-mark, are showing their new generation

of transistor amplifiers and matching tuner units, a range of loudspeakers from bookshelf to professional studio types and matching unit furniture.

audio fair Late Entries

BOOTH COMPANY

35

DYNATRON RADIO LTD

The complete range of Dynatron audio separates is on show and demonstration. TRV17 is a 25W twin-amplifier tuner/amplifier covering a.m./f.m. bands and fitted with decoder and tuning meter. Price: £72 9s. Record playing deck P80 uses the Garrard Lab. 80 Mk II manual/auto transcription deck with Pickering magnetic cartridge—£52, P25 is a record player with the Garrard SP25 single play unit and counter-balanced tone arm. On teak plinth at £32. P60 record player uses the Garrard A60 Mk II unit and is priced at £35. Loudspeakers on show include the LS200, a floor standing reflex enclosure with 8 and 3½in units. LS100, Fly-Away, is a shelf mounting assembly fitted with 6½ and 3½in units. LS300 is a high quality bass reflex cabinet using a 12in low

DEM. ROOM BRAND NAME

236

DYNATRON

BOOTH COMPANY

resonance unit with two high frequency units. HFC3A and HFC3M assemblies incorporate tuner/amplifier SRX24 and Garrard model 50 Mk II changer or SP25 single play unit. The cabinet is finished in teak veneer.

76

FERRANTI LTD

An exhibition of audio equipment using silicon planar transistors, which permit a flexibility of design not always available from germanium devices. A comprehensive book of audio circuits of interest to the high fidelity enthusiasts is available. The stereo system being demonstrated has two main amplifiers of 30W rating and features several unique circuit innovations. The pre-amplifiers have very versatile input circuits and facilities. The f.m. tuner accepts stereo broadcasts and uses epoxy encapsulated transistors throughout.

DEM. ROOM BRAND NAME

261

FERRANTI

Philip Hickson

TALKING ABOUT...

BECOMING A MULTIPLE

I know from my contacts in the trade that the recent crop of mergers in and around our industry has set many of you speculating seriously on the future prospects for the independent radio/electrical dealer.

Some of the questions asked are—is the writing already on the wall for the small man—has the future already been grabbed by the multiples, or is there some way of beating them—or joining them?

My belief is that all is not yet lost by any means, and if we feel that we cannot beat the multiples we can at least make an attempt to join them. I do not mean physically, but by adopting some of their advantageous features.

What is a multiple anyway? My definition recognises a mini-multiple of up to say 20 shops under one management, or a maxi-multiple which may have up to several hundreds of outlets. Some of the larger departmental stores also have the attributes of a multiple organisation.

THE ADVANTAGES

And what are the advantages I talked of earlier?

The principal one is undoubtedly the power which stems from centralised and bulk buying. The buyer with a million pounds a year to spend can obtain much larger discounts from manufacturers than can the owner of a single shop who probably does not have more than £30,000 at his disposal.

Centralised delivery and storage, centralised stock-keeping and accountancy, joint advertising schemes, joint servicing and aerial erection facilities are some of the features of a multiple organisation which lead to greater turnover, greater efficiency and greater profits. The latter, as I have said before, is the final measure of a good business.

A multiple organisation by virtue of the scale of its operation may be able to obtain additional discounts averaging around 10 per cent. The additional costs of the centralised buying and accountancy should not be more than 1½ per cent, giving a net advantage of 8½ per cent.

This extra profit can serve as a useful buffer against the price cutting activities of local competitors, or can be used for extra promotional schemes which in turn should lead to additional turnover.

Multiples can also shift slow moving items by trying them out in different branches where local demand may be different.

Manufacturers like bulk deliveries as being more economical for them, and many will offer extra discounts in such circumstances.

Even in a multiple organisation there is room for, and often a need for, local purchases, as for instance to meet a need for a line not normally stocked, or for an item required in extra quick time.

You may well feel that the above advantages are real and distinctly worth acquiring, but how do you get into the act?

THE PROBLEMS

Well, perhaps you can join an existing combine of independents in your area—having first satisfied yourself that it is well founded and effective. If one does not exist suitable to your needs you may consider organising one.

About 12 shops is a comfortable number to aim for to start a group. For this number it should be possible to provide all the group services without having to find extra office accommodation or staff. One shop might provide

the buying staff, another might provide suitable central stockroom, and another the accountancy service. All members would of course contribute their share of the running costs of the combined operation.

The time to launch out with separate offices and integrated staffs will be governed by the extra turnover and the greater net profit achieved. These increases will also have considerable bearing on a decision to expand the size of the chain above the initial dozen or so shops. It may be necessary to think in terms of 50 members to make the expansion solid enough to carry the increased overheads which will ensue, and such an expansion may well tax the resources of the smaller group too far.

Independent dealers who have joined existing combines list some of the advantages they have gained as: a greater selection of available stock; extra discounts; the possibilities of exchanging goods between members as opportunity or need arises; the availability of 'special lines' from manufacturers at special prices.

