

SEPTEMBER 1968

RER

DOMESTIC APPLIANCES

LIGHTING

RADIO-TV-AUDIO

- WHOLE HOUSE HEATING
- BLC LIGHTING EXHIBITION
- REVIEW OF TRADE SHOWS

THE LEADING TRADE MONTHLY

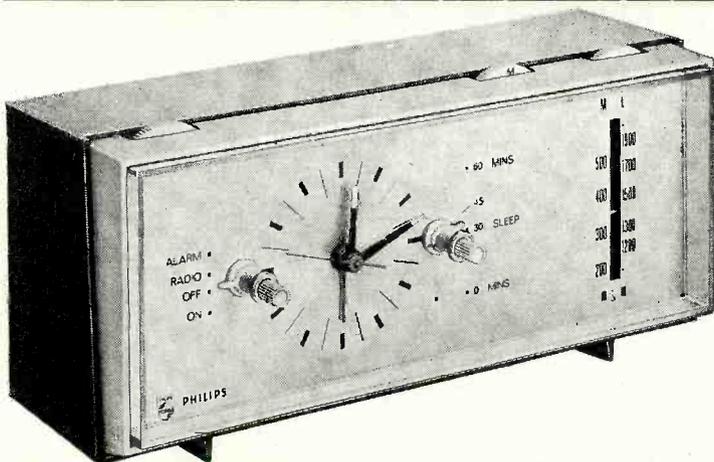
Catch Heatstore with their prices down!



Heatstore are revealing their new *low* prices. Take advantage of them now!
Read all about it inside.

Heatstore

Sensationally successful Philips Clock Radios go nation-wide!

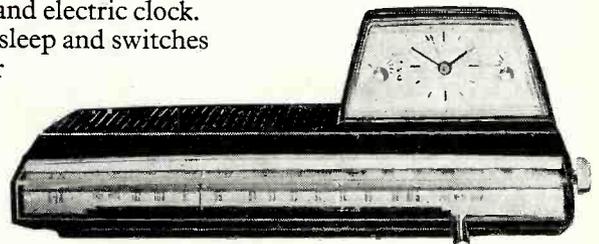


From now on, the whole Trade can share the profit from Philips Clock Radios—the ones that caught the public's eye when launched in London last October.

Dealers in the launch area will agree our two clock radios are a tremendous success. Excellent product design, realistic pricing and aggressive promotion have paid off.

Order now to ensure supplies

MODEL RS261. A superb all-transistor mains radio and electric clock. Receives long and medium wavebands. Lulls you to sleep and switches itself off. Wakes you to music, and nine minutes later gives you a call—buzzing until you switch it off. Can be automatically set to switch on any programme. Beautifully styled in pastel blue and ivory, it is ideal for bedroom, kitchen, all around the house. £17.17.6 (recommended price).



MODEL RS274. Dramatically styled in black or ivory. It also has a VHF waveband for interference-free listening to BBC national and local programmes, and an extra long scale for easy tuning. £36.16.9 (recommended price).

Massive TV advertising planned for Autumn



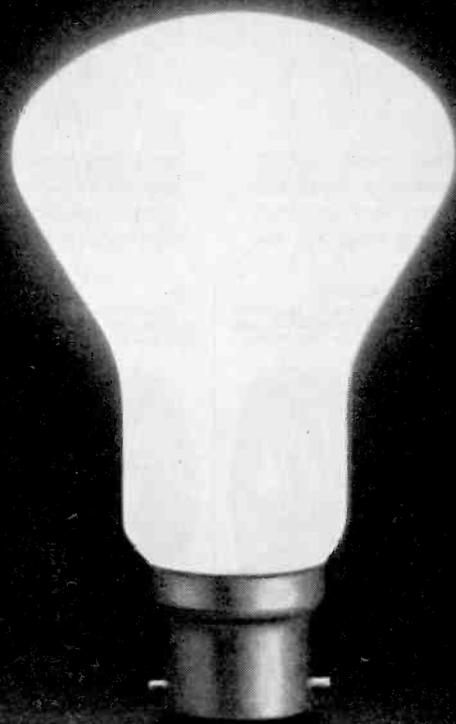
To maximise sales during the gift season, we will advertise heavily on TV in the Autumn and pre-Christmas.

PHILIPS

Century House, Shaftesbury Ave., London WC2.

Five great ideas from Osram!

(On the next pages, all the Osram plans for
the lighting season—and they include you!)



“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.

HIGHWAY TRUCK TYRE

Miles more miles plus extra grip for light trucks and vans.



C41

For goods vehicles which take car tyres. It's the best of all standard cross-ply tyres.



VAN TYRE

Combines toughness and mileage with outstanding roadholding.



RB6

A cool-running, big-mileage truck tyre for long, fast hauls.



HIGHWAY '70'

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.



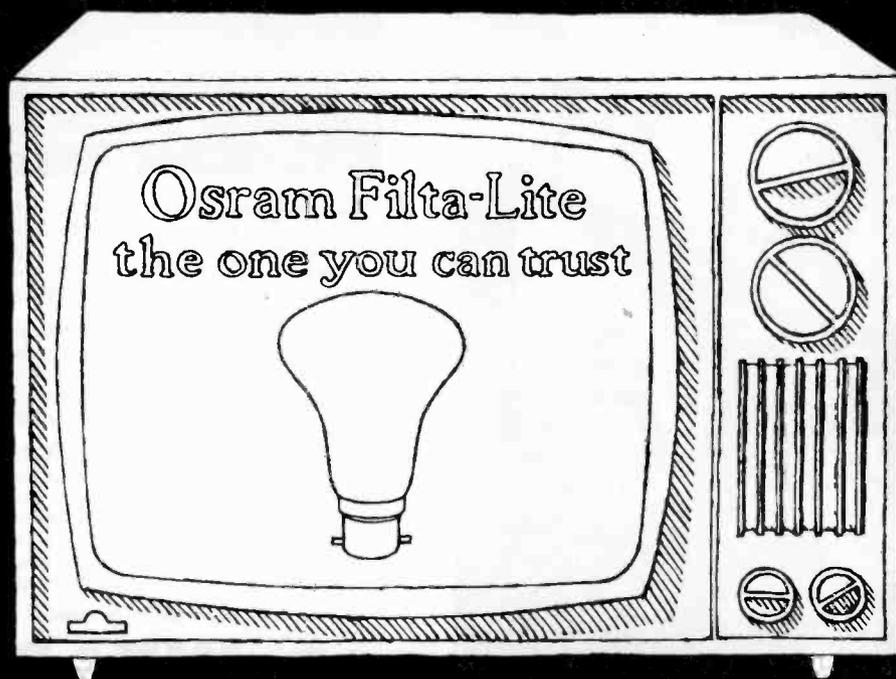
 **DUNLOP**

THE PROFITABLE ANSWER TO ALL YOUR TYRE PROBLEMS

1. Osram launch the biggest ever T.V. campaign!

15-second commercials appear on all stations throughout the lighting season. Osram have never advertised so heavily!

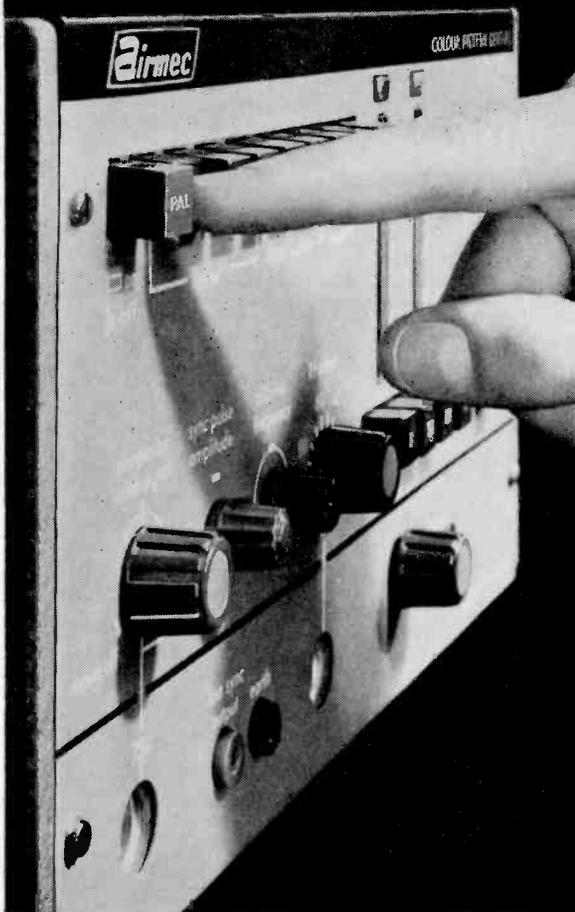
Your profit will start mounting up from October 14 onwards—when the television starts.



**it's so easy
to service
colour TV!**

**with the
Colour Pattern Generator
FG 387Z**

625 and 405 Working
Three Purity Colours
Six Vertical Colour Bars
Cross Hatch Pattern
Monochrome Pattern
6MHz Unmodulated Carrier
6MHz Carrier Modulated 1kHz
RF and Video Outputs
Covers Bands 1, 3, 4 and 5



Airmec

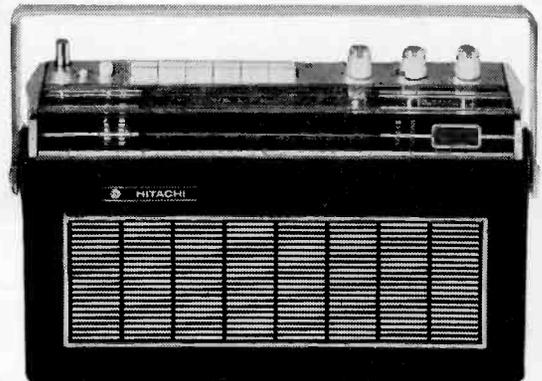
AIRMEC
INSTRUMENTS LTD
HIGH WYCOMBE
BUCKS TEL. HW 21201

Ref. Ad. No. 409

Even at 39 gns HITACHI stays in the best-seller class

People who *know* a first-class transistor radio when they see one—people who don't mind paying extra money for extra quality—these are the people who have put and kept Hitachi in the best-selling class, despite the fact that the Hitachi KH.1325 runs as high as 39 gns, tax paid. Of course, there are Hitachi models considerably less expensive—but all are distinguished in design no less than in appearance: and so far as quality is concerned, Hitachi well deserve their slogan —“the most wonderful radios in the world!”

Look at these five Hitachi models for style!



KH.1325 Illustrated above. With 13 transistors and 5 wavebands, this is the most fantastic Hitachi quality ever! Includes radar tuning and auto button for car use.

39gns tax paid

WH.1160 Compact, fully-transistorized multi-purpose receiver, in durable genuine leather cover. Four bands: Standard Broadcast, Long Wave, Marine, Short Wave. Plus D.F. Loop Aerial and beat frequency oscillator. **29gns.** tax paid

WH.837E 8-transistor portable. Long, Medium and Short Wave. Telescopic aerial. Complete with personal earpiece and car aerial socket. **15½gns.** tax paid.

KH.980L 9-transistor portable. Super-elegant appearance. Long, Medium and FM Wavebands. Cut-away leather case and leather pouch for earpiece **18gns.** tax paid.

KH.920L Luxurious portable, covering Long, Medium, Short and FM wavebands. For both home and outdoor reception. In super-durable case, it represents today's finest value for money **26gns.** tax paid.

All prices are recommended retail.



HITACHI

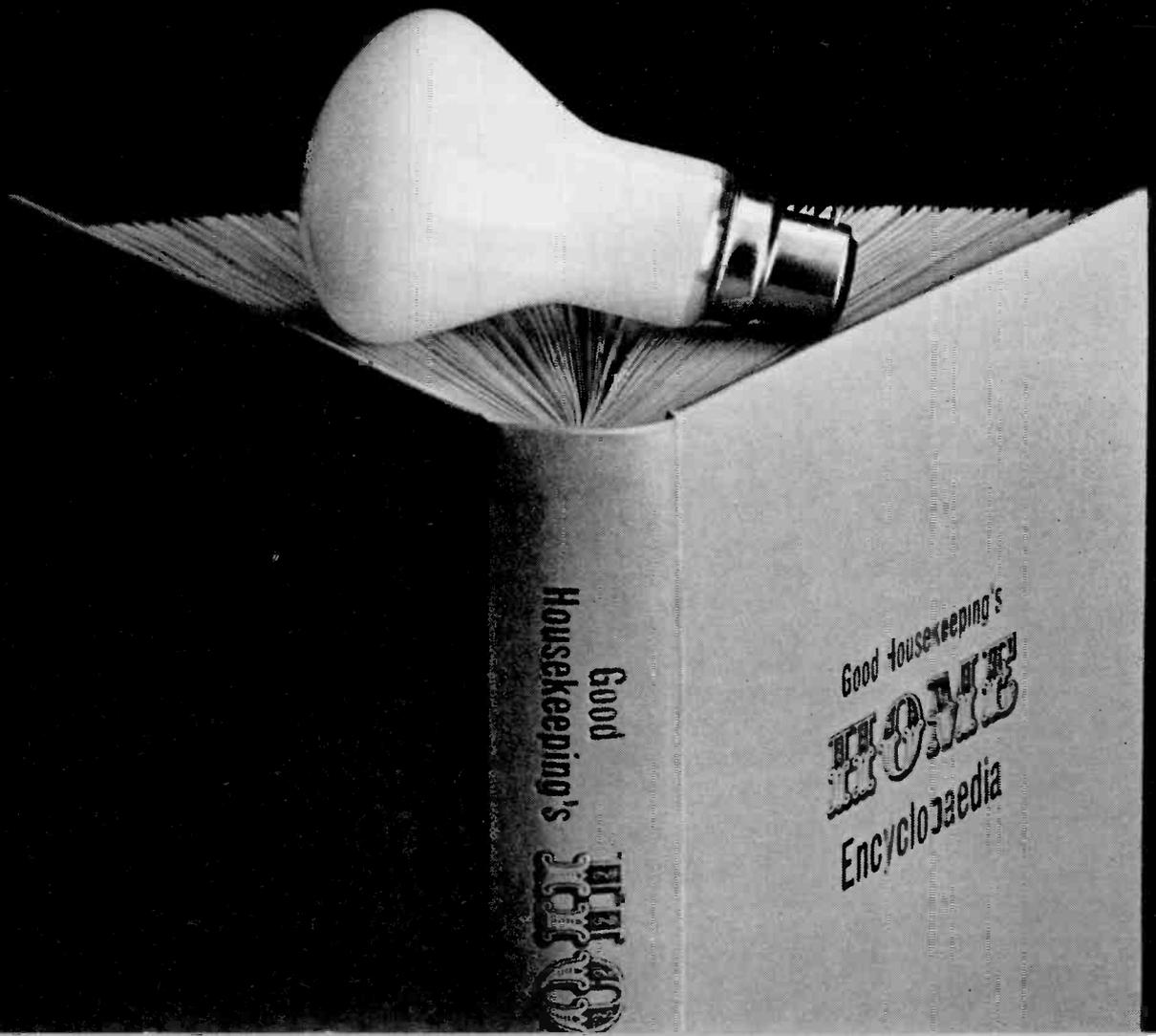
Lee Products (Gt. Britain) Ltd. 10-18 Clifton Street, London EC2
Sole United Kingdom Distributors

Ref. Ad. No. 428

2. Osram launch a big promotion.

Starting September 9, your customers will be able to get the Osram/Good Housekeeping offer of the Home Encyclopaedia for only 29/6 (worth £3.3.0). This is available with Extra-Lite and Filta-Lite, or any two Osram bulb packs.

All this supported by advertisements in the Radio Times and Daily Mirror plus plenty of display material: dump bins, headboards, window stickers, cut-away outer case. Be sure to show plenty of this material—it will all help profits rise!



There's no colour like Deccacolour



Deccacolour CTV 19

Our 25" colour television range has proved a great success. So we're following it up with a new 19" model. Deccacolour CTV 19.

It gives you the same crisp colour clarity, the same astonishing colour realism, and the same magnificent sound from the special Decca dual speaker system.

Deccacolour CTV 19 - a brilliant addition to Britain's best range of colour television sets.

AS SUPPLIED TO THE BRITISH BROADCASTING CORPORATION

'Deccacolour—naturally' registered trademark applied for. 'Decca' is a registered trademark

Decca, Ingate Place, Queenstown Road, London SW8 Telex: 263222.

Ref. Ad. No. 417

Deccacolour CTV 19

(19" Table Model Colour Television)

Available in a choice of dark or light finishes.

289 gns. (inc. PT) Stand 5 gns. extra

Also available -

Deccacolour CTV 25C

(25" Console Model Colour Television)

Choice of teak, dark walnut or rosewood finishes.

From 357 gns. (inc. PT)

DECCACOLOUR
-naturally

3. Osram launch new twin pack.

The Osram Extra-Lite *twin* pack has been newly designed and carries the Home Encyclopaedia promotion.

In addition the Extra-Lite single pack has a new design.



4. New Filta-Lite pack plus cut price.

Being introduced shortly: new carton pack for Filta-Lite, clearly identifiable with the Osram name.

Plus bonus price of 3/3d. off each 25 pack of Filta-Lite bulbs. This will allow flexibility in cut pricing on one, two or three light bulbs.



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.

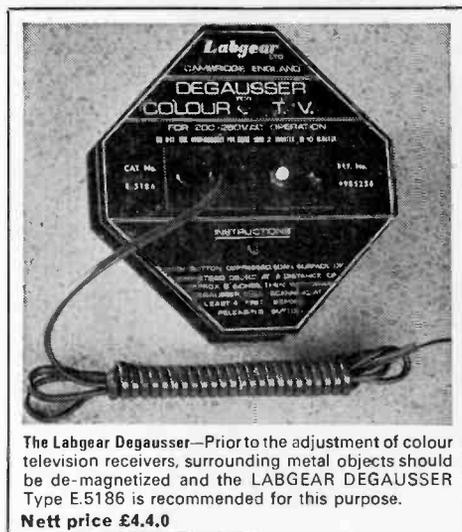


Patent applied for

- 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.

All items available for immediate delivery.

Obtainable from the sole manufacturers Labgear Ltd. of Cambridge, or from Combined Electronic 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



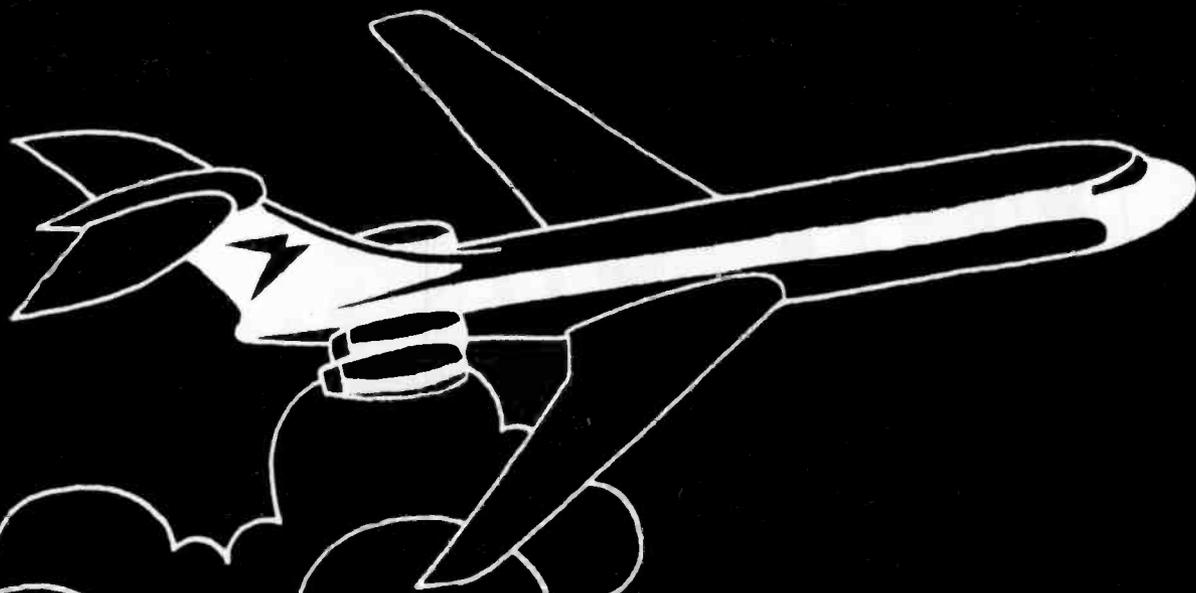
Labgear

LABGEAR LIMITED
CROMWELL RD • CAMBRIDGE • ENGLAND
Telephone: 47301 (4 lines) STD OCA3
Telex: 81105 LAB.
Telegrams: Labgear • Cambridge

5. Osram launch spring holiday competition-for you!

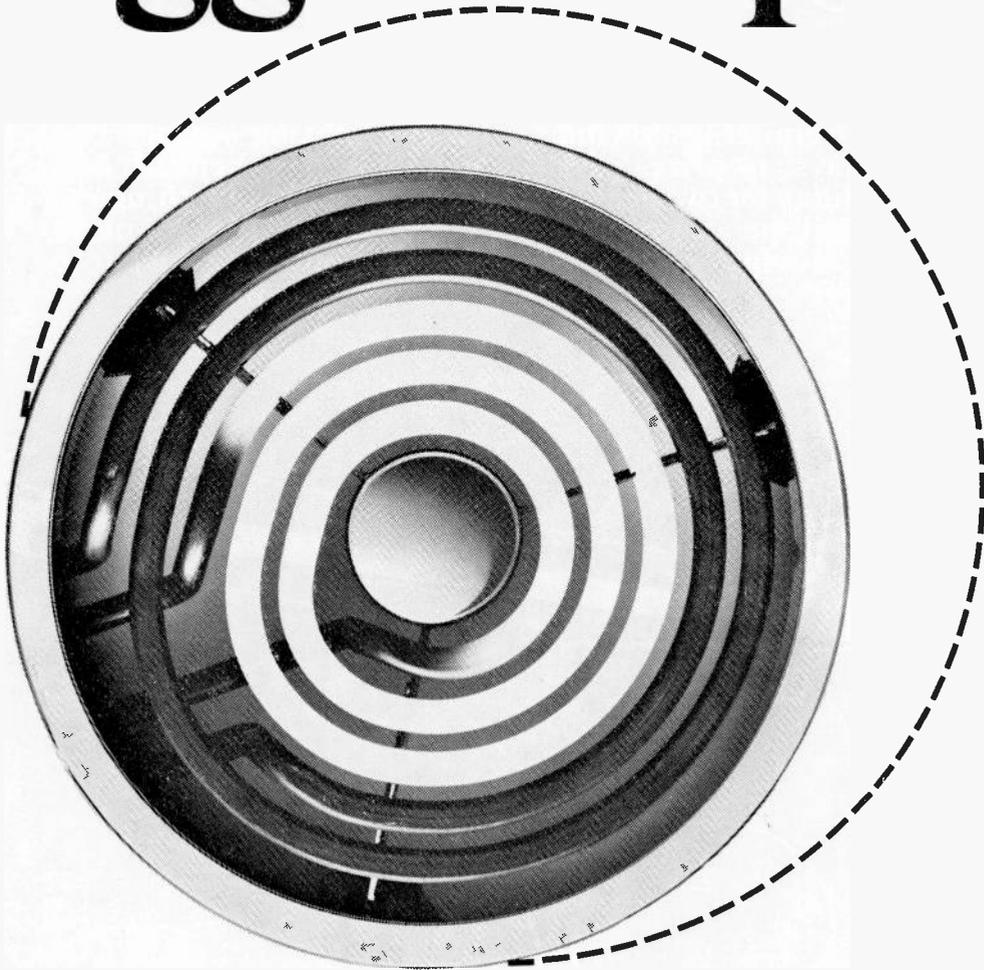
Starting now! The Spring Holiday competition is specially for retailers showing best displays. 16 prizes of a week's holiday for two people in Malta will be awarded in this nation-wide competition.

How about it?
These are Osram's plans for the lighting season. You are involved in them all. And there are only two things to remember; Osram want to sell more bulbs! *You* want to make more profit!



Osram-G.E.C.
The one you can trust

Our new, bigger, hotplate.

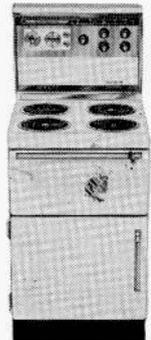


**The 8" Superfast. Super-speedy,
super-powerful. Use it maxi, use it mini.**

The Superfast is the most powerful hotplate going. It's our big, new 2-in-1 hotplate. Fed by 3 fat kilowatts, it heats big pans fast. Cuts one-fifth off cooking time. Very fast (20 per cent faster). Very clean (it's electric).

Very safe (it's electric).
Very versatile (see above).
Very economical (very good).
Makes the Rapide 57 very desirable.
New Superfast.
Only English Electric has it.
You should have it.
It's a hot sales point.

ENGLISH ELECTRIC  RAPIDE COOKERS



RER

**RADIO &
ELECTRICAL
RETAILING**

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NEXT MONTH:

High Fidelity Equipment
Christmas Gifts

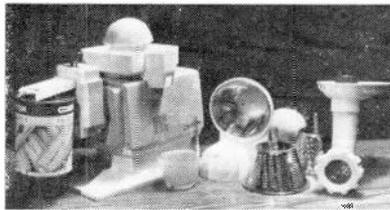
Radio and Electrical Retailing is published on or about the first of each month. It reaches Radio, Television and Electrical Retailers, Installation Contractors, Music Shops, Electricity Boards, Service Managers and Engineers, Wholesalers and Manufacturers.

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

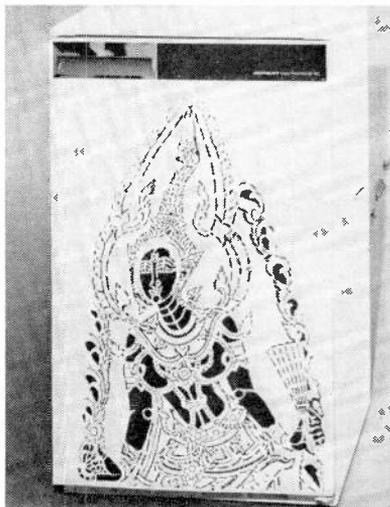


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RECENT RELEASES

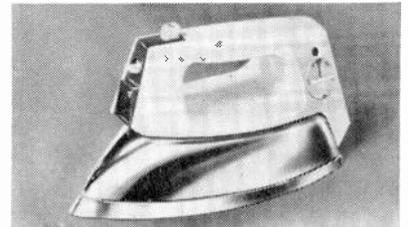


The Moulinex Robot Charlotte from **ANDREWS HOUSEWARE MANUFACTURERS** is basically an electric mincer with the usual fine or coarse cutters but the mincing head can be easily replaced with any one of three attachments which will grate, slice or shred. The model also converts to a can opener and in addition there is a separate drive from the top of the unit which, with the help of three rotating dome-shape squeezers, will extract all the juice from citrus fruits. Operation is by a flick of the finger switch at the base which puts the double-insulated motor into powerful action. Price £14 14s. It operates on a loading of 150W 220/240V a.c. on a twin-cord lead. There is a 12 month guarantee. **E412**

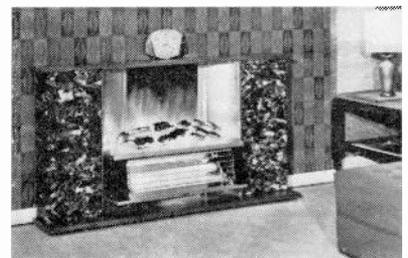


Psychedelic versions of the **HOT-POINT** Iced Diamond 50 (5cu ft) right hand models are now available against special trade orders. They are Javanese Maiden, No 2521/01 in sepia tint; Dot Pattern No 2521/02 (in deep purple dots multi-sized); and Colour Bands, No 2521/03 (dark green, pale green and royal blue bands). Their object is to enable dealers to create imaginative and interesting window and showroom

displays with these models as the focal point. Although their major purpose is for point-of-sale display, these refrigerators are available for re-sale to the public at a recommended resale price of £63 16s. 7d. A 4-6 week delivery period is initially required. **E413**



MORPHY RICHARDS have launched a new iron called the Easisteam and Spray iron. Described as 'three irons in one' it is a dry, a steam and a spray iron. A push button on the handle releases a fine spray in the front of the iron. There is instant change from steam to dry ironing. The water tank takes 9fl oz of water. The iron has a white handle and chrome cowl with blue front moulding and back cover. It weighs 3½lb. Price £76s.11d. **E414**



BELLING are extending their range of furniture style heaters by introducing the following new models.

The Belling Trend is a new popular version of last year's Tempo but with imitation wood cabinet and less elaborate flicker arrangement. With two 1½kW radiant elements, it is priced at £17 19s. 6d. The Tempo marble style fireplace (above) is ready to plug in and is fitted with a 2½kW radiant heater. Measuring 26in high x 8½in deep x 48in wide and priced at £28 19s. 6d. The new Nova is fitted in a solidly made rosewood surround and has two 1kW silica enclosed radiant elements plus powerful convector and realistic flame effect. Price £37 19s. 6d. The Nova also comes in a marble style fireplace version, selling at £39 19s. 6d. The Focus compact is a completely new version of

If you know a woman with show her our



more work than patience, Reversomatics.

They're designed not only to do a bang up job of the washing - but to get rid of all those small frustrations that beset every household chore, however easy it's been made.

For instance, our Reversomatic is ridiculously simple to work. You don't have to have done a computer course.

And it fills from both hot and cold taps. So there's no waiting about for water to heat in the washer.

For people with small kitchens there's the De Luxe 474. Fits snugly under the worktop and stays there. Because everything goes in through the front.

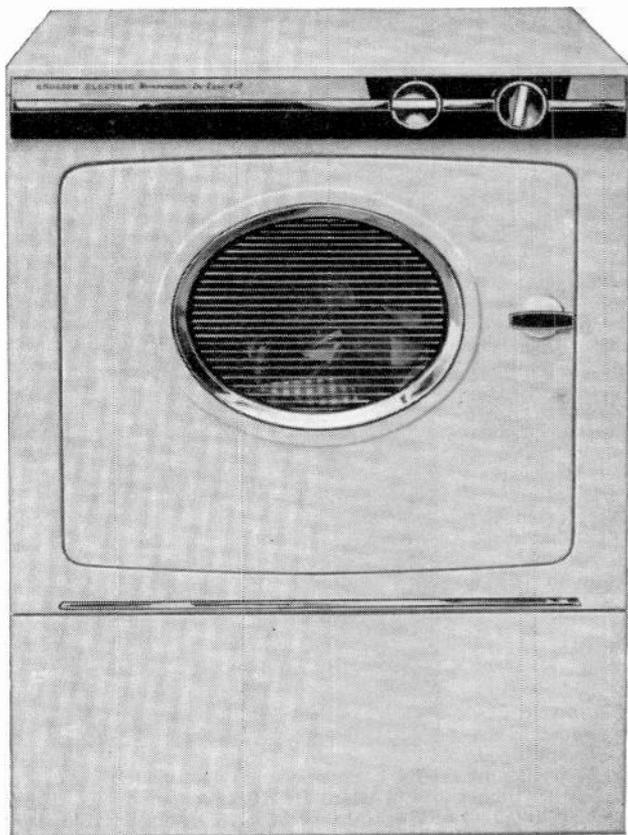
Also it can be stopped in mid-wash for adding clothes.

Easier, less frustrating. Quicker - and therefore cheaper.

And quite a bit quieter

All it takes to sell one - is a trial. Over to you.

EE ENGLISH ELECTRIC



RECENT RELEASES

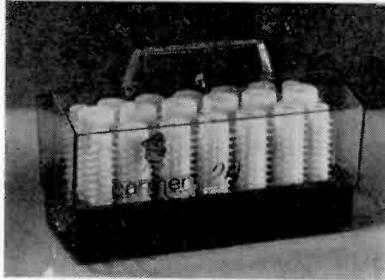
last year's Focus radiant convector. It has a radiant heater with three 1kW silica enclosed elements plus built-in convector. There are nine heat settings. Price £35 19s. 6d. **E415**



PROCTOR-SILEX are introducing ▲ four new appliances. There are two new irons—the Whiteline spray/steam iron, with easily controlled spray, uses ordinary tap water. An automatic needle valve eliminates clogging and ensures a constant free flow of water to the sole plate. Price £6 5s. The Whiteline steam iron incorporates all the features of the spray/steam model with the exception of the spray, and costs £5 10s. The Whiteline percolator (above) has a crystal-clear bowl decorated with gold design, and special lighting in the base makes the coffee glow. Price £10 8s. The new Whiteline fully automatic toaster features a radiant control which measures reflected heat off the bread being toasted and automatically pops up only when the bread has reached the required temperature for the shade of toast desired. Finished in deep lustre mirror finish chrome with white end panels, it sells at £6 5s. **E416**

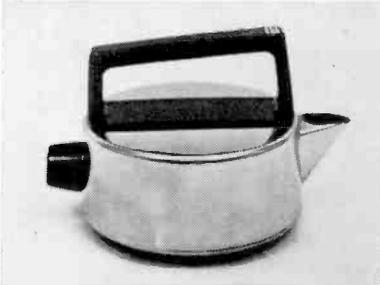
There are two new freezers from **TOTAL REFRIGERATION**. The SF15 chest type freezer measures 56½ x 28 x 39½ in and has a heat-resistant, scratch proof working top with a lock and is especially suitable for quick-freezing unfrozen foods. External controls include quick-freeze switch and thermostat adjustment controls. There are warning lights for power supply, power interruption and quick-freezing. Power supply is 220/240V 50c/s. Capacity 15cu ft. Price £109 10s. The model 5115H 4cu ft chest type freezer measures

21 x 21 x 37in high and has a temperature range from 0°F to -5°F. It will hold 130lb of food and costs £57 8s. 2d. **E417**



CARMEN CURLER CO announce ▲ their new range of heated hair rollers, in a new shape black and clear macralon casing with carrying handle. The Carmen 20, with 20 rollers for instant use, sells at £11 19s. 6d.; Carmen 16 with 16 rollers for instant use, at £10 19s. 6d.; and the Carmen 7 + 7, with 7 for instant use and 7 in reserve, to retail at £8 19s. 6d. Spare rollers will soon be available in point-of-sale bubble pack, together with an appropriate clip, at 6s. 6d.

