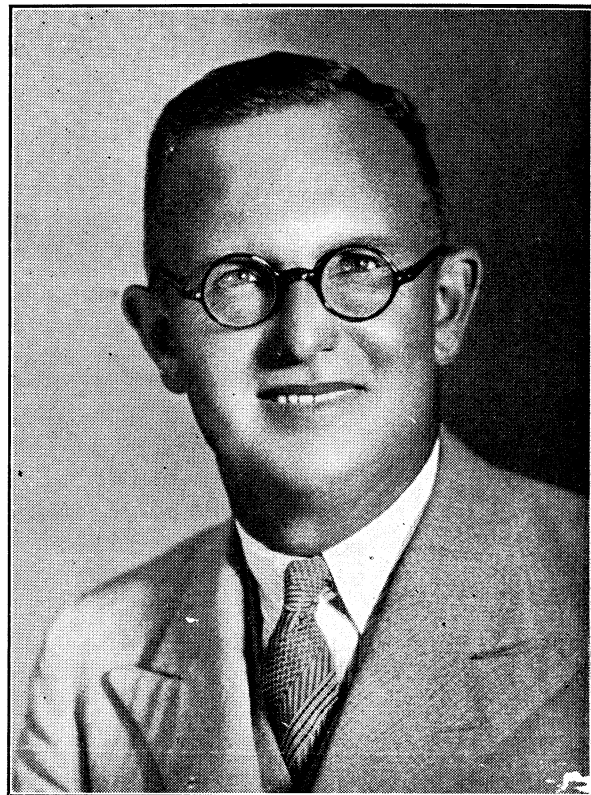


The Story of RADIOKES



Mr. KEITH STOKES, Managing Director, Metropolitan Electric Co., Ltd.

THE Radiokes firm was originally known as KEITH STOKES PROPRIETARY, and established in 1923.

Mr. Keith Stokes, the present Managing Director, has been associated with selling organisations for the last twenty years. While on one of his world tour trips he made arrangements to handle the products of Martin Copeland, New York (Marco Products), Fraser Glass, London (Fortivox Detectors), Foote Mineral Co., Philadelphia (Foote Crystals), and it was on these agencies that the business was established.

The firm carried on under this name until they commenced manufacturing honeycomb coils, and it was then formed into the Metropolitan Electric Co. Limited in Sussex Street. At that time the establishment consisted of about a dozen boys and one foreman. It gradually increased in personnel, until reconstruction was undergone in 1930. It was then re-organised and moved from Sussex Street, where only a small floor space on three floors was occupied, to the present modern and up-to-date factory, when the staff increased to two hundred employees.

This Company is now one of the most up-to-date radio-part manufacturing concerns in Australia, and the goods are known throughout the Commonwealth and New Zealand.

The Home of Radiokes Products

The Modern Factory of Metropolitan Electric Co. Ltd.

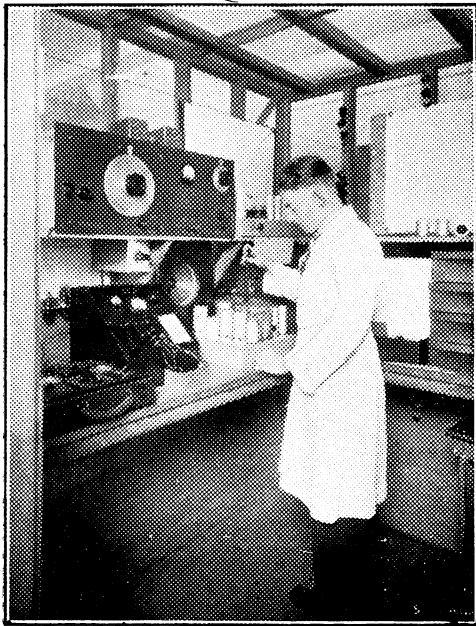
The present premises cover over 10,000 sq. ft., concrete floor and glass, thus giving natural light. The layout of the factory has been designed to facilitate the moving of goods from one section to the other, and at every stage the most careful scrutiny is made of every unit, until after final assembly the rigid testing of the part assures the ultimate despatch of a radio component true to type and specification, and worthy of the name RADIOKES which it bears.

THE WINDING BENCH embodies some of the latest winding apparatus, including quadruple coil winding machine for audio transformers. This machine is remarkable in the fact that it has been designed by the Metropolitan Electric Coy.'s own engineers, and constructed wholly in the factory. It incorporates a system by which the paper automatically interleaves each layer of winding. This machine can wind up to fifty audio transformers per day.

The transformer machines are of the universal type, i.e., they can wind any type of transformer. The paper is hand-fed. The audio and power transformers are guaranteed for a period of twelve months. On the panel of the power transformers tapings are clearly marked. We have been winding up to one hundred power transformers per day.

Intermediate Transformers. The outstanding and exclusive feature of these units is the use of genuine Isolantite bases to prevent losses at high frequencies, thus giving greater gain. The general electrical and mechanical design has been so adjusted to make them adaptable for any type of superheterodyne receiver. Only the best Indian Ruby Mica is used for a dielectric between the condenser plates. Special provision has been made for adjustment from the top.

The coils are of silk-covered wire and are duo-lecterel wound on a former which permits their being mounted in a horizontal position. The compactness of these units is indicated by the overall dimensions, which are only $2\frac{3}{4}$ in. high by $2\frac{1}{8}$ in. diameter with the shield in position. Standard types are supplied in pairs, peaked on the oscillator (which is checked off the standard signal generator) and are provided with connection leads.



