

# Wireless World

RADIO AND ELECTRONICS



JUNE 1949

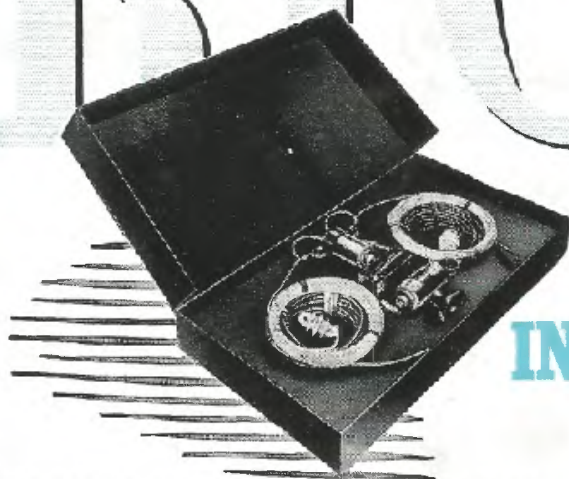
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IN THIS  
ISSUE :

CONTRAST EXPANSION METHODS REVIEWED

Vol. LV. No. 6

# B.I.C.C.



*All Wave*  
**ANTI-INTERFERENCE AERIAL**

**THERE'S A NAME BEHIND IT!**

**WHAT IT DOES** It has been specially designed to alleviate interference caused by radiation from electrically-operated transport, vehicle ignition systems, electrical appliances using commutator motors, lighting systems, etc. A high signal level is obtained and this ensures better listening on all broadcast wavelengths, giving maximum choice of programmes against a quiet background.

**WHAT IT IS** A 60-ft. polythene-protected dipole complete with insulators and matching transformer, 80-ft. coaxial screened downlead with polythene plug moulded to each end, and a receiver transformer. All the necessary components for the Aerial are included in the complete kit.

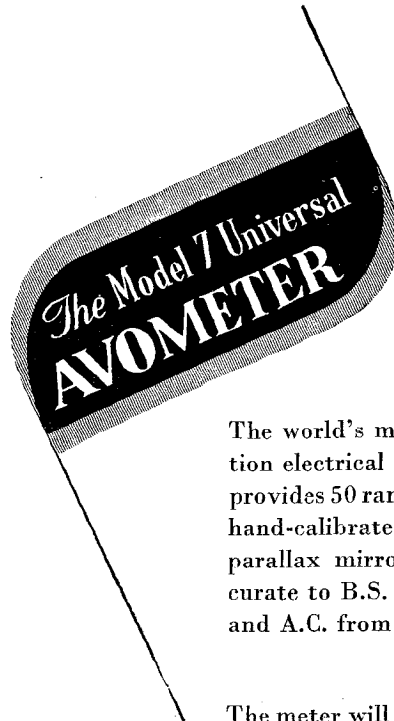
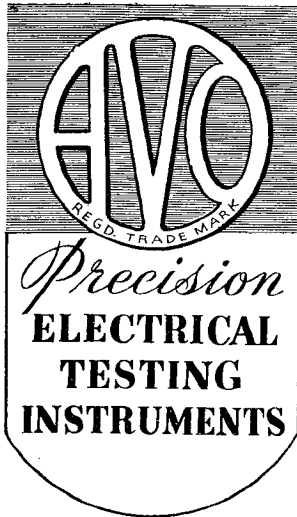
*Write for Publication No. 221S giving further information.*

*Obtainable only from recognised dealers. £6.18.0*



*All Wave*  
**ANTI-INTERFERENCE AERIAL**

BRITISH INSULATED CALLENDER'S CABLES LIMITED  
 NORFOLK HOUSE, NORFOLK STREET, LONDON, W.C.2



BRITISH MADE

Size: 8" x 7 $\frac{1}{4}$ " x 4 $\frac{1}{2}$ ".  
Weight: 6 $\frac{3}{4}$  lbs. (including leads).