Backing advertising campaign is announced from September to Christmas. **E418**

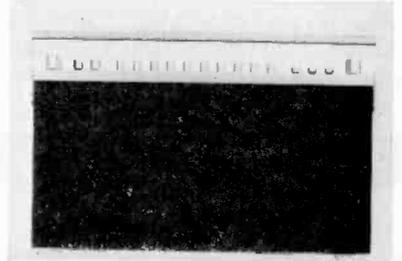


The new **HOTPOINT** Contour Auto- ▲ matic electric kettle, cat. no. 4031, is claimed to be the first completely automatic kettle on the market. When the water boils a unique simmering device maintains a constant boil-simmer-boil cycle until required. It is lidless, spout filled, made in polished or brushed stainless steel and holds three pints of water. A self-resetting overload safety device prevents overheating if there is insufficient water. The handle is in olive green and the price is £8 4s. 4d. A non-automatic version, cat. no. 4030, has a charcoal grey handle and sells at £6 19s. 8d. **E419**

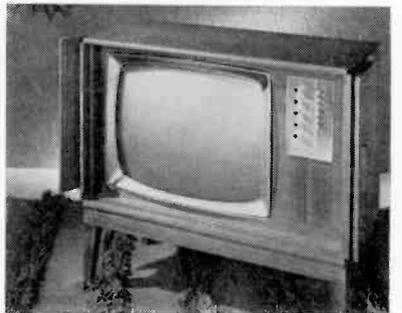
The basic range of standard **PLUS LIGHTING** cylinders, now in six sizes, has been reduced in price by one third. The range is now from 11s. 9d. to 28s. Ten new fittings have been added to the Mexican range and prices are unchanged. A new range called Plustex is made in seven cylinder sizes prices starting from 27s. 6d. A 12in diameter pendant in Mexican glass will sell at about 16gn. **E420**



SONY (UK) announce the release of ▲ the first of several new models to be introduced on to the market during the summer months. The new dual standard model TV.9-90UB 9in battery/mains portable television has a tinted screen, horizontal linearity coil, new sleek design and is finished in black and silver. Price £79 and weight 12lb 5oz. **E421**



The new Beolit 1000 portable radio ▼ from **BANG & OLUFSEN** covers f.m., l.w., m.w. and s.w.1 and 2. L.W. is extended to include the marine band and there is bandspread on s.w.2. The f.m. section has a separate dial drive. There are sockets for external aerial and speaker, gramophone or tape recorder and power supply via a mains converter (not supplied by B & O). Output is 2.5W from internal batteries. Mains or car battery operation boosts output to 7.5W. Weighing 6½lb, the price is £76 5s. with teak or rosewood finish; £78 5s. with black goat-skin finish. Car mounting bracket costs £11 10s. **E422**



BRC announce seven new models in ▲ the **MARCONIPHONE** range.

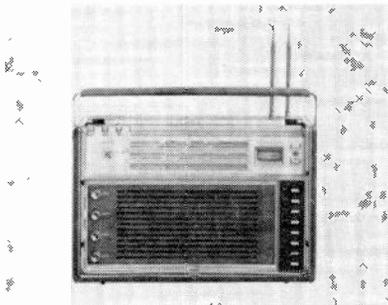
The 25in model 4702 colour television receiver (above) is presented in a sapele

RECENT RELEASES

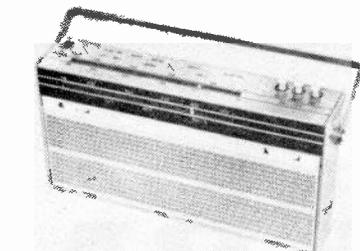
console cabinet with fold-back doors at £362 18s. Two table model monochrome TV receivers are the 19in model 4623 and the 23in model 4624. Both are in Indian laurel cabinets, the 4624 having a blue leathercloth front. Prices: model 4623 £76 4s.; model 4624 £84 14s.

The tape recorder model 4238 is a 3-speed 4-track machine in a teak cabinet with acrylic lid. Mixing facilities, double track replay, 4-digit counter and recording level meter are featured. Price, including microphone with remote pause switch, is £58 11s.

Model 4026 is a record player with compatible cartridge. Output is 2½W through a 7 x 4in speaker. BSR UA47 changer is fitted. Finish is black-violet leathercloth. Price £23 4s. The de-luxe record player model 4028 is in a green leathercloth cabinet. It uses BSR UA55 changer mechanism. Output is 5W into an 8 x 5in speaker. A socket is provided for a second channel. Price £31 9s. **E423**



The latest transistor portable from ▲ **PYE** is the export-designed 11-transistor Piccadilly 6000. Seven wavebands include four s.w. bands, extended l.w. band and f.m. A fold-away s.w. frame aerial is provided. Output is 1W. Tuning indicator and battery level meter is fitted. Operation from six U2 cells. Restricted quantities will be released in the UK. **E424**

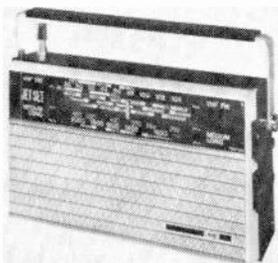


The **PHILIPS** transistor portable ▲ radio RL269 covers l.w., m.w., with bandspread, and operates from four

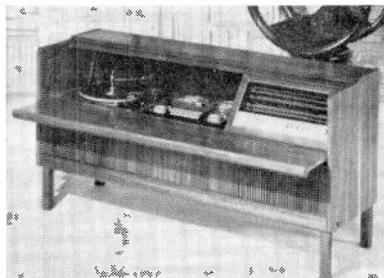
LPU 11 batteries. Sockets are provided for car aerial and earphone. Price £14 3s. 6d. **E425**



The latest addition to the **BRC** ▲ **ULTRA** range of TV receivers is the Bermuda 19in model 6656. It uses the BRC 1400 series chassis. The cabinet is in teak or walnut with a dark green front moulding. Price £73 15s. Legs are available at £2 5s.; a swivel stand at £3 6s.; or a pedestal stand at £3 16s. **E426**



KB's new Jet Set model KR 607 ▲ covers l.w., m.w. and f.m. bands and has a 5 x 3in speaker. A two-position tone control is fitted. The cabinet is in black and silver. Power is from four U11 batteries. Price including earphone, 14½gn. **E427**

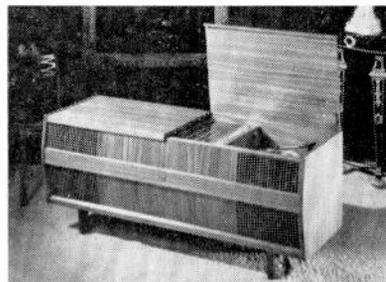


New stereograms in the **BRC** ▲ **FERGUSON** range include model 3356 (above), a furniture styled unit in teak or walnut. The cabinet has a pull-down front and sliding top. Radio coverage is a.m. (including s.w.) and f.m. The gramophone unit is the Garrard 3000 LM.

For further details about products mentioned on these pages use the prepaid enquiry form on page 448 quoting reference number.

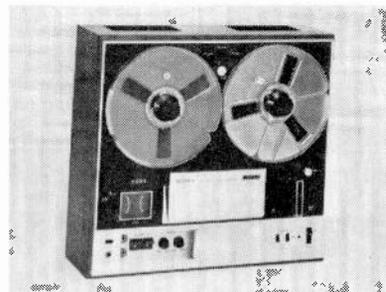
Output is 3W per channel. Record storage or tape recorder space is provided. Price £97. Model 3354 is also a 4-band stereogram in teak or walnut. There is a central top-lifting lid to the cabinet. The BSR UA15 changer is fitted. Output is 3W per channel. Price £89 5s. Model 3352 at £71 4s. is again available in teak or walnut with a.m. (no s.w.) and f.m. coverage. It uses the BSR UA15 changer unit and output is 3W per channel.

A new transistor radio is the model 3168 which covers l.w., m.w., s.w. and v.h.f. bands. A car permeability tuner is incorporated. There is a separate push-switch for a.f.c. The cabinet is finished in black-green leather grain effect with padded end cheeks. Price is £31 9s. **E428**



New to the **BRC** **HMV** range is the ▲ 23in TV receiver model 2648 in walnut with olive green front moulding. It has a transistorised push-button u.h.f. tuner and rotary v.h.f. tuner. The chassis is the BSR 1400. Price £82 8s. Legs and stands as for the Ultra model are available.

The de luxe stereogram model 2340 (above) covers l.w., m.w., s.w. and mono/stereo f.m. It is fully transistorised and provides 7W per channel through two 8in speakers and two 2in tweeters. The Garrard 3000 LM changer is fitted. The cabinet is in walnut veneer, with two lift-up lids. Price £123 6s. **E429**



New tape decks from **SONY** (UK) ▲ include the TC 255 4-track unit, which supersedes the TC 250A. Facilities provided include stereo operation, sound-on-sound, and language/music training facility, four digit counter, vertical or horizontal operation. Three tape speeds are provided. Spool capacity is 7in. Price £82. The model TC 355 (above) is a semi-professional 4-track, 3-speed stereo deck. Features include three heads, tape source monitoring, sound-on-sound recording, stereo head-set jack, vertical or horizontal operation. Price £99. **E430**

ALBA

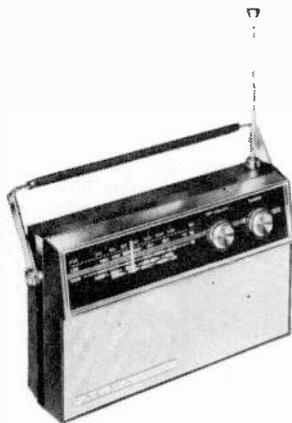
*Last minute surprises
from the Cafe Royal*

ALBA 4007 SOLID STATE AM/FM DE-LUXE STEREOGRAM

The ultimate in quality performance. Mains powered fully transistorised chassis. Total of 10 watts output from 2-10" full-range speakers. Four wavebands—Long, Medium, Medium Band-spread and FM. Pre-set stereo balance. Bass and treble controls. DIN socket for tape recorder. Storage space for tape recorder and records. Latest Garrard TC 2025 Hi-fi unit with diamond stylus and cueing device for pre-selecting parts of LP records. Impressive appearance. Modern design cabinet in Teak veneers, with front access to interior, dimensions 55" wide, 28" high, on legs, 15" deep. Pilot light on front of cabinet.



89 gns.



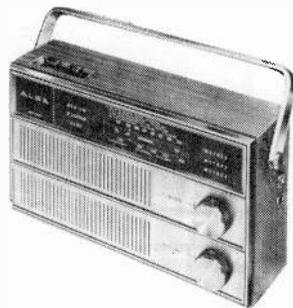
ALBA 666 AM/FM TRANSISTOR RADIO

Nine Transistor plus five diode circuit gives outstanding performance. Long, Medium, and FM bands. Ferrite rod and telescopic aerials. Socket for earphone. Attractive case moulded in black with silver relief, size 6½" wide, 5" high, 2½" deep. Foldback handle. Batteries used 4-HP7 or equivalent. Weight 2 lb. without batteries.

£17.10.0

ALBA 555 3-BAND TRANSISTOR RADIO in Teak Cabinet

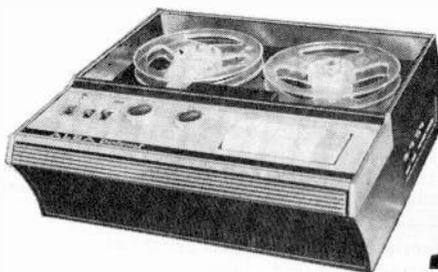
Seven Transistor plus two diode modulated circuit. Three bands—Long, Medium and Medium Bandspread. Push-button wave changing. Sockets for external aerial and earphone/tape recorder. Above average quality of reproduction, helped by 5" speaker in acoustically designed case covered in Teak veneers. Tone compensated volume control. Dimensions 11" wide, 6½" high, 3½" deep. Battery recommended PP9 or equivalent.



£16.15.0

ALBA R22 MAINS/BATTERY DE-LUXE TAPE RECORDER

Automatic switching mains to battery. Twin track, 2-speed. Rev. counter. Monitor socket. Inputs to microphone and radio permit mixing meter for recording and battery charge levels. Mood switch for adjusting tone. Many other exclusive features. 2.5 watts output from 6½" x 3½" speaker. 12" wide x 11½" deep.



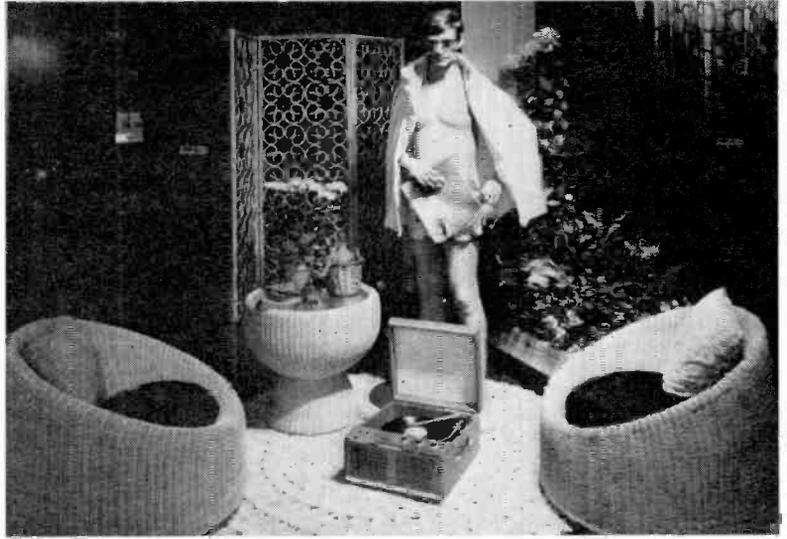
£49.7.0

All prices recommended, excl. batts. (where used).

ALBA

ALBA (Radio and Television) LIMITED
Tabernacle Street, London, E.C.2

One of the elegant settings arranged by Harrods for the Decca show.



A significant turnover to 20in squared-up tubes, several new colour sets and a tantalising glimpse of one or two single standard sets—a proliferation of audio separates, many in the popular priced range—a veritable flood of new radios with new features and handsome presentation—continuing buoyancy of the record player market—increasing dominance of the cassette recorder, including the introduction of the cassette auto-changer—these were some of the impressions left by a back-breaking tour of the London Trade shows. In the following pages we give details of most of the items introduced after our Preview issue went to press.



1



2 3



4

1. Sir Alex Rose opens the ITT-KB Hilton Hotel show with Dudley Seward. 2. Bunny Margo of the Playboy Club, shows a National radio/cassette recorder to Brian Gracey and David Kitson of Hazletts, Ireland, Brian Southworth of Unamec looks on. 3. C.E.M. Snawdon (Ekco) discusses some of the selling points of a new portable with Stanley Newman of Newman & Turner, Clapham. 4. Muriel Young picks the lucky keys in the Bush dealer contest for the £1,500 colour service van in the background. Winners were Bill Haddock and Neville Godfrey of Earl Shilton. The Editor, RER (centre) was one of the judges.

NEW — TELEVISION

PYE'S new television sets included two mono sets, the models 63 and 64. Model 63 (£83) is the first from the company to use the 20in squared P tube. It has the 368 series chassis with 6-button transistorised multi-band tuner. Cabinet is in tropical olive veneer with light bronze trims. The model 64 is the 23in version of the model 62 Olympic coloured cabinet range. The same range of colours is available. Price is £83.

FERRANTI showed their first 19in colour TV set, the model CT1167 at £299. With a hybrid chassis, it has a rotary 6-position channel selector. The CT1176 is a 20in squared version of the similar Pye model. The cabinet is in teak veneer. Price is £83.

INVICTA showed the model 7351 19in set in tropical olive veneer cabinet, and the model 7352 in walnut grained laminate cabinet. Both use the Pye chassis and rotary tuner and are priced at £75. Also new was the 23in version, model 7047, priced at £84 10s.

GEC'S new range of TV receivers included the model 2038 19in rental set in a walnut cabinet. A transistorised continuously variable u.h.f. tuner is fitted, plus a 5-position v.h.f. tuner. Model 2039 is the 23in version. Model 2032 is a 19in receiver in a rich teak cabinet, with model 2033 as the 23in version.

The **SOBELL** versions of the GEC sets mentioned above are the 1038 and 1039 19in and 23in rental sets, and the 1032 19in and 1033 standard receivers.

The Beovision 3000 Colour SJ single standard colour set from **BANG & OLUFSEN**, first mentioned in our last issue, is available in teak or rosewood finish in a cabinet with sliding tanbour doors and castor mounted legs. Price is 398gn. The 3000 has several unusual features. A tint control, not usually fitted to PAL receivers, enables compensation to be made for room lighting with a predominate colour. The sound circuits have been given more than usual attention. Less than 1% distortion is claimed at 3W output, and bass and treble controls are fitted. Sockets are provided for an external speaker with muting of the internal unit. A programme of training courses has been specially arranged for all dealers who will be stocking this set. They are being arranged on a regional basis.

The **KB Deep Scene Mark II** made its first appearance at the Hilton Hotel.

The black Oroglas screen now finishes short of the control panel, and the cabinet is finished in teak. The 19in model KV034 is priced at 79½gn, the 23in model KV134 at 91gn and the optional centre swivel stand is priced at 4½gn. The first KB colour TV is the 19in model CK400. The hybrid chassis is hand wired and slides out for ease of servicing. The decoder, tuners, convergence panel, deflector and convergence yoke assemblies are all plug-in units. Automatic tint correction is featured with automatic brightness limiting. Price is 275gn. It was announced at the show that from now on the former KB products will be marketed under the brand name ITT-KB.

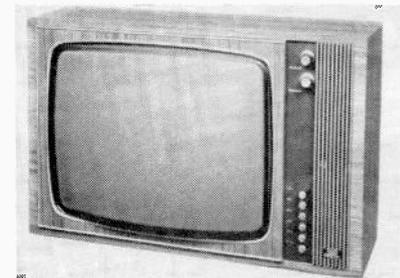
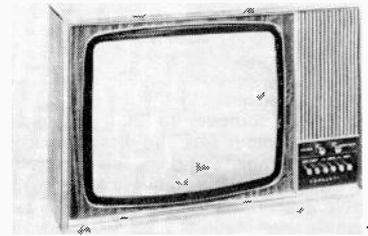
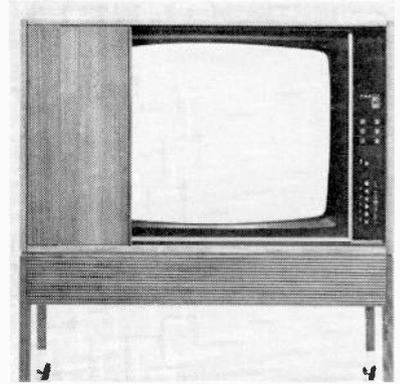
The **RGD** 19 and 23in television sets represent a new styling approach. They are in teak with teak fascias and tube surrounds. The RV235 (19in) is priced at 73gn, the 23in RV335 at 83 gn.

RANK BUSH MURPHY have swung exclusively to 20in sets with the **BUSH** TV175 in tropical olive at 79gn, and the **MURPHY** V2014 in six painted colours or Sapele at the same price. The success of the painted range has led to the introduction of a similar range with 23in tubes. These are known as model V2314. Bush also showed a colour set model CTV174D at the same price of 299gn and using the same integrated circuit as the already announced Murphy set.

New from **DECCA** was the colour set CTV22, a 22in consolette in walnut with a price tag of 329gn in walnut, 325gn in teak or 339gn in rosewood. Added to the 25in range of colour sets is the CTV 25CE. Available in teak at 342gn or in walnut at 345gn.

BRC entered the 20in market with the **HMV** model 2649 at £79. A new 19in table receiver with push button tuner is the **HMV** model 2646. **FERGUSON** introduced models 3654 and 3655, both 23in sets with push button u.h.f. tuners and 20kV e.h.t. New to the **ULTRA** Bermuda range of monochrome sets were the 19in model 6656 and 23in model 6657.

PHILIPS showed two 22in square look 22in colour sets. The dual standard model G22K503 is due for release next January and a single standard counterpart model G22K511 will be released later in the spring. Both use the new easy-to-replace i.f. sub-assembly. In monochrome Philips have the 20in square look model 0230, which uses the basic 210 chassis. The same chassis is also used in the new **STELLA** model 2030, again with 20in squared up-tubes.



Top to bottom: B80 Beovision 3000; Ferranti T1176; KB KV034 Deep Scene; Stella ST2030.

NEW — RADIOS & RADIOGRAMS

New radios shown by **PYE**, in addition to the £100 model 6000 Piccadilly mentioned in our last issue, included the 1377 Playboy at 10gn, an 8-transistor set with long and medium (plus band-spread) bands, in a black moulded case with pearl and silver trims. For 14gn there was the a.m./f.m. model 1382 with 9 transistors in a black padded case, and having a telescopic f.m. aerial. Third newcomer was the de-luxe model 1383 at £34. Covering a.m. and f.m. bands with automatic 'spot-on' tuning of pre-selected v.h.f. stations and facilities for connecting a mains converter. Output is 1W into a 6 x 4in speaker. Power is from 4 LPU2 batteries. The cabinet is padded in black Rexine. New also was the model 3042 International 9-band a.c./d.c. mains set—a 1968 version of the Seafarer. It has 7 s.w. bands (5 with band-spread) and is styled in black leathercloth with a teak veneered front cover.

Two new stereograms were shown. Model 1214 at £83 has a BSR UA15SS player and a.m./f.m. radio with provision for plug-in decoder. The output is 4W per channel into two 8 x 5in speakers. The cabinet is in teak. Model 1215 at £59 18s uses the BSR UA25 unit with a compatible cartridge. Radio is a.m. only. Cabinet is Paldao veneer. Two 8 x 5in speakers.

New car radios from Pye included the Tapemaster 70, combined radio/cassette tape player. The radio covers l.m. and m.w. bands. Price: 38gn. The Micron measures only 6 x 1 $\frac{7}{8}$ x 2 $\frac{1}{2}$ in but gives 5W output. Push button selection of l.w. or m.w. bands, and there is a choice of fascia panels. Price: £13 10s. The Master 70 is available in two presentations. Both have five pre-set push buttons for station selection and 6W output. Price: £28 10s.

EKCO showed the PT307 Stroller, replacing the PT302, at £9 18s, and the a.m./f.m. PT312 at 14gn in a black padded case. Also new was the A410 stereo radio, a new version of last year's A400, now priced at £53 10s. Of modular construction it covers a.m./f.m. bands. The tropical olive veneered cabinet is 34in wide and has a speaker at each end. Output is 4W per channel. A decoder is built in. Inputs are provided for mono/stereo gram or tape. The a.m./f.m. stereogram model SRG603 (£81) and the a.m. SRG604 (£59 18s) are the equivalents of the new Pye models, but with different cabinet finishes.

The Ekco versions of the Pye car radios mentioned above are: Ekco Minstrel radio/cassette player, Ekco Electron

and Escort 70. Prices are as for the Pye models.

FERRANTI showed their version of the Pye stereogram under the model number 6500 in the a.m./f.m. version. In a teak cabinet it is priced at £88.

INVICTA launched the luxury portable transistor radio 8017 in a teak cabinet at £25 10s. Coverage is a.m./f.m. and output is 1W.

Forerunner of a range of audio separates was the GEC f.m. stereo tuner at present offered as an optional extra for the G987 Stereomatic record player. It matches the player in styling and slips into a ready-wired compartment. An alternative version for horizontal mounting is available. A decoder is built in, automatic mono/stereo switching with manual override and inter-station muting are also provided. The G987 is a fully stereo record player with 7W output into separate removable acoustic enclosures. A new stereogram is the G991 a.m./f.m. unit finished in teak with silver controls. A BSR UA65 record player is used. Output is 12W. A stereo decoder is fitted to the tuner unit.

SOBELL introduced the luxury a.m./f.m. stereogram SG685 in teak with black leathercloth interior. Twin channel amplifiers deliver 12W into twin dual mechanism speakers. The changer is the BSR UA65.

ALBA have two new portable radios. Model 666 9-transistor set at £17 10s covers a.m./f.m. and is in a black/silver moulded case. Model 555 in a teak cabinet is a.m. only and priced at £15 9s. The model 4007 is a solid state a.m./f.m. de-luxe stereogram. It provides 10W output from two 10in full range speakers. The radio has four bands including f.m. The Garrard 2025 playing unit is fitted. The modern styled cabinet is finished in teak veneer. Price: 89gn.

Four new radiograms shown by **BOSCH** included the Stockholm and Santiago, both at 115gn. Both cover f.m. and a.m., including s.w. band, and have built-in decoders. Output is 2 x 3.5W into four speakers. The Arkansas (139gn) has a similar specification but includes also a cocktail cabinet with lockable doors. The Barcelona Mk IV (155gn) is an f.m./f.m. set including two s.w. bands and the marine band. Output is 2 x 10W into four speakers. A cocktail cabinet is built-in. New to the range of transistor sets was the Bluespot Swing, a personal set priced at 13gn and covering a.m. and

f.m. bands. The case is two-tone polystyrene in a choice of colours.

Styled with a family likeness were the two new stereograms from **KB**. Model KG044, at 85gn, provides 3W per channel and has a BSR UA15 changer. The tropical olive veneered cabinet has slats which cover the width of the front. Model KG045 is priced at 95gn and delivers 7W per channel into two 8in speakers. The BSR UA65 changer is used. A compartment is provided for a tape recorder and a stereo decoder.

TELLUX showed their new TA1 radiogram. The radio side covers m.w., l.w., s.w. with Luxembourg band-spread. The changer is the BSR 1025 with a compatible cartridge. Output is 3W into an 8 x 5in speaker.

New models shown by **BENKSON** included the 323 8-transistor m.w., l.w. radio in vinyl carrying case. Complete with earphone it is priced at £4 19s 6d. Model 727 is a 10-transistor set covering m.w. and v.h.f. at £7 19s 6d. Model 626 (£8 19s 6d) is a 10-transistor set covering m.w., l.w. and v.h.f. bands. The case is finished in black leather. Model 929 is another 10-transistor set covering a.m./f.m. Price: 11gn.

New from **SONY**, model HP180 is an all silicon transistor modular stereo system with an output of 7W per channel. The stereo tuner covers a.m. and f.m. bands. The BSR changer has a Pickering V15 magnetic cartridge. The twin speaker units each comprise a 5in bass unit with a 2in tweeter. Price: £125. The STR-6060F a.m./f.m. stereo tuner/amplifier features an ultra-sensitive tuner using F.E.T's and having a rating of 45W per channel. In all 62 transistors and 32 diodes are used. Price is £186. An optional accessory is an oiled walnut cabinet. New radios from Sony include the pocket-sized a.m./f.m. model 3F-61W finished in black and silver and priced at £11. Model 6F-21L is a 9-transistor a.m./f.m. de-luxe portable priced at £21 with provision for use of STA110 stereo adaptor. ST80W is a compact all-transistor a.m./f.m. multiplex tuner. Features include low distortion and high sensitivity, flywheel tuning and distinctive styled walnut cabinet. Price is £48 17s. Sony have also released a full range of loudspeaker systems. Included are three-way systems with three step-tone control, a two-way system in a walnut cabinet and an economically priced shelf unit. Prices range from £27 10s to £86.

No new innovations from **SANYO** but a number of their radios and tape recorders have been reduced in price. The new prices are now as follows: 10G831, £15 10s; 14H636, £30 10s; 17H815, £68 5s; 10H850, £25 10s; 15H860, £61 19s; M48, £23 10s; MR400 £39 19s 6d. First details were announced of a contest for wholesalers which will

continued on page 388

Fidelity Braemar



**sounds as good
as it looks**

We planned it that way.

We wanted to produce a tape recorder that would give your customer top quality reproduction together with a sense of design usually found on sets twice the price.

So we created Braemar, a rich full sounding recorder that offers every facility the average user and his family need: input sockets for mike and radiogram, output for extension speaker and monitoring. Braemar plays at $3\frac{1}{2}$ " per second and takes spools up to $5\frac{1}{4}$ ", has separate

volume and tone controls and a recording level indicator. Comes complete with microphone, tape, take-up spool and jack lead.

Fidelity Braemar

29gns (two track)
(tax paid)

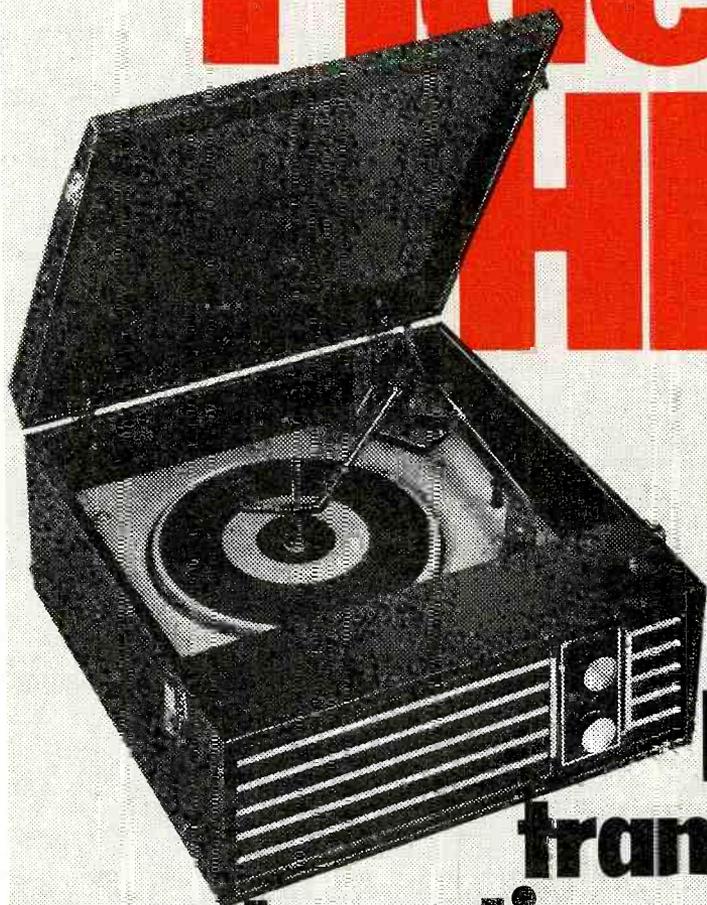
Tape position indicator available as optional extra 2 gns.

Fidelity Braemar (four track) 32 gns



FIDELITY RADIO LTD. LONDON W.11. 01-727 0131
TAPE RECORDERS · TRANSISTOR RADIOS
RECORD PLAYERS · RADIOGRAMS

Fidelity HF 38



Fully transistorised automatic record player

The quality is the same Fidelity standard your customers know and trust.

Reproduction, via the 3-watt output, is full, rich and clear. Plays up to six records automatically.

The lightweight pick-up has the new type compatible cartridge with sapphire styli and gives improved frequency response, reduces distortion and leads to longer record life.

There's a socket for tape recorder

so that records can be taped and listened to at the same time.

Styling is smooth and appealing, featuring padded leathercloth, just the right touch of flamboyance in the red lining.

Yes, it is mildly sensational, isn't it?

Fidelity HF 38

19 $\frac{1}{2}$ gns

(tax paid)



FIDELITY RADIO LTD. LONDON W.11. 01-727 0131
TAPE RECORDERS · TRANSISTOR RADIOS
RECORD PLAYERS · RADIOGRAMS

RADIOS & RADIOGRAMS

continued

run until January 31st next. The prizes will be 106 three-day trips to Hamburg. More details are to be released later.

In a range of about twenty Koyo solid state radios shown by **KINGSWAY MILLS** the latest introductions were the models **KTR 1381** and **KTR 1651L**. The former, priced at £14 7s 8d, is a 13-transistor set in a soft leather case, covering a.m. (including s.w.) and f.m. **KTR 1651L** uses 16 transistors and has two s.w. bands. The normal battery complement is four UM1. An a.c. adaptor is available. Price is £21 11s 6d.

UNAMEC showed a most comprehensive range of radios. The **R441B** is a mains/battery set in a leatherette case. Three short wave bands and m.w. are covered. A version with two s.w., m.w. and l.w. will also be available. Price is 27gn. 2W output is available from the **RF894L** battery portable, or 2.5W when used as a car radio. Coverage is a.m. and f.m. Unlike most other National radios this unit is in a wood grain effect plastic case. Price: 41gn. The model **RF880L** is also a.m./f.m. and has the **Radar Matic** motor driven tuning system which stops at the next receivable station. Price is 58gn. Car bracket is extra. **RQ321S** is a combined portable radio/cassette tape player operating from mains or battery. Recordings can be made from radio whilst listening. The price of 67gn includes a remote control microphone. For **Park Air Electronics** Unamec have modified one of their portables to receive the aircraft v.h.f. band as well as m.w.

The **National SC140F** is a unit audio system comprising a 4-band tuner/amplifier with 22W per channel, complete in wooden case with 2-speed gram unit. Included in the price of 115gn are two infinite baffles each with bass unit and tweeter.

Claimed to be the worlds most powerful amplifier available was the **ARENA T9000** tuner/amplifier shown by **HIGH-GATE ACOUSTICS**. M.W. and v.h.f. are covered with silicon diode tuning on both bands. The output is 90W per channel. The **T9000** will be available in the New year when the price will be announced. It will be high!

Also in the same show were two new **LUXOR** units. The **4788** tuner/amplifier covers stereo f.m. and delivers 20W per channel. Tone controls include a mid-range attenuator. Inputs are provided for crystal or magnetic pick-up. Price is 89gn.

Three tuner units were released by **RADON** all designed to work with the

Radon 404 audio system. The **404 Mk I** is f.m. only and features a high degree of a.g.c. In an oak or teak case it costs 29gn. Model **404 Mk II** at 36gn is similar but has facilities for fitting a decoder. With decoder already fitted and having an additional m.w. band the **Mk III** version costs £62. The **Viking f.m. stereo tuner/amplifier** is rated at 10W per channel and uses the **Garrard 2025TC** changer. Any magnetic or ceramic cartridge can be fitted. In a teak cabinet with plexiglass cover the price is expected to be less than 90gn. Of the same specification but without the tuner is the **Saxon**, with an expected price of under 80gn. **Radon** also showed several new P.A. items. A six channel microphone mixer at £49 19s 8d, a 25W amplifier model **25W/3** with two microphone inputs, and the **10W, 4-input model 10CTL** amplifier.

The **DECCA SRG757** (previously reviewed) has a **Synchrolab 95 Garrard Transcription** deck, **Decca FFSS4RG** magnetic cartridge and delivers 10W per channel.

The **TELETON** model **R8000** is a m.w./f.m. tuner/amplifier to sell at £59 19s. 11d., complete with two bookshelf type loudspeaker assemblies. Output is 6W. The amplifier assembly and the speakers are in handsomely styled wooden cabinets. Inputs are provided for disc or tape. To be made available in October will be the **SAQ203** solid state stereo amplifier. Output is 10W per channel (music power). There is an input selector switch for magnetic or crystal pick-up, radio tuner and auxiliary source. There is an output socket for tape recording. Price: £27.

Amongst new models at the **BRC** show were: **FERGUSION Auto-Twin** car/home radio model **3162** at £20 8s and an a.m./f.m. personal model **3165** at £15 10s. Imported from Japan were the models **3167**, a larger personal set priced at £17, and a cordless clock radio model **3163**. The clock is battery operated and will switch on the radio at any desired time. Price: £17. **Ferguson** introduced the model **3354** radiogram with 4-band radio at £89 5s in teak or American walnut. The **HMV** equivalent is the **2344** and the price is £86 19s. More traditional in form was the **HMV 2163** a.m./f.m. radio. **ULTRA** showed model **6150**, a transistorised car/home receiver. Promised for November delivery was an imported a.m./f.m. personal set, the **Ultra 6151** to sell at £15 5s.