Many dealers who have recently joined combines tell me they wish they had done so long ago. They are certain that for the independent dealer this is the answer to the big groups.

literature RECEIVED

E149 TWO NEW SECTIONS OF BS 3939; *Graphical symbols for electrical power, telecommunications and electronics diagrams* have recently been published. They are: Section 10: *General purpose contacts; switchgear; control and protection relays* and Section 11: *Coils and contact units for telephone-type relays and relay-type devices.*

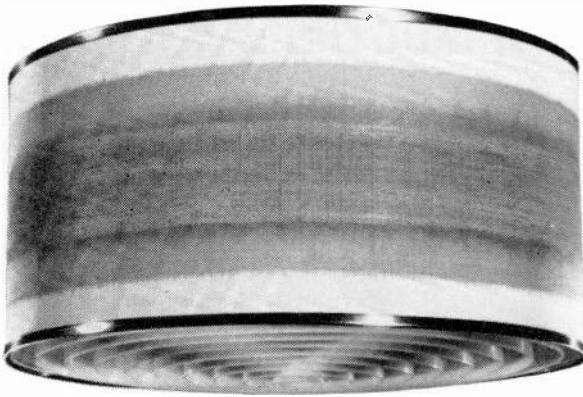
E150 THE COUNCIL OF THE IEE has authorised the issue of the first set of amendments to the 14th edition of the Wiring Regulations. The main changes they introduce concern classes of excess-current protection, 250V mineral-insulated cables, cable materials, butyl-rubber-insulated cables, and glass-fibre-insulated flexible cords.

E151 TECHNICAL BULLETIN No. 4 from BXL deals with the new electrical grade of Bexphane E. This is a balanced biaxially oriented polypropylene film specially developed as a capacitor dielectric. The bulletin summarises the features and advantages of the film and gives detail of its electrical and physical properties.

E152 THE INCREASING USE of pvc-insulated cables having solid aluminium conductors and armoured with aluminium strip has led to the preparation of BS 4273 : 1968—*Aluminium strip armoured pvc-insulated cables (with solid aluminium conductors).*

—continued on page 167

UNIQUE



EACH ONE UNIQUE

The Queensberry Shade. Designed by The Marquis of Queensberry. Backed by consumer press advertising this will be the fastest moving shade in the '68 lighting market. Every shade is unique, hand-coloured in banded patterns to a new technique by the Marquis of Queensberry. Demand will be heavy and orders will be dealt with in strict rotation. **Do not delay...send for full details now!**

knightshades Ltd

*I am very interested in your new range of shades.
Please send me all the details.*

NAME _____

COMPANY _____

ADDRESS _____

R3

*To Knightshades Limited · Silverhill Works · Theaklen Drive
St. Leonards-on-Sea · Sussex · Telephone Hastings 7620/1*

Ref. Ad. No. 400

A bonus from AJAX Electrical Accessories

Beat all competition with this fast selling range of over 80 plugs, sockets, lampholders, junction boxes, strip lamps, rocker switches, batteries, flexibles and fuses. All items are top quality and *fully guaranteed*. A range that has been selling fantastically well for many years very competitively priced, yet allowing a full mark-up! Send for fully illustrated leaflet and price list today. Just attach your letterheading to coupon below and send to:
ACME ELECTRIC CO. (FINSBURY) LTD.,
74 Great Eastern Street, London, E.C.2
or phone SHoreditch 6486/8

Please send

**AJAX
ELECTRICAL
ACCESSORY
LEAFLET & PRICE LIST**

**AJAX CATALOGUE
(FULLY ILLUSTRATED)**

We are *wholesalers/retailers. *Delete as applicable

Ref. Ad. No. 401

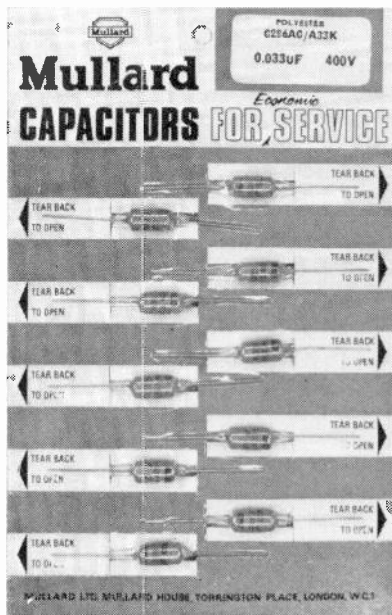
TO HELP YOUR SALES

manufacturers' advertising & sales promotion plans



SKIN WRAP

MULLARD have introduced a skin wrap packing for their ranges of capacitors



for radio and TV maintenance work. The new pack is claimed to give more convenient storage, greater ease of handling and re-distribution, and suitability for display. Visual stock checking is made easier.

FREE SHELF FROM DIMPLEX

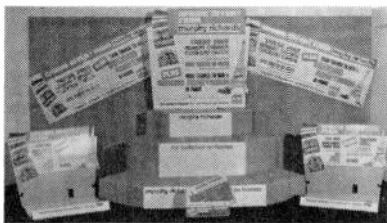
AN ATTRACTIVE metal tray with a glass shelf is to be given away with every Dimplex storage radiator. The tray slots over the edges of the heater, and the glass shelf is removable.

RECHARGEABLE MONEY SPINNER

STARTING in April, whole pages in the *Daily Express*, *Daily Mirror*, *Daily Record*, *Weekend Telegraph* and *Readers Digest* will cover the whole potential market for the new Remington Selectronic rechargeable cordless shaver. Special window displays and a retail display scheme are available to dealers. Free Selectronics are being offered to dealers in this scheme. Other prizes include Remington toiletries.

MORPHY RICHARDS SPRING CAMPAIGN

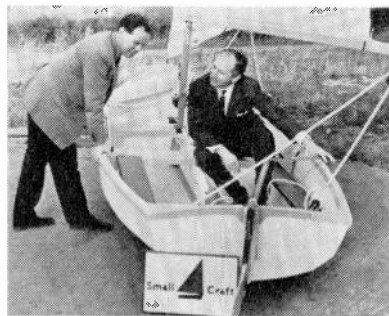
THE SPRING DOUBLE offer from Morphy Richards is aimed specifically at the market least likely to be affected by any further economic restrictions—the wedding peak gift period prior to the end of the tax year. Every purchaser of an iron,



toaster or food mixer will be eligible for a free set of 20 Robert Carrier cookery cards, valued at 7s. 6d. and have a chance to win a second honeymoon holiday in Paris. The campaign will be supported by national press advertising, and there is a range of special display material.