Testing Units on the Signal Generator.

SIGNAL GENERATOR. This instrument is employed in the screen room to test all superhet. kits, i.e., coils, gang condenser and intermediates. In testing these kits, the coils, intermediates and gang condenser are plugged into a test chassis and aligned by means of the signal generator. The generator shows any defects that there may be in the abovementioned parts, such as losses, insufficient selectivity or failure to cover the broadcast band. By using this test method it is almost impossible for a faulty superhet. kit to leave the factory.

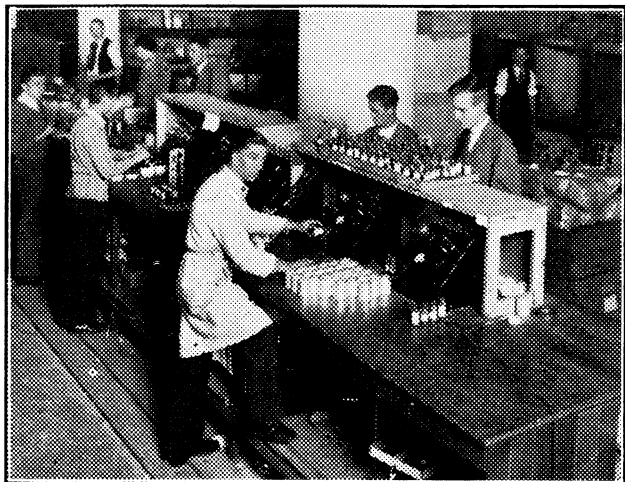
TESTING BENCH EQUIPMENT—Coils. After the coils have been wound they are assembled and passed along to the test bench for check on the beat frequency oscillator. By means of the beat frequency oscillator matching is well nigh perfect, and this enhances the performance of the kits.

Intermediate Bases are tested on an oscillator for minimum and maximum capacity. The oscillator also shows up any losses that may be in the complete assembly of the base.

Power Transformers. After leaving the winding machines they are passed through mechanical inspection. After mechanical inspection they are tested between all windings and laminations for 1,500 volts A.C. R.M.S. They are then placed on "No Load" and the primary No Load current is read on an A.C. milliampere meter. After this test the transformers are then placed on Full Load for a specified period of time and all voltages are checked off with an A.C. voltmeter. After completing these tests the power transformers are ready to be packed and distributed.

Potentiometers. Potentiometers are tested on an ohm. meter, giving a scale deflection of 6in. This instrument immediately shows when there are any bumps in the contact ring or the strip on which the wire is wound. It also shows up any bad contacts, besides indicating the resistance value.

MACHINE SHOP. Modern layout and latest equipment in lathes. The system of working is for one machine to be devoted to the manufacture of one particular type of article only, thus working up to the highest standards of production. Also, there are tapping machines, drills, shaving machine and grinding machine which work automatically and can be left to do the work without any human control.



Coils being checked and matched on the Beat Frequency Oscillator.

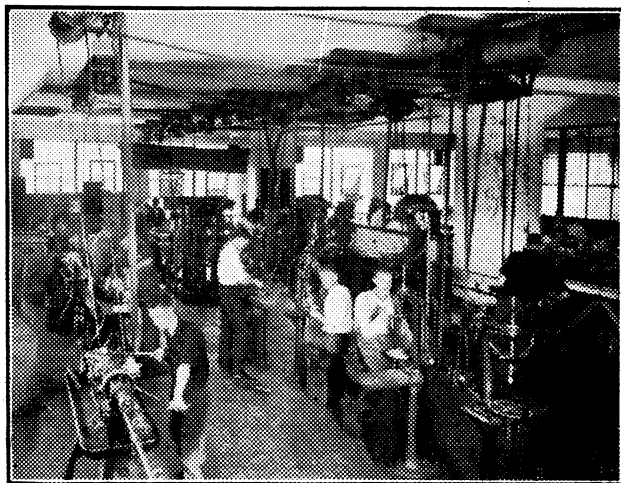
coming into the factory are covered by internal or manufacturing orders. These are completed in one line and delivered to the store.

Store. The brass in rods and sheets is issued to the machine shop, where it is reduced to small parts, which are then put into the store and re-issued to the assembling benches for orders. The exact amount of material for each order is conveyed from the bulk store to the factory and returned in complete lots to be despatched. In this way there is no confusion in respect to what material is required for different orders, and each order is completed in one line. The average number of completely assembled parts made by this firm is 5,000 per week—1,000 per day.

POWER PRESSES. Another portion of the machine shop contains four different types of presses, ranging from small to large, which are also operated to standardise on one article only. This portion of the machine shop also incorporates the guillotines and spraying booth.

PACKING ROOM. The packing room is divided into different compartments for every one of the Radiokes distributors. The object of this is that all lines coming through the factory are given to the firm in order of preference. In this way everybody is satisfied and the firm is able to keep its promises of delivery.

Packing. The packing is now well up to the standard of any overseas article, and nothing is left out that could improve the general appearance of the finished product. The system at present working is as follows: The orders



A Scene in the Machine Shop.

The final result is that the factory can advise customers exactly how long their order will take to make, and for this purpose advice forms are sent out to clients setting out definite delivery dates.