RANK BUSH MURPHY had two new **BUSH** transistor radios. The **22gn VTR174** and the as yet unpriced **TR162**. The popular **TR130** is now available in a choice of colours. October will see the introduction of a series of **Scene One** table radios in white with contrasting letter-box type doors.

Bush also showed a range of high fidelity equipment, with three different types of matching loudspeaker assemblies. The average cost of an installation is about £140. The **Bush A762** Sound

System Trolley at 16gn will accept any combination of their units (and for that matter almost any one else's). **Rank Bush Murphy** also showed the **Murphy A854SG** stereo record player with a price tag of 69gn and the **A893SR** version including radio, both in teak. A black and white version of the **A893SR** matches the **Murphy** painted TV sets and is priced at 83gn. In the **Bush** range model **SRG129** is new. It has provision for stereo decoder and in tropical olive it will sell at 89gn.

PHILIPS released a whole new range of portables, including models **RL282**, **RL284**, **RL370**, **RL386** and **RL583**. A new mains radio on show was the **32gn RB382**.

DANSETTE re-introduced under the **PERDIO** label a range of receivers which does not duplicate anything in the **Dansette** range. The **Perdio Norfolk** at 22gn has a shipping band, the **Somerset** at 29gn covers a.m. and f.m., whilst the **Devon** is priced at 13½gn. Under the **DANSETTE** brand were to be seen two car radios, the **Touriste Mk 3** at 14½gn and the **Pullman** push button operated set at 21gn.

Perdio also launched a range of high fidelity units, with an amplifier at 32gn, a tuner complete with decoder at 42gn, and a matching record player at 27gn.

DISCATRON showed their new **Compact 2** radio priced at £12 8s 4d.

New from **DENHAM & MORLEY** was the **Nivico 12F-343L** a.m./f.m. portable at 27gn, the **FA-6000T** at 79gn and the **10F-407** at 28gn.

A late entrant for the **Trade Shows** Stakes and not mentioned in last month's preview was **ELSWORTHY ELECTRONICS** at the **Kensington Palace Hotel**. This company showed a range of imported radios including the 5-band a.m./f.m. **Interceptor** at 39gn, and two pocket sets in gay colours, the **Hippie (8gn)** and its f.m. counterpart the **Hipster** at 13gn.

A successor to the popular **Wien 9** was shown by **H. O. THOMAS**. Known as the **Wien 9L**, it is priced at 16gn for which one gets the addition of the long wave band. Three new stereo amplifiers/multiplex tuners are the **Wien FMX18** at £43 1s, the **FMX23** at £64 1s and the **FMX24** priced at £74 11s.

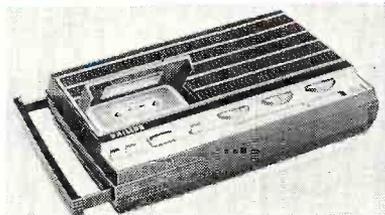
LEE PRODUCTS showed their low priced (12gn) car radio model **CR404**.

The **TELEFUNKEN** System Audio units from **AEG**, previously reviewed, are priced at 114gn or 128gn according to the choice of loudspeakers. The **Telefunken Bolero** is now available at the special price of 129gn with decoder and two loudspeakers, and the **Contessa Stereo** with conventional single cabinet at 119gn.

NEW—at the TRADE SHOWS



Pye Executive.



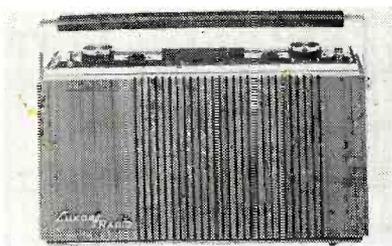
Philips RR380.



Sony 6060F Tuner/amplifier.



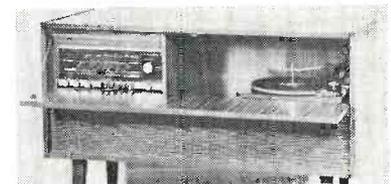
Alba 555.



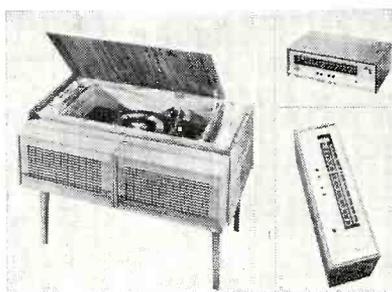
Luxor B4773.



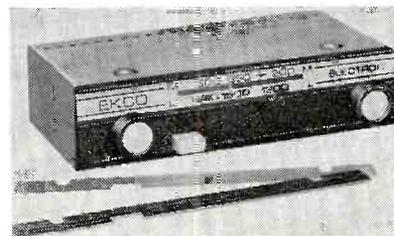
Perdio Unit Audio FM tuner.



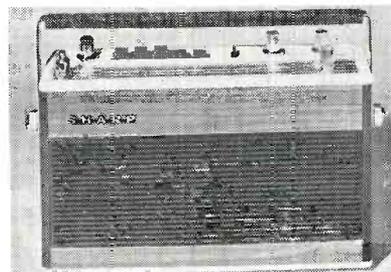
Bosch New Stockholm.



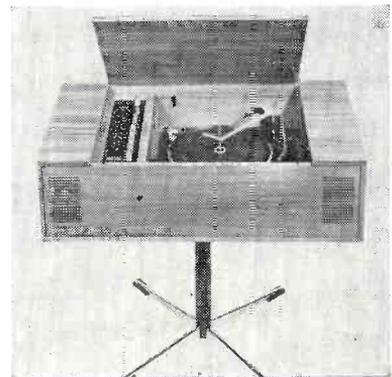
GEC FM Stereogram.



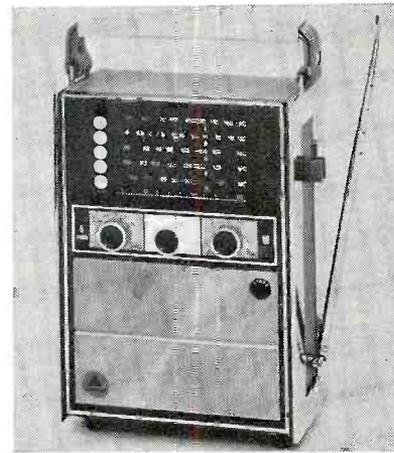
Ekco Electron car radio.



Sharp FW26L.

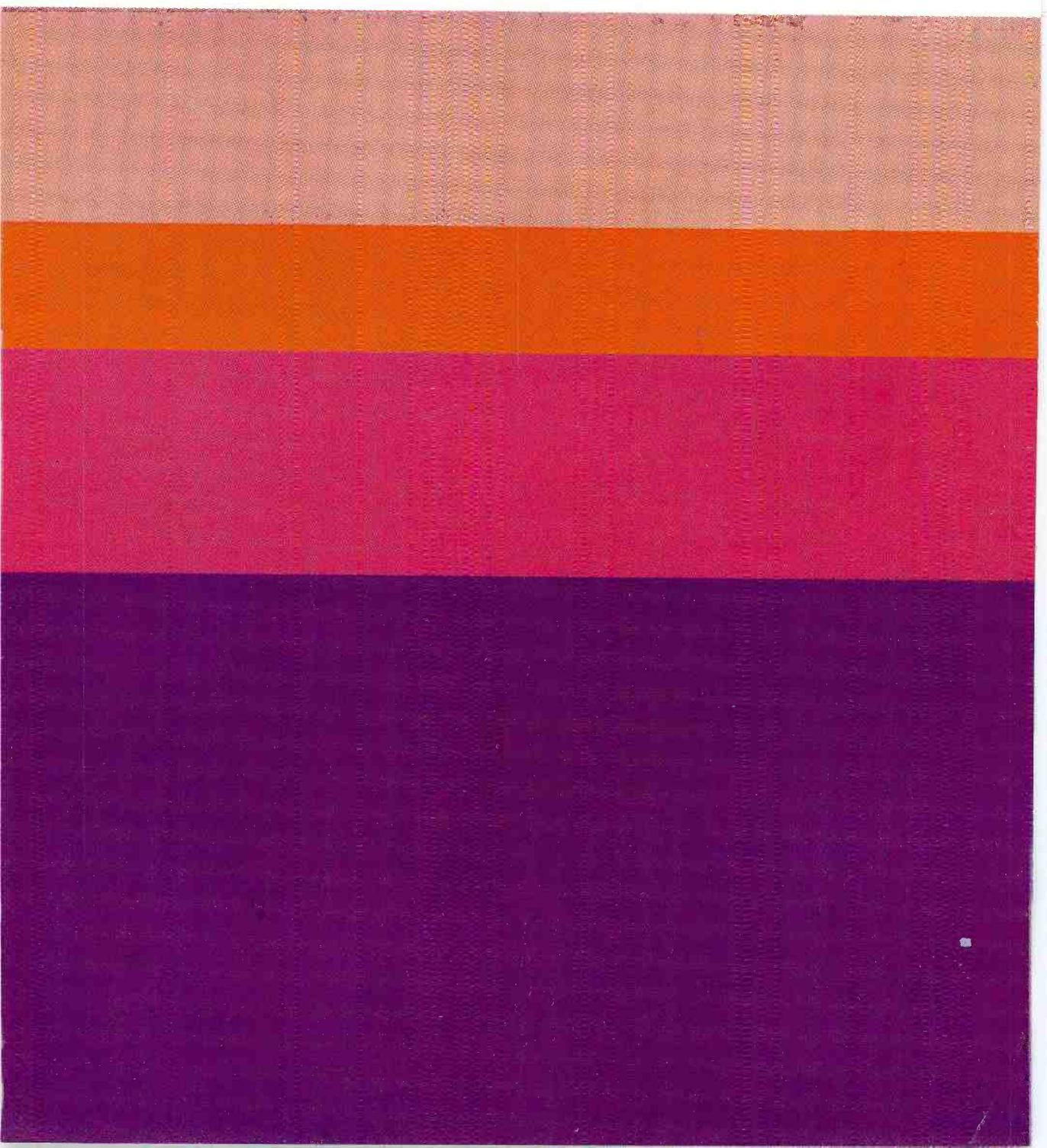


Dynatron Geneva HFC4.



Ellsworthy Electronics Interceptor.

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Middlesex. Tel: 01-927 0021

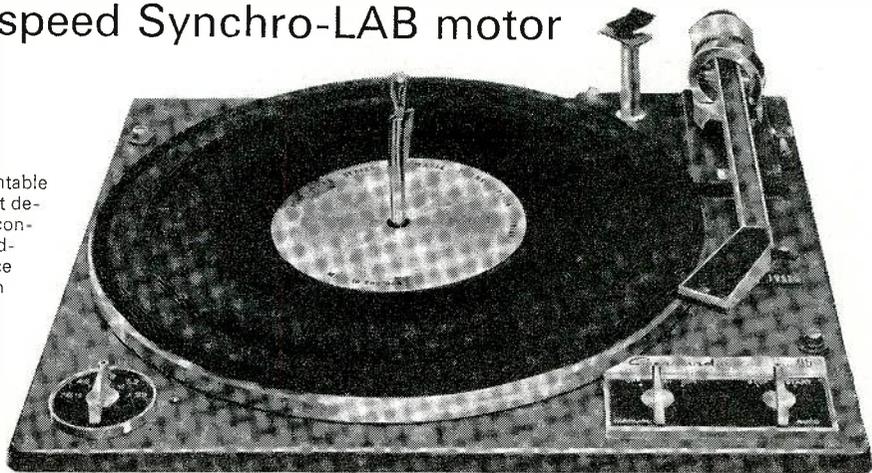


THE NEW GARRARD SL SERIES

— auto record playing units all featuring the new constant-speed Synchro-LAB motor

Model SL 95

An automatic transcription turntable incorporating a number of important design features including pick-up arm constructed from aluminium with wood-inset for effective low resonance damping, gimbal-type pick-up arm pivots, slide-in carrier accepting most makes of pick-up cartridges, calibrated pick-up arm bias compensation, calibrated stylus force adjustment, cue and pause facility and retractable record platform.



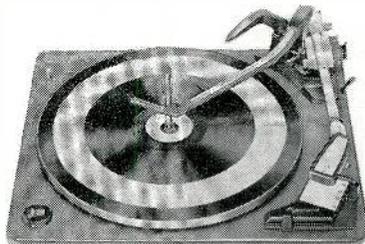
New Garrard Synchro-Lab Motor. The Garrard Synchro-Lab motor which is fitted to the SL Series is a new Garrard design of electric motor incorporating the best features of an induction motor with the advantages of the constant-speed of a synchronous motor.

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.



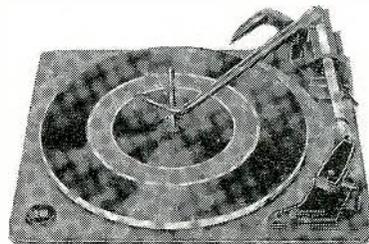
Model SL 75

Similar to the SL 95 but features a different design of pick-up arm utilizing the same principle of a slide-in cartridge carrier.



Model SL 65

Four speed automatic record changer featuring cue and pause facility, calibrated fine stylus force adjustment, pick-up arm bias compensation and plug-in pick-up head.



Model SL 55

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



Garrard looks after your sales



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Ref. Ad. No. 424

NEW — RECORD PLAYERS

Adding to its range of record players **PYE** introduced the model 1011 de-luxe unit at £33. The printed circuit chassis is of modular construction. The changer is the **BSR UA15** with a compatible cartridge. Output is 4W into an 8 x 5in speaker. The cabinet is in teak. There is a socket for an external speaker. Another last minute addition was the model 1013 Executive, a battery/mains stereo record player with medium waveband radio designed into a 16 x 14 x 3in briefcase cabinet and weighing only 7½lb. Two 5 x 3in speakers, which can be detached, are incorporated. The gram unit is 3-speed. Price: about £30.

The **EKCO** equivalent of the Pye 1011 is the **RP701** and is priced at £31.

The equivalent in the **FERRANTI** range is model **RP6600**. In a cabinet of teak, with interior in walnut, it is priced at £33. Model **RP6601** is the brand equivalent of the Pye Viking player. The Ferranti version is in red Rexine with white grille. The output is 2W into a 7in elliptical speaker. The **BSR UA25** changer has a compatible cartridge.

INVICTA showed the model 8104 at £30 10s complete with legs and a white and charcoal Rexine covered cabinet.

The **B.M.B. Stereo 40** comprises a player desk in teak using the **Garrard 3000LM** changer with **Sonotone 9TAHC** stereo cartridge. A hinged wooden lid is fitted. The 5W per channel amplifier is installed in a matching cabinet with simulated black leather fascia panel. Frequency range is from 35 to 25,000C/s. Inputs are provided for tape, radio or disc. The two speakers in matching cabinets have sloping fronts and can be wall, shelf or floor mounted. Price of the complete assembly is 69½gn.

The **KB KP038** is their third record player to be launched in three months. The 7W amplifier is stereo adaptable by the use of the **KA039** speaker/amplifier. The changer is the **BSR MA65**. The cabinet is in teak and black leathercloth. Price: **KP038**, 34gn; **KA039**, 15gn.

Latest addition to the **PHILCO-FORD** range is the **Philco Five**, model **PRP69**, record player at 34gn. Made in the UK, the amplifier delivers 4.45 music watts. The changer is the **Garrard 2025TC** with a **GCM21** cartridge. For stereo reproduction there is the add-on **SPRP69** speaker/amplifier at 17½gn.

DECCA released the solid state **Majorca** player at 29gn. The **Deccalian Mk 5** is now fully transistorised and has twin speakers with 10W output.

DANSETTE announced the **Concerto** stereo player with 7 + 7W output and **Garrard** changer will be available in December at 65gn. They now have a full range of stereo add-on units for the conversion of all their record players from the **Bermuda** upwards.

ULTRA showed the 3W model 6024 record player in black leathercloth at £25 6s. and the furniture styled 6018 at £35 7s.

HMV featured three new **Stereo-Masters**: model 2400 at £70 9s; model 2401 (with v.h.f. radio) at £82 17s and model 2402 (with v.h.f. radio plus decoder) at £91 2s.

PERDIO introduced the model 20 at 20gn and a lower priced version model 17 at 17gn.

RANK BUSH MURPHY released the **BUSH RP50** with front facing accessory sockets at 22gn. From **MURPHY** came the 16gn **AU855** stereo conversion unit for use with the **A855G**.

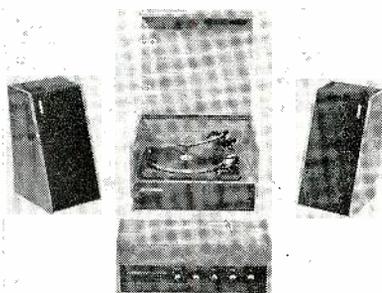
New **PHILIPS** models were the **GF816** mono-player and the ultra de-luxe stereo model **GF417**.

FIDELITY's model **HF38** (referred to in our preview edition) has a compatible cartridge, lush red interior and sells at 19½gn.

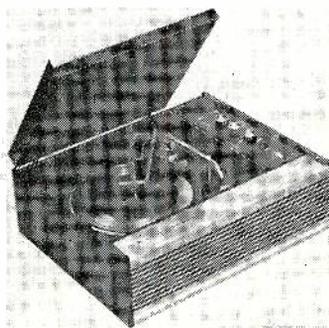
The **LUXOR** model **HP173** shown by **HIGHGATE ACOUSTICS** is a playing deck fitted with magnetic pick-up on a wooden plinth with dust cover. Two speeds—33½ or 45—can be selected and there is a fine speed adjustment. Complete unit is 39gn.

The **WYNDSOR 1500S** stereo system consists of a solid teak plinth unit carrying a **Garrard 2025TC** changer and a 2 x 5W transistorised amplifier, plus two loud speaker assemblies using 9 x 5in units with tweeter domes. The plinth has a detachable lid section which also includes a perspex flap. Input and output facilities for tape and radio tuner are provided. Model 1500S is priced at 55gn. An alternative version, model 1500SP, with the **Garrard SP25** single play unit is priced at 59gn. For 22gn **WyndSOR** offer the model 1025M solid state mono record reproducer also in a solid teak cabinet. Output is 3W to the 7 x 4in speaker. The changer is the **Garrard 1025** unit. A unique feature is an adjustable section of the front of the lid which allows the controls to be enclosed for travel or accessible for operation in the closed position.

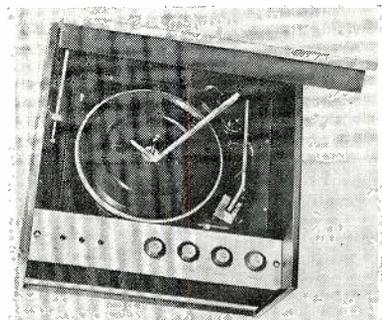
more on page 395



B.M.B. Bolero 40.



Fidelity HF37.



Philco Five.



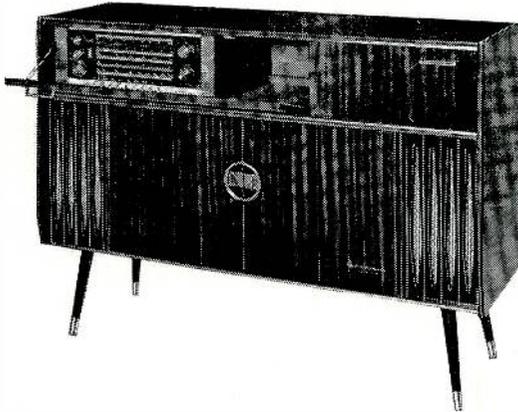
WyndSOR 1500S.

BLUESPOT

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NEW

ARKANSAS MK III

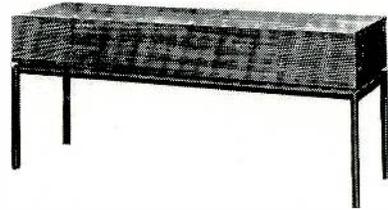


ARKANSAS MK III (NEW!)

The latest version of this highly successful top-selling stereogram is now available. Built in the same tradition as its predecessor it incorporates many new features i.e. fully automatic built-in stereo decoder with light signal; fully transistorized chassis with 10W output per channel; six Suprakustik speakers; floodlight speaker baffles; ease of access to record player positioned in top right hand corner with lift-up lid; ample L.P. vertical record storage space, and attractively re-styled fascia with push-buttons. Both the Arkansas and Barcelona are similar in styling. 144 gns.

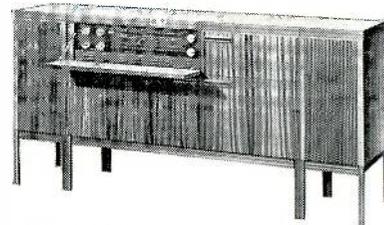
BARCELONA MK III (NEW!)

The latest export version of the Arkansas MK III with A.M., F.M. and three short wavebands. 155gns.



ARIZONA

An elegant modern, slim-line stereogram futuristically designed to provide a complete home entertainment console with tape recorder drawer and provision to stand a television set. Contains many features including a fully automatic built-in stereo decoder with light signal and a fully transistorized chassis with 10W output per channel. 195 gns.



NEW YORK

A sensationally superb 'Hi-Fi' stereogram for the connoisseur. Incorporates 'PE' transcription deck with hydraulic pick-up; 20 W output per channel (distortion factor 1% with 2 x 20W output!); 30 transistors; fully transistorized stabilized electronic power pack; 15 diodes; one selenium rectifier; provision for tape recorder; ample L.P. vertical record storage space, and two separate speaker cabinets for maximum flexibility according to individual acoustics. 305 gns.

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NEW — TAPE RECORDERS

ALBA introduced the R22 Diplomat tape recorder, a twin-track, 2-speed machine operating from mains or batteries. Features include: revolution counter; battery charge/recording level indicator; switchable automatic level control; mood switch (three position tone control); remote switch on microphone; mixing of microphone and radio inputs. Output is 2.5W on mains, 1.8W on battery. The speaker is 6½in elliptical. Price is 47gn.

PHILIPS showed the N4407 and N4404 stereo recorders and the mono models N4380 and N4307, the latter being a Family model with four tracks and single speed at £47 15s. Amongst new cassette players were the 2200 mono and 2800 stereo and a completely new innovation, the stereo auto-change 2502, which takes up to six cassettes and automatically ejects the played cassette into a separate compartment. The unit shown was a prototype with production promised for early next year. Priced at 36gn was the radio/recorder with a.m. radio.

AIWA introduced what they claimed to be the world's first stereo cassette auto-change tape recorder model TP1018. A car cassette model from Aiwa is the TP1015 priced at 52½gn. In addition to playing stereo or mono tapes, it will also accept dictation whilst on the move. The TP735 spool-to-spool stand-up 2-track model takes 5in spools. The model TPR101 at 47gn is a combined cassette recorder and multiband radio. Now available for the 736 recorder is a small tuner which slips into the cassette space. The new model 736 is priced at 25½gn, the tuner is £4 16s 2d.

SHARP SALES AND SERVICE exhibited the RD303E recorder as a replacement for the model 303. The RD505 is a new solid-state recorder with auto level control, twin tracks and 5in spools. Focal point of the show was the de-luxe RD712, which sells at 275gn. It is not only fully stereo but also automatically reversible.

FERGUSON have a new high quality 3-speed, 4-track fully stereo recorder model 3232 to sell at £91 13s.

TELETON showed their new automatic cassette recorder model CT630. Like all the tape recorders in the company's

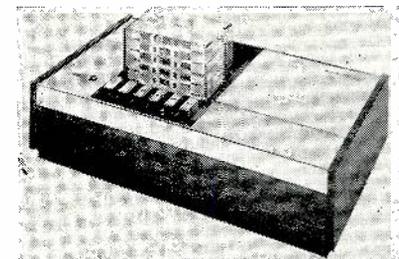
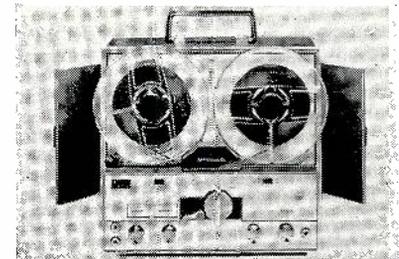
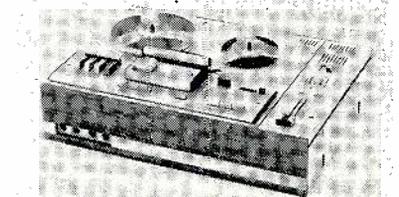
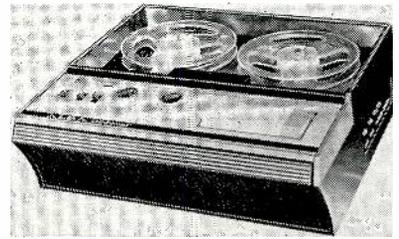
range this model operates from battery (9V) or mains. The price of £37 17s 8d includes a leather ever-ready case.

DENHAM & MORLEY showed the Nivico TR171U 5in reel, 2-speed recorder at 55gn and a radio/cassette recorder model RC200E for 54gn.

DISCATRON had a range of products to accept their own Discassette continuous loop pre-recorded tapes including the TR3000 tape/2-band radio/7in record player, the Tri-Combo at £28 3s 5d.

ELIZABETHAN showed the New Elite 2 and 4 which are twin- and four-track machines respectively selling at 31 and 34gn.

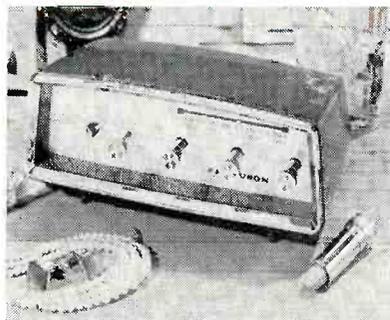
Seven new models of **NATIONAL** tape recorders were shown by **UNAMEC**, to those who got beyond the other outstanding attractions of the Playboy Club. At 33gn was the RQ203S, a cassette portable operating from battery or built-in mains unit. An unusual feature for this price range is the facility for loudspeaker monitoring whilst recording. The RQ501S battery/mains model at 49gn has two sets of heads allowing recording in both directions. Reels up to 5in can be accommodated. Mains to battery change-over is automatic. The RQ194S attache-case portable has press key controls, and four tracks with sound-with-sound and sound-on-sound facilities. Price: 67gn. A larger stereo model is the mains operated RS760S with 4W music power per channel. 3-speed, and using 7in reels it is priced at 98gn. Matching speakers are available at 27gn per pair. With an enhanced specification there is the RS761S giving 8W per channel. The cabinet and two detachable speakers are in walnut. The price is 155gn. The deck used in the above model is available separately with built-in pre-amplifier and housed in a walnut cabinet for 82gn. It is known as model RS766US. Priced at 175gn is the new Console-Aire, RS790S. Main feature of this machine is the dual capstan drive. One capstan before the heads and one after help to reduce wow, and by keeping the tape taut over the heads reduces drop-out and head wear. Automatic tape reverse is fitted. Power output is 10W music power per channel. Matching external speakers are 49gn the pair.



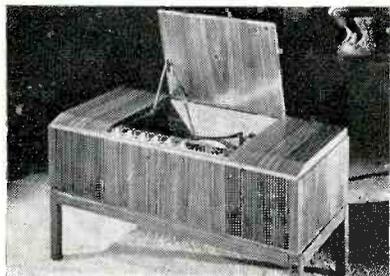
Top to bottom: Alba R22 Diplomat; Adler Eagle TC450D; AEG Telefunken M250; Aiwa TR1012; Philips 2502.

This year's Trade Shows also, from some manufacturers, covered Domestic Electric Appliances — notes of some of the new introductions in the white goods field will be found on page 397.

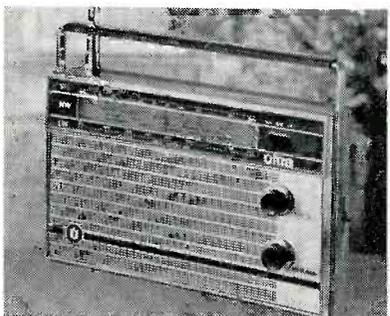
NEW—at the TRADE SHOWS



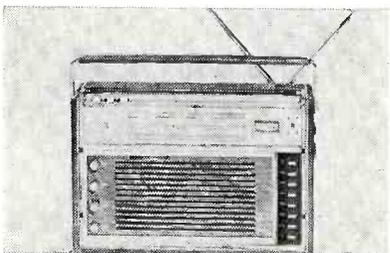
Ferguson 3163 Clock Radio.



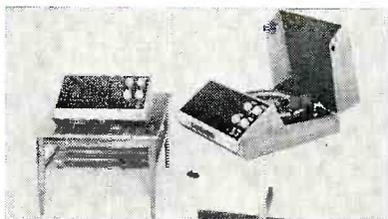
HMV Stereomaster 2401.



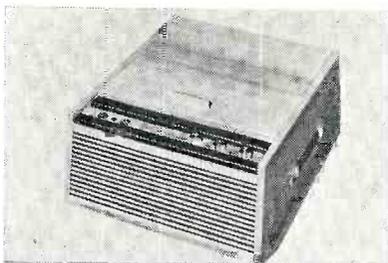
Ultra 6151.



Pye Piccadilly 6000.



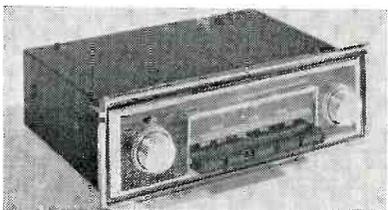
KB KPO38 and KAO39.



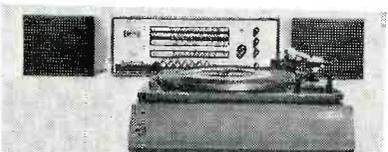
Ferranti RP6600.



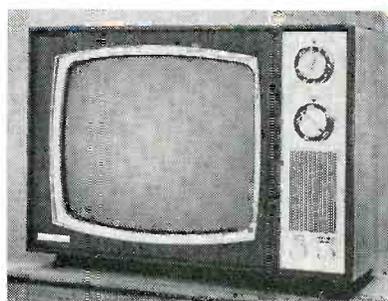
Sony HP180.



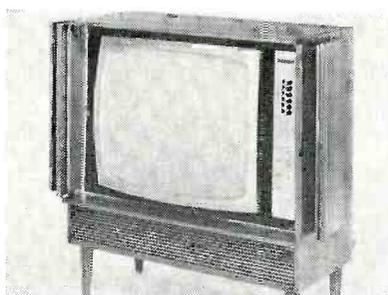
Dansette Pullman car radio.



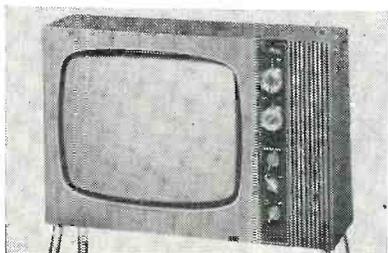
AEG Telefunken Allegro.



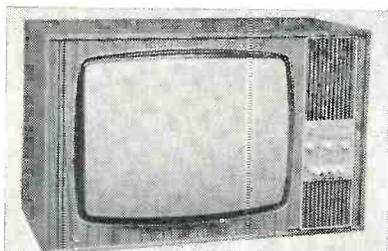
Sobell 4038.



Decca 25in CTV.



RGD RV235.



Philips Single Standard.

NEW — APPLIANCES and MISCELLANEOUS

PHILCO-FORD showed a range of freezers. Two vertical freezers, made by Philco in Italy, are the 6.6cu ft model CVL6E to sell at 99½gn, and the 9.35cu ft CVL9E priced at 129gn. Chest types, made for Philco in Italy, include the COL7E, 6.6cu ft, at 94gn; COL8E, 8.6cu ft at 106gn; COL13E, 14.1cu ft at 114gn and COL21E, 21.7cu ft model at 144gn. New prices were announced for the existing range of refrigerators as follows: FTR5E, £39 3s; FA6D, £53 17s 6d; FA7C, £64 8s 6d; FA10C, £95 5s; FBE11C, £139 18s 6d. All prices include service charge.

KB launched a range of three deep freezers made in Norway by ITT subsidiary STK. VF18 is a 6.3cu ft upright model to sell at 97gn; model HF18T is a chest type of the same capacity priced at 85gn, whilst the big family size, 9.5 cu ft HF27 chest type is priced at 99½gn. A consumer leaflet is available for consumer distribution which explains many of the questions that prospective purchasers of deep freezers are likely to ask. The same servicing arrangements from Total Refrigeration are available for the freezers as for the refrigerators.

MORPHY RICHARDS showed their new pump spin drier model ADP1011 at £35 4s 10d. The speed of 3050 r.p.m. is rated the fastest on the market. The full load is 6lb dry weight. An automatic timer is fitted. The cabinet is white with dark blue trim. BEAB approved.

ANTIFERRENCE introduced the Tru-colour u.h.f. aerial range developed in conjunction with Belling Lee. The broad bandwidth of the new range enables the company to produce one model covering aerial groups C and D (channels 49 to 68).

The **KORTING** colour television service generator model 82512 to be marketed in this country by **DECCA**, is 625-line only, fully transistorised and produces a wide variety of patterns. Price will be less than £200 trade.

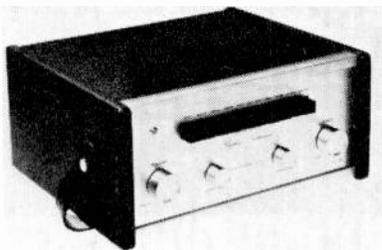
BOSCH showed for the first time a bargain priced fully automatic dishwasher the model GV101S. It provides a pre-rinse programme and a universal wash programme for all types of crockery. Drying is by retained heat. The load is 12 place settings from the front of the machine into pull-out baskets. Any temperature of water supply may be used. The unit is castor mounted. Guaranteed for one year, the machine is priced at 159gn without water softener, or 172gn with softener.

PHILIPS also showed several new domestic appliances including HN3150 automatic washing machine at 99½gn; a combined ultra violet/infra-red lamp at 12gn and a coffee maker at £6 19 6d



To 18

Antiferrence TC 218.



Adler Eagle RMG Rhythm Master.

ADLER had a novel aid for pop groups in the **EAGLE** Rhythm Master model



Philips HD5105 Coffee Maker.

RM9, a solid state automatic percussion device producing seven sounds which can be mixed to give nine rhythms.

TELENG showed their latest Essex 5327 and 5328 ultra wide band distribution amplifiers, which cover 40–230MHz, v.h.f. and 470–860MHz, u.h.f. without need to convert u.h.f. channels to a lower frequency. The 5327 has a gain of 21dB, the 5328 of 32dB. For use with these amplifiers there is a range of York outlet sockets, Tee units and spur units.

A SERVICEMAN looks at the SHOWS

LEARNING TO ENJOY IT

Maybe I'm getting less enthusiastic, maybe they don't hold shows like they used to do, or maybe there is less and less equipment each year which needs real servicing (as distinct from replacing whole chunks of circuitry), but speaking as a service engineer pure and simple—as of course we all are—I find that things get less and less interesting technically as the years go by.