HOOVER KITCHEN PRIZE

TWO KITCHENS, each worth £1,000, are to be offered as prizes in a Hoover competition open to anyone buying a Hoover appliance during April. The prize is made up of £700 worth of



John Ward (in dinghy) Hoover's housewares products manager, examines one of the 11ft Gull dinghies with G. Lusty, managing director of Small Craft.

Hoover appliances with £150 of kitchen cabinets and £150 for fitting and re-modelling. At the same time there will be an in-store promotion of irons in selected department stores. In these stores Hoover will supply an 11ft sailing dinghy to be offered in a contest to be run by the store.

literature RECEIVED

continued

E153 A RECENTLY PUBLISHED supplement to BS 448 — *Dimensions of electronic tubes and valves* contains an amendment to Part 1. It also has four new and six revised sections to Part 2.

E154 JUST PUBLISHED by Letraset is a booklet entitled *Progress with Letraset* which describes the new Letraset Design System. The system has been devised primarily for the graphic designer but can be equally of use to the dealer who is looking for an easily assimilated method of producing display material, literature or other promotional material with the maximum of effectiveness and the minimum of technical skills.

E155 THE 1968 EDITION of the *Mullard Data Book* is now available. For the first time it embraces the complete ranges of the company's valves, tubes, semiconductors and components for entertainment applications. Different coloured papers identify the different sections, and the handy pocket size has been retained. As well as being available

free to members of the trade, it is this year available, through dealers, to other interested persons at a recommended price of 3s. 6d. per copy.

E156 IN THE THIRTY-NINTH EDITION of *ELECTRICAL & ELECTRONIC TRADER YEAR BOOK* all sections of this essential reference book have been brought up to date. Contents include: Technical Sections; Legal Guide; Technical Literature Section; Service Depots; Wholesalers; Buyers' Guide; Proprietary Names; and Manufacturers, Concessionaries and Wholesalers Addresses.

E157 THE 1968 EDITION of *Audio Annual*, now available from any bookseller at 7s. 6d., contains some 40 reviews of high fidelity equipment and tape recorders as well as numerous authoritative articles on many aspects of the audio scene. Contributors include Donald Aldous, Stanley Kelly, James Moir, Rex Baldock, etc.

4 Servisol
aids to greater efficiency...

SUPER SERVISOL SWITCH CLEANING LUBRICANT 12/6 <small>Aerosol</small>	SERVISOL SWITCH CLEANING LUBRICANT 12/6 <small>Standard Tin</small>	FREEZE-IT CHEMICAL CIRCUIT FREEZER 12/6 <small>Aerosol</small>	Serviscream ANTI-STATIC CREAM Per tube 3/-
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From your Wholesaler or write to
SERVISOL LTD., COOPERS BUILDINGS, CHURCH ST., LIVERPOOL 1

Ref. Ad. No. 403

**NEXT MONTH'S ISSUE
of RER**

will contain
our Annual Review of

PORTABLE RADIOS

Do not miss this important feature . . . it will be useful to you as a **STOCK LIST** throughout the year.

Does your copy of RER contain the **SERVICE ENGINEER** supplement?

If not, why not use the order form on page 175, and make sure of receiving regular mailings?



We stacked 220 bottles
of scotch on our
STRONGHOLD steel shelving

THINK WHAT YOU COULD PUT IN IT!

Shelf-room. As much as you need, for a thousand things you stock: steel bearings; steam irons; fashion shoes; name it! Six rugged shelves, adjustable every inch, for all-size-of-stock storage. Heavy stove enamelled, grey or good-service green. In 6ft. 1in. high, 34in. wide, 1ft. deep bays, delivered ready for assembly (even the spanner provided!) in 20 minutes. See the rest of the N. C. Brown range!

N.C. BROWN LTD.
pacesetters in storage equipment

Send your FREE BROCHURE or Send (how many) bays of steel shelving @ £3.15s. in green grey (tick which)

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ADDRESS _____

Dept. RER Eagle Steelworks, Heywood, Lancs.
Tel: 69018. London: 25-27 Newton St., W.C.2.
Tel: 01-405 7931



£3.15s
BRAND NEW
carriage free
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Ref. Ad. No. 402

Grimthorpe's People

ONE of the problems of growing old, I suppose, is that one is too inclined to become reminiscent. When Stan Duer poked his head around my door, the years seemed to fall back like dominoes. Ever youthful, Stan has not always had a carefree look. When he left the Navy as a C.P.O. he joined the rest of the old Philco boys at Perivale, went on to Baird Television, to Regentone, R.G.D., Ambassador Radio and Expert Gramophones, demanding at each stop a standard of quality hard to achieve. Made himself unpopular sometimes, but was always sure of what he wanted. Now in control at Fi-Cord in East Grinstead, Stan sets his own quality standards. We got to talking about microphones, which is not surprising as he had just taken possession of a new set, made in the U.K. for export. He was pretty excited—a little smug perhaps? Why shouldn't he be? When you get what you want after years of demanding, you have the right to be satisfied. When it's quality you're after, doubly so.