PRICE  
**£19: 10s.**

The world's most widely used combination electrical measuring instrument. It provides 50 ranges of readings on a 5-inch hand-calibrated scale fitted with an anti-parallax mirror, and is guaranteed accurate to B.S. first grade limits on D.C. and A.C. from 25c/s to 2Kc/s.

The meter will differentiate between A.C. and D.C. supply, the switching being electrically interlocked. The total resistance of the meter is 500,000 ohms.

CURRENT: A.C. and D.C. 0 to 10 amps.  
VOLTAGE: A.C. and D.C. 0 to 1,000 volts.  
RESISTANCE: Up to 40 megohms.  
AUDIO-FREQUENCY POWER OUTPUT:  
0—4 watts.  
DECIBELS: —25Db. to +16Db.

The instrument is self-contained, compact and portable, simple to operate and almost impossible to damage electrically. It is protected by an automatic cut-out against damage through severe overload.

Various accessories are available for extending the wide ranges of measurements quoted above.

Fully descriptive pamphlet available on application.

Sole Proprietors and Manufacturers:—

**The AUTOMATIC COIL WINDER & ELECTRICAL EQUIPMENT CO. LTD.**  
WINDER HOUSE · DOUGLAS STREET · LONDON · S.W.1 Telephone: VICTORIA 3404/9

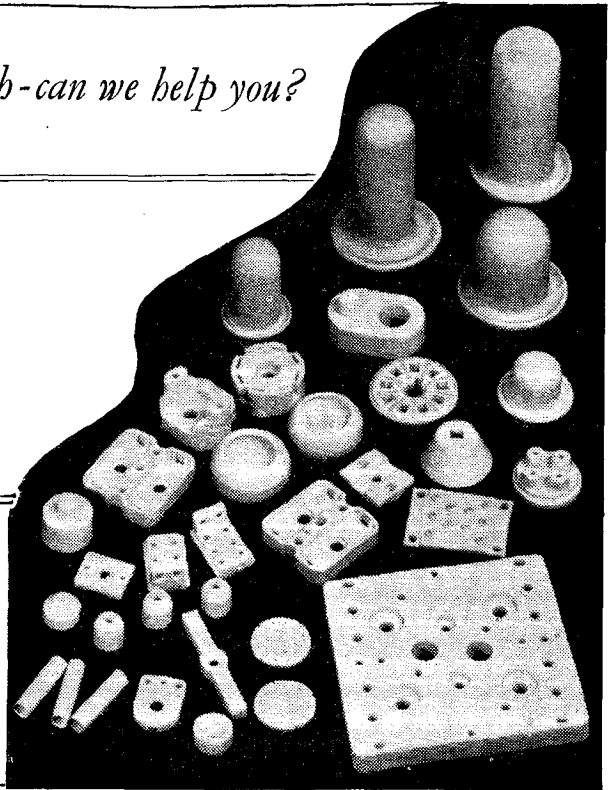
*Success through constant research - can we help you?*

# LOW LOSS CERAMICS

by

**TAYLOR TUNNICLIFF**

TAYLOR TUNNICLIFF (REFRACATORIES) LTD.,  
Albion Works, Longton, Stoke-on-Trent, Staffs.  
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T.A.S./T.T.8

*For all Electrical Tests*

## PIFCO

### ALL-IN-ONE RADIOMETER

with internal battery and multi scale the PIFCO All-in-One Radiometer tests everything electrical, Radio and P.A. Equipments, Household appliances of all kinds. Car Lighting Systems, Bell and Teleprinter Circuits. May be used on AC or DC mains.



● **CIRCUIT TEST**  
Tests for open or faulty circuits in all radio and electrical apparatus and domestic appliances. Equally for testing car lighting and starting circuits.