It doesn't help either when my colleagues refer to showtime as the 'bean-feast' and make caustic remarks about the Bunny Club and all that jazz. I try to remain loyal to the ideals that made me decide many Radiolympias ago that I didn't want to become an engine driver, but I still feel they may have a point.

I used to visit the shows ahead of our buyer to check that he did not order anything likely to turn out to be totally unserviceable, but bulk buying has put a stop to that idea. For a time I felt a bit superfluous wandering around the shows with no fixed aim, but I have since learned to enjoy myself and now spend

as long as I like just looking at anything which takes my fancy.

Test equipment, for instance. I noticed that crosshatch generators are much steadier this year, and that more people are getting interested in compact colour bar generators, even though they are mostly 625-line only. Having used the Philips colour bar generator with great satisfaction, I was pleased to see that the Korting unit, displayed by Rank Bush Murphy and marketed over here by Decca, appears to be equally good and even a little cheaper. Both instruments include a very stable crosshatch, and many engineers I have met say that they can manage convergence quite nicely on 405 lines with the test card so that the coming of duplication suggests that a single standard colour bar and cross-hatch generator looks like becoming standard equipment on our benches.

Personally, I have some misgivings on the use of test card D on 405 lines for convergence setting, particularly for dealers with agencies such as BRC and GEC where the convergence drill is started on the 405 system.



Would you invite a Polbaby into your office?



Yes. And a lot of your customers would into theirs.

The less room you have, the more welcome these compact little refrigerators are. For offices where the business is hot we've developed the POLBABY EXECUTIVE and POLBABY EXECUTIVE COCKTAIL BAR, the latter combining the refrigerator with a rather nice cabinet. Both these special models are finished in walnut veneer. For the mini-kitchen or bed-sitter there's a Standard POLBABY in white enamel.

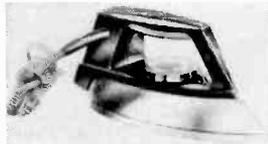
Tell your customers it's cool to have a POLBABY, but make sure first that you can deliver. Get in touch today.

RETAIL PRICES: incl. P.T.

Polbaby 25 gns. Polbaby Executive 42 gns. Polbaby Executive Cocktail Bar 57 gns.

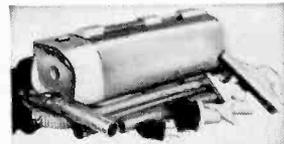
The Unitra Electric Iron

Is thermostatically controlled over a wide range of temperatures and has a pilot light. Attractive finish. Exceptional value.
Retail Price incl. P.T. 55/-



The Unitra Vac. 1

Sucking capacity 1035 litres/minute.
Easy to handle.
Many accessories. Retail Price incl. P.T. 14½ gns.



DALTRADE LTD, 110 Cannon Street, London, EC4 Tel: 01-623 5464/7 7405/7. Exported by Universal of Warsaw, Poland

Ref. Ad. No. 408

CHIPS WITH EVERYTHING

The main interest at the Rank Bush Murphy show was the integrated circuit chip featured in their new 22in colour set. Integrated circuits, like all innovations, bother engineers, since servicing is confined to replacement. Testing looks a bit formidable. RBM assure me, however, that their i.c. can be removed and replaced in the printed board, and that testing is simple. All you do, they say, is to measure the d.c. and ohms conditions at the terminals, and if these are correct according to the manual then the chip is fault free. For the time being I'll believe them!

For the technically minded amongst you, the i.c. is to be found between the back of the decoder and the R, G and B amplifiers—which are themselves transistorised now. Into it at various points are fed modulated (R-Y) and (B-Y), regenerated sub-carrier and luminance. Out of it, matrixed and ready for use come R, G and B drive signals to the video stages in their correct proportions. You don't even have to add water!

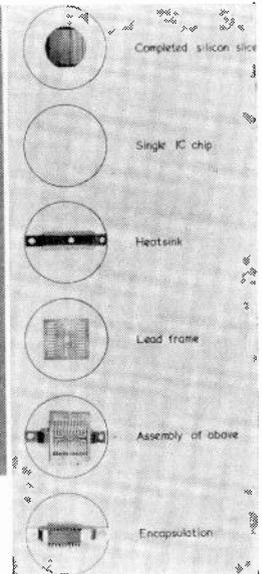
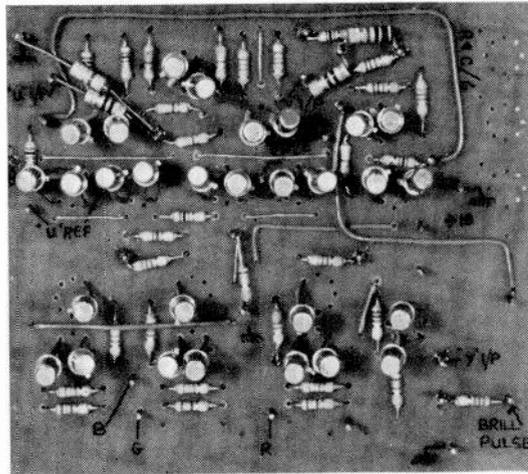
To show off the startling improvement that the new circuit makes to the colour picture, RBM ran their 22in set alongside a standard 25in set and a professional monitor fed direct from a BBC line. The performance of the chip was masked to some extent by the brilliance and geometry of the 22in tube (a winner all the way, I would say) and because all the sets were in total darkness, the comparison was a fair one. So fair that I had to be dragged away by the coat tails from the set that I decided was the one I have always wanted. I have never seen colour pictures like it in my life, and I would even put up with the clinical grey cabinet or a direct line to the BBC in my own living room.

I found another integrated circuit at the Sinclair Electronics show, and this was one that I could really understand. It had a price on it, a circuit diagram and it was at audio frequency. You stick a pick-up on one end, a loudspeaker on the other, feed in some power, add a volume control and you have an amplifier. Just like that.

These two i.c.'s are the first of many to come, most of the other manufacturers hinted that they had units on the way for use in sound, i.f. or sync stages. I.C.'s do it all with transistors, diodes and resistors—no capacitors and very few coils. The keynote of manufacturing to a consistent performance, apart from very stringent quality control, is that if you balance the transistors in pairs in the circuit, they can be produced with a good match in practice because of their close proximity to each other on the chip.

STACKS OF CASSETTES

Changing the subject—it seems that we are in for a new type of autochanger unit. This will gladden the hearts of the mechanically minded amongst my readers until I tell you that it changes not discs but compact cassettes. It will



The little fellow on the right is the integrated circuit which in the new RBM TV receivers replaces all the conventional circuitry shown on the left.

take up to six cassettes and carefully stacks the rejected ones in a tidy pile.

The number of cassette players that do not record is on the increase, some of them being built into portable radios or car radios. Most are imported so I did not go into details about servicing problems. You know the standard answers—'Full service facilities are available from our British agent'—or 'We've only just got it through the Customs, old boy, and no details are available yet'.

So with tape recorders fighting the recent tax imposition, record players being fitted with compatible cartridges, and just about everybody demonstrating unit audio larger than life, I am afraid I drifted back to the TV side.

The KB group (or ITT-KB as I see we are now to call them) at long last entered the colour TV scene with a hand-wired 19in set. I did not dare to look in the back. I just wonder how they do it, with almost all the stuff which is at present used in decoders, etc. being manufactured with printed panels in mind.

ONE FOR THE PRICE OF TWO

I thought I would like to see how duplication of TV programmes will affect things, so I started looking for single standard colour sets. I still maintain that they would sell well now, since most of my colour prospects have good monochrome sets anyway. I found only two—one on display but not working, and the other as a 'sneak preview'. I heard a rumour that a boatload of inexpensive single standard 19in sets is on its way from the mystic Orient, and if this is so I don't blame our own manufacturers for holding their fire for a little longer.

One company told me that going single standard would reduce the price of a colour set by no more than 10%,

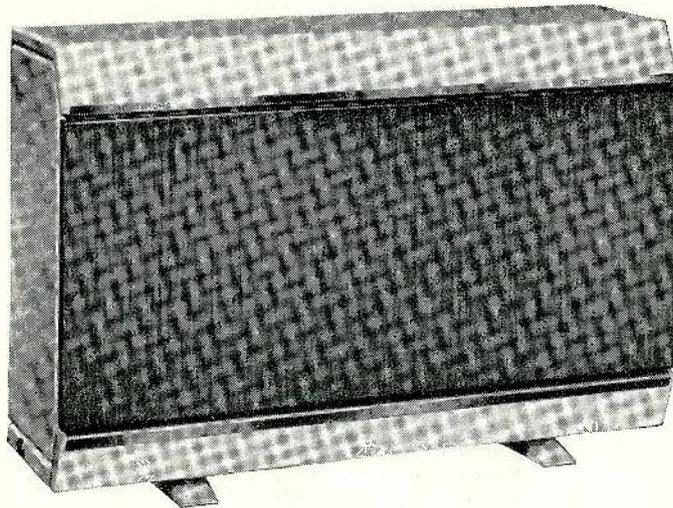
but that the greater reliability gained from the simplified circuitry would be the greatest asset of this type of receiver. So, my prediction is that when it comes the single standard colour set will cost around £270, and be a 22in model available in fringe and standard versions, the former suitable also for v.h.f. relay operation. Admittedly the saving of £30 is not much, but since most of the dual standard circuitry is also common to its mono counterpart, it would seem reasonable to expect that a comparable b. and w. set would also work out £20 cheaper—but I am willing to gamble that manufacturers' arithmetic is not the same as mine!

ON THE TILES

Those of you who spend any time up amongst the chimney pots will be glad to find that aerial manufacturers are helping our stocking and erecting problems with multi-channel arrays for co-sited stations and broad bandwidth assemblies for the u.h.f. bands. One result of the recent Antiference-Belling Lee marriage is a new range of u.h.f. aerials featuring all the good points of their two predecessors. The result is aerials with broader bandwidths so necessary for colour. At the h.f. end of the band, indeed, it has made it possible for one model to cover the whole of groups C and D.

As the time to think about the home-going train approached, I looked down from the dizzy heights of a Kensington hotel to see a crowd of protest marchers converging upon the Russian Embassy, which I was told was deserted apart from a fasting Arrowsmith. It made me realise that perhaps there are greater troubles in this land of ours than sound-on-vision, and that an inability to spell *integrated* properly may be one of the least of the worries of one of our manufacturers.

Heatstore reveal everything



About their new low prices! The price of most things is going up but Heatstore have *reduced* their prices permanently for 1968. How have they done it? Well, that's Heatstore's secret but you can be sure that as brand leader they are maintaining their high standards of quality.

Catch Heatstore with their prices down now!

Heatstore

Heatstore Limited, P.O. Box 64, Wigan, Lancs.



Member of the Central Wagon Group



Here are the new prices which mean **faster sales, bigger profit volume**

HR1 Magnolia and mid-brown	£21 17s 6d
Magnolia and teak finish	£23 0s 0d
Chocolate and teak finish	£23 0s 0d
HR2 Magnolia and mid-brown	£25 2s 6d
Magnolia and teak finish	£26 5s 0d
Chocolate and teak finish	£26 5s 0d
HR3 Magnolia and mid-brown	£28 13s 0d
Magnolia and teak finish	£29 19s 6d
Chocolate and teak finish	£29 19s 6d

Berry's LF60 suite.



HIGHER HEATING STANDARDS

by
PHILIP HONEY

EDWARD VII'S SUBJECTS knew little of the joys of warmth all over the house. In the early 1900's they fought the winter cold in draughty, badly insulated buildings with open coal fires. One in the living room provided one reasonably warm place in the home. A second in the drawing room was lit only when visitors were expected. With plenty of cheap domestic help to tend the fires they got by—but only just. Soot and grime were concomitant features of domestic life in the first half of the century.

Just how long the open coal fire and its inferior standards of warmth will continue will depend on the degree of public tolerance of air pollution and domestic discomfort. The Clean Air Act should hasten its demise.

LOW COST

One point that should be appreciated is the relatively low cost of keeping warm today, not only in the living room, but throughout the whole of the house. In comparison, the job of heating an Edwardian home, even to their meagre standards of comfort, was not cheap.

By today's values the amount of fuel they used would cost enough to keep the whole of a modern home comfortably warm using modern methods.

These methods are also infinitely cleaner and more convenient, and there is no doubt that space heating by electricity is the best method of all.

HEAT INSULATION

One factor which has contributed to this quiet revolution is that houses are nowadays so constructed that they lose less heat than older buildings.

In addition, regular advertising by the heat insulation industry has made people more conscious of the need to prevent heat losses in the home.

The first step towards keeping heat in and cold out is to lag the ceiling. This will cut down heat losses through the roof by a

When the history of the 20th century comes to be written, one of the most interesting facets of domestic life during the period will no doubt be the great changes which have taken place in home comfort. In the following pages PHILIP HONEY writes of the progress which has been made in Whole House Heating, and looks at some of the equipment which is readily available today.

half. The next step is to stop draughts through ill fitting doors and windows. Double glazing will reduce heat losses through windows by 50%. Now we have pumped-in plastic insulation which fills the void in cavity walls, and cuts down losses through the fabric of the house itself.

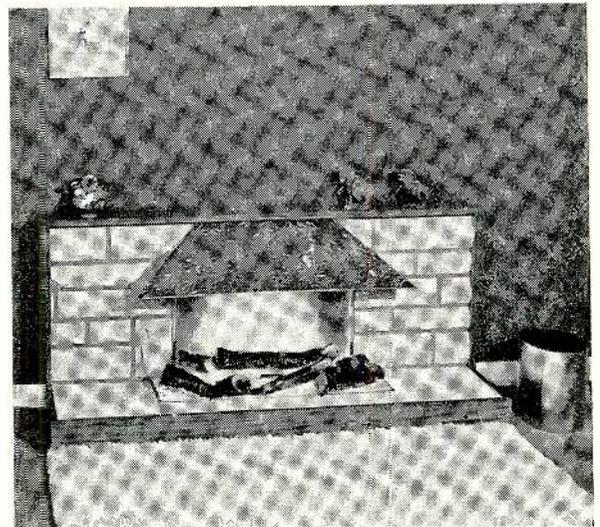
With the house holding its heat more effectively the bulk of the warmth generated by the heating system can now perform a more useful task. The next century will wonder why, in an era of ever

increasing fuel costs, we were so careless in conserving heat.

OFF-PEAK

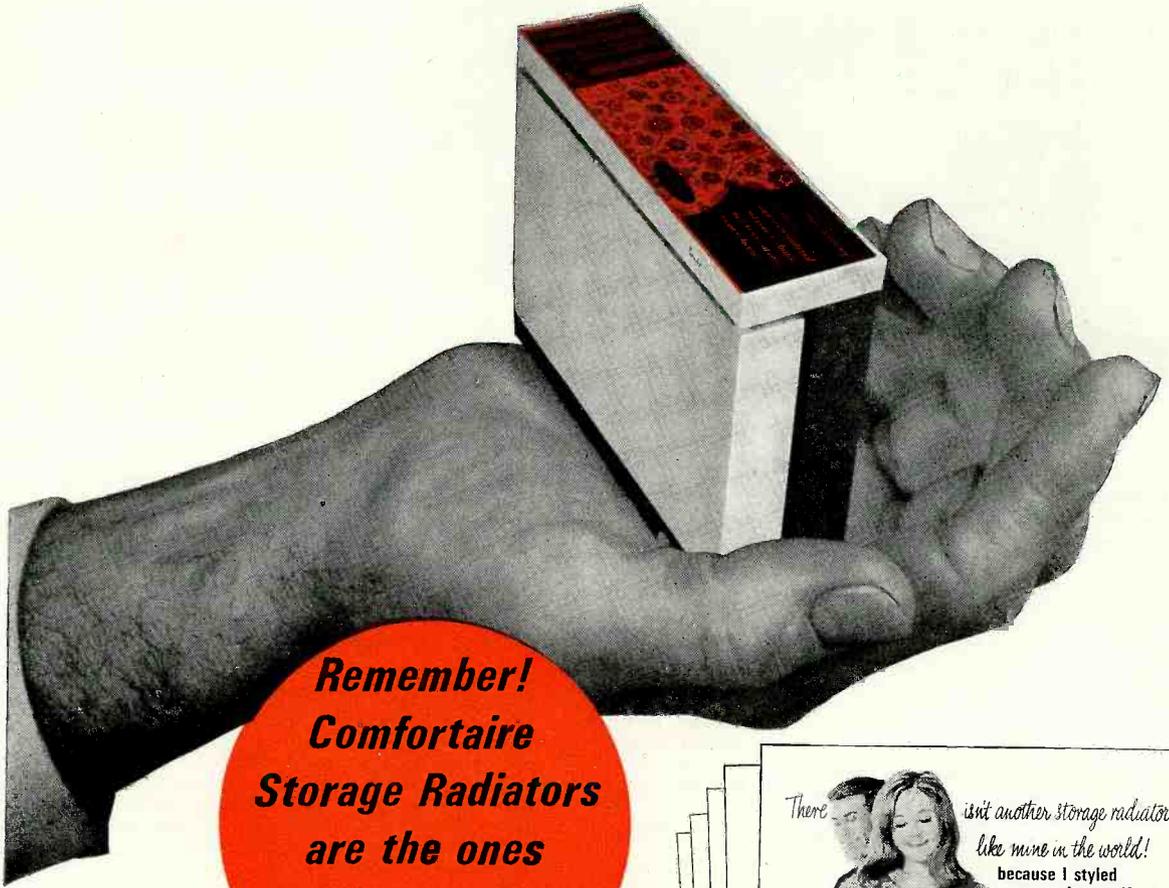
Another factor has been the comparatively stable prices for off-peak electricity over recent years and the promise of lower costs in the 70's. Despite ever rising costs of raw materials and building power stations, the Generating Board nowadays gets more kilowatt-hours out of a ton of ever

Continued on page 404



*Thermair's
log effect
Monarch.*

We've fixed it so that



**Remember!
Comfortaire
Storage Radiators
are the ones
they style
themselves!**

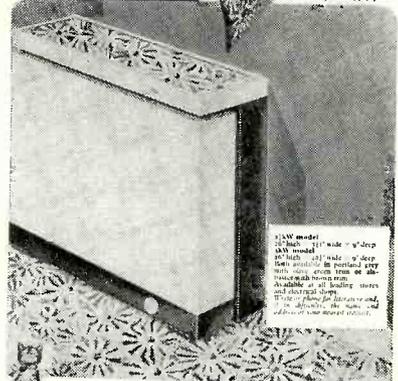
And millions of housewives will be told this, Sunday after Sunday. Right through September, October, November and December over 40 million big advertisements in NEWS OF THE WORLD, PEOPLE, SUNDAY EXPRESS, SUNDAY MIRROR will be featuring Comfortaire Storage Radiators and explaining the exclusive 'decor-top'—which holds the housewife's own material to match her room scheme.

Don't forget to display the Comfortaire Cat!

There isn't another storage radiator like mine in the world! because I styled it myself

It's a Comfortaire—and only Comfortaire have 'decor-tops'. All you do is slip a piece of any material you like into the 'decor-top' and it's held flat by a sheet of glass. So in a few seconds you can make your radiator match your own room scheme—just like I did! And it's just as easy to change it whenever you wish. The 'decor-top' will hold wallpaper, curtains, even carpet—anything you like to match your decor or to provide a colour contrast.

Comfortaire Storage Radiators are so efficient, so they are good-looking. They give you exactly the heat you want, automatically, silently and cheaply—using 'half-price' electricity stored during the off-peak supply periods.



comfortaire by Creda

you can sell storage radiators

over

the counter !

because the Creda installation plan for Comfortaire Storage Radiators can relieve you of *all* the complications!

All you have to do is to book the order and let us have details of the installation you wish to arrange. We will then contact a Creda approved installation contractor to complete the installation arrangements.

So you're not involved at all with installation details. Just display Comfortaire Storage Radiators in your showroom, book the orders and leave the installation to Creda!

It's as simple as selling a No 8 battery!

Should you have installation agreements with local contractors, you are of course quite free to continue with your own arrangements. Attractive display material and literature is available, including full-colour showcards and stickers, display slips explaining the unique Comfortaire 'decor-top', and full-colour brochures.

comfortaire by **Creda** 

Tube Investments Ltd an advanced engineering group

HIGHER HEATING STANDARDS

coal than ever before. As more and more new generating plant of greater thermal efficiency comes into use the effect will be reflected in lower operating costs.

By selling electricity for space heating off-peak, the cost to the consumer is shorn of overhead charges and it becomes fully competitive with other fuels.

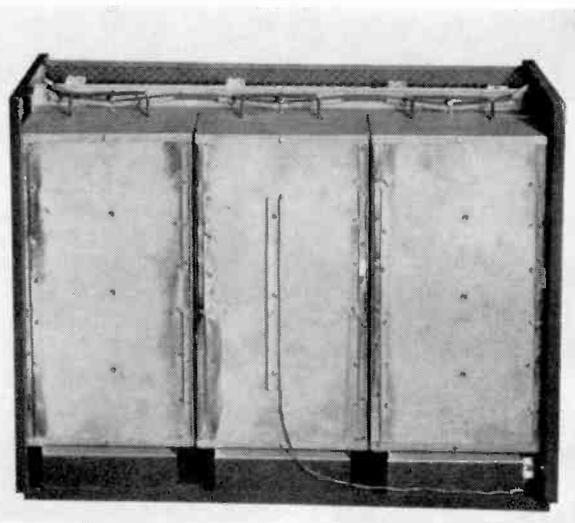
Off-peak electricity does not lend itself to intermittent heating in the old haphazard manner, but it can easily and efficiently provide whole house heating which is essentially a long term seasonal load with continuous regulated warmth.

The present patterns of off-peak rates may vary in availability as research into load characteristics brings a clearer picture of the incidence of demand. The coming years may well see an extension of the 'time of day' off-peak tariff to other Boards following the successful experience of the Eastern Board.

In this tariff the supply is not restricted in any way, and there are no 'off' periods. Any electricity used during the night is sold at a considerably reduced rate. One advantage of this system is that the amount of heat storage can be reduced.

Another tariff which is being investigated is one in which the supply is only interrupted during periods in which a peak actually occurs in the Board's system. Control of the supply is not by time switch but by relays operated by signal currents injected into the mains. With this system the restricted periods can be much shorter on many days in the winter,

Thermodare's DCK storage radiator— with front removed showing canister construction.



and in the case of a sudden peak demand occurring load can be shed almost at a moment's notice without affecting the ordinary consumer.

These, and other, promotional rates can be expected to develop during the coming years as they are generally approved.

STORAGE RADIATOR TERMS

With a good deal of experience now behind the construction and manufacture of storage heaters and their operation and control, the industry, through the Electricity Council, is clarifying the conditions under which they work and the chief factors which influence their operation.

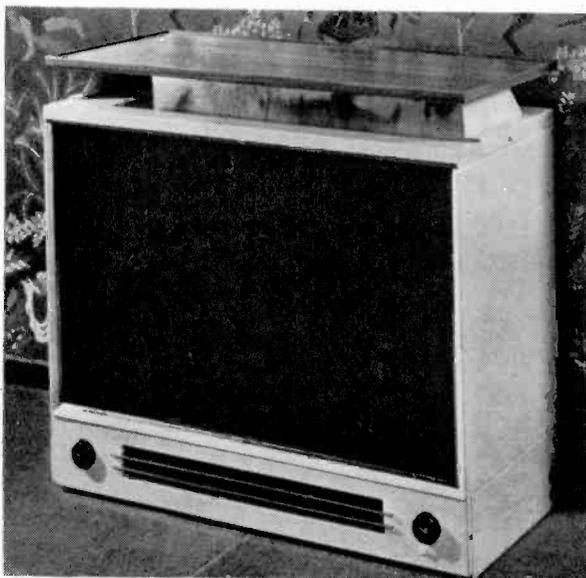
The most important parameter is the *charge acceptance* which defines the

quantity of heat which the radiator can absorb and emit. This is stated in kilowatt-hours (kWh) and is based on an 8 hour charge or alternatively 8 hours plus 3 hour day time boost.

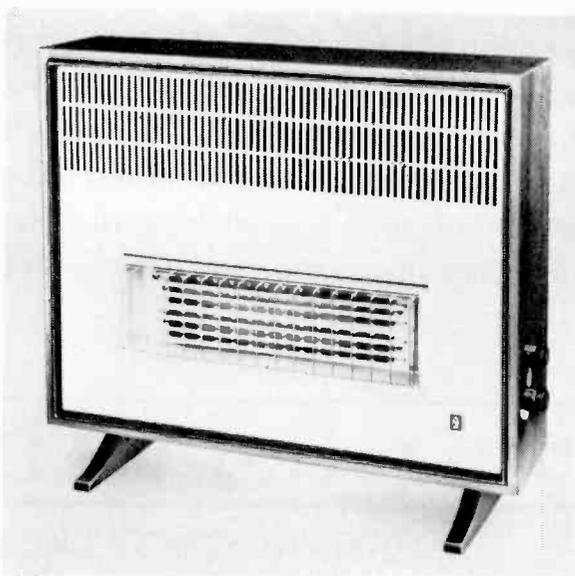
Acceptance ratio is the ratio of the actual charge to the maximum possible charge. In theory a 3kW storage radiator should consume 24kWh in 8 hours, but in practice the charge controller switches the supply off somewhat earlier—say after 6½ hours—which give a charge acceptance of 20kWh, and an acceptance ratio of about 83%. Most radiators on the market have an acceptance ratio of this order.

The *output characteristic* of a storage radiator defines the fall of heat output in

Continued on page 409

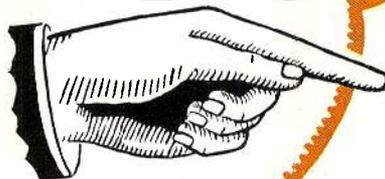


Heatstore's CF3A storage fan radiator.



Morphy Richards WSR30 Shannon radiant/convactor.

**You are invited
to read something
to your **advantage**
by turning the page**



In the war against winter, cheat. Get Sunhouse on your side.

Load with a Slimline. Three models to choose from starting with the 750 watts 164. £4.15. 5d.*

Put the heat on with a low wattage Slimline. Here are two of them. The 164 costs £4.15. 5d.*

Design 560. Modern, elegant and attractively priced beige. Thermostatically controlled. £2.35. 5d.*

Joyce Roberts was really fooled by her new Sunhouse Regent.



Sunhouse flame-effect electric fires are so real they actually do fool people. People say they look more like a coal fire than a coal fire. And the Regent is no exception. You get vivid, blazing flames, the mellow glow of firelight, and clean, electric warmth you can control. All at the touch of a switch.

In a rich, teak-finish frame has three separately switched elements which allow you to choose your comfort. Here are some of the with the Sunhouse Regent. It's a clean, electric warmth you can control. All at the touch of a switch.



Last Tuesday Ann Kilroy wrecked her new Sunhouse Vista-Flame.



She poked it!

Perhaps we shouldn't make our Vista-Flame fires so realistic. Only coal can imitate them.

Mrs. Kilroy's Vista-Flame, the 393, has —perhaps we should say had—flames that never do the same thing twice. Flames as random as the real thing. Flames that don't just flicker. Flames that blaze, leap, twist, curl and dance.

You get all the coziness of firelight and all the warmth you want. And there's neither soot, smoke nor ashes to take the edge off your pleasure.

In a handsome teak-finish frame, with stone grey interior, the Vista-Flame 393 has three independently switched infra-red elements which allow you to choose heat levels of 1, 2 or 3kW.

Any good electrical shop or showroom will show you the Vista-Flame 393.

You'll find it's realistically priced too. Only £38.45. 9d.* And while you're there ask about one of the elegant Sunhouse surrounds—prices from £15.10s. 6d.*

*Recommended prices



Write to: Sunhouse, 125 North Circular Road, London, NW1
 Please send me the new book of Sunhouse fire and heater
 Name _____
 Address _____

Sunhouse 
 A BAXTER GROUP

Te: 11, Frost & Company Ltd., 14, Tottenham Road, London, N1

A thoroughly outstanding new campaign from Sunhouse begins in September.

You're looking at some of our new Sunhouse colour advertisements. They're part of a red-hot new campaign that's going to feature our range in 14 top publications – most of it full colour pages.

Now, obviously, many people are going to sell an awful lot of Sunhouse fires. If you don't want to get left out in the cold, let's get together. Soon.

Beginning mid-September, we'll be blazing away in all these magazines and papers:

Woman · Woman's Own
 Woman's Realm · Woman's Weekly · Ideal Home · Homes & Gardens · Good House-keeping · Living · Woman Bride & Home · TV Times Reader's Digest · Sunday Mirror · Sunday Times and Observer Colour Supplements.

In addition, we've got all the dealer blocks and point-of-sale displays you need. Read about them overleaf and let us know.

Sunhouse:
It even sounds warm

warm... Neat and safe. Wall mounted or free standing. The low-slung 1kW Neater-Heater 550 convector. £8.85.10d.*

warmer... Safe, sure nursery heating. The 1kW Kiddy-Care convector £9.58.11d.*

Realistic flames, realistic price. The 2kW Regal 390. £23.35.4d.*

warmest! The ultimate in flame-effects. It's the 3kW Vista-Flame 373. £54.3s.1d.*

See this warm foursome and a whole lot more in the new Sunhouse book. It's in colour and it's free. Use the coupon below and send to H. Frost & Company Ltd., Radiation House, 255 North Circular Road, London, N.W.10.

*Recommended prices

I'm cold. Please send me your free book of Sunhouse fires and heaters.

Name _____
 Address _____

Sunhouse A Radiation product.

Sunhouse A Radiation product.

For hot winter sales

H. Frost and Company Limited / Radiation House / 255 North Circular Road / London NW10

You are further invited by Sunhouse to

profit

by the use of these displays



Day-glo price cards.



Colourful swing tickets.



Three dimensional displays.

Plastic plaques.

Dealer window stickers.

HIGHER HEATING STANDARDS

terms of the time taken to reach half the maximum heat output. An appreciation of this 'half life' figure is important in determining if a radiator is likely to give out too much heat in the early part of the day and not enough later.

MARKET GROWTH

Storage radiators continue to sell well, and the Electricity Council has pointed out that the total load per installation is steadily growing. The statement indicates that confidence is increasing in this method of space heating.

Orders for complete installations are now more common. At one time customers cautiously ordered say a couple of radiators but with the satisfaction now being expressed by so many users, new customers feel more ready to step up their requirements and to increase the total loading of their installations.

NEW HOUSES

While the off-peak heater is the first choice for the existing house, new property has been the happy hunting ground for the gas industry in recent years.

They have tackled the demand for whole house heating mainly with ducted warm air installations. Ducted warm air has many advantages over the 'wet' systems using small bore piping and radiators. A major advantage is the ability to direct the entire heating output into any desired spot—say the living room.

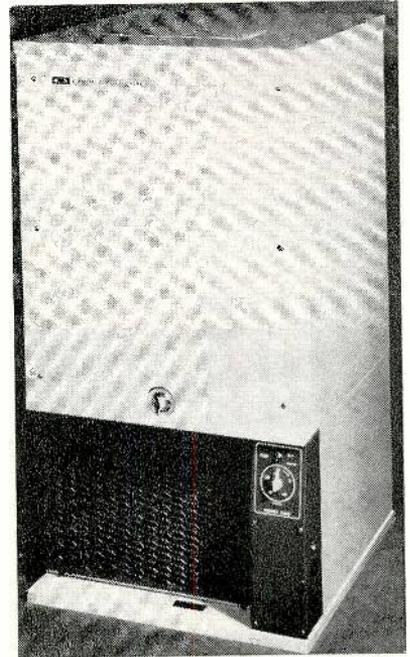
What gas can do in this direction electricity can also do and with greater safety and convenience. The Electricaire off-peak ducted warm air system was a late starter, but the industry wisely held back until all the bugs had been eradicated from the heating unit.

ELECTRICAIRE

Pressure is now being brought to bear upon architects and builders concerned with both private and municipal projects to consider the Electricaire system.

Not only does the system have the ability, as mentioned above, to provide instant heat for any room, but it also has the advantage that heat is already stored in the unit itself—there is no waiting for heat to be built up. Another plus factor is that sufficient heat leaks through the lagging around the heat storage unit to keep the chill off some rooms when the house is unoccupied.

With the present doubts on the advisability of using gas in multi-storey buildings a number of projects have already turned over to electric heating using either the Electricaire system or under-floor warming.



Creda Comfortaire unit from Simplex Electric.

DIRECT HEATING

While the bulk of space heating requirements of the modern home can be met by off-peak systems, there will always be a need for the instant warmth of the direct acting electric heater.

Even when the air temperature in a living room is at an acceptable level its occupants often feel the need for a small amount of radiant heat to achieve real comfort conditions.

Experienced heating engineers recommend a judicious blend of warm air and radiant heat, and the modern electric hearth fire provides the latter in any desired degree.

PORTABLE HEATERS

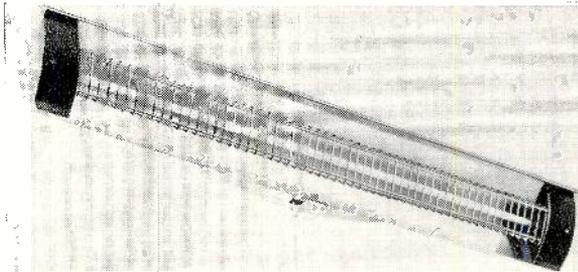
The accent today is less on portable types and more attention is being paid by manufacturers to the more expensive fixed fire.

There are many handsome designs of reflector fires now on the market complete with attractive surrounds. Greater discrimination is provided in heat control, and most types have some form of illuminated effect which can be used on its own to form a focal point. These 'furniture' fires will blend with all types of decoration.

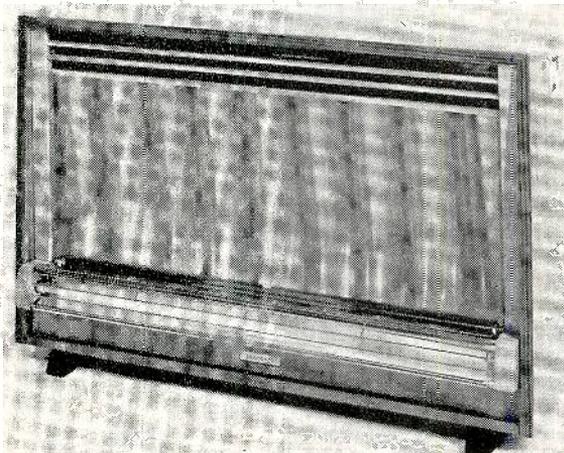
The portable fire still finds a useful application in providing 'flood' heat in any room. Even using the higher price tariff its economy in current consumption makes it reasonably cheap to run, and its heating effect is both concentrated and directional.

The infra-red reflector fire is useful where space is at a premium. Originally mostly confined to bathrooms and kitchens,

Continued overleaf



Engelhard Hanovia's Radasil infra-red heater.



H. Frost's latest model 500 Sunhouse Vistarama radiator/convector.

HIGHER HEATING STANDARDS

It is now being used extensively in bedrooms and passages where other heaters would be difficult to accommodate.