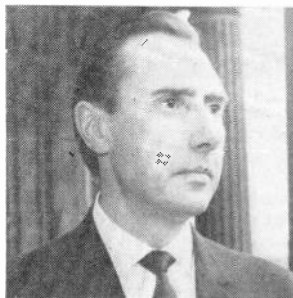
It might have been cold outside, but inside . . . ! It hasn't been easy recently for Chairman Colin Taylor of the R.I.C. The award scheme, I mentioned last month, had a stormy passage through the Committee stage, according to my information. All was well in the end, and Colin was positively beaming at the luncheon which followed. A pity about the attendance. It must have been the smallest for a long time. It seems that unless the name of the speaker appears in lights, members stay away. Still with Lord Hill in the Presidential Chair next year we can look forward to some improvement. A good choice of President. Must admit, I liked him best when he was starting . . . as the Radio Doctor.

Arthur Barford was in a happy frame of mind when we met recently. Fidelity has had another good year, and is looking for a better one this. Arthur has no TV worries of course. He doesn't sell 'em. He believes in good public relations and cruises around the country like a presidential candidate on a 'whistle stop' tour. An excellent speaker, it will be a long time before the invitations run out.

Rang John Pashler at Dreamland Electrical Appliances to congratulate him on his new job at Hythe. John was previously with Monogram as director of manufacturing. Now, it will be his responsibility to utilise effectively about 20,000 sq ft of new factory space for new overblanket production. It's amazing the growth of Dreamland. They tell me that over 50% of all the electric under-

blankets sold to the trade are produced by them. My old friend Mike Harding stuck his neck out recently. Went off to sell in the difficult Scandinavian markets. Did well too, according to my informant over there.

We were all sorry when John Mountain died in November. Pleased now to greet John Eason who now takes over as secretary of R.T.R.A./E.A.A. John, who has quietly acted as deputy secretary for the last few months, is confident that



the Association, although representing fewer dealers each year, is still as strong as ever, and will remain a loud clear voice in radio and electrical problems. A product of the building industry, R.T.R.A. and Mike Keegan are fortunate in having John Eason around.

Did you see that J. A. Thistlewood has joined the board of Telio? I'm always glad to report a board appointment from management. It was in 1955



that Jack Thistlewood joined the Chilton Group as an assistant production manager. Formerly general manager of Telio, the Waterlooville concern which makes custom built transformers, wound coils and portable transformers, Jack doesn't have to move, just up.

I cannot let the retirement of Willie Deuchrass pass without comment. Willie, the last of the Bush pioneers, was

suitably honoured at a dinner in January at the Lancaster Hotel. It was in 1932 that W. T. Deuchrass joined others, Chris Moore and Darnley Smith among them, to pioneer the manufacture of Bush radio. Gradually the now famous trade mark began to appear, and to be recognised as a symbol not only of quality but of trading good faith. I remember interviewing a prospective representative, and asking the question of him 'What is your ambition?'. I was rather startled by the answer 'To work for Bush'. I was then with a competitor, but I liked the answer, and he got the job. Bush kept promises, kept the quality, and with dour, almost humourless Willie Deuchrass at the works end, and Darnley Smith in the field, a sound combination was forged. John Davis made the presentation of cut glass decanters, goblets and a silver salver.

It's always pleasant to run into a bright smile. Especially when it belongs to Don Graham. Have an idea that Don is likely to take over from Colin Taylor as chairman of the R.I.C. Frankly I think it's about time we had a representative of the retail side in that august position. If I'm right about Don, I hope he will have a happy year of office.

'Nothing like a change, John' I said to John Errington when he joined Bang & Olufsen at Gloucester. He has just taken command of the sales promotion department, and plunges head first into the complex business of radio. Will he find things so different? He was previously with the Permal



Group, and before this, was with British Ropes in Doncaster. Some time ago, I was anxious to obtain some leaflets on the B. & O. range, and searched the Holborn area without success. 'Very difficult to get' was the answer I received at the places you know. I'm sure this has been corrected by now. I have always had a sneaking regard for their Danish merchandise, and I wish John well in his change of job.

I read with growing astonishment the statement issued by the Independent Television Authority, giving the names of those appointed to its General

—continued on page 171

HAVE YOU HEARD ABOUT

A.E.S. & R.T.S. MERGE E158

THE EXISTING SERVICE FACILITIES of Amalgamated Electric Services and Radio and Television Services are to be merged into one operating company to be known as Combined Electronic Services, jointly owned by Philips and Pye as from April 1. Managing director of the new company is K. R. Lucas, who has been 24 years with the Philips organisation. W. F. Cassidy is commercial manager, B. S. Cooper becomes spares controller, and R. O. Secombe becomes technical manager. With this change all transistor portable repairs will be handled at Hamilton, Lanarks; as will all TV, radiogram, radio and record player repairs previously dealt with at R. & T.S., Airdrie. All orders for spares previously sent to Airdrie should now be sent to Combined Electric Services Ltd, P.O. Box 11, Gloucester Street, Cambridge. Philips spares will still come from Croydon.

DESIGN AWARDS, 1968 E159

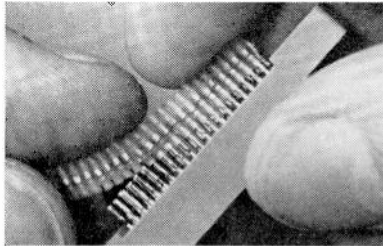
PRINCE PHILIP will present the 1968 Council of Industrial Design Awards and his own prize of Elegant Design on Wednesday, May 1, in Birmingham. After the presentations a paper on design will be read by E. M'Ewen, technical director, Joseph Lucas Ltd.

J.I.B. GETS GOING E160

THE JOINT INDUSTRY BOARD for the electrical contracting industry is now installed in offices at Kingswood House, Sidcup Hill, Sidcup, Kent. Director is G. T. King, chief industrial relations officer is J. R. Walker. A productivity officer will shortly be named.