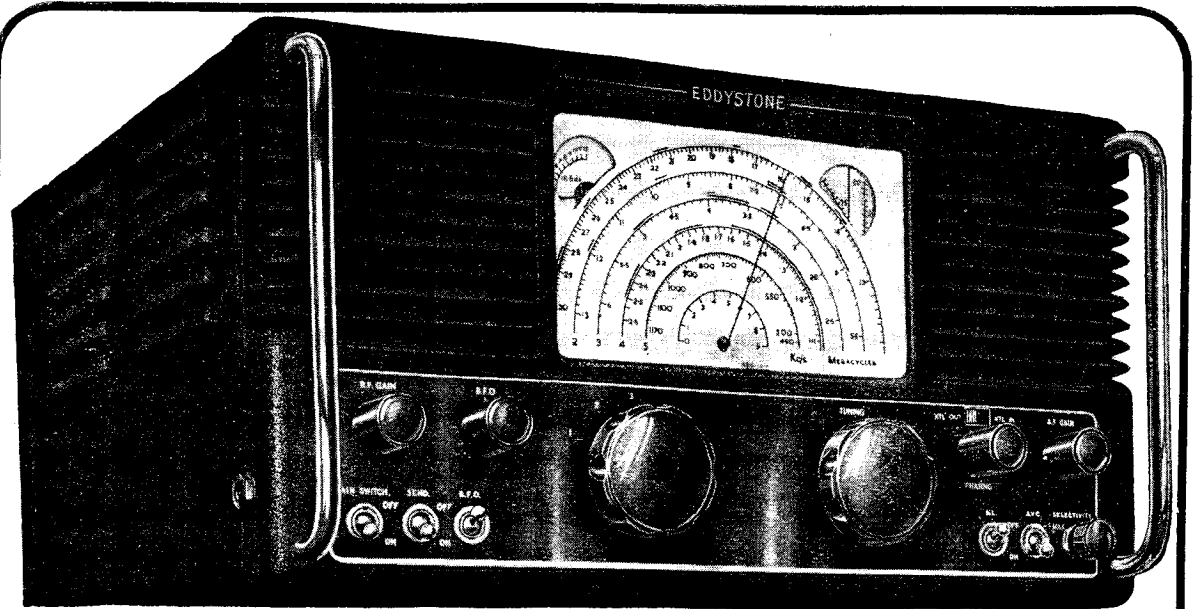
● **L.T. TEST**  
0-6 volts AC or DC.  
● **MILLIAMPERE TEST**  
0/23 m.a. scale for testing total discharge from battery or testing single cell.

● **H.T. TEST**  
0-240 volts. May be used direct on any mains, AC or DC

● **VALVE TEST**  
Made by inserting valve in socket on front of meter.

Write for full details and Export terms. Overseas Agency enquiries invited.

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and at PIFCO HOUSE, GT. EASTERN STREET, LONDON, E.C.2



# The NEW EDDYSTONE '680' COMMUNICATIONS RECEIVER

*A high-grade instrument with wide frequency coverage  
for PROFESSIONAL COMMUNICATION REQUIREMENTS*

The '680' is a fifteen valve superheterodyne receiver embodying advanced technique. New features in the design add to the outstanding and reliable performance of which the receiver is capable. The appearance is impressive, whilst the construction and general workmanship are of the finest in the industry.

### SPECIAL FEATURES INCLUDE:

- Continuous coverage from 30 Mc/s to 480 Kc/s.
- Two Radio-Frequency stages.
- Two I.F. stages.
- Crystal Filter.
- Beat Frequency Oscillator.
- Push-pull output stage.
- Variable Selectivity.
- "S" Meter.
- Noise Limiter.
- Standby switch.
- Stabilised H.T. voltage to Oscillator, etc.
- Provision for relay operation of transmitter.
- High signal-to-noise ratio and sensitivity.
- Highly attenuated Image response.
- Very effective A.V.C.
- Large accurately calibrated dial.
- Provision for twin feeder and single aerial.
- Variable dial illumination.
- Modern miniature all-glass valves.
- Flywheel loaded tuning device - 140 to 1 reduction ratio.
- Mechanical bandspread logging device.
- All controls separate and conveniently arranged.
- Robust construction.
- Finished for tropical service.