CEILING HEATING

Whole house heating by direct acting high temperature wall mounted panels is less popular since the cost of unrestricted supplies went up. Recent research has shown that new methods of direct heating from the ceiling have considerable advantages, and can be reasonably cheap in installation and running costs.

Ceiling heating is not new, but whereas the original systems were applied to buildings with relatively high heat losses, the latest systems rely upon a high standard of heat insulation in the structure of the building.

The installation has a quick response as there is little or no storage of heat. The

Belling's Nova marble styled, wooden overmantel fireplace.



heating effect is practically instantaneous—like switching on a light—and comes in the form of low temperature radiation. This is an ideal form of heating as comfort conditions depend more on radiant warmth than on an acceptable level of air temperature. The effect is similar to that experienced outdoors on a sunny Spring day.

Ceiling heating using thermal storage

provided by a mass of concrete in the floor above has been tried as an alternative to floor warming. On off-peak rates it is as cheap to run as floor warming. It is reasonably cheap to run even on unrestricted tariffs because of its very low losses. It is interesting to note that direct heating is progressing very well in the USA, despite the formidable competition of cheap natural gas.

STOCK LIST of . . .

1968

FAN HEATERS PORTABLE HEATERS STORAGE RADIATORS

* Signifies BEAB Approval

Fan Heaters

Name/model	Type	Loading (kW)	Price (£ s d)
------------	------	--------------	---------------

AERIALITE LTD			
Weekender	T	3	19 7 3

AIRFLOW HOUSEWARES LTD

Speed Heater:			
7511	T	2	8 10 0
7512	T	3	10 10 0
7513 Auto	T	3	11 19 6

BELLING & CO LTD

*99	T	3	12 19 4
*101	T	3	15 14 1
*101F	T	3	13 19 10
*101T	T	3	18 16 3
*101W	T	3	16 6 6

BUSH NELSON LTD

Record E	T	2	9 0 0
Tiki-D	T	3	12 10 0
Record 2	T	2	7 19 0

Name/model	Type	Loading (kW)	Price (£ s d)
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Record 3	T	3	10 10 0
Charoma	T	3	11 5 0

CO-OPERATIVE WHOLESALE SOCIETY LTD

Sapphire	T	2	7 11 8
Sapphire	T	3	9 14 11
Sapphire	A	2.5	4 6 10

EKCO-HAWKINS LTD

EH20	A	2	8 15 0
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ENGELHARD HANOVIA LAMPS

Turboflo:			
367	T	3	12 8 2
221	T	2	9 6 1
High Level (Wall)	T	2.5	12 8 2
803A (Wall)	T	3	20 13 7
803B (Time Sw)	T	3	24 3 10

Name/model	Type	Loading (kW)	Price (£ s d)
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GEC (DOMESTIC EQUIPMENT) LTD

Tropicana:			
DA5221	T	2	8 19 6
DA5222	T	3	12 19 6
DA5223	T	3	15 19 6

HOOVER LTD

*8569	T	3	13 6 10
*8568	T	2	9 6 0
*8570	T	1.5	6 10 3

HOTPOINT LTD

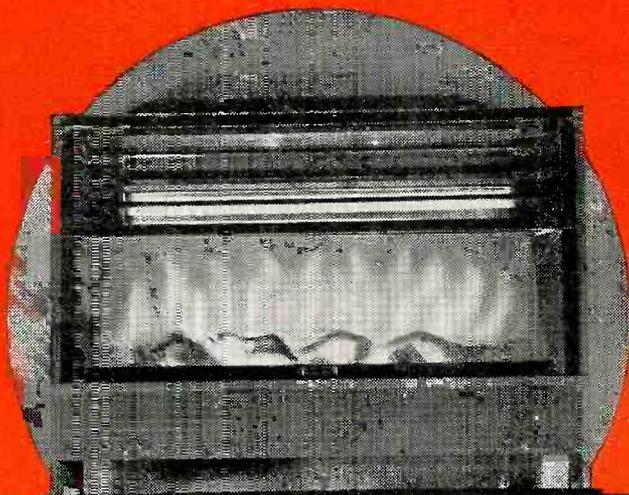
*4240	T	2	9 8 11
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MICRON CONDITIONERS LTD

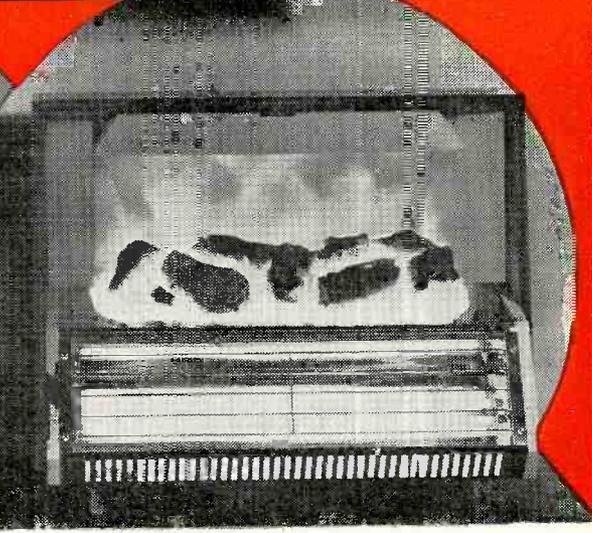
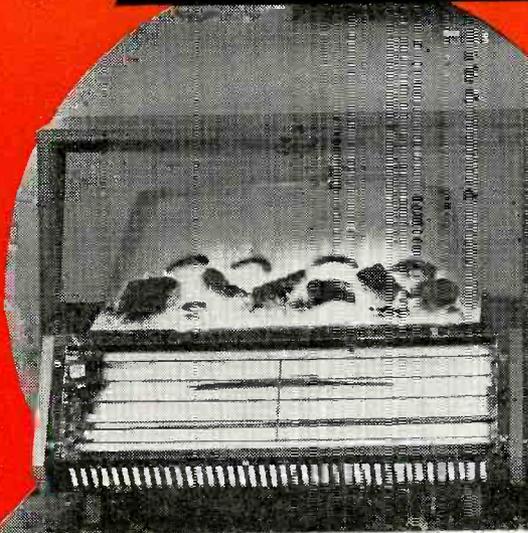
Morwennair:			
Fantan Economiser	T	2	14 19 9
Coffee table/heaters:			
Fantan Small	T	2	14 19 9
Fantan Medium	T	2	15 19 8
Fantan Large	T	2	17 19 8

Continued on page 415

Three from the '69 range to fire off sales...

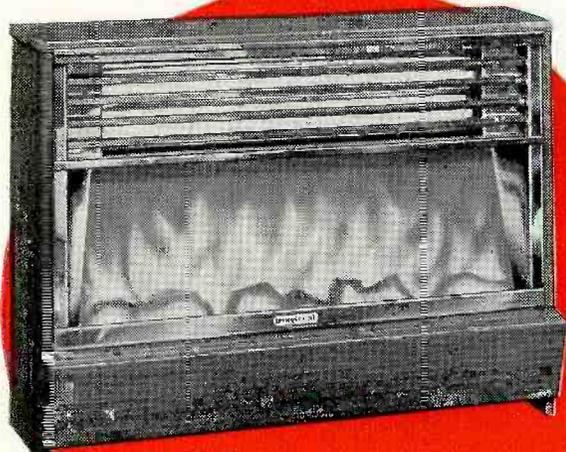


BERRY
magicoal



but every one is a sure-fire winner

Yes, every one of the 1969 range of Berry Magicoal quality fires is a winner. All together the best range of focal point fires you can buy. Be sure to stock up in time for the big rush.



LF 56 MIRAGE

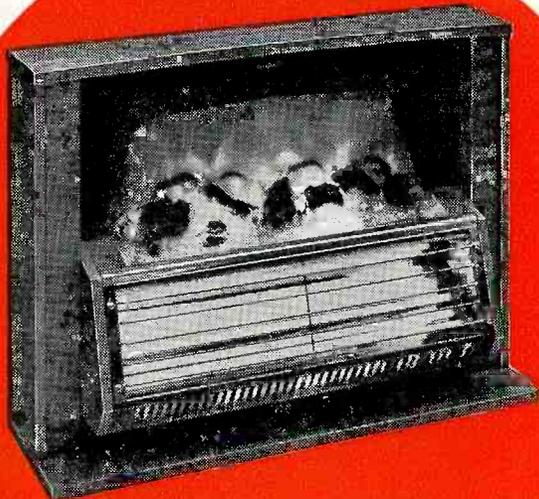
Give this model pride of place in your display.
Size 28½" x 20½" x 8½". Price £21.17. + £5.6.7 P.T.
2 kW (Also LF 66 with extra 750W
convection at £24.18.3 + £6.1.5 P.T.)

**BERRY
magicoal**



485 NEWBERRY

The medium price fire with the
luxury features. Size: 25½" x 21" x 8½".
Price £16.13.0 + £4.1.2 P.T. 2½ kW.



LF 67 BERRYSTAR

One of the most beautiful fires in the range.
Size: 30" x 20½" x 9½".
Price: £21.19.0 + £5.7.0 P.T. 2½ kW.



489 NEWBERRY SUITE
 Star seller at a mass market price.
 Size: 48" x 32" x 13" (Hearth) 5½" (Shelf). 2½ kW.
 Price £24.0.10 + £5.17.2 P.T.



475 INGLEBERRY
 Good looking and suitable for most
 existing fire grates. 2½ kW.
 Price £14.10.0 + £3.10.8 P.T.



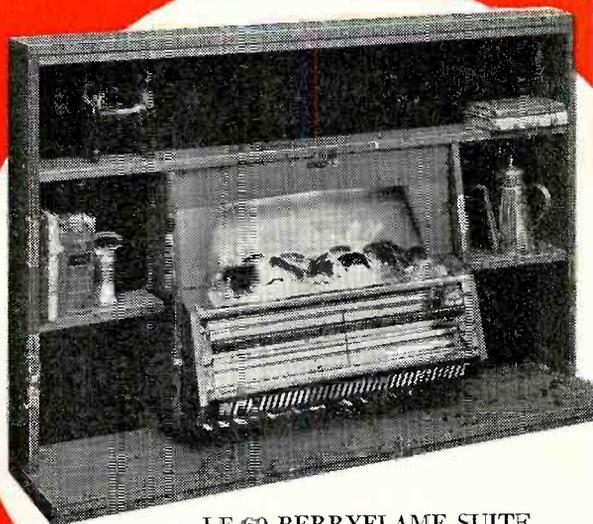
800 LOWLINE CONVECTOF
 Still the most handsome convector on
 the market. 2½ kW. Size: 35" x 16" x 5½".
 Price £13.5.1 + £3.4.8 P.T.



900 CHRISTINA
 Makes the focal point to the room,
 with heating on or off. 2½ kW.
 Size: 26" x 20½" x 5½".
 Price £15.2.8
 + £3.13. J.P.T.



£29 ORBITER
 The radiant heater that belongs to 1969
 2 kW. Size: 25½" x 15" x 6½".
 Price £7.12.0 + £1.17.0 P.T.



LF 60 BERRYFLAME SUITE
 A top quality all-electric fireplace.
 Size: 48" x 32" x 13" (Hearth) 5½" (Shelf). 2½ kW.
 Price £28.8.3 + £6.13.6 P.T.

Big full colour ads in the glossies

Full page colour ads, specially featuring the Berry Magicoal 'Mirage', will be appearing throughout the peak period – September to November – in the top three Home Interest magazines.

That's 'IdealHome', 'Homes and Gardens', and 'House and Garden'.

These three glossies are read nationally by people who are *directly* interested in purchases for the home – and during the Autumn period the majority of these will be searching for the best purchase in electric fires.

Don't forget – the glossy advertising campaign STARTS in September. Be ready for it – get stocked with fires from the Berry Magicoal '69 range.

PLUS! A repeat of last year's very successful local press dealer support campaign. You display the fires – we'll provide the advertising in local papers of your choice.

Fantasy, Firelight
The warm glow of home...

She'll always remember the glow of the fire as a symbol of home a warm friendly warmth and life.
Replaces the electric fire in more than just looks and size. It's easy, friendly, practical, brilliant, modern, electric, safe, reliable, long lasting. A gentle, soothing, bright, instantly possessed as the flames that colour the evening.
When it's colder than the Berry Magicoal 'Mirage' is a fire to dream with, a fire to make a home with.
A fire for everyone.

World Famous Product

Also in the Berry Magicoal range

Point-of-sale

EYE-CATCHING SHOWCARDS TO PINPOINT 1969's SURE-FIRE WINNERS

Switch on the cosy evening

Berry MAGICOAL
ELECTRIC COAL AND LOG FIRES

Showcard 18" x 14½"

Berry magicoal
electric heating '69

Nothing gives a room that warm and cosy feel as quickly as a electric convector

Berry magicoal
electric heating

PLEASE TAKE A LEAFLET

Dispenser 6¾" x 5¾"

LIVING FLAME

BERRY MAGICOAL
puts flames among the coals

Crowner 15" x 18" overall

Price Card 2½" x 4¾"

BERRY magicoal

Plastic Sign 3½" x 13"

BERRY magicoal Electric Convector

wall-to-wall heating...
wood frame...
background glow...
a piece of furniture worth living with!

LOWLINE

Crowner 9" x 27"

BERRY magicoal

Literature and Information:

BERRY MAGICOAL LTD., TOUCHBUTTON HOUSE, FORUM DRIVE, LEICESTER RD., RUGBY, WARWICK. TEL: RUGBY 71441

Fan Heaters continued

Name/model	Type	Loading (kW)	Price (£ s d)
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MICRON CONDITIONERS LTD continued			
Fantan Export Slimline T	T	2	13 19 9
Fantan Export Medium T	T	2	13 19 9
Fantan Export Large T	T	2	13 19 9

MORPHY-RICHARDS LTD

*CBS T	T	2	7 4 6
*CBD T	T	2	9 5 11
*CBDT T	T	2	10 6 8

PHILIPS ELECTRICAL LTD

*HD3206 T	T	2	6 17 2
*HD3203 T	T	2	8 3 1
*HD3208 T	T	2	10 19 9

POWER-LECTRIC LTD

Powerflow:			
L2 T	T	2	8 14 0
L2T T	T	2	9 14 3
L3 T	T	3	11 19 3
L3T T	T	3	13 1 0

RIMA ELECTRIC LTD

*404 T	T	2.5	8 2 6
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Name/model	Type	Loading (kW)	Price (£ s d)
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*405 T	T	2.5	9 17 6
400 T	T	2	7 7 0

S.A.G.E.R. MANUFACTURING LTD

Cleanline T	T	3	14 6 0
Knightsbridge:			
MH4 T	T	2	19 17 6
MH30 T	T	3	19 17 6
MH50 T	T	2	15 9 2
MH60 T	T	2	15 9 2
60A T	T	3	15 9 2
MH70 T	T	3	15 9 2

STERLING HEATING SYSTEMS LTD

Buckingham R A	A	3	49 11 2
Buckingham S A	A	3	58 7 1
Windsor R A	A	3	44 7 11
Windsor S A	A	3	52 1 10
Windsor R A	A	2	39 4 10
Windsor S A	A	2	45 7 10
Sandringham R A	A	3	38 4 2
Sandringham S A	A	3	45 0 3
Sandringham R A	A	2	33 1 1
Sandringham S A	A	2	38 16 3
Balmoral R & S A	A	3	29 19 0
Balmoral R & S A	A	2	27 17 7

Name/model	Type	Loading (kW)	Price (£ s d)
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Axiatherm Cadet R & S A	A	2	23 0 9
Axiatherm Cadet R & S A	A	1	17 16 1
Downflow DF.10 A	A	1	9 7 7

THERMAIR DOMESTIC APPLIANCES LTD

Princess T	T	3	41 0 0
Majestic T	T	3	44 2 9
Monarch T	T	3	57 8 6

TRICITY COOKERS LTD

Sto-Away TH1 A	A	2	7 8 3
Sto-Away TH2 A	A	2	7 8 3

VALOR VANGUARD LTD

Jetstream:			
Classic T	T	2	7 14 6
De Luxe T	T	2	10 9 8

J. WAKEFIELD & SONS LTD

Enchantress:			
Royal Hearth:			
Coal Inset T	T	3	20 15 7
Log Inset T	T	3	22 9 9

In the column TYPE—T indicates Tangential; A indicates Axial.

Portable Heaters

Name/model	Type	Loading (kW)	Price (£ s d)
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ANGLOW ELECTRICAL APPLIANCES LTD

Convector C	C	2	8 18 9
Colyfect A	A	2	7 9 0
Colyfect A	A	1	4 19 3
B/2 A	A	2	3 19 6
B/1 A	A	1	2 12 0
MH/T/2 A	A	2	3 19 6
MH/T/1 A	A	1	1 19 9
A/2 A	A	2	3 12 0
A/1 A	A	1	2 7 0

BELLING & CO LTD

*916 Adam A	A	3	27 19 9
*743B Adam Coal A	A	3	45 19 3
*781 Belmont A	A	1	6 4 5
*782 Belmont A	A	2	8 7 11
*753B Celtic log A	A	3	43 19 4
*209 Cheery A	A	2	12 6 4
*180U Corinthian A	A	3	16 12 9
*233 Countess A	A	2	8 19 9
*234 Countess A	A	3	10 19 6
*601 Dinkie A	A	1	3 9 8
*602 Dinkie A	A	2	4 19 6
*141 Hotspur A	A	1	4 15 2
*142 Hotspur A	A	2	5 19 5
*157 Infra Hearth A	A	2	18 19 4
*157A Infra Hearth A	A	2	19 19 3
*639 Medieval A	A	2	21 4 9
*639A Medieval A	A	2	22 9 8
*640 Medieval A	A	3	24 4 6
*640A Medieval A	A	3	25 9 4
*151 Solray A	A	1	6 15 0
*152 Solray A	A	2	8 19 9
*725 Tempo A	A	2.5	21 19 8
*861 Flair A/C	A/C	3	27 4 2
*606 Focus A/C	A/C	3	28 19 6
*606F Focus A/C	A/C	3	28 9 8
*855 Infra Zephyr A/C	A/C	2.75	22 2 10
*855F Infra Zephyr A/C	A/C	2.75	22 2 10
*855T Infra Zephyr A/C	A/C	2.75	25 19 4
123 Jubilee A/C	A/C	3	42 18 3
*707 Nova A/C	A/C	3	33 14 2
*707R Nova A/C	A/C	3	39 19 2
*854 Radiant Zephyr A/C	A/C	2.5	15 19 8

Name/model	Type	Loading (kW)	Price (£ s d)
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*854F Radiant Zephyr A/C	A/C	2.5	15 19 8
*722 Vogue A/C	A/C	3	29 2 1
*961A Air Warmer C	C	0.5	3 11 6
*962A Air Warmer C	C	1	4 4 0
*91A Champion C	C	0.75	6 9 4
*92A Champion C	C	1.5	7 9 3
*952 Handy C	C	0.25	3 5 11
*952B Handy C	C	0.5	4 13 4
*952C Handy C	C	0.75	5 19 5
*95 Zenith C	C	1.5	11 9 6
*95F Zenith C	C	1.5	11 9 6
*95T Zenith C	C	1.5	14 9 2
*851 Zephyr C	C	1	11 16 4
*852 Zephyr C	C	2	16 15 10
*852F Zephyr C	C	2	16 15 10
*852T Zephyr C	C	2	20 7 4
*853 Zephyr C	C	3	22 2 10

BERRY MAGICOAL LTD

*LF50M Berryflame A/X	A/X	2.5	24 3 0
*LF51M Berryblaze A	A	3	31 10 5
*485 Newberry A/X	A/X	2.5	20 14 2
*482 Newberry A/X	A/X	2	18 10 8
*900 Christine A/X	A/X	2.5	18 16 5
*475 Ingleberry A	A	2.5	18 0 8
*31 Louis Rayberry A	A	3	34 3 3
*28 Louis Rayberry A	A	3	30 2 0
40 Fleur-de-Lys A	A	3	52 13 4
5 Jacobean E	E	3	42 19 4
11 Queen Anne A	A	3	69 6 0
2 Georgian A	A	3	55 8 8
8 Adam Shell A	A	3	63 1 1
20 Regency A	A	2	54 6 7
42 Wilton A	A	3	103 18 8
*LF56 Mirage A/X	A/X	2	27 3 8
LF66 Super Mirage A/C	A/C	2.75	30 19 8
*A21/0 Berrylog A	A	1.5	14 15 6
*A21/S Berrylog A	A	1.5	13 19 9
LF54 Berrylog A	A	3	35 15 1
LF55 Berrylog A	A	1.5	24 9 4
*800 Lowline C	C	2.5	16 9 9
*801 Lowline de luxe C	C	2	23 0 4
*829 Orbiter A/X	A/X	2	9 9 0
LF67 Berrystar A/X	A/X	2.5	27 6 0

Name/model	Type	Loading (kW)	Price (£ s d)
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BRUNO ELECTRICAL LTD

Escort A	A	1	1 19 3
Escort A	A	2	2 11 8
*Imp A	A	1	2 12 8
*Imp A	A	2	3 7 1
Zenith A	A	2	3 8 11
Everest Coal A	A	2	6 9 7
President Coal X	X	2	11 12 11
Executive Coal X	X	2	11 12 11
*Princess Coal X	X	2.25	18 12 2
*Princess Log X	X	2.25	19 12 10
Viscount Coal X	X	3	22 11 11
Viscount Coal Auto timer X	X	3	28 16 11
Herald Coal A	A	2	8 16 1
Herald Coal A	A	3	9 6 1
*Senator Coal A	A	2.25	28 16 11
*Senator Log A	A	2.25	29 17 7
Carlile C	C	1	5 13 9
Carlile DL C	C	1	6 4 1
Carlile C	C	2	7 15 7
Carlile DL C	C	2	8 5 5

BURCO LTD

*RH80 X	X	2	12 12 4
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CARNSCOT ENGINEERS LTD

Gaylec:			
*EC2S C	C	2	8 16 0
*EC2T C	C	2	10 7 0

R. J. CHELSOM & CO

Louis XV A	A	2	67 16 8
Adam A	A	2	59 11 8

CO-OPERATIVE WHOLESALE SOCIETY LTD

Sapphire C	C	2	6 10 0
Sapphire C	C	3	7 10 0
Sapphire A	A	2	3 15 0

A. D. DAVIDSON INDUSTRIES LTD

Davey:			
F401 C	C	2	9 3 6
F400 C	C	2	7 18 7
F404 A/C	A/C	3	12 2 6
F380 C	C	1	7 3 0
F410 C	C	2	8 7 11
F412 C	C	3	10 19 9

Continued overleaf

Portables continued

Name/model	Type	Loading (kW)	Price £	s	d
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DIMPLEX LTD

*IRF225	X	2-25	8	9	9
*SBS300/F	C	0-25	5	8	2
*SBS500/F	C	0-5	6	7	6
CHF225	A	2-25	16	10	10
FEF225	A	2-25	22	7	9
IRM750	X	0-75	4	11	5
IRD800	X	0-8	4	19	6
IRD1000A	X	1	5	11	11

EKCO-HAWKINS LTD

*QRC25	A/C	2-5	14	9	6
336C	A	1	2	17	8
350	A	1	3	12	11
*QC2	C	2	11	12	10
*EH1	C	1	7	4	4
EH2	C	1-8	8	5	1
RKC25	A/C	2-5	16	6	0
KC2	C	2	12	9	9
SRW125	C	1-25	13	19	5
SRW2	C	2	16	19	5
SRW3	C	3	18	12	0
EH21	X	1	5	3	0
EH22	X	0-8	4	12	7

ELECTROLUX LTD

RH8	X	0-75	5	4	10
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S. I. ENGEL & CO

Minivector	C	0-75	1	13	4
Sunglo	A	1	1	12	0
Sunglo	A	2	2	10	0

ENGELHARD HANOVIA LAMPS

Radisil:					
108	X	0-8/1	4	2	9
70	X	0-8/1	5	19	11
15-81	X	0-8/1	6	14	5
515	X	1-5	8	7	6

FALKS LTD

*U2365	C	1-5	7	11	6
*U3234	A/C	3	22	5	10
U2294	C/X	2-75	16	19	7
U3024	A	2	9	14	8
U3022	A	2	14	4	8

H. FROST & CO LTD

Sunhouse:					
Vistaflame 393	A/X	3	38	4	9
*Vistaflame 395	A/X	3	51	15	0
Vistaflame 373	A/X	3	54	3	1
*Regent 352A	A	2	18	9	8
*261	A	1	4	2	8
*262	A	2	5	8	9
*Vistarama 530	A/C/X	3	35	6	8
Vistarama 500	A/C/X	3	31	10	0
*Royal de luxe	A	3	26	19	6
*550	C	1	8	8	10
*560	C	1	11	2	8
*Regal 390	A/X	2-5	23	3	4
*Convectur 580	C	1	6	4	4
Kiddy-care 585	C	1	9	5	11
Safeglow 590	C	1	9	1	3

GEC (DOMESTIC EQUIPMENT) LTD.

*DA2778	A	2	6	3	9
*DA2780	A	3	7	4	6

STEPHEN GLOVER & CO. LTD.

Verglo:					
Mark III	A	1	5	10	0

HEATOVENT ELECTRIC LTD.

Stelheat:					
SP/5	P	0-5	10	1	2
SP/10	P	1	11	17	0
SP/15	P	1-5	13	13	0
SP/20	P	2	16	10	5
SP/30	P	3	24	8	9

Name/model	Type	Loading (kW)	Price £	s	d
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Tuvec:

T2	C	0-25	3	5	0
T3	C	0-5	4	6	3
T4	C	0-5	5	7	4
T5	C	0-75	6	8	8
T6	C	1	7	9	9
T7	C	1	8	11	0
T8	C	1-25	9	11	10
T22	C	0-5	7	9	9
T23	C	1	9	11	10
T24	C	1-25	11	14	6
T25	C	1-5	13	16	10
T26	C	1-75	15	19	4
T27	C	2	18	1	7
T28	C	2-5	20	4	1

HEATRAE LTD.

657	A	0-1	5	9	1
658	A	0-2	5	19	8

HOBOURN DOMESTIC APPLIANCES LTD.

*PWH/3	C	2	11	7	0
*PWH/11	C	2	11	7	0
PCH/2	C	1-25	10	0	7

HOTPOINT LTD.

*Superglo 4202/10	A	1	3	17	2
*Superglo 4202/20	A	2	4	10	8
*Gala 4210 sw	C	2	8	19	9
*Gala 4211 therm	C	2	9	19	6

KALORIC HEATER CO. LTD.

Mayfair:					
M1B	C	1	9	19	0
M1C	C	1	10	18	11
M1BT	C	1	11	7	8
M1CT	C	1	12	7	6
M2B	C	2	14	6	1
M2C	C	2	15	10	11
M2BT	C	2	16	3	4
M2CT	C	2	17	8	3
M3B	C	3	16	3	4
M3C	C	3	17	8	3
M3BT	C	3	18	0	8
M3CT	C	3	19	5	7
Sapphire:					
S1	C	1	11	1	5
S1T	C	1	12	10	0
S2S	C	2	14	18	6
S2T	C	2	16	9	7
S3S	C	3	18	13	1
S3T	C	3	20	4	2
S2T/F	C	2	25	9	11
S3T/F	C	3	28	12	1

KENHOLME APPLIANCES LTD.

Popular	A	1	1	9	0
Popular	A	2	1	19	8
De Luxe	A	1	1	15	3
De Luxe	A	2	2	8	9

DAVID C. LESSER & CO LTD

C175	C	1-75	7	11	4
C175T	C	1-75	8	6	3
L11	A	1	1	6	8
L20	A	2	2	14	7
L30	A	3	7	8	11
L38	A	3	6	16	6
IC402 Lincoln	A	2	13	9	7
IC402 Log	A	2	14	4	5
M37 Coal	A	2	6	4	1
L32 Log	A	2	11	3	4
M33	A	2	9	12	4
M34	A	2	9	12	4
L23	A	2	6	16	6
RE505	A	2	6	10	3
L35	A	3	12	18	1
L10	A	1	1	12	3
L13	A	1	1	17	3
L25	A	2	2	1	11
L26	A	2	2	14	7
FC1	X	3	34	14	9
FC2	X	3	37	4	5

Name/model	Type	Loading (kW)	Price £	s	d
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C200T	C	2	8	10	7
C22T	C	2	24	3	10
L75	X	0-75	3	12	0

LUCAS INDUSTRIAL EQUIPMENT LTD

Climatrix:					
FP315	A	2-25	20	13	2
FP31L	A	3	25	18	3

METWAY ELECTRICAL INDUSTRIES LTD

DA150	B	0-05	1	6	8
DA150/C	B	0-5	1	7	11
DA219	B	0-75	1	11	10
DA276	B	1	1	16	6
DA253	B	0-75	1	15	4
DA320	A	1	2	9	0
DA520	A	2	3	19	6

MORPHY-RICHARDS LTD

*CV10	C	1	11	7	6
*CV20	C	2	13	3	9
*SHL	C	2	10	17	1
*RCV20	C/A	2	15	5	2
*RCV30	C/A	3	16	11	1
*FCS75	A	0-75	4	7	7
*FCT15	A	1-5	5	8	4
*FCS10	A	1	4	12	9
*FCT20	A	2	5	13	5
*WSR/30	C/A	3	20	13	11

P & R ELECTRICAL (LONDON) LTD

Slim-Rad:					
1	X	0-25	3	14	0
1	X	0-4	3	17	1
2	X	0-5	5	12	7
2	X	0-8	5	18	2

T. PRICE & SON (STAMPERS) LTD

193	A	0-75	1	9	7
195	A	1	1	11	8
215	A	2	2	13	11
217 coal	A	2	5	18	2
221	C	1	3	18	10
226 coal	A	2	9	8	8
227 coal	A	2	5	12	6
250	C	2	7	9	3
241	A	2	9	5	0
268	A	2-5	10	7	4
254	AC	2-25	10	17	8
260	C	2	13	7	5
261 coal	A	2	15	4	9
257 coal	A	2	7	15	6
268/1	AC	2-25	12	18	1
247 coal	A	2-5	19	2	6
262	A	2	26	14	10

RAYDOR HEATERS LTD.

Raydor	A	0-75	9	15	0
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REVO DOMESTIC APPLIANCES LTD

*Adelphi	A	2	20	10	5
*New Carlton	A	2	15	14	1

SIMPLEX ELECTRIC CO LTD

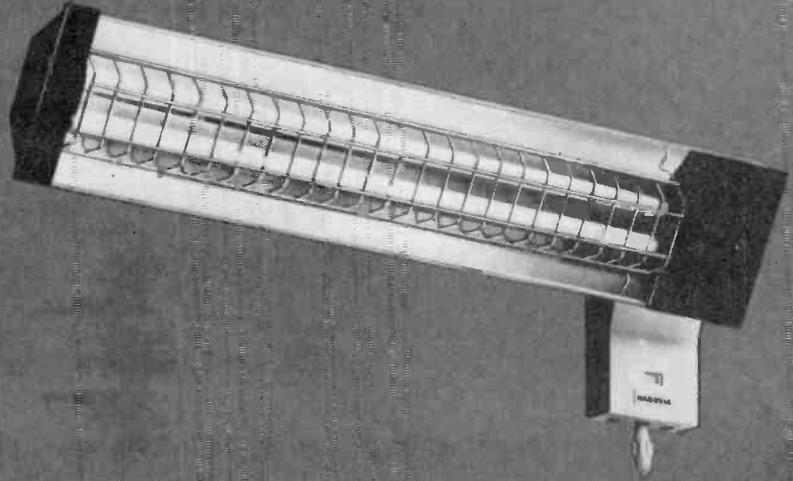
Creda:					
*Concord	C	1	5	3	2
*Flamingo	A/X	3	27	4	6
*Fantasia	A/X	3	37	6	9

SPREDAIRE LTD.

*100	A/C	2	6	6	0
*202 coal/log	A/C	2	12	9	6
*303 coal/log/fan ass	A/C	3	17	19	11
*500 coal	A/C	2	10	19	6
*700	A/P	2	11	9	6
*707 fan ass	A/C	2	16	19	11
*800	A/C/P/X	2-5	15	9	6
*808 fan ass	A/C	2	17	19	11
*900	A/C/P/X	2-5	14	9	6
*2000	A	2	14	9	6
1000	A	1	3	19	11
1002	A	2	4	14	6



VERTICAL



OR HORIZONTAL

MEET THE NEW RADISIL COMPACT

The new Radisil 108 Compact is 19½" long and 4" wide giving 1000 watts output from its ingenious new element. The unit adjusts forwards or backwards, to the left or right without dismantling. Nicely angled to the Autumn trade! The market was due for a revolutionary new heater and as usual Hanovia are first again. Our advertising starts in October so please get your order to your usual wholesaler in good time.

£4.2.9. inc. P.Tax

and your other winter profit makers



**TURBOFLO
'TOT' MODEL 221**

The Turboflo Tot, Model 221, fills the gap in the 2 kW heater market with its attractive furniture effect styling. This is the unit that can be angled to make a useful clothes or hair dryer.

£9.6.1. inc. P.Tax

The Turboflo 367 will keep earning for you because it offers first class styling, attractive two tone finish, 3 heat outputs and the Hanovia name for just **£12.8.2.** inc. P.Tax



TURBOFLO 367

HANOVIA

Ref. Ad. No. 419

ENGELHARD HANOVIA LAMPS

Bath Road, Slough, Bucks.
Tel: Burnham 4041



Boss, I know you think I'm dumb . . .
 So I won't annoy you by saying things you know already.
 Like that most of the new buildings in our territory have the
 central heating built in from the start
 Or that these 'Electricaire' thermal storage warm-air systems
 is a great way of building in the heat. Suits homes, schools,
 factories or office blocks. Suits any plan big or small. Takes
 up practically no space worth talking about. Uses only half-
 price electricity.

All this you know.

But Boss, there's one special 'Electricaire' system that's worth
 running your peepers over specially. The one by Thermodare.
 This is on account of they will design you a special
 installation plan to suit any individual job you happen to be
 working on. Small house or big factory, this expert free
 service holds good. Boss. They carry out the installation
 themselves, the manufacturers do.

And Boss. They run an after-installation maintenance service
 that's the last word in efficiency.

Would you like to make a note of the name, huh? Thermodare
 'Electricaire'. Made by the Unidare Group.

Thermodare 'Electricaire'

POST THIS COUPON FOR COMPLETE DETAILS TO
 THERMODARE (GB)., Unidare House, Hayes End Road,
 Hayes, Middlesex.

Please send me full information on your new THERMO-
 DARE ELECTRICAIRE System.

NAME:
 (Please print)

ADDRESS:.....

One of the Unidare Group of Companies.