TRADE SHOW WEEK E161

THE FOLLOWING MEMBERS of BREMA have announced that they will be holding trade shows later in the summer: Alba Radio & Television; Cafe Royal; Decca: Kensington Place Hotel; Dynatron: De Vere Hotel; Fidelity: Kensington Palace Hotel; GEC: Carlton Tower Hotel; Hacker Radio: Prince of Wales Hotel; Philips: Royal Lancaster Hotel; Pye: Hotel Europa; Baird; Rank Bush Murphy: Royal Lancaster Hotel; S.T. & C.: Hilton Hotel; Thorn: Royal Garden Hotel and Cafe Royal. Most of the shows will open on Sunday, August 25, [and close on Thursday, August 29.



Raychem Thermofit Solder-Pak solder sleeves are supplied in a continuous bandolier. Enough are cut from the strip to terminate one row on a connector. These are then simply slipped onto the terminals of the connector. E162

ELECTROLUX AT BROWN BROTHERS E163

BROWN BROTHERS announce that they are now wholesalers for all Electrolux products.



No more goose pimples! This low voltage heated coat is made by Test-O-Therm. It is impossible to overheat, fireproof and made for men or women. It operates from a 12v. battery. E164

FRIGIDAIRE DISTRIBUTION E165

HITHERTO AVAILABLE in some parts of the UK through the company's own branches and in other areas only through authorised distributors, Frigidaire refrigerators, washing machines and spin dryers are now also available to the trade through a limited number of selected wholesalers, who include Edmondsons, Metropolitan Distribution, Robshaw Brothers, E. A. Wood and R. A. Poole. Scotland will continue to be served by Turner & Co, and N. Ireland by J. Norman Fulton.

OFF THE AIR E166

AS FROM APRIL 1 there is a ban on the manufacture or import, except with the authority of the PMG, of radio transmitters which operate in the wavebands 26.1-29.7 and 88-108Mc/s. Only what are called radiotelephonic transmitters are affected and exemptions will be made for any of these which can be legally used, such as radio amateur's sets.

TYTON CABLE BINDING E167

TYTON SYSTEM 600, from Hellermann Electric, is a new development of the Tyton cable binding system introduced two years ago. It differs only in having 6mm instead of 8mm strapping with smaller accessories. The advantages are speedier binding and lower costs. It is supplied in 24ft lengths in a choice of colours.

CROMPTON PARKINSON ACQUIRE VIDOR AND BURNDIPT E168

CROMPTON PARKINSON have acquired the goodwill, plant, equipment and stock of Vidor and Burndipt, formerly parts of the Royston Industries Group. It is intended to develop and extend the two companies' interests in dry batteries and battery making equipment.

RIGHT FOR THE JOB E169

A NEW SERVICE to industry—the Designer Selection Service—has been established by the Council of Industrial Design, to ensure a quick, economic and efficient method of recommending the most suitable designers for any type of assignment. For a fee of ten guineas any

HAVE YOU HEARD ABOUT



continued

individual or company seeking a designer for staff, consultant or free-lance employment will receive a short list of recommended designers. For the same fee a client can obtain advice on drawing up design contracts, planning a design brief or on standards of professional practice.

LUBECK EXPANSION E170

LUBECK ENGINEERING have completed an extension to their Croydon premises which gives them an increase in production of some 60%. Rebuilding of domestic TV tubes is now carried out at a new factory in Nottingham. The company can also supply ex stock new Twin panel and Ringuard tubes at normal trade prices less 15%.

NEW CABLE COMPANY E171

AEI CABLES LTD has been formed to manage, under A. E. Kay, the business of the AEI Cables Group and the Hackbridge Cables interests.

CHEQUE INSURANCE E172

A NEW SERVICE for retailers who require some insurance against bad cheques, but who do not normally handle enough to justify a premium for unlimited claims has been introduced by Cheque Guarantee (Insurance) Ltd. The trader pays a premium which provides cover for a specific number of claims. Claims in any one year are limited to 12 times the risk on individual cheques of under £10, or 10 times for cheques over £10.

ANDERS ELECTRONICS MOVE E173

ANDERS ELECTRONICS, specialist suppliers of electrical measuring instruments, have moved from Hampstead Road to larger premises at Bayham Place, Bayham Street, London, NW1. (Tel: 01-387 9092). A new catalogue of the company's meters and special services is available.

COURTESY LAMP ADAPTOR E174

A BERKSHIRE ELECTRICAL ENGINEER has invented a device which turns on an ordinary light bulb gradually. It is in the form of an adaptor which goes between the lamp and the normal socket. In tests the inventor claims to have switched an ordinary lamp on and off over 26,000 times when using the adaptor without getting it to fail—an increase in life of some ten times normal. The adaptor will soon be available to retailers.

RTRA CONFERENCE, 1968 E175

THE 26TH ANNUAL CONFERENCE of the RTRA will be held in Bournemouth from May 5 to 8. Some 400 delegates are expected to attend. Topical issues to be debated will include: Colour TV; Consumer Protection Bill; New developments in electronic and electrical equipment for the home. Theme of the Conference is The Way Ahead. Proceedings will be opened with the traditional champagne party on Sunday evening. Concurrent with the Conference will be a supporting exhibition of radio, TV, and domestic appliances.

NEW ENCAPSULATING RESIN E176

A TRANSLUCENT, pourable silicone potting resin with a tear strength ten times that of previously available clear potting materials has been developed by Dow Corning. It is designated Sylgard 186 resin. It is particularly useful in circuit and component potting, cable harness breakouts, moulded high voltage terminals and for use as an adhesive sealant. It can be used by simple pouring techniques, and will cure at room temperature.