The complete frequency range—from 30 Mc/s to 480 Kc/s—is covered by five switched coil assemblies with an overlap between each. The gear-driven, flywheel controlled mechanism is positive, free from backlash and very smooth in action. The mechanical bandspread device takes the form of an auxiliary dial and gives a scale length equal to nineteen inches per range. The dial can be read to one degree. I.F. transformers are permeability tuned to 450 Kc/s. Operates from A.C. mains, 110 and 200/240 volts, 40/60 cycles. The front panel and tuner unit chassis are aluminium, and the remaining units of stout brass, heavily nickel-plated. Lift-up lid. The cabinet and front panel are finished a handsome ripple black, set off by plated handles. The finger plate is black and silver.

Dimensions:—16½" × 13¾" × 8¾" high.

**LIST PRICE IN U.K. £85 (No Purchase Tax)**

*Government Departments, Official bodies and all interested individuals are invited to write for completely informative folder to*

**STRATTON & CO. LTD.**

EDDYSTONE WORKS, ALVECHURCH ROAD, WEST HEATH, BIRMINGHAM, 31  
Cables: STATNOID, BIRMINGHAM

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# Webb's RADIO

## High Fidelity Reproduction

has for many years been a major speciality with WEBB'S and we demonstrate the leading makes of amplifiers, loudspeakers, radio feeder units and pick-ups.

We invite you to hear and compare :—

### LEAK "POINT ONE" AMPLIFIER.

The amplifier that cannot be technically faulted either on its measured performance or engineering workmanship. Aural judgment amply confirms the maker's claims.

Price £25 15 0

(Separate LEAK remote control pre-amplifier. Price £6 15 0)

### ACOUSTICAL "QA/12/P" AMPLIFIER.

Unexcelled for high-quality combined with extreme compactness. Including built-in pre-amplifier giving bass and treble control, the size is 10½ in. x 8½ in. x 7 in.

Price £30 0 0

Hear these (and other good amplifiers, such as Charles, Webb's "MC/QA," Sound Sales, etc.) working with speciality equipment.

### LOUDSPEAKERS.

Voigt Domestic .....	£87 10 0
Mordaunt "Duplex" .....	98 Guineas
Wharfedale "Corner" .....	£48 10 0
Barker "148A" Chassis .....	£15 15 0
Sound Sales "Phase Inverter" .....	£12 10 0
Acoustical "Labyrinth" .....	£19 10 0
Wharfedale W15CS .....	£12 10 0

Also—Rola G12—Wharfedale W12CS—Goodmans Axiom—B.T.H. R.K., etc.

### PICK-UPS.

Wilkins & Wright "N" Moving Coil ..	£7 10 7
Brierley "Ribbon" .....	£10 14 9
Connoisseur Moving Iron .....	£4 10 6
Decca Type "D" .....	£6 4 4

This is only a selection from probably the largest and most varied stock of "High Fidelity" apparatus in the Country.

★ Webb's Extended Payment Scheme available on all equipment.

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Phone : GERrard 2089. Shop Hours : 9 a.m.—5.30 p.m. Sats. 9 a.m.—1 p.m.