RET 1

Portables continued

Name/model	Type	Loading (kW)	Price (£ s d)
SYCOMORE ENGINEERING CO LTD			
2001P sw	C	2	12 16 10
2001DL sw	C	2	13 18 0
2002P therm	C	2	10 13 8
T & P PRODUCTS LTD			
IT	A	1	19 10

Name/model	Type	Loading (kW)	Price (£ s d)
BY	A	1	1 0 8
LT	A	1	1 0 8
ZN	A	1	1 1 6
1A	A	1	1 3 9
U1	A	1	1 6 1
2A	A	2	2 0 6
U2	A	2	2 4 8
BY2	A	2	1 17 3
ZN2	A	2	1 17 3

Name/model	Type	Loading (kW)	Price (£ s d)
VALOR VANGUARD LTD			
Grosvenor	A	2.25	19 17 4
Dorchester	A	2.25	23 3 8
*Swallow	C	1	5 4 6
*Swallow	C	2	7 7 0
Trident coal	A	2.25	14 5 4

In the column TYPE—B indicates Bowl;
C indicates Convect; A indicates Radiant;
P indicates Panel; X indicates Infra red.

Storage Radiators

Name/model	Type	Loading (kW)	Price (£ s d)
BALMFORTH ENGINEERING LTD			
Starstor:			
*SA225	U	2.25	23 15 0
*SA300	U	3	27 2 6
LA225	U	2.25	26 11 0
LA300	U	3	29 18 6
*Major 8 Electricaire		6.9	130 0 0
BELLING & CO LTD			
*801	U	1.5	21 17 6
*802	U	2.25	25 17 6
*803	U	3	29 17 6
BERRY MAGICOAL LTD			
*SRO225 magnolia	U	2.25	22 10 0
teak	U	2.25	24 10 0
magnolia/teak	U	2.25	23 10 0
*SRO300 magnolia	U	3	27 1 6
teak	U	3	29 1 6
magnolia/teak	U	3	28 1 6
E. CHIDLOW & CO			
*651	U	3	24 10 0
*651/W	U	3	25 10 0
*645	U	2.25	21 15 0
*645/W	U	2.25	22 15 0
*663 Slim	U	2.5	23 10 0
*662 Low line	U	1.75	21 10 0
*665 Seat	U	1.75	35 19 10
*671	U	3	22 10 0
675	U	2.25	20 10 0
*672	U	1.5	18 10 0
678 seat	U	2.25	35 19 10
DENHAM & MORLEY LTD			
Beha BS25	U	2.5	22 1 0
DIMPLEX LTD			
*DSR20/SE	U	2	24 0 0
*DSR30/SE	U	3	28 17 6
*DRS375/SE	U	4	33 2 6
*DSR20/FF	U	2	25 7 6
*DSR30/FF	U	3	30 17 6
*DSR375/FF	U	4	35 15 0
DULRAE LTD			
820/CM	C	2	26 5 0
830/CM	C	3	32 10 0
ELECTROLUX LTD			
*GU22	U	2	26 5 0
*GU30	U	3	30 9 0
*CH20	U	2.25	22 10 0
FALKS LTD			
Storawarm:			
Y1213	C	3	61 0 0
Y1214	C	4	70 0 0
Y1215	C	5	80 0 0
H. W. FIELD & SON LTD			
Major 3000	U	3	25 0 0
Major 2500	U	2.5	22 10 0
Major 2000	U	2	18 15 0

Name/model	Type	Loading (kW)	Price (£ s d)
Major 1500	U	1.5	18 0 0
Major 1000	U	1	12 15 0
Major 750	U	0.75	12 10 0
GEC (DOMESTIC EQUIPMENT) LTD			
Nightstor:			
*DA3814 Slimline	U	1.5	20 19 6
*DA3815 Slimline	U	2.25	24 19 6
*DA3816 Slimline	U	3	29 19 6
*DA3809	C	3.375	51 9 0
HEATOVENT ELECTRIC LTD			
Stovec:			
SDH/10	U	1	19 0 0
SDH/15	U	2	22 0 0
*SDH/22	U	3	24 15 0
SDH/25	U	3.25	27 15 0
LL/22	U	3	24 15 0
HEATSTORE LTD			
*HR1	U	1.5	21 17 6
*HR1 wood	U	1.5	23 0 0
*HR2	U	2.25	25 2 6
*HR2 wood	U	2.25	26 5 0
*HR3	U	3	28 13 0
*HR3 wood	U	3	29 19 6
*CF3A	C	3	45 0 0
SCA2	U	2.25	22 15 0
SCA3	U	3	26 15 0
HCL2	U	2	21 15 0
HCL3	U	3	21 0 0
HCR2	U	2	21 15 0
HCR3	U	3	25 0 0
H.V.E. THERMOCUT (SALES) LTD			
Electricaire:			
EPDL6/45	C	6	90 0 0
EPDL8/52	C	8	102 10 0
EPD(M)6	C	6	102 10 0
EPD(M)8	C	8	107 12 6
*EPD(M)9	C	9	128 2 6
EPD(M)12	C	12	133 5 0
EPD(M)15	C	15	143 10 0
*EPD6	C	6	102 10 0
*EPD8	C	8	107 12 6
EPD9	C	9	123 0 0
EPD12	C	12	128 2 6
EPD15	C	15	138 7 6
T. E. JENKINS & CO LTD			
Heetrite:			
HE1	C	3	38 0 0
HE2	C	5	46 0 0
HE3	C	7.5	54 0 0
HE4	C	9	62 0 0
Electricaire:			
EL1	C	6	107 0 0
EL2	C	7.5	110 0 0
EL3	C	9	131 0 0
EL4	C	12	158 0 0

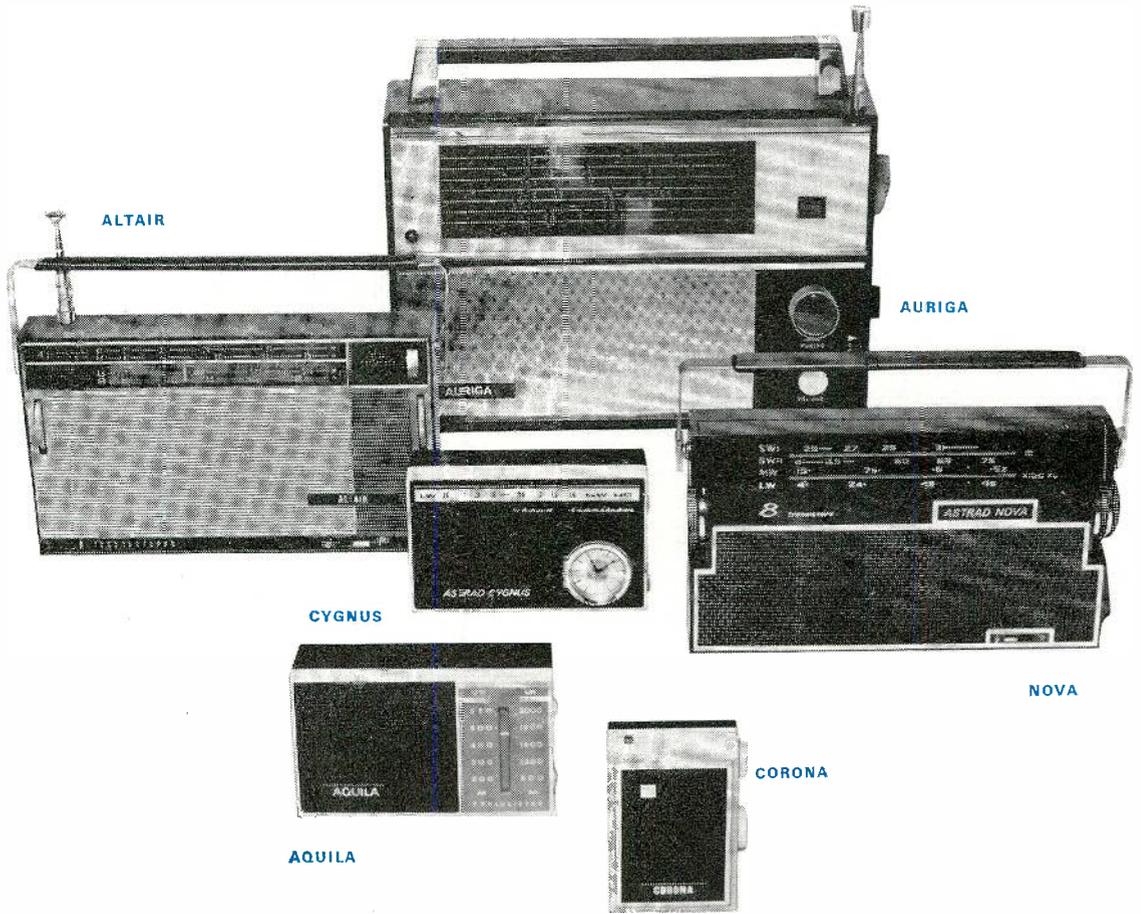
In the column TYPE—U indicates Uncontrolled;
C indicates Controlled

Name/model	Type	Loading (kW)	Price (£ s d)
KENTON HEATERS			
*Lowstor de Luxe			
mahogany	U	2	26 15 0
teak	U	2	27 10 0
rosewood	U	2	29 0 0
*Lowstor Standard:			
mahogany	U	2	25 0 0
teak	U	2	25 15 0
rosewood	U	2	27 5 0
*Wallstor de Luxe (towel rail)			
mahogany	U	2.25	26 15 0
teak	U	2.25	27 10 0
rosewood	U	2.25	29 0 0
*Wallstor Standard:			
mahogany	U	2.25	25 5 0
teak	U	2.25	26 0 0
rosewood	U	2.25	27 10 0
*Cornerstor:			
mahogany	U	2	26 0 0
teak	U	2	26 15 0
rosewood	U	2	28 5 0
MULTITHERM LTD			
Electricaire:			
L6		6	112 0 0
L7		7	112 0 0
L8		8	123 0 0
L8R		8	127 0 0
L9		9.5	139 19 0
L10		10	158 0 0
L11		11.2	172 18 0
L11F		11	165 0 0
L13F		13	180 0 0
L15		15	204 0 0
L18		18	250 0 0
L20		20	297 10 0
681RC		6/7/8	99 0 0
881RC		8/9	115 0 0
PARKINSON-COWAN HEATING LTD			
Constor:			
*NF20	C	2	42 0 0
*NF3000	C	3	47 5 0
*NF30	C	3	62 9 6
*NF45	C	4.5	80 0 0
*NF60	C	6	84 9 6
RAYSTOR LTD			
*Super-Slim			
	U	2.25	25 2 6
	U	2.5	28 5 0
	U	3	29 10 0
*Super-Slim stove enamelled			
	U	2.25	24 0 0
	U	2.5	26 17 5
	U	3	28 2 6
FP200	U	2	36 10 0
FP300	U	3	37 10 0
*D225 wood grain stove enamelled	U	2.25	23 10 0
D250 wood grain stove enamelled	U	2.5	24 10 0
*D300 wood grain stove enamelled	U	2.5	24 10 0
	U	3	25 10 0
	U	3	25 10 0
*Glo-line fireplace	U	3	66 3 0

Continued on page 443

Listen!

the first quality range
of Russian radios
is here



... it's the new, space-age Astrad range at down-to-earth prices

Thanks to a much wider and more flexible trade agreement, a higher level of imports from Russia is now possible. Technical and Optical Equipment (London) Ltd., have been appointed sole importers and distributors for Russian transistor radios and now announce the remarkable new 6-strong Astrad range, with generous trade terms.

Research already carried out proves conclusively that there will be enormous public interest and demand for high quality, fully guaranteed Russian radios at these remarkably low prices. Dominant consumer advertising in the *Reader's Digest* and *TV Times*, with a total readership of over 21 million, will bring you instant enquiries. Campaign starts October.

Every Astrad radio is given a 100% inspection before it leaves our premises and a full range of spares is instantly available. Our extensive experience in the photographic field has shown the value to the trade of a comprehensive servicing department. Out of this experience we have built a fully operational radio department geared to offer the fastest service in the industry.

- **AURIGA** 8 wavebands—medium, long and 6 shortwaves. 10 lockfit transistors plus 2 diodes. 8 x OSC Coils. Tone control. Ferrite rod aerial and telescopic aerial. Push/pull output. Additional sockets supplied for external battery supply and tape recorder. PRICE: £18.18.0.*
- **NOVA** 4 wavebands including 2 shortwaves. 8 transistors plus 2 diodes. 4 x OSC Coils. Tone control and slow motion tuning. Ferrite rod aerial. Push/pull output. Supplied with miniature earphone. PRICE: £11.19.6 *
- **ALTAIR** 4 wavebands including 2 shortwaves. 8 transistors plus 2 diodes. 4 x OSC Coils. Tone control and slow motion tuning. Ferrite rod aerial. Push/pull output. Supplied with miniature earphone plus telescopic aerial for short waves. PRICE: £11.19.6.*
- **CYGNUS** 2 wavebands, medium and longwaves. 7 transistors. Ferrite rod aerial. Push/pull output. 2 x OSC Coils. Also includes outtimer and precision made 15-jewelled Russian timepiece and leather travelling case. PRICE: £11.5.0.*
- **CORONA** 2 wavebands—medium and longwaves. 6 transistors. Push/pull output. Ferrite rod aerial. Supplied with leather travelling case and miniature earphone and recharging unit. PRICE: £6.17.6.*
- **AQUILA** 2 wavebands—medium and longwaves. 7 transistors. Push/pull output. Ferrite rod aerial. Supplied with leather carrying case and miniature earphone. PRICE: £5.19.5.*

*Recommended retail prices.

POST TODAY

To: Technical & Optical Equipment (London) Limited,
15/17 Praed Street, London W.2.

Please send me full details of the Russian Astrad range and add my name to your mailing list.

(Block letters please)

My usual wholesaler is

Name

Company

Address

.....

.....

RER 1



**OFFICIAL MARKETING ORGANISATION
FOR RUSSIAN TRANSISTOR RADIOS.**

PROFITABILITY it pays to ask for Mullard by name

And this is why

Mullard support to retailers is unique. Remember these major Profitability Points introduced over the last few months.

Bigger valve discounts for mixed types

33 $\frac{1}{3}$ % and 7 $\frac{1}{2}$ % for 36-47.
33 $\frac{1}{3}$ % and 7 $\frac{1}{2}$ % and 2 $\frac{1}{2}$ % for 48 or more.
Plus purchase tax savings on 36 and over.

Better picture tube prices

The Mullard Mix for better prices on orders for 3 or more of any type.

Mullard tube equivalent service

21 Mullard tubes replace 125 other types.

Savings on capacitors

Buy in hundreds—save up to 1s 3d each.

Are you taking advantage of all this and the many other Mullard services? Let us, through your local wholesaler, help make this your big profit year.



DEALING WITH LIGHT

Five different lighting ideas are shown in the alcoves of the sitting room. They are: Fluorescent tubes and spot lamps behind the frames, fluorescents behind the picture panel and fluorescents underneath the cupboard tops. Separate switching makes it possible to ring the changes.

LIGHTING FOR ALL AGES

How contagious are good ideas? Whatever your opinion, the annual Home Lighting Exhibition at the British Lighting Council can always be relied upon to stimulate interest among the trade and public alike.

SOMETHING TO COVET

Janet Turner, BLC's home lighting specialist and interior design consultant, has produced an exhibition brimming with ideas, so that irrespective of age or salary, there is bound to be something which any visitor will covet for his or her own home. Turning interest into sales will depend upon the follow-up efforts of the supply industry and the retailer.

Despite the large number of new houses built in recent years, the majority of people live in homes which have evolved over a long time, and the exhibition has been designed as a series of three rooms, each with specific occupants in mind who have typical problems associated with their backgrounds and salary levels.

SITTING ROOM

The first room is visualised for a couple, no longer in their youth, who have settled down with a comfortably furnished home and have already acquired many things they like.

The structure is typical of thousands of

living rooms—the central chimney breast on one wall and a large window on another. But ideas abound for giving the whole interior distinction by means of light.

The recesses at the side of the fireplace have been converted into arched alcoves—a simple blockboard construction would probably suffice—and there are five ways incorporated of dramatising these with light.

As with so many BLC lighting ideas, any single one will stand on its own, although to have a balanced combination of those that best suit what the alcoves will contain is well worth the small extra cost. Switching has been so arranged that from a single vantage point the visitor can weed out and mix until exactly the right result is achieved, and in the process learn something about the colour effects of different types of fluorescent tubes and the way in which strongly directional light can emphasise modelling on the display in the alcoves.

The basic lighting of the room remains conventional — Flemish chandelier and matching wall brackets—but table lamps are positioned just where they are needed to give that ease of seeing which older eyes require for reading.



Pelmet lighting over the full length curtains virtually lights one wall, and the difference this makes to the general atmosphere is readily demonstrated.

This, in fact, is the point of this room—here are things that can be done without much inconvenience—the display helps visitors to visualise what their own rooms could look like. It is tradition evolving to 1968—and what a difference this can make.

FAMILY ROOM

The second setting is a general purpose family room cum kitchen, some 20ft by 11ft, assumed to be in the home of a young married couple in the £30–40 a week region with two small children.

In the kitchen area general lighting comes from five dichroic cool reflector lamps on a T-shaped light track, upon which adjustable fittings can be moved to exactly the right position. This unusual idea for working light in a kitchen is a departure from the excellent standard practice of installing fluorescent fittings, and is simply suggested as an alternative for use when ceilings are high enough.

Continued overleaf

DEALING WITH LIGHT

continued

Fluorecents have not been discarded, and Deluxe Warm White tubes, screened by block board baffles, are attached to the bottom of the wall cabinets for lighting the work tops beneath. There is also one 18in tube concealed above the cooker.

A pin-up wall bracket is connected to a conveniently placed switched double socket outlet to give extra light on things like an additional hotplate which can be placed within easy reach of the table. Throughout the whole of the room there are a large number of socket outlets positioned so that stooping is never necessary.

An imaginative touch is the use of special fluorecent tubes mounted above pots of herbs so that the latter are always near at hand when needed. The light from the tubes makes the herbs grow profusely, and the fitting can be raised and lowered as required during growth.

The living area is as comfortable as it is practical. The dining table, conveniently set beside the serving area of the kitchen, is lit by a swing arm wall bracket mounted on a 7in by 3in hollow wooden upright stretching from floor to ceiling and providing a suggestion of a room divider. At



mealtimes the fitting can be swung over the centre of the table, or it can be used closer to the edge as a working light.

Centrally placed on the ceiling is a channelled batten made of 3ft lengths of 2in by 1in untreated wood which carries three adjustable spotlights wired from a single ceiling point. They not only provide general lighting but can be directed towards particular objects, such as the dart-board, when needed.

Low shelves round two of the walls have high efficiency Warm White fluorescent tubes under them, partly for decorative effect, but also to give a reasonably high amount of light on the floor when the children are playing.

Low-voltage movable beam miniature fittings for highlighting ornaments stand on the shelves, and there is also a fitment for providing a sunny environment for some green lizards.

Over the settee two fluorescent fittings are mounted end to end and papered to match the background. A plug-connected adjustable wall bracket provides lighting for the writing area.

By the side of the storage radiator is a low-voltage socket outlet which eliminates the need for a separate transformer for electrical toys.

BUBBLE ROOM

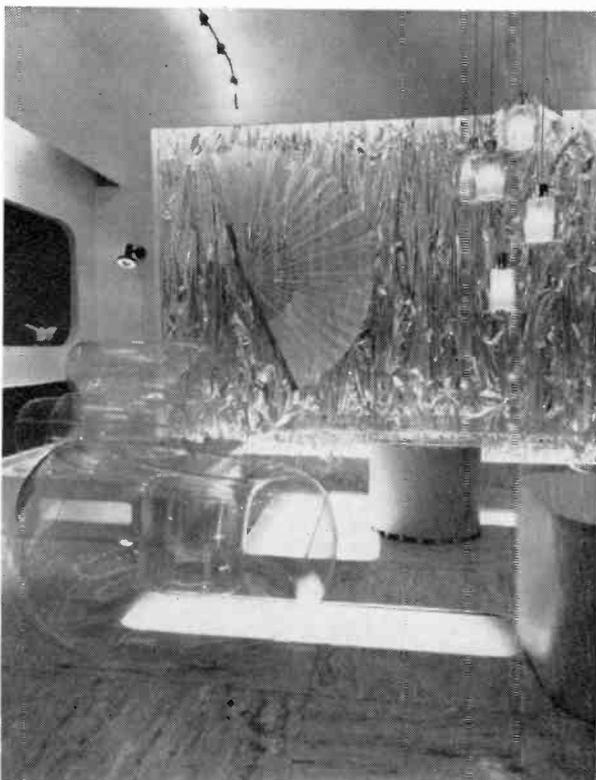
The final room is another of the BLC series of non-conformist room settings featuring ideas likely to appeal to the less inhibited.

In her latest effort in controlled abandon, Janet Turner has produced an interior worthy of the most ardent fan of 'le discotheque' or 'meditation'.

Nothing is quite what it seems—you sit on bubbles, lie on bubbles and the fact that you do not end up flat on the floor is no more surprising than some of the lighting effects which have been achieved.

Black ultra violet light, harmless to the eyes, activates fluorescent elements in the curtains, and in a cluster of diaphanous lighting fittings to make the room mysteriously blue. There are even luminous panels beneath the transparent bubble furniture, and people themselves, if they are wearing detergent washed clothes, become encased in their own blue auras!

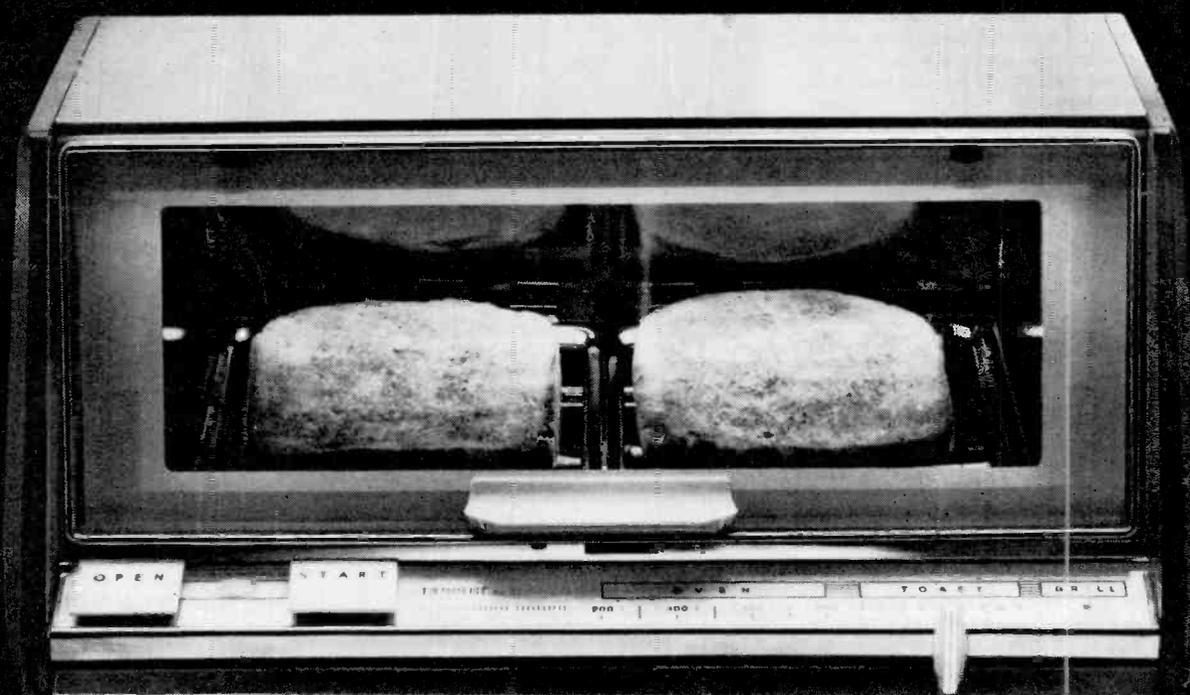
A large screen pulsates with moving light shapes, which change in sympathy with the music from a spotlit record player.



Top of page: The kitchen end of the living room shows the unusual arrangement of dichroic lamps, the swing-arm fitting over the table and the under-cup-board lighting.

Left: In the bubble room high efficiency tubes are hidden behind the polyester film on the back wall. Bare lamps are strung across the ceiling.

Continued overleaf



You name it.

DEALING WITH LIGHT

continued

At a moment's notice the room can be transformed into white and silver brightness. Dimmer controlled lines of bare lamps cross the ceiling, whilst different lamps change the curtains and the wall from blue to shimmering white.

For most people, this is a room to be talked about, but not a part of their way of living, although those who enjoy it command a significant part of the nation's spending power.

By including a display of this character, BLC shows that it is in touch with the latest thinking of up-to-the-minute designers, and that whatever their ideas may be, if lighting is to play a part BLC will not only lend a sympathetic ear but is also likely to understand the problem, however far-fetched it may at first seem.

THE LIGHTING SHOP

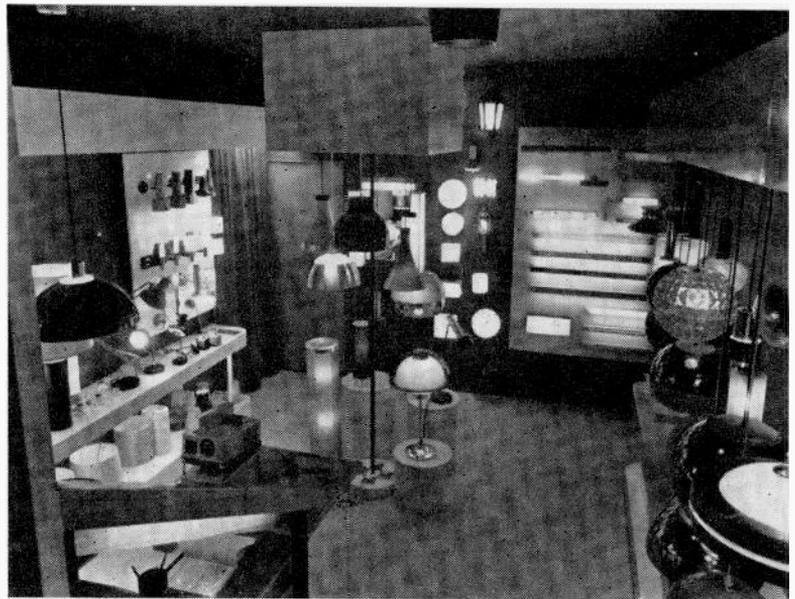
BLC are acutely conscious of the difficulty many people have in being easily able to buy lighting fittings and to find what they are looking for in the shops.

To assist retailers who already market lighting fittings and to encourage more to do so, the final room is a small shop area, devoted to showing display ideas for lighting fittings. It is an exercise in itself in cramming a lot into a very limited space, but the principles can be adapted to any scale. Particular care has been taken to avoid anything elaborate and costly, and in fact the approximate of the carpentry and wiring of the space as shown is of the order of £300.

It is worth while summarising some of the features, as all are pertinent to successful selling of good lighting, which demands not only attractive display but also a means of convincing demonstration, which is so sadly lacking in many retail premises.

DISPLAYING EQUIPMENT

- (1) Prefabricated shelf unit with pelmet, fixed high on a wall, for suspending pendants which can easily be put up or removed, without need to shorten the cable provided.
- (2) Movable panels hung from the wall for compact groups of wall brackets, fed from behind by leads connected to switch-sockets.
- (3) Bench with built-in outlets for showing portable lamps.
- (4) Storage space below benches with concealed lighting making the stock a silent salesman.
- (5) An easily constructed ceiling mounted fitment with soffit for recessed units, or ceiling fittings or pendants, and using the central conduit to bring a supply from floor level to lamps on plinths arranged at the base. This is an excellent way of avoiding trailing leads on mid-shop displays when the installation of floor sockets is difficult.



A general view of the Lighting Shop created at the BLC exhibition. The central feature shows the island display unit, the mains supply for which runs through the centre conduit to feed a distribution board at the base.

- (6) Simple wall-plug connected display for showing interesting lamps, e.g., reflector types, candle lamps, etc, each individually switched.

- (11) An extension flap to the sales desk, useful for examining plans and as a base for the projector.

DEMONSTRATIONS

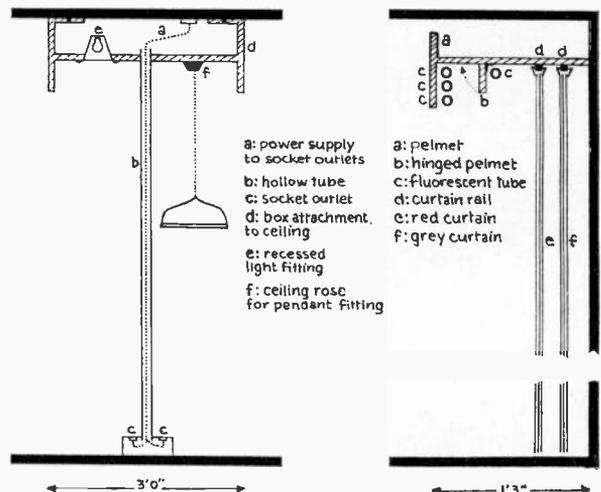
- (7) Principles (a) mirror lighting (b) curtain lighting (c) door switch (d) safety lighting on stairs (e) illumination varying with distance—a simple rise and fall pendant with light meter.
- (8) Colour rendering of fluorescent tubes, combined with the lighting of curtains.
- (9) Facility for showing the effect of clear, pearl or white lamps within shades.
- (10) Slide projector for showing how fittings look in normal surroundings. This can be quite a cheap unit as the throw can be very short.

BLC DISBANDED

This article was prepared before the official announcement that BLC was to be disbanded, and the exhibition closed on August 30th.

The work of BLC will be shared by its former supporting organisations, and the new marketing department of the Electricity Council is to make lighting part of its future activities.

On the left is shown a section through the island fitting showing the soffit for recessed units or pendants, and also showing how the supply is brought down from the ceiling to the base. On the right is a sectional view of the fixture for demonstrating colour and distance effects on curtains with fluorescent tubes.





We'll toast/grill/bake it.

No trouble. For this toaster likes making a meal of things. Toasts toast perfectly. Grills anything from chops to Welsh rarebit. Bakes potatoes and cakes just like the big ovens do. It's got two elements, and features automatic toasting for any degree of browning. Toast in — set the slider control. Toast done — the see-through door flips up, and out slides the toast.

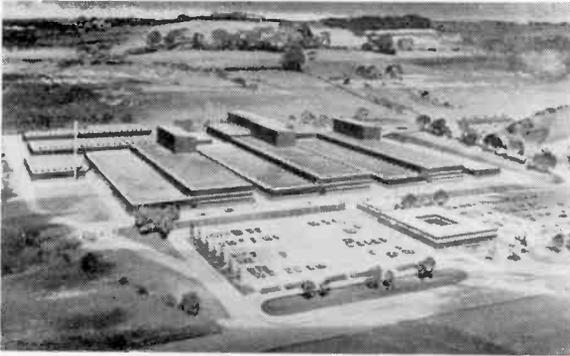
Sell the Russell Hobbs Automatic Toaster Oven, and for about £12. 12. 0 your customers get more than a toaster. They get a portable oven and grill too. And they can take it anywhere they've a 13 or 15 amp power point. Like the dinner table. The breakfast table. The sitting room or study. Right into the heart of a party. Anywhere. You name it.

(Russell Hobbs Automatic Toaster Oven's the name)

RUSSELL HOBBS 

Russell Hobbs Ltd., Ealing Road, Wembley, Middlesex.

Photo Tour of **EVER READY FACTORY AT**



An artist's impression of the 40-acre development at Tanfield Lea as it will appear on completion in 1972. The whole site has a further twenty acres available for any future developments.

£15 MILLION INVESTMENT

EVER READY, the company which claims some 80% of the dry battery market in the UK, recently completed the first phase of a £15 million project with the opening of its factory complex at Tanfield Lea in County Durham.

When the project is completed in 1972 it will be the biggest battery making plant in the world and the most highly automated and integrated. The capacity of the plant will then be some four million batteries a day and it will employ 1,500 people. It is interesting to note that at the rate that batteries were produced when the company commenced operation in 1931, such a target would have required a labour force of 100,000.

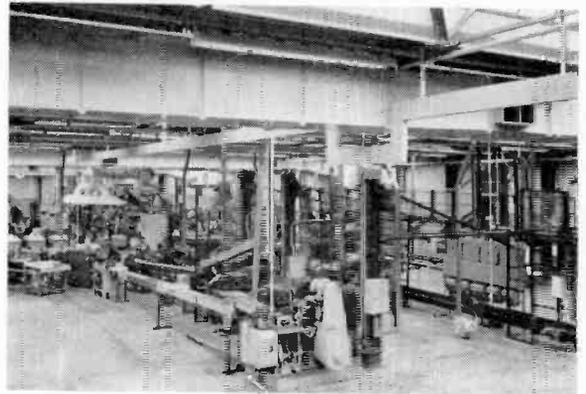
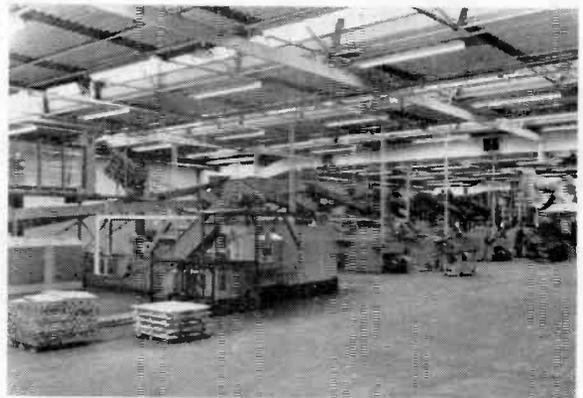
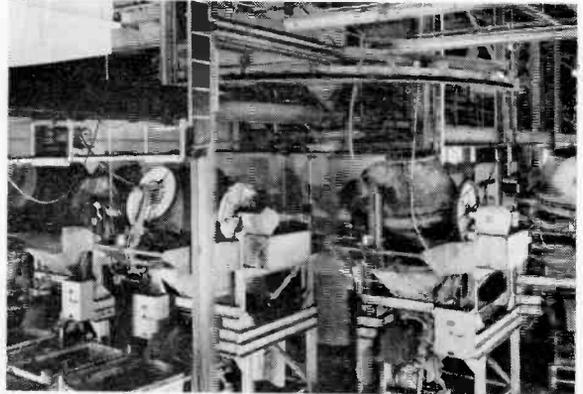
At present $\frac{1}{4}$ million U2 batteries per day are coming off the Tanfield Lea line and the whole is being exported under the Berek trade mark.

When complete the plant will be virtually self supporting. The parts so far complete and in operation are an assembly factory (one of three eventually), a manganese grinding mill, a mixing plant and a zinc chloride works. By the end of this year a components works should be in production.

Much of the very advanced mechanical handling systems and machine tools used at Tanfield Lea have been designed and made by Cramic Engineering, an Ever Ready subsidiary, and it is this heavy reliance on automation which has made possible the whole concept and permitted greatly reduced labour costs. In every aspect, as explained L. W. Orchard, Ever Ready's chairman, the Tanfield Lea project is way ahead of foreign competition.