GAWT DISTRIBUTORS NEW NAME E177

GDS (SALES) LTD is the new name for Gawt Distributor Services Ltd, the electronics components distributor of Burnham, Bucks.

USE THE PRE-PAID FORM ON PAGE 176 TO OBTAIN FURTHER DETAILS OF ANY OF THE ABOVE ITEMS, QUOTING THE REFERENCE NUMBER.

Grimthorpe's People

continued

Advisory Council. What qualifications must people have to be so selected? Reading the biographical notes attached to the Statement, I wondered why no representative of our industry is included. Can it be that they have less qualifications than say, the managing director of Hancock's Shipbuilding Company, or the States Supervisor of Guernsey, or for that matter, the Honorary A.D.C. to the Governor of the Isle of Man? I did notice, however, that the A.D.C. gentleman is also a director of one of the principal motor dealers on the island. Could he sell a car radio now and again?

Glad to see Bill West back in harness again. Bill, another of our invalids, has lost some weight, but otherwise looks good and healthy again.

BETTER SOUND E178

THERE WILL BE four programmes in a new series *Better Sound* to be broadcast on Fridays at 7 p.m. on Radio 3 from May 3 to 24, and repeated on Radio 4 on Saturdays at 11 a.m. from August 17 to September 14. The series is planned for home enthusiasts and the aim is to help them to get the best out of their high fidelity equipment, tape recorders and radios. Listeners will be invited to send questions of general interest. A BBC publication is available covering the series.

DATEL 300 E179

THE GPO is planning to introduce later this year a new commercial data transmission service which will enable business organisations to keep closer control over their stocks and make best use of their materials and staff. The service is expected to attract the smaller organisations whose scale of operations has not previously justified the expense of such methods.

SERVICE FOR THOMAS ELECTRONICS E180

FARLEY RADIO SERVICE of 12-14 Thomas Street, Woolwich, London, SE18, have been appointed service agents for the Wien, St Moritz, Freddy and Tokai Radio receivers distributed by H. O. Thomas Electronics.

ELECTROLUBE ADVICE E181

ELECTROLUBE have started a technical advisory service to inform users how to use Electrolube electrical contact lubricants in the correct manner. A by-return service is provided for telephone or letter enquiries.

Sad about Ernest Brown. This ever popular and charming man, treasurer for so long of the R.I.C., has again been stricken down. After a serious illness, it was thought that Ernest was recovering well, and then came the news of a stroke in his office. Let us trust that this latest battle of his will be won, and that he will soon once more grace our table.

Had a note from John Tesseyman during the month. He has come out of the Pye shakeup very well. John was for some time advertising manager for Ferranti Radio and Television, moved to Cambridge, and has now taken over all radio advertising for the Group. When I last saw John on a visit to Cambridge, he was living in a small flat near the river, getting home at weekends. Like others he wondered what the future might bring. If you are still in possession of the flat, John, I guess you can take that evening stroll down the river bank for a pint with much more confidence now.

KNOW ANY ARCHITECTS?

With Colour and BBC2 gaining momentum and becoming more popular every day out here, we are, about now, discovering in practice what the aerial manufacturers have been pumping into us in theory for the last few years. One or two things they didn't tell us we are finding out the hard way—like the fact that 100 per cent of the houses designed and erected over the past five years have had no provision made for BBC2, and that 100 per cent of our multi-storey flats not only follow suit, but are located in well known local dead-spots. Right from the start nearly four years ago, BBC2 has always proclaimed that it needs an outside aerial and low loss cable. I must admit that some of us have been adopting the attitude of 'It won't be necessary—look at ITA—comes rolling in on a bent hairpin.'

You would think, however, that architects, of all people, would make proper provision for a modern essential like three channel television. Perhaps it is that nobody has ever told them about it, in which case if you know of any jogging along in blissful ignorance, drop the odd hint please. Better still, David Attenborough, what about following up 'Crossword On Two' with 'Architects' Question Time' and give as many architects the opportunity to see themselves on BBC2 in colour as possible? They would all be ringing us up a few hours before they were due to see themselves on TV asking us to fix up BBC2 immediately. Then we should have a chance to get our own back for all the broken drills, bruised thumbs, and wet hours up amongst the chimney pots that they have given us.

THE LOST HOUR

I thought it odd when the Sunday paper turned up early, and even more odd when I went to brush up my German by TV only to be shown how to cool down a Concorde engine. Whilst lingering over breakfast—as one does in our trade on a Sunday—I could smell the Sunday joint being cooked next door. 'Odd' I thought again. Then it dawned on me—I had forgotten to put the clocks forward. As I went the rounds of our four electric clocks I realised the finality of what I was doing. This will be the last time I would ever put the clocks forward. Whilst I was asleep I had lost one hour of my life. Being Sunday, and still bemused from my 'lay in', my thoughts turned to childhood memories of Alice in Wonderland. The white rabbit, looking suspiciously like our Managing Director—hurried by muttering 'Time is money you know.' The Duchess boomed 'Lost an hour, have you? Off with his head.' Our Cheshire cat, being replete with Arthur's stuff, just grinned, and all was forgotten until the following day. Then I had to get up in the dark and go to work in the half light. So did the rest of us. So naturally we got round to 'that hour'. Remembering that many thousands of people in jobs like electricity supply and transport would, in



theory, work an extra hour that night, we are all wondering who pays for it. It's not as though it can be allowed against the hour we used to gain in the autumn any more. Another thought struck us—what about all the clocks on the off-peak meters? Has somebody got to go round all those or will they be left as they are? Monday mornings usually drag, but this one seemed to pass quite quickly, and in no time at all we found ourselves putting on our coats and going off to lunch. As we did so, the Voice of Authority boomed out from an upstairs window, 'And just where do you think you're off to?' Somebody else had forgotten to put his clock forward!