D.C. Oscilloscope 1684D/2

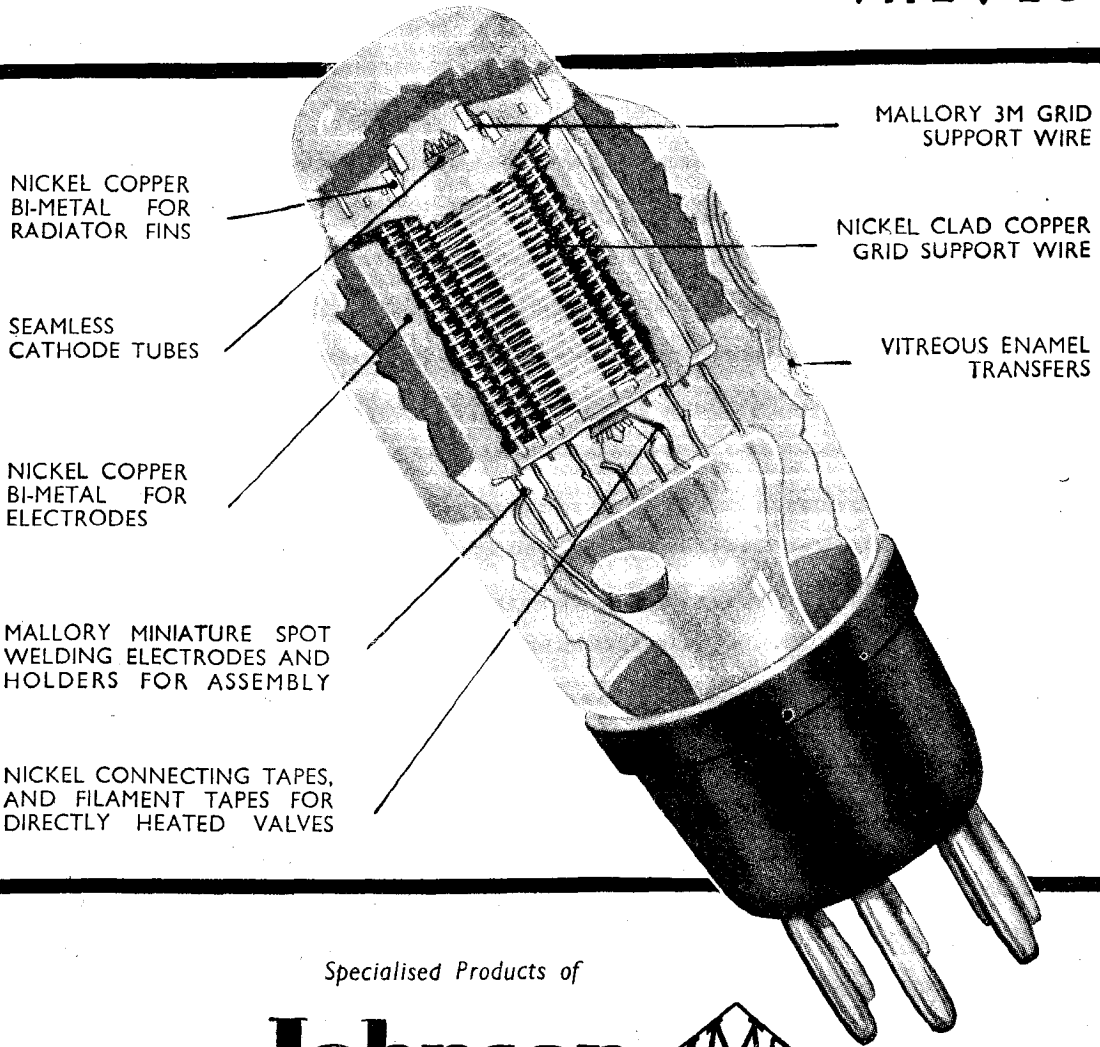
AN EXAMPLE from the Furzehill range of fine instruments is this high-grade oscilloscope for industrial, radio and television applications. Both axes have identical d.c. coupled high sensitivity amplifiers with symmetrical inputs and a level frequency characteristic from zero to 3 M/cs. Particularly valuable features are the instantaneous action of the shift controls, expansion of the time base scan from ½ to 5 screen diameters, negligible phase shift in the amplifiers and automatic amplitude-limited synchronisation.

For full details of this, and other instruments in the Furzehill range, write for our new illustrated catalogue.