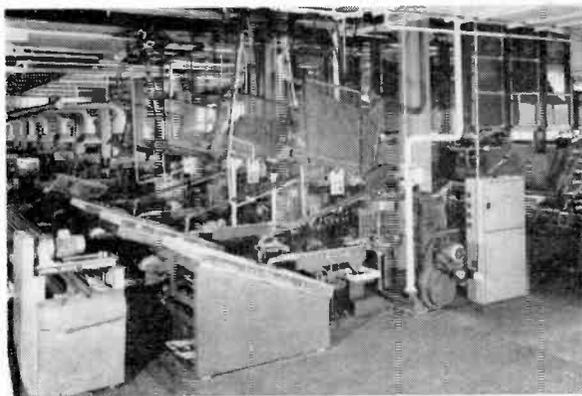
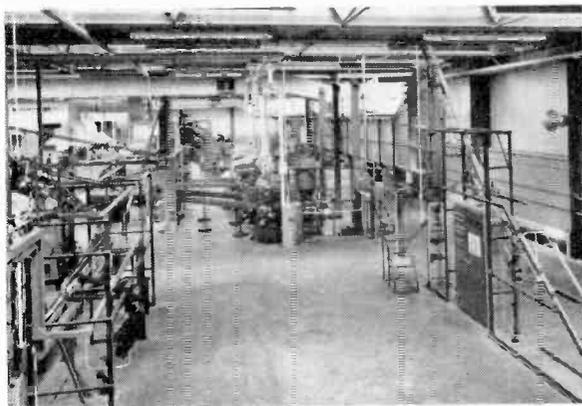
For instance, Ever Ready is the only battery maker in the world to grind its own manganese and produce its own zinc chloride, two of the essential chemical ingredients of the modern dry battery. They do this, because, as Mr Orchard explained, it is cheaper and, more important, it enables the company to maintain their very rigid standards of quality and consistency.

Quality control is most important to Ever Ready and some 5% of the employees at Tanfield Lea are in quality control, and there is a laboratory in the plant which also keeps a close eye on the quality of the chemicals used.



Top to bottom: Mixing machines blend the active materials to the correct formula; Impact extrusion presses form zinc cans from metal slugs at the rate of 250,000 per shift; a general view of the components assembly floor.

TANFIELD LEA



Top to bottom: Another view of the components assembly shop from which parts flow to the floor beneath; from these machines tested cells are delivered to the finishing lines; the finishing department.

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Grimthorpe's People

LET'S FACE IT. There are many functions during the year we types would love to miss. One little ceremony, which I'm glad I didn't, was conducted without undue fuss this month at Brush Clevite. It was a happy half-hour exercise in good employee-management relations, and the first time I had met Brush Clevite's chairman and managing director, D. J. Taysom. He towered above me when he greeted me and introduced me to young Derek Burke who was the real reason for my being there.

Derek was just about to be a hundred pounds better off, and as my picture shows, he was presented with a cheque for exactly that . . . the reward for a suggestion for increased productivity in Brush Clevite's factory. Burke is a senior setter machinist, and obviously for security reasons I cannot say what the suggestion was, but as D.J. remarked 'It's the kind of suggestion I'll accept any time'.

So that's where he is! I had missed Mark Johns around since the Pye shake up. Now I learn that he is doing a massive P.R. operation with the 'No Litter' Campaign after a spell with Mathers Public Relations.

John Wren, who I knew well when he was marketing manager at Sony, has taken a leap into general management. Just as well these chaps do not have to learn the language when they make their moves! John was well pleased with himself when he told me this month that he was now general manager of Technomark Ltd., the B. & O. and Sony marketing outfit.

It really does not seem eight years since David Hewitt joined the old Ultra Company before the merger with Thorn. A lot has happened since then, as everybody knows, and I was delighted to hear that he had been appointed marketing manager of the B.R.C. Steady progress for a remarkably nice guy.

John Wadley, who up to the present has concerned himself with exhibitions and things in the field, moves inside to take over the job of publicity manager at B.R.C.

With all the marketing talk one hears about these days (and don't think, for heaven's sake, that I am agin marketing) you still cannot better the expertise of old stagers like my old pal A. E. Plume who has just made a move to Dansette. A.E.P. has a fund of knowledge for which the younger marketing boys would give their eye teeth.



I foretold a month or so ago that things were about to happen at Antiference. The latest from the Aylesbury H.Q. causes some speculation. The announcement has just been made that the man now in charge of research, design and development is Liverpool University graduate D. Mather. Mr. Mather has, up to date, specialised in the fields of aero-engine design and development with Rolls-Royce in Derby and in Germany. Motorised aerials?

So Syd Kendall retired on July 31st! Syd who refused point blank to grow old is a truly remarkable fellow, a delightful friend, full of charm and wit, but with a withering scorn of anything or anyone fake or suspect.



Sydney T. Kendall, 53 years in the music, radio, T.V. and component industries looked 45 when we had our usual monthly drink this month, what's more his infectious humour was much younger. Few may know that radio's Peter Pan was a boy soprano who once played the London Palladium for eight weeks way back in 1911, and who started a business career in the piano department of a famous London Departmental store before seeing active service in the Royal Naval Air Service and the Royal Air Force from 1916 until 1920.

In the twenties, Syd went back to his pianos, records, gramophones, and became absorbed in the new fangled craze of 'wireless sets'. He was with the original Radiogramophone Development Company when RGD was the aristocrat of the radiogram world which

everybody longed for, and their radio show stands took on the 'Rolls-Royce' look. Syd was Southern Area Sales Manager under the late Tommy Cooper, and he stayed until 1951 when he went into components with Dubilier Condenser. During this time he served the Radio Industry Golfing Society as Treasurer for eight years.

Good luck in your retirement, Syd, there will always be a welcome in the Club for you.

I have, up until now always considered Alan Godfrey first as the son of a well-known father, but of course I have been wrong. Alan has for many years, been a force in his own right, coming into prominence with Ultra, then with Ecko as sales promotion manager, later as southern area manager, then manager, and finally as Director. Now, as part of the Pye-Philips rationalisation, he has been appointed commercial manager on the executive committee of Combined Electronic Services Limited, the recently announced company responsible for all the servicing of Philips and Pye domestic products.

'What's this I hear, Bill?' 'It's perfectly true' came the smooth reply with the hint of an Ontario accent. That's how I heard that William Haward had taken on the full responsibilities of Sunbeam operations in Continental Europe. 'Effective immediately,' he said. Bill Haward was born in Ipswich, became president and general manager of Ontario based Filtro Electric, a Sunbeam subsidiary, before becoming managing director of Sunbeam in this country in 1967.

I wondered what would happen at Sanyo Service and Sales after David Dunbar left. Now I hear that J. W. Cowley has stepped up into the marketing manager's position. He tells me that things are going so well with Sanyo that the company has also appointed D. N. Baker as sales manager of their electronic equipment division, and M. Pink as sales manager for Sanyo, with J. Godfrey to assist him as field sales supervisor.

A note came this month from Reg Salter, commercial manager of Radio & Allied (Holdings). Sitting high above that marble entrance hall in Langley Park, Reg writes that Trevor Standeven has been appointed deputy chairman of the company. Trevor has, of course

Continued on page 445

LATEST NEWSFLASH FROM VIDOR!

CROMPTON BRING MORE POWER TO A GREAT BATTERY NAME

Now Vidor batteries have two powerful names behind them. CROMPTON PARKINSON, one of the country's leading electrical manufacturers with an outstanding reputation for consistent quality, have taken over production and distribution. And they're backed by the full resources of the HAWKER SIDDELEY GROUP. It's a bright future for Vidor batteries. And that's official!

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More power behind Vidor means more power behind you—
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True. It's a very attractive pack, designed to sell on sight. And behind the pack? A very, very good product at an irresistible price. More and more perceptive retailers are stocking the Cozee Cumfort range of electric blankets. And here's why...

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Ref. Ad. No. 413

the MERGER game

Recent get-togethers in the industry—G.E.C. and A.E.I., Thorn and Radio Rentals, Granada and Robinson Rentals—must now pose the question: who's next for the 'marriage' stakes? WILFRED ALTMAN looks at the present situation.

The giants have obviously been motivated by pressures to harness production and retailing strengths, with an eye on the spread of colour next year, future prospects in foreign markets, and the likely challenge of an invasion of rock-bottom price Japanese TV sets.

Who will jump next to acquire rental outlets, and which chains are left for taking over?

Certainly for those dealers still independent, no matter what size or state of growth, the prospects of receiving a take-over or merger bid look extremely promising. Even independent rental outlets and small multiples can become attractive for take-overs, to be forged into large chains where these are becoming scarce. The long-term aim of substantial chains for all the big TV set manufacturers seems inescapable, since they need sizeable outlets for their sets, as well as servicing and administrative economies.

Among the other giants, Philips (including Pye) has its own fragmented outlets, Retada, Ada (Halifax), Callada, Gibbard, and David H. Pountney. Only the mighty G.E.C. has no outlets of its own, and Mr Arnold Weinstock is thought to be opposed to running retail/rental chains. G.E.C. still supplies quite a few and has a long-standing agreement to supply Rentaset (R.R./Thorn). But how long before he must pounce (and he has shown he is not afraid to take on giants), and before S.T.C. and Decca follow suit?

For the retailer/rental service operator, these new developments pose many questions. What is behind the widespread current interest in creating larger firms in manufacturing and retailing? How does a company know whether it should merge? Are there different types of mergers? What are the pros and cons of merging, and how do you stave off merger talks if you don't want them?

PROS AND CONS

Well conceived properly evaluated mergers can bring tremendous advantages to both parties. On the production side, there are economies of scale, better use of existing capacities, wider range of products and design, greater combined financial resources. On the selling side, the most important factors

are joint marketing facilities, and new and varied sales outlets.

Mergers or acquisitions based purely on financial considerations very often go wrong and much of the anti-merger sentiment nowadays stems from the victims—personal and corporate—of ill conceived mergers. Expertise in the planning of mergers is a pre-requisite to success.

HOW DO YOU KNOW IF YOU WANT TO MERGE?

According to Dr Francis Singer, of Chesham Amalgamations and Investments Ltd, a leading merger specialist, 'a time may come when it reaches a plateau, a state of affairs when it is no longer easy to cope with pressing problems, when it becomes clear that short term solutions are not the answer. There may be lack of finance for further

development, the need to attract the right kind of management talent, a doubt about succession in top management. The company may find it difficult to adapt its operation to changing markets, or may feel its assets and plant could be more profitably employed. A wider range of products or sales outlets may become necessary, but difficult to develop, and management thinking may have to be switched from production to marketing'.

These are but a few cases in which exploring the possibilities of a merger, or, at least, consulting professional experts about merger opportunities makes more sense than just worrying about day to day survival. This does not mean that every firm which is relatively small must necessarily look for some kind of an association. There is plenty of room for dynamic, small firms to go on growing on their own into medium or large size enterprises.

Among the larger firms, there are quite a few which could do with an injection of a new sense of purpose, a new driving force, or simply, new products or new markets. The often considerable resources of such older companies might be available to the dynamic management of a smaller business they may take over. It is not infrequent nowadays that large companies are managed by people whose smaller businesses they have bought (e.g. Sobell/G.E.C.).

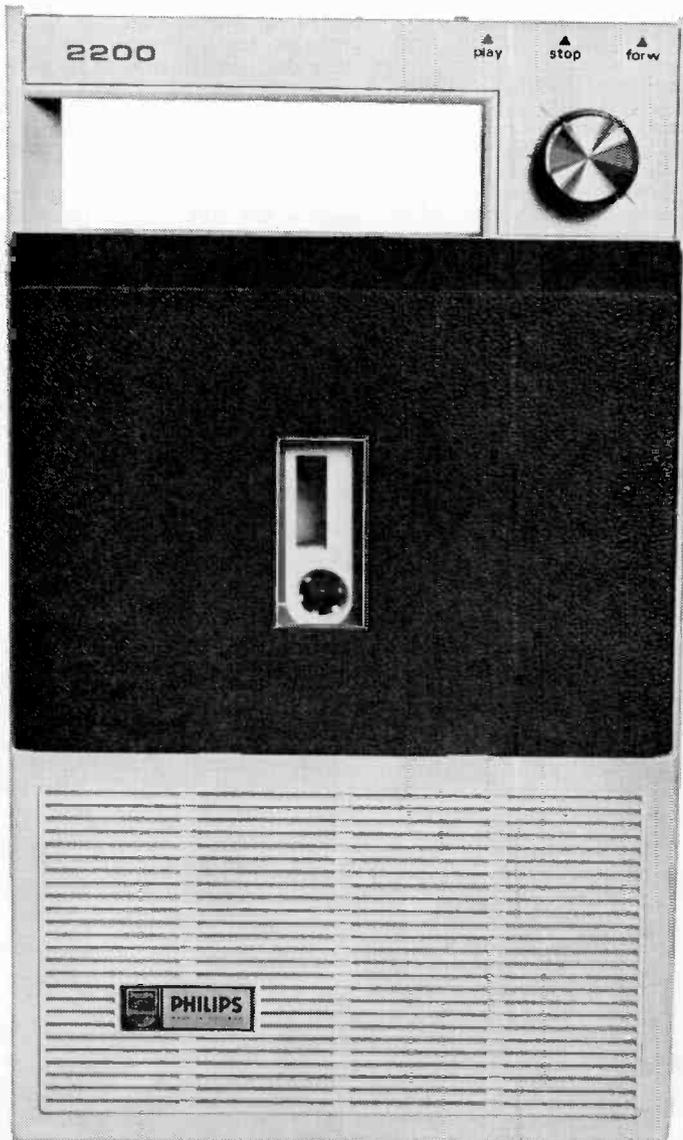
The decision as to what type of merger should be considered depends on the

Continued on page 436



As our contributor explains, one of the current types of merger—the diagonal merger—is aimed at spreading the market for one's production over as wide a scale as possible. R. & A. Main, principally known for their gas appliances, are now part of Thorn Electrical group. According to the Thorn annual report the Main White Rose and Mayflower gas cookers, here seen being assembled at Edmonton, are the most popular models on the market within their price range.

Introducing The Mood Matcher

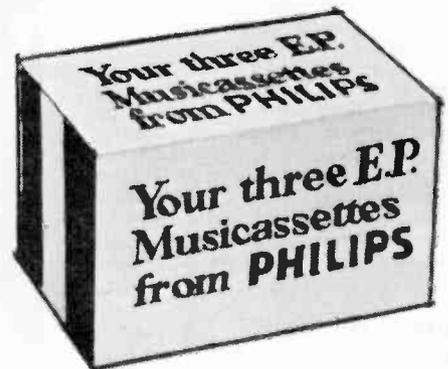


It's the latest thing in musicassette players. And it's going to be the Big Sales Winner of '68.

We want you to know all about it.

The Mood Matcher has everything for today's big spending market. It's attractive, elegant, streamlined. And completely portable. It plays anywhere, instantly, at the touch of a button.

Special EP Musicassette Offer!

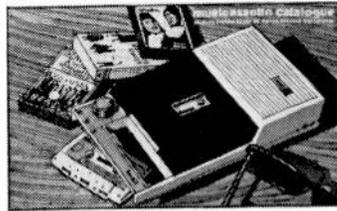


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music to match your mood at the drop of a Musiccassette

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* And unconditional 12-month guarantee.

THE MOOD MATCHER

- the Big Sales Winner of '68

STOCK UP NOW!

individual situation and the problems which are to be solved.

HORIZONTAL MERGER

This is the getting together of companies operating in the same field and on the same level. For example, two or more businesses joining together, all in manufacture or in retail distribution. Such an association will achieve greater purchasing power, more efficient production, greater impact on the market, and pooling of 'knowhow'. A geographical merger in this category is aimed at an extension of the distribution network, either nationally or internationally.

VERTICAL MERGER

This is aimed at securing either a supplier or a sales outlet, and is a merger of companies in the same field of activity, but at different levels.

DIAGONAL MERGER

This cuts across the board. Companies in different activities, possibly at different levels, get together with a view to balancing out divergent trade cycles or to prevent all one's eggs being in the same basket.

HOW TO STAVE OFF A TAKEOVER

If you are at the receiving end of an unwelcome takeover bid the answer is simple if yours is one of the 400,000 private companies in the United Kingdom (nine out of ten mergers involve private companies). Unwilling shareholders of such companies cannot be forced into a sale. It is nonsense for the owners of private companies to talk, as they often do, about their fears of being taken over.

The position is quite different, Chesham explain, if yours is one of the 11/12,000 public companies in Britain, with shares quoted and traded on the Stock Exchange, and your board is unwilling to merge, or to recommend the shareholders to sell their shares in the company. Here the success or failure of a bid is likely to depend on whether or not the shareholders have good cause to be satisfied with the quality of the company's management, employment of assets and returns earned. In the early post-war years, the opening epoch of takeovers, many boards of directors sat comfortably on undervalued assets, and large unemployed resources showing a minimal return to the shareholders—a situation which often, and successfully, tempted bidders' attention.

Today very few bids can be made over the heads of directors, where boards satisfy shareholders on these points. Even where the market can turn against the public company, ostensibly forcing it to sell, the board can still put up an intelligent defence to retain the company's independence, provided that it has the shareholders' good will, and can put up convincing arguments for the company's future growth and increasing profitability. They have to say



Mrs. Margaret Baird (left), widow of television pioneer John Logie Baird, gets her first view of colour television at Radio Rentals Colour Centre in London. Ironically enough, Mrs. Baird normally has no opportunity to see even black and white television, since she now lives in South Africa where television is shunned as some sort of bad disease.

to their shareholders, in effect, 'we shall make your shares worth more than the value of the bid if you have the confidence to hang on to them'. Unfortunately, this line of defence has often been abused in the past by overconfident boards of directors, and many a shareholder has been left with shares worth considerably less than the price offered by the defeated bidder.

SPECIAL ADVISERS

The accelerated trend towards mergers since 1950 has brought forth the profession of the specialised merger broker, whose services are in brisk demand. The task of these new professionals is to initiate and negotiate the best possible association of firms under any given circumstances. To achieve this end requires a thorough analysis of both the weakness and the strength of the company actively looking for a suitable partner.

Many factors must be considered, e.g. the product mix, management structure, markets, the evaluation of available resources, past profit performance and forecast. Having selected the right partners for a proposed association the merger specialist is in a position to initiate, often anonymously, the first delicate stage of preliminary negotiations. In the course of these preliminaries, he can assess with the expertise gained by experience, whether the personalities involved on both sides are likely to work together in harmony in the interests of the merging enterprises.

HOW DOES IT WORK

The first step is almost invariably taken by the purchasing company

setting out a brief regarding the type of business sought as a partner. This will specify the motivation for the proposed merger and his idea about the type and size of business considered suitable. On the basis of this information, the consultant makes a close scrutiny of the particular segment of industry in which a merger or acquisition is being sought. A preliminary investigation of suitable firms and discussion with the client follows.

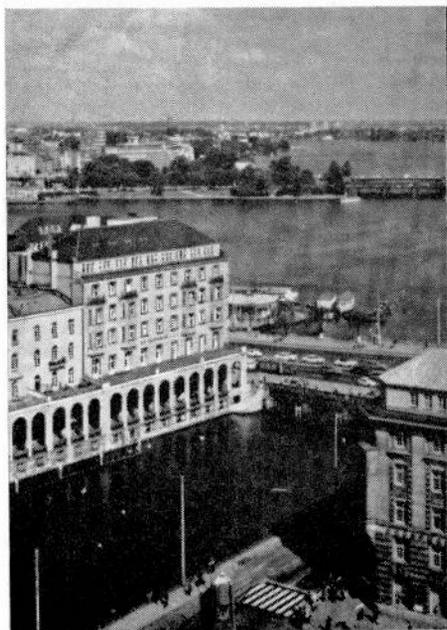
Having made a choice of one or two suitable possibilities, an approach is made to these firms. Negotiations may take weeks or months, or sometimes even years, for the ideal merger to mature. It takes a great deal of expertise—industrial, commercial, financial and psychological—to accomplish a successful amalgamation. This expertise can only be acquired by being continuously exposed to the problems of vendor and buyer. Merger brokerage is not a task for the tycoon who occasionally wants to acquire a company.

Assessing the value of a company for the purpose of a merger is a highly complex operation. Although based on past performance, the purchase price must take into consideration the underlying asset position. The prospect of future benefits may overcome the difficulties of the present. If a company feels that it is buying time by a suitable acquisition, or securing a better use for its technical, financial and managerial resources, then it would be prepared to pay the maximum price to achieve the optimal merger. Such mergers serve, not only the best interests of the parties involved, but also those of the economy at large.

Are you a Sanyo stockist?

If you are you know all the benefits of selling Sanyo products. If you aren't then you are missing the opportunity of selling one of the most extensive high quality ranges of Japanese radios and tape recorders. This is being backed by

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Three days in this exciting city with its superb lakes and famous night life. Contact your Sanyo wholesaler for full details of this competition.

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Photograph by courtesy of the German National Tourist Office.

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REGIONAL FARE



Winners of the 1968 Ronson RADA awards, Andrew Neil and Jean Leppard, talk to Donald Sinden (right) and Ronson chairman, W. J. Kenyon Jones at the presentation recently.

RECENTLY, Lord Aylestone, chairman of the Independent Television Authority, laid the foundation stone for a new £2½ million studio complex at Southampton for Southern Independent Television. It is designed for full colour operation and is scheduled to be completed by August 1969.

He was pleased, which is reasonable, because this project shows excellent enterprise on the part of Southern, which he described as 'this distinguished television company'.

'One of the things about Southern that has impressed me,' he said, 'is that it succeeds in getting programmes on the network without straining its regional alliance. This is obviously important because any regional company's first loyalty is to the people among whom it dwells.'

Southern is a good and successful station. It has faced up to the problem of being a regional station as well as any, and this is a problem. A problem, I feel, which arises, not so much from consideration for the actual regional interests of people living in different parts of Britain as from political thinking.

NO MONOPOLY

As Lord Aylestone pointed out, 'It is often said that Independent Television is a monopoly. A monopoly as I understand it is the exclusive possession of the trade in some commodity, and so, obviously, ITV is not a monopoly because we have a competitor. But the architects of Independent Television were aware of this particular problem and that is why they built into the system a very powerful element of competition'.

He gave what might be considered a slightly unhappy example of this competition, however, when he added, 'Anybody who knows anything about Independent Television will know that there is, for example, the keenest possible competition among the programme companies to get their programmes on the network and perhaps not unnaturally each one feels it would like to have more of its programmes on the network'. Very true, but this has led to situations where the largest ITV companies have done their best to wield the big stick at the expense of the smaller ones.

Fundamentally, the independent contractors and the BBC compete with each other with what ever benefits can be expected from competition in such a field. Both chase the ratings, especially ITV, with its need to obtain the largest audiences to keep advertising rates and bookings up.

It means that no broadcasting organisation can afford to be complacent or slack. Even so, ITV, and to a lesser degree the BBC, have been known to starve their creative sides, leaving them to fight it out on minimum budgets. This should never happen and the lip service that is paid to new and better programmes is ironic when it is not supported by the money to produce them.

The extension of the competitive element which is supposed to be achieved by emphasising the regionalism of the ITV companies is another matter. I have pointed out before that this is thought of as a device to reduce the charge of monopoly sometimes thrown at the ITA. Certainly, as I have commented, it enables a number of ITV companies to exist instead of one.

SECOND BEST FARE

Regional companies tend sometimes to offer second best fare, because they have smaller resources, or simply feel they can get away with it. Everybody in Britain who watches television would naturally like to see the best programmes. Where they come from is secondary. The ITV companies and BBC obviously believe this themselves, whatever they say, otherwise they would not show so many American programmes and films. Sometimes it seems as if American contributions dominate both services. I

am not complaining too much about this because I like the best of the series that originate across the Atlantic.

But this is the opposite of programming to suit the people living in a particular area. I feel that the great concern expressed for regionalism is because it helps Independent Television to appear less than a monopoly, and not because it is primarily considered to be a good thing.

An example of the ITA's loudly expressed affection for regionalism was the new Harlech station. Lord Harlech himself and the international stars with Welsh backgrounds were symptoms of the enormous play the Harlech consortium made to wrest the station from TWW. A lot was made of the fact that TWW's head office was in London, whereas Harlech would be Welsh based. They even changed from a London advertising agency to regional ones.

Southern television has done well in its regional programmes and has been the first company to introduce a seven-days-a-week regional television news service, something all regional companies could follow. Southern also has splendid outside broadcasts, and here incidentally we might pay tribute to a gentle and excellent broadcaster, Oliver Kite, whose countryside programmes were quite a delight.

Locally orientated programmes should be confined to news, country programmes and occasionally, if they are interesting enough, to other local happenings. I mention this last point because local events can easily be over-parochial.

It would be better if catering for regional interests was seen more as a part of an Independent channel, and not a major part in terms of air time, and

CROXLEY'S COLUMN



In the Electricity Council's garden at London's new Garden Centre, Syon Park, even the water sprinklers are electrically controlled and pop up automatically by remote control.

confined to certain types of programme, rather than to think of ITV companies as catering for regional interests in a general, vague way, as if this were an overall function. In practice, Southern strikes a very good balance.

THE NEW COMPANIES

How about the new companies? We note that Eammon Andrews is contributing to regionalism in the London area. Time will tell whether the programme content from the new stations will show great improvement on the old. I would not have expected it, not because I am cynical, but for the obvious reason that plenty of talents have been giving their best to produce programmes in the preceding years. Now much the same creative talents are employed in companies with different names and they will continue to do their best. They cannot do more, and I am sure they will not do less.

Rating requirements will ensure that we view our quota of simple, popular programmes, which the pundits in their high-minded moods deplore. Programmes like *Double Your Money* and *Take Your Pick*, poor as they were, seem to have been swept off the air as scapegoats. Similar programmes are sure to replace them.

BBC CHANGES?

Where we may see changes, and not necessarily for the better, is at the BBC. Acres of newsprint have been expended in analyses of the reasons why Sir Hugh Greene left. All the politeness surrounding his going was very fine and gentlemanly, but it is apparent that he had not intended to leave the BBC at this time. He would not have left if all had remained the same as it was before. He left because, however much it is wrapped up, he was got out. Will he be replaced by a man who will wish and be able to continue the same policies, or will policy be changed as well?

Whatever criticisms one might make, Sir Hugh did bring the BBC into the middle of the twentieth century. He cautiously encouraged experiment, and he did much to dispel the BBC's 'Auntie'

image. Is all that good work to be undone? This is particularly of importance because the ITV contractors, however forward looking they may be, have to face greater problems—they are between the advertisers and the ITA—in producing anything really new and exciting.

THE COMPUTER COMETH

EARLIER THIS YEAR the little Neddy for the Distributive Trades held a Conference on Computers. I remember once talking to an expert in one of the largest computer companies in the country. He made the surprising remark that 'If a company is really efficient it will do better without a

computer. It is only in companies that are not efficient that computers make improvements'.

While he did not appear to be being cynical, or to have his tongue in his cheek, I am sure that he and most other people would really rate computers higher than that. It is true, however, that apart from some successful installations, there have been situations where the introduction of a computer has been followed by losses of money on quite a grand scale. But that is not necessarily the fault of the computer. Furthermore, there have been much quoted instances where computers are said to have gone wrong and made ludicrous errors. Generally speaking, however, the difficulty is not that there is anything wrong with the computer, but with the programming or use of it.

When we come to the possibility of the independent retailer eventually using computers the above disadvantages obviously still apply, but in one way, the theoretical advantages may be greater than for the larger user.

First of all, you are very unlikely to have a computer of your very own, unless by that time a great deal more progress has been made with 'miniature' computers. But you can have part use of one. While an independent retailer can deal with his own problems of stock control, re-ordering, and checking on the sales and profit return of each section of his business, he is not by his nature really geared to carry out a great deal of sophisticated paper work. It demands special skills and a great amount of time. Many dealers, indeed, who run admirable shops, tend to have their area of greatest weakness here.

Theoretically, use of a computer could enable him to keep as close a rein on his outgoings and incomings as the most advanced department store—which probably already uses a computer.

NORTHERN AUDIO FAIR AGAIN

After a ten-year interval a Northern Audio Fair is again to be held at the Hotel Majestic, Harrogate, from Friday, September 20th to Sunday 22nd.

The following brands will be on show: AKAI (Pullin Photographic), ARENA (Highgate Acoustics), AUDIO TECHNICA (Shire UK), BASF (BASF UK), BEYER (Fi-Cord International), BOWERS & WILKINS (Bowers & Wilkins), BRAUN (Fi-Cord), CELESTION (Rola Celestion), CHILTON (Magnetic Tapes), COLTON (Colton & Co.), CONNOISSEUR (A. R. Sugden), DAYSTROM (Daystrom), DUAL (Dual Electronics), DIAMOND STYLUS (Diamond Stylus Co.), ELIZABETHAN (Elizabethan Electronics), FERROGRAPH (Ferrograph), GOLDRING (Goldring Mfg.), HELME (P. F. & A. R. Helme), LEAK (H. J. Leak), LUXOR (Highgate Acoustics), METROSOUND (Metrosound Sales), ORTOFON (Metrosound Sales), PHILIPS (Philips Electrical), RICHARD ALLAN (Richard Allan), RESLO (Reslosound), REVOKX STUDER (C. E. Hammond), SANSUI (Audio Distributors), SANYO (Marubeni-Iida), SINCLAIR (Sinclair Electronics), SHURE (Shure Electronics), SME (SME Ltd.), STEREO SOUND (Stereosound Productions), TANDBERG (Elstone Electronics), TANNNOY (Tannoy Products), TELEFUNKEN (AEG GB Ltd.), TRIO (B. H. Morris), THORENS (Metrosound Sales), UHER (Bosch), W. B. STENTORIAN (Whiteley Electrical Radio), WHARFEDALE (Rank Wharfedale).

As an innovation at this Fair a number of retailers have been allocated stands to display their goods.

Until 4 p.m. on the Friday, entrance will be confined to the trade, after which the general public will be admitted.

TO HELP YOUR SALES

manufacturers' advertising & sales promotion plans



Simplex Electric have adapted a 6-ton vehicle into a mobile display unit for their Creda Comfortaire units and storage radiators, and it is now touring the country.

This blue and white illuminated sign is one of three new sales aids from Alba. The others are a three-dimensional showcard, and a price card for the 4002 stereogram. More such aids are promised at regular intervals.



CREDA COMFORTAIRE MARKETING

A NEW MARKETING SCHEME for promoting Creda Comfortaire storage radiators announced by Simplex Electric will relieve the retailer of the problems of installation details and make the handling of the units a simple selling operation. A national network of approved Creda

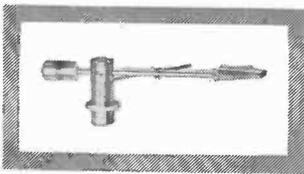
installation contractors is being established and their services will be available to any retailer handling Comfortaire. The promotion is supported by colour brochures and point-of-sale material, and by consumer ads. in the Sunday press from September until December.

GOLDRING AUDIO EQUIPMENT

FOR HI-FI



Goldring and Goldring-Lenco Transcription Units. Incorporating unique features. From £22.7.2d. to £62.13.2d.



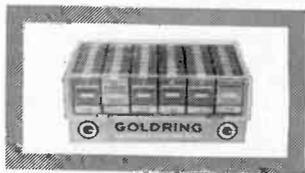
Goldring and Goldring-Lenco Transcription Arms. From £7.13.4d. to £36.10.0d.



Goldring high quality magnetic and ceramic Cartridges to mono and stereo. From £5.2.2d. to £18.10.6d.



Goldring Replacement Cartridges—magnetic, crystal and ceramic—mono and stereo—for most makes of domestic record players and radiograms.



Goldring Styli—diamond and sapphire—for virtually any pick-up made. The Goldring identification chart facilitates fast selection.

THERE'S A DESCRIPTIVE BROUSHEET ON ALL **GOLDRING** PRODUCTS WAITING TO BE POSTED TO YOU Together with identification charts for cartridge and styli replacements



GOLDRING MANUFACTURING CO. (G.B.) LTD., 486-488 High Road, Leytonstone, London, E.11. Tel: Leytonstone 8343

GIRLS, GIRLS

TWENTY SALES GIRLS are calling on electrical and hardware shops to launch a programme of consumer and trade promotions for Mazda lamps. They will



BLI marketing manager, Colin Huston, talks to two of the team of Mazda salesgirls.

erect merchandising material to publicise the campaign. The promotions include an offer of a cut price woollen blanket to purchasers of Mazda's standard, Netabulb or the new Pink Pearl Netabulb lamps. The two latter types will be available in reduced price banded packs of two or three. Purchasers of Pink Pearl lamps will be invited to send for a money-off pink pearl necklace. The offers will be supported by TV commercials and national press ads. Cash incentives will be offered to retailers who have promotional material on display when a mystery shopper calls.

TELEFUNKEN WINDOW CONTEST

TELEFUNKEN DEALERS who devote an entire window to a display of Telefunken tape recorders, audio equipment and radios during September and October can participate in a contest the prizes for which are all-expenses paid trips to Germany. Entries will be judged on the basis of black and white photographs, the closing date for the receipt of which is November 9th. In another contest, ten dealers who order between September 1st and November 30th the most number of System Audio complete units will also win trips to Germany. Orders can be spaced for delivery over the period.

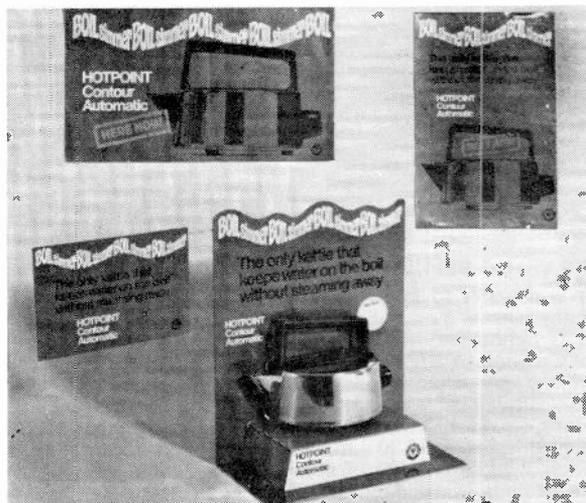
Telefunken advertising plans include the September issue of *Readers Digest* for the Bajazzo; *Hi-Fi News*, September to December for the System Audio units; September to December issues of *Tape Recorder* and *Tape Recording* for the M 204 TS. All three will feature in half pages in September, October and November issues of the *Observer Magazine*.

SCHICK BONUSES

SCHICK ELECTRIC are offering all direct accounts a 13-to-the-dozen bonus on men's shavers, and an additional 5% on 36 or more unit orders for hairdryers. Extended credit is also offered with an additional discount for prompt payment. Retailers are offered a 10s. per sale bonus on the men's shavers. The £2 trade-in offer on shavers is now ended.

Some of the display material for the Hotpoint Contour automatic kettle.

The lettering is black and white on an olive green background, and the theme is the boil-simmer-boil feature.



BSR PROMOTE COMPATIBLE CARTRIDGES

BSR is mounting a campaign aimed at informing the public of the need to use a compatible cartridge suitable for playing stereo discs on mono players. Window



posters, leaflets and counter display units can be supplied. New bubble packs for the X3M and X3H compatible cartridges form an attractive self-display. These dealer aids will be backed by advertisements in the gramophone consumer press during September, October and November.