BARGAIN DISCS

On my rounds I come across more and more stereograms, and on nearly all of them is the recently issued 12s. 6d. Studio Two Stereo Sampler L.P., and jolly good stereo it is too—ideal for demonstrations and almost certain to sell the sets. We make a point of giving one away with every stereogram over £75. There is only one snag. The customers, wanting more, come into our record department with their 12s. 6d. asking for the other albums in the range!

JUST THE ONE

I am encouraged to read of the success of two aerial manufacturers in producing in their own individual ways wide band aerials for Band III. I hope they will catch on with dealers all over, and not just in the areas where both 405 line programmes come in on Band III. It would certainly ease a lot of wholesalers' stocking problems. Particularly pleased in our own area are the servicemen at local Army and Air Force bases. At least they can own an aerial which will go with them anywhere. There seems to be one little drawback. When

they come in the shop for their wide-band aerials they ask, 'And also one for Band I and another for u.h.f. please.'

AND IT'S BRITISH

Today we read that Creda are introducing their Autoclean, a cooker with a self cleaning oven. Feeling slightly horrified at the potentialities of this instrument in an ordinary domestic kitchen, I am willing to guarantee that when we get our sample delivered it will fall to my lot to be the one chosen to demonstrate it!

WINTER OF OUR DISCONTENT

We have a problem the origin of which is difficult to trace, and the eventual outcome of which could hamper our trading capability very seriously. Everybody has suddenly taken to buying the local paper and the trade magazines in order to avidly scan the 'Situations Vacant' columns. In odd corners there are tucked away little packets of notepaper and envelopes; magazines come round with selected small ads. carefully cut out and an air of restless gloom pervades the place. The workshop is worst hit of all. Engineers are well known to be a restless lot, and in populous areas the practice of moving round from one workshop to another collecting an extra two pounds a week as they go, occurs with the monotonous regularity of hole-electron pairs at a diffused junction. We are a little different out here. The next nearest workshop is ten miles away, and it's ours, so to change means a major domestic upheaval. All this, it seems, becomes worthwhile if only to get away from the place, and the process tends to snowball since nobody wants to be last man out. Just what motivates this restlessness is uncertain. The economic state of the country doesn't make this the best time to move, and the management and staff keep out of each other's way to the extent that they cannot possibly get in each other's hair. Possibly we are smitten with a disease that hits overspill towns when they get to the awkward size—no longer a village—but a long way from becoming a city. Possibly it's some form of seven year itch that has been carrier-borne by some wandering rep. Whatever it is it could be very contagious and widespread so look out in your own place for those packets of stationery and newspaper clippings. The cure seems to be a sustained burst of 'stop knocking the staff', accompanied by slightly fatter pay envelopes. If, however, this column disappears for the odd month, you will know that I am immune from self-medication.

by a Provincial Dealer

In *Sales Spinners*, as you will know, we list records that are selling tools . . . that is discs that are especially suitable for demonstrating radiograms and record players on the one hand—these we list under Demonstration Discs and on the other hand records chosen because they are suitable for creating a background conducive to making sales. These we call *Musique d'Ambiance*—music to create a pleasing and unobtrusive atmosphere when played at a low level.



Musique d'Ambiance

PARLOPHONE PCS 7035. Stereo. *Lets Have another Party. Mrs. Mills.* Mrs. Mills in her usual robust form, with singers. Will clear away any devaluation depression!

H.M.V. CDS 3642. Stereo. *Showtime Specials. George Mitchell Minstrels.* Fine Black & White Minstrel background. Use it mainly in the afternoons.

COLUMBIA SCX6183. Stereo. *Another Song and Dance Party. Victor Silvester & the Mike Sammes Singers.* Get the customers in the right happy, spending mood with this. Keeps staff in a good temper too!

COLUMBIA SCX6190. Stereo. *Eddie Calvert Salutes the Trumpet Greats. Eddie Calvert.* Different styles of trumpet playing, good late morning background.

COLUMBIA STUDIO TWO. TWO186. Stereo. *Captivation. Noel Trevlac.* Sophisticated and sweet. Good general purpose, especially good lunch and tea-times.

COLUMBIA STUDIO TWO. TWO192. Stereo. *That Hammond Sound. Howard Blake.* Lovely organ technique and really interesting stereo percussion. Good all-day.

REGAL-ZONOPHONE. LRZ1001. Mono. *Procul Harum. Procul Harum Group.* Good young-mood background, mainly for when the shop is full of teenagers.

PHILIPS SBL7826. Stereo. *Sous le Ciel de Paris. Various artistes and orchestras.* Gives a terrific French lift to the shop. Use it mainly p.m.

PHILIPS SBL7805. Stereo. *Isn't This a Lovely Day. PHILIPS SBL7798.* Stereo. *You are my Lucky Star. PHILIPS SBL7804.* Stereo. *Thank Heaven for Little Girls. Various orchestras.* All are excellent general purposes background, same tracks as the Philips Musicassettes.

DECCA DERAM SML705. Stereo. *Piano In The Night. The Pianos of Tony Osborne.* Shimmering, glistening, glittering sound.

FONTANA FJL902. Stereo. *Blues In Thirds. Earl Hines (piano).* Very smooth, brilliant piano background music.

DECCA DERAM SML704. Stereo. *Brass In The Night. Tony Osborne's Three Brass Buttons.* Don't be put off by the title, this is a remarkable record. Especially good where background noise level is high.