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Specialised Products of

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(REGD. TRADE MARK)

## THE INSULATOR

May solve your Insulation Problems  
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### UNIQUE COMBINATION OF PROPERTIES

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- NON-TRACKING
- LOW-LOSS FACTOR
- RESISTANT TO FUNGUS GROWTH
- HEAT RESISTING
- WILL NOT SHRINK OR WARP
- MANUFACTURED TO CLOSE TOLERANCES
- LOW EXPANSION CO-EFFICIENT

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IN SHEETS, RODS AND MOULDINGS

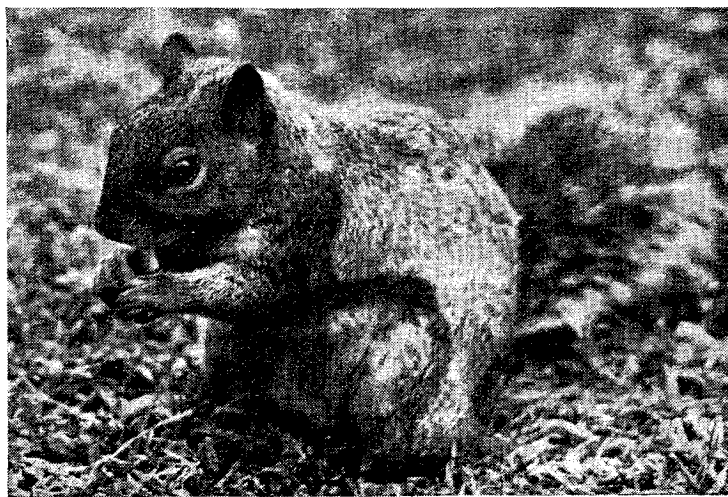
Also makers of INGRAM MYCALEX Capacitors utilising MYCALEX  
as a dielectric with plates moulded in, to form a sealed unit

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## Simplicity—

To the squirrel, the task of cracking a nut and extracting the kernel is simplicity itself. To the engineer, the task of tackling a difficult fault on a defective radio set or other electrical equipment and getting to the source of the trouble quickly is greatly simplified with the aid of a Weston Model E772 Analyser. This instrument has high sensitivity—20,000 ohms per volt on all D.C. ranges—its quality is unequalled and it is designed to save you time, trouble and money. Please write for details.



# WESTON<sup>E 772</sup> Analyser

SANGAMO WESTON LTD. · ENFIELD · MIDDX.

Telephone: Enfield 3434 & 1242



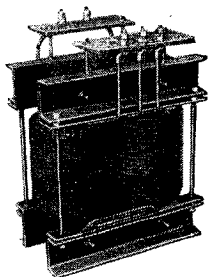


# QUALITY TRANSFORMERS

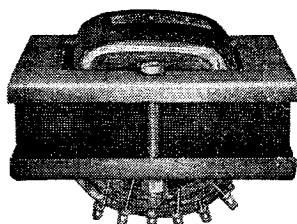
FOR

## RADIO, TELEVISION AND INDUSTRIAL ELECTRONICS

Woden Transformers are specified in many prominent journals. Components are available for "Wireless World," Williamson Amplifier, "Electronic Engineering" Home Built Telesvisor, R.S.G.B. Modulator, etc.

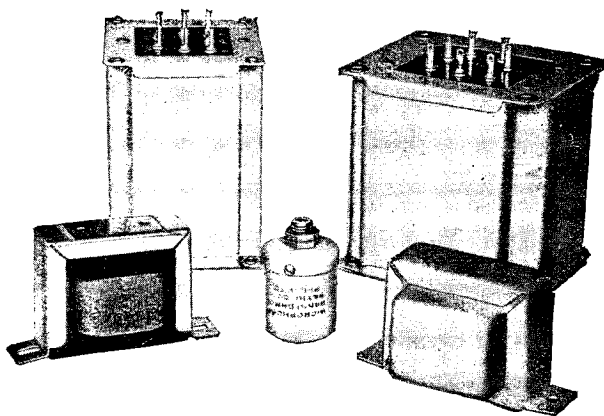


Industrial Transformers, one, two or three phase either open or protected, oil or air cooled, are made for many purposes including Power Distribution, Electric Furnaces, Radio Transmitters, R.F. Heating Equipment, Electronic Apparatus, etc. All types are made up to 100 KVA.