OSRAM TIP-TOP FITTING

OSRAM-GEC has a nation wide winter promotion for its Tip-Top domestic fluorescent fitting. Half pages will appear in *Radio Times* from September until late December, and will stress the fitting's shadow-free light, economy and ease of fixture.

AUTOCLEAN FILM

A 16MM FILM running for about 13 minutes has been produced by Simplex to explain in an uncomplicated way what the Auto-clean oven is and does. The entire cleaning process which normally takes from two to three hours is speeded up to happen in a few seconds. Demonstration of the process is an obvious difficulty due to its timing and the film offers a suitable alternative to a practical demonstration.

PYE DISPLAY UNITS

A NEW multi-purpose display unit is being offered to dealers by the Pye group. It consists of a carpet covered plinth, a headboard and a stepped unit to take portable radios.

RADIOS FROM RUSSIA

TECHNICAL AND OPTICAL EQUIPMENT have for the past six years been successfully importing Russian photographic equipment. They have now been appointed sole importer and distributor for all Russian transistor radios. The first products to be marketed in the UK are a range of six Astrad radios none of which has previously been available here. All are competitively priced and will be supported by adequate after sales service. Sales of the Astrad range are being handled by T. Clayton. J. N. Hapgood is deputy managing director of T.O.E. which is a Russian owned company.

October will see the launch of an extensive advertising campaign in the trade press, which will be followed in November and December by a consumer campaign using large spaces in *TV Times* and *Reader's Digest*. A five page colour leaflet on the range will also be available. The theme of ads and literature will be that Russian transistor radios offer outstanding value for money.

HAVE YOU HEARD ABOUT

GRAPHIC SEMINARS E431

IF YOU WANT to know more about the many uses of Letraset techniques there is an opportunity for those within reach of Croydon to attend the last of a series of one day seminars conducted by the company. The venue is the Fairfield Halls, Croydon. The time is Wednesday, September 18th, 10.30 a.m. or 2.30 p.m. Each seminar consists of specially produced films followed by a talk on specific topics and innovations on the subject.

WEL COMPONENTS MOVE E432

WEL COMPONENTS have moved to new premises at 5 Loverock Road, Reading. Tel: Reading 40616/9.

NEW BROWN BROTHERS BRANCH E433

TO CATER for traders in N and NE London, Hertfordshire and Essex, previously served from Great Eastern Street, Brown Brothers have opened a new branch at Garman Road, Tottenham, London, N17 (Tel: 01-808 5261). Manager is J. W. Franks.

REMINGTON EUROPEAN OPERATION E434

THE REMINGTON ELECTRIC SHAVER DIVISION of the Sperry Rand Corporation is moving its European Operations headquarters from the USA to Britain. A completely new marketing operation will be under the direction of C. E. Van Anglen. Mr Van Anglen will work closely with S. Anderson, managing director of Remington Electric Shaver.

NEW COLOUR CODING E435

THE GOVERNMENT has decided to make regulations under the Consumer Protection Act requiring the core colours of three-core flexible cords fitted to domestic electric appliances, when offered for sale in the UK, to comply to the following international coding recently agreed by most European countries: Green and yellow = Earth; Brown = Live; Light blue = Neutral. Amendments to the IEE Wiring Regulations are being drafted.

THORN BENDIX MOVE E436

THE HEAD OFFICE of Thorn Bendix is now at Kingmaker House, Station Road, New Barnet, Herts. Tel: 01-440 7474/5.

IRISH SUNBEAM E437

SUNBEAM ELECTRIC have widened their scope in Ireland by the appointment of a second distributor. Walkers Ltd, 27 Upper Liffey Street, Dublin. In co-operation with the current distributor Nugent and Cooper, Walkers will hold a Sunbeam trade show at the Intercontinental Hotel, Dublin on September 26th.

COMMUNIAL TV AERIAL SYSTEMS E438

CARRICKE COMMUNICATIONS has been formed to specialise in the installation of communal TV aerial systems in blocks of flats or housing estates in any part of the country. The company is at present mainly interested in the private developer, who has so far not displayed great interest in such systems. In most parts of the country Carricke will look to local dealers to carry out the installation work on their behalf, and possibly to provide maintenance facilities.

WELCO DELIVERY SERVICE E439

WELCO ELECTRIC will in future deliver their products by their own vehicles to selected depots throughout the UK, from



where they will be delivered by specialist carriers to their destination. In practice this should mean a best delivery of three days from date of despatch from Welco and at worst within seven days.

BSR PREFIXES E440

TO IDENTIFY BSR units on which record size selection is automatic they will in future carry the prefix AA. Thus the UA50 minichanger will become the AA50. Units on which selection is manual will be prefixed MA. The UA65, UA70 and UA75 now become MA65, MA70 and MA75.

DEC SUPERMARKET E441

A NEW self-service supermarket, offering spare and replacement parts for all makes of washing machine and vacuum cleaner, has been opened at 112-114 High Road, New Southgate, London, N11 by Domestic Electrical Components. All components are arranged in the same order in which they appear in the company's catalogue. Trade customers help themselves and goods are costed at the exit. Payment may be cash or by account.

SORRY SIMON DEE E442

UNDER REFERENCE E402 last month we mentioned the new Flair label for low priced mini-lp's, and stated that the disc we received, contrary to the claim made by the producer, had no endorsement from Simon Dee. We have now received a further copy and we are happy to report that this sleeve has the lot—a picture of S.D., his signature and endorsement!

INDUSTRIAL TRAINING E443

MANY ASPECTS of the Industrial Training Act and its impact on industry will be examined in a series of courses arranged by the Polytechnic School of Management Studies. Details are as follows: One day seminars—*The Costs of Training*, November 5th, 1968; February 11th and June 24th, 1969. One week courses—*Training Techniques*, October 7th to 11th; *Training Skills Practice, Lecture and Discussion*; October 28th to November 1st; *Training Skills Practice, Case Study, Method and Role Playing*, March 10th to 14th, 1969; *Training Skills Practice, Business Games and Simulation Exercises*, April 28th to May 2nd, 1969; Three week sandwich course—*Research Methods in Industrial Training*, November 11th to 15th, 1968, February 17th to 21st, 1969 and June 2nd to 6th, 1969.

HOTPOINT SERVICING TOOL E444

A SPECIALLY DESIGNED TOOL for extracting the spin can from Hotpoint washing machine spin units is now available from Domestic Electric Components. Without the use of this tool it has been impossible to remove the spin can to obtain access to the bellows seal. The tool costs £5. DEC are also now making carbon-faced bellows seals for use in the Hotpoint Supermatic at 12s. 6d. each.

MANCHESTER EXHIBITION

E445

THE TWENTY-THIRD annual Electronics, Instruments, Controls and Components Exhibition and Convention organised by the Northern Division of the Institution of Electronics will be held at Belle Vue, Manchester from September 24th to 27th.

SONY (UK) LTD

E446

SONY (UK) LTD, an associate company of Sony Corporation, Tokyo and Sony Overseas S.A. Zug, Switzerland, has now commenced business at 36-40 Wigmore Street, London, W1. Later the company plans to move to new premises near London Airport. General manager is M. Mamiki, M. Brown is sales promotion manager, and G. Frewin is service manager.

PAMPHONIC SALES

E447

ALL PAMPHONIC sound and audio products are now being handled by the Sound Division of Peto Scott as a further step in the rationalisation of the activities of Peto Scott and Pye TVT following the merger of the two companies.

SPARES FOR IMPERIAL WASHERS

E448

HIGH PRESSURE HOSES, solenoid inlet valves, under carriages and pressure switches for Imperial washing machines have been added to the list of Domestic Electrical Appliances.

ELECTROLUBE DISTRIBUTORS

E449

ELECTROLUBE have appointed two new distributors who will supply their products by mail order. They are: Combined Electronic Services Ltd, P.O. Box 11, Gloucester Street, Cambridge (trade only), and Electronic Services, Edinburgh Way, Harlow, Essex (trade and public).

EXPANDING DREAMLAND

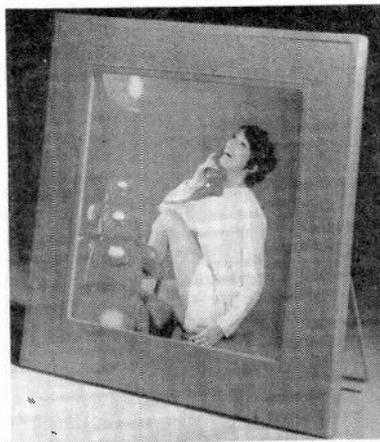
E450

THE FIRST STEP in the expansion of Dreamland Electrical Appliances into a specialist group has been taken with the formation of Dreamland Appliances to take over the production and marketing of electric blankets. The Marine Division, handling equipment for life saving at sea is being reconstituted. According to F. R. Williams, chairman and founder of the company, the parent company is seeking to purchase other specialist companies which can work in parallel with the blanket company and independently of each other.

TI LIGHTING COMPANY

E451

TUBE INVESTMENTS have formed a new company, Simplex-Circulume, to embrace the lighting activities of Simplex Electric and Circulume. Chairman of the company is J. D. Johnson, with C. H. Hodgson as managing director.



COLOUR DISPLAY

E452

A NEW DEVICE for displaying transparent illustrations of all types of products has been introduced by Colour Centre. Known as Idealite 010B Illuminator, it is only 2in deep and can be used either way up, hanging or standing. The

aperture is 9½in square and illumination is from a fluorescent tube. An automatic starter switch enables several Idealites to be controlled by a master switch. Price £10.

CONELIGHT MOVE

E453

TO MEET the rapidly accelerating demand for their lighting fittings, Conelight have built a modern factory on the Longmead Estate, Shaftesbury, Dorset. (Telephone 0747 2537-8)

ECA MOVE

E454

THE HEAD OFFICE of the Electrical Contractors' Association has moved to 55 Catherine Place, Westminster, London, S.W.1. The telephone number is 01-834 9632.

USE THE PRE-PAID FORM ON PAGE 448 TO OBTAIN FURTHER DETAILS OF ANY OF THE ABOVE ITEMS, QUOTING THE REFERENCE NUMBER.

In SERVICE ENGINEER this month . . .

GORDON J. KING writes on *AUDIO DISTORTION*. The term 'transistor sound' was coined some years back by sceptical high fidelity men when transistors first appeared in high fidelity amplifiers. Die-hard devotees of the valve claimed that transistor amplifiers produced a special kind of distortion and for this reason they forecast that they would never be acceptable to the purist. In his article G. J. King describes tests he has carried out on various transistorised amplifiers and details the results and conclusions he draws.

FIELD ENGINEER continues his *GUIDE TO COLOUR CHASSIS*—this month he analyses the world's first fully transistorised colour set—the BRC 2000.

SERVICE ENGINEER is available only to subscribers to *RER* . . . if you are not one there is an order form on page 447 of this issue.

Storage Radiators

continued

Name/model	Type	Loading (kW)	Price (£ s d)
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REVO DOMESTIC APPLIANCES LTD

*30U	C	3	60 0 0
*45U	C	4.5	73 10 0
*60U	C	6	84 0 0
*30F	C	3	55 0 0
*225	U	2.25	25 0 0
*003	U	3	31 10 0

ROWAN ENGINEERING CO LTD

*Slimline SSH300	U	3	29 0 0
*Slimline SSH225	U	2.25	25 0 0
*Slimline SSH125	U	1.25	21 10 0
Airflow RFH300	C	3	45 0 0

SERVIS DOMESTIC APPLIANCES

*MK40	C	3	48 6 0
*MK39 wood	U	2.5	24 3 0

SIMPLEX ELECTRIC CO LTD

Creda:			
*7001	U	2.5	23 10 0
*7002	U	3	27 8 0
*Compact 73741	U	2.4	21 10 0
*Compact 7003	U	1.5	19 0 0

THERMAIR DOMESTIC APPLIANCES LTD

Trinity		1.5	21 10 0
Trinity		2.25	24 10 0
*Trinity		3	27 10 0

THERMODARE (GT. BRITAIN) LTD

*Q225	U	2.25	24 3 0
*Q300	U	3	29 8 0
QFA300	C	3	44 2 0
*DC150	U	1.5	20 15 0
*DC150 wood	U	1.5	22 0 0
*DC225	U	2.25	22 15 0
*DC225 wood	U	2.25	24 0 0
*DC300	U	3	26 15 0
*DC300 wood	U	3	28 0 0
DCFA300	C	3	47 0 0
DCFA300 wood	C	3	48 10 0
DCK150	C	1.5	20 15 0
DCK150 wood	C	1.5	22 0 0
DCK225	C	2.25	22 15 0
DCK225 wood	C	2.25	24 0 0
DCK300	C	3	26 15 0
DCK300 wood	C	3	28 0 0

TYRAD LTD

*D251	U	2.5	23 15 0
*D251W	U	2.5	26 7 6
*TY20	U	2.25	22 10 0
*TY20W	U	2.25	25 0 0
*TY30	U	3	27 10 0
*TY30W	U	3	29 18 6

literature RECEIVED

- E455** THOMAS AND BOTTS have published a leaflet describing their new range of liquid-tight fittings for flexible conduit. The leaflet gives cross-sectional drawings of the five main types of fitting.
- E456** SHOP FOR TOMORROW is a new magazine published by Alcan as a free service for everyone connected with retailing. This issue contains the first article in a series on retailing functions written by W. J. Mullins, managing director of Jones of Bristol, the city's largest departmental store. Mr Mullins examines the basic function of a shop in the context of the changing pattern of retailing.
- E457** ELECTRONIQUES have published the second edition of their *Hobbies Manual*. This 1968 edition contains 960 pages divided into twelve sections. As in the previous issue there are numerous pages of technical data, abacs, formulae, designs and practical hints for constructors. The price of 16s. 6d. is offset by vouchers valued at £25 which can be used for the purchase of goods listed. The manual is available at a discount to dealers, together with point-of-sale material.
- E458** TO ASSIST in the preparation of equipment reliability programmes for electronic equipment, a recent addition to BS 4200 *Guide on the reliability of electronic equipment and parts used therein* has been issued as Part 5: *Reliability programme for equipment*.
- E459** TO CELEBRATE its 50th anniversary, the Industrial Society has published a history of its development since 1918. Written by Elizabeth Sidney, it points out that the battle for decent living and working conditions is now mainly over. The problems facing industry today are the under-use of human abilities, failure to get people to accept change and to attract people of potential into industry. These are some of the problems which occupy the Society now.
- E460** A NEW LEAFLET and comprehensive price list describing the full range of Radford loudspeaker assemblies is now available.
- E461** A LIST dated July, 1968 gives recommended retail prices for all Mullard valves, tubes and semi-conductors.
- E462** VOSPER ELECTRIC has produced a folder describing its complete service for the design, manufacture and commissioning of systems for the control of the complex electrical services in modern buildings. Included are alarm and supervisory systems, supply failure detection, and laboratory and test equipment.
- E463** THE FIRST ISSUE of the Decimal Currency Board's newsletter is designed to keep readers up to date with the Board's decisions and thinking. Articles describe the new coins, the timetable for decimalisation and the role of the Board. The letter is to appear about every six weeks.
- E464** BRIMAR have published a 1968-9 edition of their abridged data brochure on industrial cathode ray tubes. Since last year's edition the number of available tube types has increased from 80 to 100. The brochure forms a convenient reference for engineers and others not requiring full design data.
- E465** MULLARD have published a wall-chart (31in by 43in) *The Shadow-mask Picture Tube for Colour Television*. It illustrates briefly the general principles of colour TV and deals in detail with the construction and operation of a colour picture tube. Price 5s.
- E466** QED, the title of a new Crompton lighting leaflet, stands for Quality—Efficiency—Design. Examples of lighting installations appropriate to a particular range of fitting are shown. Five types of fittings are featured—Star range, Crompack, Surfacerline, Contrast and Recessed Modular.
- E467** JUST PUBLISHED is the 1968-9 Ekco-Hawkins Public Booklet. Printed in four colours, it includes the wide range of electric heaters and other appliances, and features a number of new products, which are now available. These are: EH20 fan heater; EH13 heat tray; EH22 Firestreak infra-red heater; seven new electric blankets. An industrial fan heater, due for release at the end of the year, is also included.
- E468** NEW COMPONENTS listed in the July/September issue of *Radio-spares* catalogue include: a range of $\frac{1}{2}$ W sub miniature high stability resistors; $\frac{1}{2}$ W oxide resistors; low torque micro switches; a wafer switch kit and Uni-radio 95, a miniature co-axial cable.
- E469** THE SECOND EDITION of *Discatron News* is due to appear about Radio Show Week. Available to all retailers it gives up to the minute information on the activities of the company, informative articles on sales and presentation, and a technical section on the servicing of Discatron products.
- E470** FOR SOME TIME NOW the *Acos Earpiece Guide* has been out of print. Cosmocord now inform us that a new version is available. It gives details of transistor radios made by the leading manufacturers and shows the correct earpiece and plug for each set.
- E471** NOW AVAILABLE from the APAE is the second edition of the *Public Address Engineers' Directory*, and the third in the series of technical bulletins. This one is *P.A. Workshop—Instruments and Amplifier Testing* by E. A. Sawkins. It deals with the construction and use of test equipment for amplifiers.
- E472** RELIANCE CONTROLS of Swindon have introduced a small wallet-sized publication intended as a quick guide to the new BS codes for fixed and variable resistors and capacitors. Reliance are now marking their wirewound potentiometers to the new code.
- E473** MANY USEFUL HINTS are contained in a new edition of *Do You Need a Refrigerator?* written for DoRDeC by Carol Macartney, Principal of the Good Housekeeping Institute. The booklet emphasises the importance of having a refrigerator throughout the whole year. There is a comprehensive food storage chart, advice on choosing a refrigerator, and a special section deals with home freezing. Copies are available from DoRDeC at 9d. each.

USE THE PRE-PAID FORM ON PAGE 448 TO OBTAIN
FURTHER DETAILS OF ANY OF THE ABOVE ITEMS
QUOTING THE REFERENCE NUMBER.

TO HELP YOUR SALES

manufacturers' advertising & sales promotion plans

continued

DANSETTE WINDOW STICKER

THE LATEST SALES AID from Dansette is an all purpose double sided plastic window sticker, printed in five colours and measuring 8 x 8in.

DREAMLAND BLANKET CAMPAIGN

CLAIMED TO BE the largest concentration of TV and press advertising ever launched in support of a single range of electric blankets is the 1968 campaign for Dreamland. Nightly spots on all ITV stations will be backed by page-filled ads. in London evening, and daily, evening and weekly provincial newspapers during the peak selling season. The theme of the effort, 'Here's a thought for a cold winter's Knight', introduces Sir Dreamalot, who also appears in the TV commercial. The press ads. will incorporate a buyers' guide with free retailer participation for those dealers placing qualifying orders. New point-of-sale material includes 2 million full colour consumer leaflets.

TO MAKE YOUR HAIR CURL

THE GIFT TO MAKE YOUR HAIR CURL is the basic theme of the mammoth press and TV campaign for Carmen hair curlers which covers the period September to December. Large spaces will appear in the national daily and Sunday press, with special emphasis on the pre-Christmas period. Powerful support will be given by colour brochures and crown-ers, which come packed with the newly styled Carmen models. An attractive give-away brochure is available. Dealer advertising blocks with space for your name are also being offered.

ROBOT SALESMAN

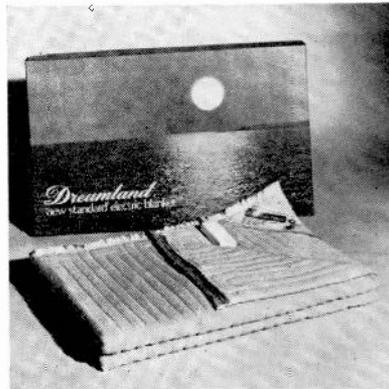
A UNIQUE ELECTRONIC DEVICE which can demonstrate products and tell prospective customers about their main features, price, etc., has been introduced by Anglian Engineering. It is claimed to be ideal for window displays or in-store promotions. It is switched on by a proximity device so that it is only operative when someone is in the vicinity. It can operate up to four movement sequences as standard but can be adapted for up to 12. It can control turntables, lighting or other special effects. A recorded commentary is given at the same time as the demonstration. The Robot Salesman is available on hire at £75 per month, £100 for two months or £125 for three months. Professional commentators are available. Extra tapes can be supplied.

ELECTROLUX HEATER CAMPAIGN

A STRONG nationwide autumn advertising campaign for Electrolux radiators and storage radiators opens this month. From October to December there will be 24 triple column insertions in the national press for radiators and sixteen for storage radiators. Storage radiators will also be featured in selected national magazines.

PLAN FOR PROSPERITY

THE SECOND and major phase of BRC's massive 1968 advertising campaign in the national press started with colour TV ads in the weekend supplements and the *Sunday Express*. Up until the end of the year there will be 103 ads in 18 papers featuring 54 BRC models in seven product groups. A comprehensive chart 'The BRC Dealer's Plan for Prosperity' shows the dates and newspapers for each product.



Making a break-away from conventional blanket packaging design is this new box for the Dreamland New Standard model.

Shown right is the new pack for the Weller Expert Kit.

BEAMA AND DISHWASHERS

A SPECIAL SUB-SECTION of BEAMA has been formed to cater for the interests of those members making or marketing dishwashers. Members of the section are: Colston, Electrolux, Kenwood, Hoover, Monogram and Unidare. The first priority of the section is to promote mechanical dishwashers as a domestic aid in order to increase the market potential. A number of activities are being planned, the first of which will be a 'teach-in' at the Savoy Hotel on October 10th next.

NEW WELLER PACK

THE WELLER Expert soldering gun kit is now being marketed in a new style polypropylene box. A coloured insert shows four different applications of the gun. The pack is based on a prize-winning design of the Weller Corporation at a recent hardware trade fair in New York.



Grimthorpe's People *continued*

been managing director for some time. The latest move will presumably mean a change in the list of directors. Up to now, as managing director, his name has been fourth in the list printed on the letter heading. Presumably he will now appear in second place above A. Weinstock, B.Sc.

Rank told me a nice little story about Polish-born Magda Hanney, an electro acoustics engineer with their colour television research team. Magda, now married to a B.E.A. type was determined to leave Poland and come to England. At first she had difficulty with her

English, both technical and Cockney. Magda recounts 'One day I was working at my bench when a supervisor came along. He was surprised to see me soldering especially as at my earlier interview I had said I could not solder. You see, I had mis-understood. I thought they had said "soldier".'

Another bit of RBM news came from R. C. King. Bob King was, until a short while ago responsible for Murphy sales down here in the South. Now you lot in the North will be hearing a lot from Bob. He has just been appointed Murphy brand manager in charge of advertising and promotion.

CLASSIFIED ADVERTISEMENTS

Rates: 1/- per word (minimum 12 words) per insertion. Box Number 2/6 extra. Series rates on application. Copy and remittance should be sent to Classified Advertisement Manager, RADIO and ELECTRICAL RETAILING, 46 Chancery Lane, W.C.2, before the 10th of each month preceding publication. Classified advertisements must be prepaid.

FOR SALE

ALUMINIUM Extension and Roof Ladders for aerial riggers, finest obtainable. Illustrated catalogue from Lyte Industries Ltd. (Dept. RE), Rogerstone, Newport, Mon. Tel: Newport 58351.

AVO ALL MODELS, TAYLOR, PULLIN and WESTON, INDUSTRIAL and PRECISION MULTI and SINGLE range ELECTRICAL MEASURING INSTRUMENTS REPAIRED. Competitive Prices. Quotes given. COATES-CLARKE (SERVICES) LIMITED, 110a ST. MARGARET'S ROAD, HANWELL, LONDON W.7. Tel. 01-567 6972. Formerly of 59 Abbots Road, Southall, Middx.

COMPONENTS galore. CRTs, valves, transistors, tools, Electrolube. All your service requirements at Willow Vale, "The Service Wholesalers", 69 Station Road, Hanwell, London, W.7. Free catalogue.

ENGLAND'S Largest Washer Stocks—Second-hand and Reconditioned. Delivered anywhere. Washers bought. Trade visitors welcome. Price list: Washing Machine Company, Roach Mill, Heywood, Lancashire. Tel: 60638.

KARDEX, Roneo-Dex, Shannovue, etc., as new.—J. H. Weston Co., 9 Mounthfield Road, London, W.5.

KARDEX, Roneo-Dex. Office and domestic equipment, new reconditioned.—Bradley, 184A Landseer Avenue, Manor Park, E.12. 478-5157.

WASHING MACHINE PARTS. Return of post service. Send for lists.—Washer Spares Limited, 189 Halliwell Road, Bolton. Tel: 26620.

UHF TUNERS 30s., brand new, exact replacements. Why bother to repair when you can buy new at 30s.—Willow Vale, "The Service Wholesalers", 69 Station Road, Hanwell, London, W.7.

TELEVISIONS. 80 Pye C10 LB first £100. 500 miscellaneous. Sets from 30s. each. 17-inch slim-line TVs working from £9. Over 100 19-inch sets of all makes mostly working from £16 each. Quantity delivery arranged. Tel: Bradford 65670. Thornbury Trade Disposals, 1043 Leeds Road, Bradford 3.

SMALL stock valves. No recent types. SVC spares, also SVC sheets and Avo coil winder. Rigg, 10 Parkhills Road, Bury, Lancs.

Upright Vacuum Cleaner Paper Bags—Superb Quality

Fully porosity tested. Widely accepted in the Trade. High profit mark up. FREE sample from SOLE suppliers.

Q.W. PRODUCTS of Blackpool
53 Leamington Road, Blackpool

WITWORTH TRANSFORMERS LIMITED

Dept. R.E.R. *, 26 All Saints Road,
North Kensington, W.11.
Telephone: 01-229 9071 9 a.m. till 5.00 p.m.

LIST OF LINE OUTPUT TRANSFORMERS IN STOCK

EKCO U25 TYPE

TC208 TU209 T209/1 T221 T231 T231F T248
TC267 TC267/1 T283 T284 T293 T310 T311
TGC316 T326 T327 T330 T330F T331 TCG337.
All at £2 10s. Od. each.

EKCO

TMB272 at £2 10s. Od. each.

EKCO U26 TYPE

ST304 T342 T368 TC312 T313 T313F T344 T335
T370 TC369 T344F T345 T346 T348 T348F TC349
TC356 T377 T371 TP347.
All at £2 15s. Od.

FERRANTI U25 TYPE

T1001 T1002 T1004 T1005 T1011. All at £2 10s. Od. each.

FERRANTI U26 TYPE

TC1012F T1027 T1027F TC1028 T1023 T1023F
T1024 T1025. All at £2 15s. Od. each.

FERGUSON

305 306 307T 308 315 317 406 408 416T 436 438. All at £2 10s. Od. each.

H.M.V.

1865 1866 1867 1868 1869 1870 1872 1874 1876
1895. All at £2 10s. Od. each.

PYE

3 21F 22UF 23UF 24UF. All at £3 0s. Od. each.
PYE 200 & 400 at £3 0s. Od. each.

LIST OF INSERTS IN STOCK

BUSH

TV53 TV56 T57 TV57 TUG58 M59 TUG59 TU62
TU63 TV66 TU67 TUG68 M69 TUG69. All at
£1 10s. Od. each.

COSSOR

R17A 930 931 933 935 937 938 938A 939F.A.
940 942 942B 943 944 946. All at £1 15s. Od. each.

EMERSON

E700 E701 E704 E707 E708 E709. All at 30s. each.

FERGUSON

203 204 205 206 214 235 236 244 245 246. All at
£1 10s. Od. each.

FERRANTI

14T5 14T6 17K5 17K6 17SK5 17SK6 17T5 17T6. All
at £1 15s. Od. each.
14T3 14T3F 17K3 17K3F 17T3 17T3F.

K.B.

PV40 PV100 NF70 OV30 QV10 QV30. At
£1 15s. Od. pair.

PYE

VT4 V4 VT7. At £2 0s. Od. each.

REGENTONE

10-6F.M. 10-17F.M. 1021 F.M. T21. At £1 10s. Od.
each.

INVICTA

T118 T119 T120. At £2 0s. Od. each.

PHILIPS

1768U 2168U. ST0617 ST8521 ST8917.
We can exchange these for reconditioned units at
£3 0s. Od. each.

TERMS: Cash with order or C.O.D. Please add
4s. for postage. C.O.D. orders will be charged
6s. extra.
Transformers guaranteed 3 months from date of
invoice.

RECORDS 10,000 L/P's (New), offers invited
for quick sale. Sample 25 assorted send 87s. 6d.
Ex juke box records send 50s. for sample 25.
Stardisc Music, 8 Silver Street, Hull.

ROLLS, Duomatic, Hotpoint, Hoover and all
makes of Washing Machine Spares available
to the Trade. Send for lists and special offers.
Danric Ltd., 142 Commercial Road, Newport,
Mon.

STYLI 500 assorted needle replacements; offers
invited for quick sale; sample 25 (retail over £10)
send 75s. Stardisc Music, 8 Silver Street, Hull.

REPAIRS

ALL MAKES OF ELECTRIC BLANKETS
& PADS REBUILT, REPAIRED, SAFETY
CHECK - OVERS. VOLTAGE - CHANGE-
OVERS, PERFORMANCE - IMPROVE-
MENTS

(No American style Overblankets, please)
CENTRAL ELECTRIC BLANKET REPAIR AGENCY
TODMORDEN, LANCs.
Tel.: Todmorden 3151

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FOR SPEEDY
TRANSISTOR
REPAIRS

6oz. Aerosols
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From your wholesaler, or write to:-
SERVISOL LIMITED
Coopers Building, Church Street,
Liverpool 1.

SERVICES

ALWAYS DEPEND ON STAR for your aerial
installations. 12 months absolute guarantee
assures you of the best.—Star Aerial Services
Ltd., 63 Harmood St., N.W.1. Gul. 7686/6729.

ELECTRIC BLANKETS repaired or rebuilt to
latest British Standards.—Johnson & Calverley,
Crescent Buildings, 1 Half Moon Street, Hudders-
field, Yorks.

NATION WIDE DEBT RECOVERY. Reason-
able commission payable on amounts recovered
only.—S.P.D.A., 118 Colin Gardens London,
N.W.9.

AGENTS REQUIRED

RELIABLE AGENTS required calling on the
Electrical and/or Hardware Trades covering the
following areas: (a) Somerset, Devon and
Cornwall; (b) North Wales. Box 419.

WANTED

GARRARD AND B.S.R. Changers urgently
wanted; also Cartridges. No quantity too large.
Tel. CROydon (Surrey) 5974.

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BINDER No. 1 (small size)	BINDER No. 2 (large size)
10/6	12/6
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* Simple spring clip action * No need to punch
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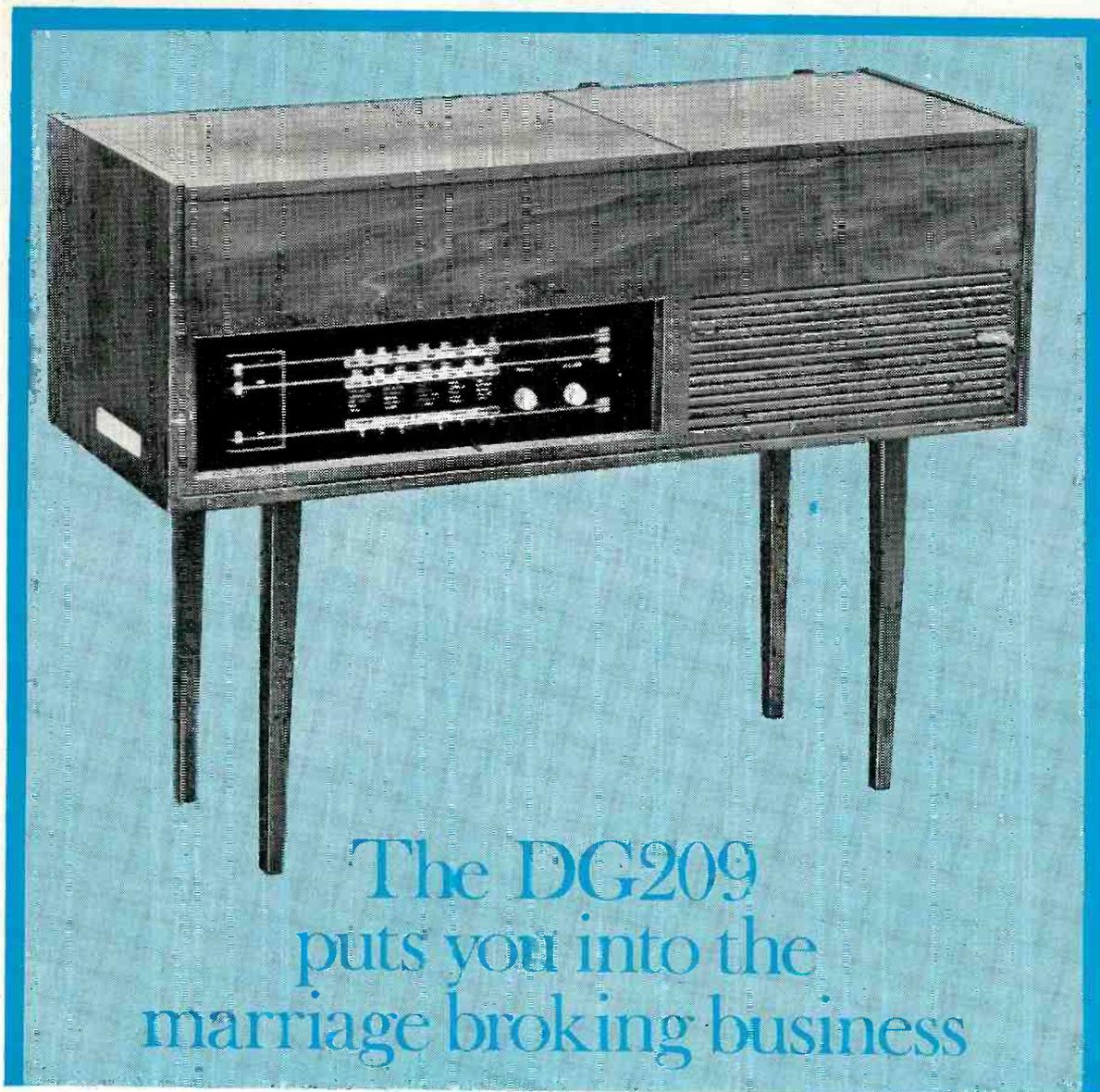
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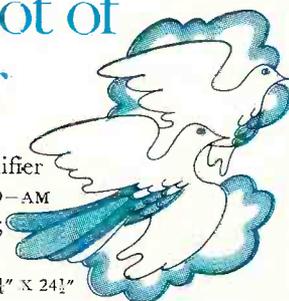


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Values: ECL 86—audio amplifier and power amplifier; EF 89—AM amplifier and AM detector; ECH 81—AM oscillator and mixer. Dimensions: 34½" x 13½" x 24½"



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