COLUMBIA - LANSDOWNE SCX-6170. Stereo. *Tony's Basement. Tony Coe.* Good for after-lunch and tea-time. Light, light jazz.

CAPITOL ST2656. Stereo. *Beatles Scrap-Book No. 4. Hollyridge Strings.* All the best of the Beatles, non-vocal, all-day listening use.

Demonstration Discs

COMMAND SCOM104. Stereo. *Contrasts. Toots Thielemans and Orchestra.* All the Command series, a new label, have a quite remarkable sound and wonderful stereo separation. They are suitable in every way for demonstration. I will briefly give the mood for each one by a short phrase. This one is for all-tastes.

COMMAND SCOM110. Stereo. *Carnival. Charles Magnante and Orchestra.* Gay, Latin-American, vibrant. Try track 4 on side 2.

COMMAND SCOM101. Stereo. *Discotheque Dance Album. Bobby Byrne and Orchestra.* Non-stop dance music, young set dem. Terrific percussion in parts.

COMMAND SCOM102. Stereo. *Sounds Mexico. Tony Mottola and Orchestra.* Full of life and tuneful legato melodies. Good all-purpose. Try track 4 on side 1.

STUDIO TWO TWO1. Stereo. *Break-Through. Various orchestras and artists.* A real "show-off" disc. Something on it to suit most people.

CAPITOL ST2733. Stereo. *Daddy's Little Girl. Al Martino.* Nostalgic syrup vocal for young marrieds and all those in love.

STUDIO TWO TWO176. Stereo. *Marvellous Music of Grieg. Semprini.* Usual impeccable Semprini.

HMV CSD3635. Stereo. *Adamo. Adamo and Geof. Love and Orchestra.* Real tuneful 18-28 year-old appeal.

STUDIO TWO TWO179. Stereo. *Something's Coming. Laurie Johnson Orchestra.* Big band sound, plenty of brass on most tracks.

MERCURY SML300002. Stereo. *Guitars A'Plenty. George Barnes Guitar Choir.* Fine demonstration record to show off the best points in your stock of radiograms and record-players.

PHILIPS BL7822. Mono. *Walkin' In The Sunshine. Roger Miller.* Good semi-Western rhythm and blues singing. Tuneful and appealing.

Musicassettes

Demonstration Cassettes

FONTANA CFF5001. *Changes. Julie Felix.*
WARNER BROS. CWF650. *In the Wind. Peter, Paul & Mary.*
FONTANA MCF6199. *From Hank, Bruce, Brian & John. The Shadows.*

Musique d'Ambiance

MERCURY CMP7010.
FONTANA CFP4000.
PYE CYP158.
PHILIPS CPP1016.
PHILIPS CPJ3003.
LIBERTY LBC83027.
LIBERTY LBC83052.
COLUMBIA TC-SCX6199.

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PUBLIC NOTICE

Reference to the Monopolies Commission under section 6 of the Monopolies and Mergers Act 1965

1. Whereas it appears to the Board of Trade that arrangements are in progress or contem-
plation for the merger of Thorn Electrical Industries
Limited and Radio Rentals Limited being
arrangements which, if carried into effect, will
result in section 6(1) (a) and (b) of the Monopolies
and Mergers Act 1965 being satisfied in that—

(i) enterprises carried on in the United King-
dom by or under the control of Radio
Rentals Limited will cease to be distinct
from enterprises carried on by or under the
control of Thorn Electrical Industries
Limited;

(ii) assets of a value exceeding £5,000,000 will
be taken over:

Now, therefore, the Board of Trade in pursuance
of the powers conferred upon them by section
6(7) of the said Act hereby refer this matter to the
Monopolies Commission for investigation and
report.

2. The Commission when investigating and
reporting upon the facts shall not consider
whether the provisions of section 6(i) (b) (i) are
satisfied.

3. The Commission shall report upon this
matter within four months from the date of this
reference.

Dated 19th February, 1968.

The Monopolies Commission are inviting
evidence on the subject matter of the above
reference. Any person or organisation wishing to
give such evidence should write to the Secretary,
Monopolies Commission, 8 Cornwall Terrace,
Regent's Park, London, N.W.1.

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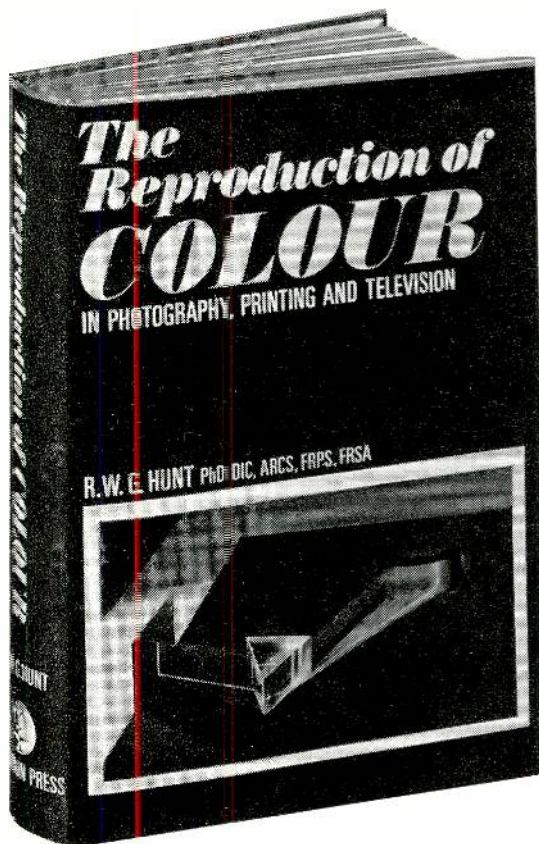
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