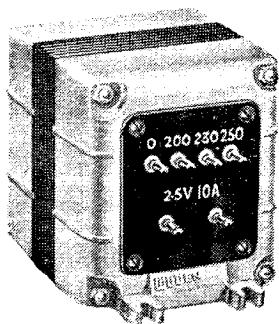


Type R.M.S. 31

Type R.M.S. 31 Drop Through Transformers, as shown above, are particularly suitable for Set Manufacturers and for service replacements.



For manufacturers a very comprehensive range of open, shrouded, potted and hermetically sealed components are available in both mains and audio types.



The De Luxe Transformer as shown on the left is ideal for the Amateur Transmitter and Manufacturer of communication receivers. This type of transformer is of attractive appearance and first class design.

*Woden Transformers are in heavy demand for the Overseas Market. Special Types of Shrouded and Open Type components have been produced at very keen prices to enable our clients to purchase a first class product to meet world competition. Send for special Export Price List.*

# WODEN TRANSFORMER CO LTD

MOXLEY ROAD · BILSTON · STAFFS

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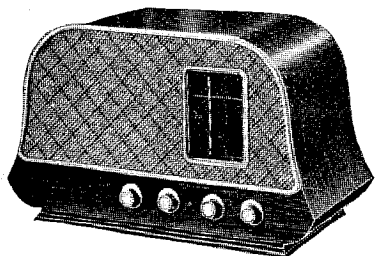
Here are sets  
to delight the expert

★ WITH 2 YEARS' FREE  
ALL-IN SERVICE IN THE HOME ★

Apply any test you wish to these Sobell 5-valve superhet table receivers. You will find that every component is superbly engineered. Check the circuits, the signal rectification, the I.F. selectivity, the audio sensitivity—and any other points you like. They'll all satisfy your critical judgment.

We'll say nothing about the obvious—the pleasing cabinets, the simple controls, the easy-to-read 3 wave band tuning dials, the special gramophone pick-up sockets with automatic switches, the provision for external loudspeakers—because these are “musts” in sets designed to the highest standards.

The two models illustrated are 519P and 519W respectively, working on 200-250 volts A.C. only. There's a Sobell dealer in your district—he'll be glad to arrange a thorough demonstration.



**SOBELL**  
RADIO  
AND TELEVISION

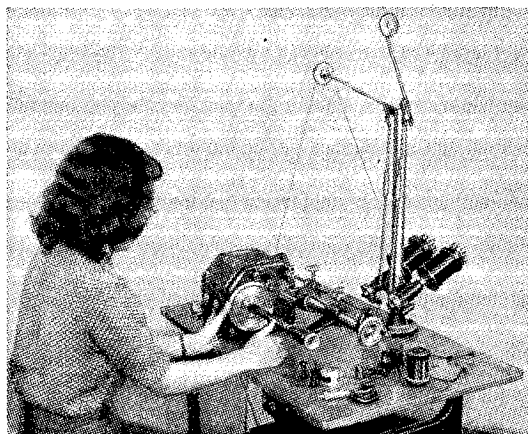
Advt. of Sobell Industries Limited, Langley Park, Nr. Slough, Bucks.

'Phone: Slough 22201/5

# KOLECTRIC

## AUTOMATIC COIL WINDING MACHINE

Type A1/1



This machine is precision built and it embodies all the latest improvements in coil winding technique. It is suitable for winding coils up to 5" (127m/m) diameter and 7½" (190.5m/m) long. Minimum length of coil 7/32" (5.6m/m).

Among the many features to be found on the Type A1/1 machine are the following:—

- A clear Wire Gauge Indicator is fitted with a glass window and calibrated in mils, or millimetres, as desired. The machine can be quickly set to wind any required wire gauge .020" (.508m/m, and .001" (.0254m/m).
- For setting purposes, micrometer adjustments are provided on the trip rod. These enable the machine to be set to the required width of coil to fine limits. The wirefeed carriage automatically reverses its direction of travel when the trip rod operates.
- The railstock is fully adjustable along its bed and the centre is spring loaded to enable rapid change of the coil former.

Please write to us for illustrated leaflets A1/1, A1/2 and RT/1, which contain a full technical specification on the machine and reel stand.

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