

## BIRTH AND GROWTH OF STRATTON COMMUNICATION RADIO

THE business of Stratton & Co., Ltd., is so interwoven with the parent company that it is difficult to write about either of them separately. Many products sold throughout the world to-day, formerly manufactured by J.R. & L., and now by Laughton & Sons Ltd., carry the trade name of STRATTON. Stratton ladies' compacts and Stratton jewellery for men are products which are extensively advertised and are virtually household names.

To-day Stratton & Co. trade as a separate entity; they make only radio equipment and are well known in almost every country in the world for their receivers, which are used for professional communication purposes and sold under the trade name of EDDYSTONE.

## HOW EDDYSTONE STARTED

The entry of Stratton's into the radio business shows how the oddest things can control a destiny. After World War I the fashion in women's hair styles underwent a revolutionary change. By the end of 1922, women generally had ceased to have long hair—Eton crop, bob and shingle were the fashions. Before the change, if a man wanted to clean his pipe he could always pick up an odd hairpin; he might search in vain to find a hairpin to-day. J.R. & L. had a plant with a capacity to make six tons of hairpins per week and this change of fashion resulted in a large loss of sales. The problem was 'with what to replace the lost sales?'

G. Stratton Laughton, the eldest son of G.A.L., whose hobby was radio, suggested 'Why not make radio components at the works?' Adapting the words of an old-time song, 'We'd got the plant, we'd got the men and we'd got the money too,' so as a result of a change in women's fashions we started in the radio business in 1923. Incidentally, Stratton's were one of the first firms associated with the original British Broadcasting Company.

The trade name EDDYSTONE was chosen because being that of the world famous lighthouse off Plymouth, it was a name already well-known, it signified endurance and reliability and provided a mark which could be pictorially shown with a device easily remembered. It was decided on, during a short journey home after work, by G. A. and G. Stratton Laughton.

A start was made with component parts for home builders, and then followed the manufacture and marketing of a complete radio receiver. This had a plate glass front panel so that everything that moved inside was visible in operation and all the filaments of valves could be seen to light up. By modern standards, horrible (*Plate No. 64*).

During these early days a young radio enthusiast named Harold Cox joined the Company—to-day he is the Technical Director and driving force responsible for the technical and mechanical excellence of Eddystone receivers. Another young man, an early recruit to the radio section and an amateur transmitter, was Arthur Edwards (call sign G6XJ) who is now a Director and the General Manager on the commercial side. Edwards served with the Fleet Air Arm on radar work during the war period.

## CHANGE OF POLICY

The business continued to make components and receivers for the domestic radio market and made steady progress, but in 1927 G. S. Laughton formed the opinion that a big future lay in the use of the higher radio frequencies which were then almost unused except for experimental transmissions. The policy of the business was slowly altered, components were designed and made for the use of experimenters on the higher frequencies and a receiver was designed for such reception. After the BBC and foreign countries introduced short wave or high frequency broadcast services so that world-wide reception became possible, this short wave receiver had a world market. As the demand for this high frequency equipment grew, Stratton's ceased to manufacture receivers or equipment for the domestic radio market.

Production was concentrated on receivers for overseas users who comprised sugar, tea, coffee, cocoa and rubber planters, mining engineers, public works constructors and overseas administrators. These receivers had all components tropicalized and were built into a solid aluminium die-cast case with all-screening integral, which was suggested and produced by Harold Cox. When the lid was closed the case was insect- and spider-proof. In

the home market high frequency components and receivers were made for the radio amateur and home constructor.

### **PHASE THREE**

Development work was next extended from H.F. to V.H.F., and in 1935 equipment operating on 60 to 30 megacycles (5-10 metres) was produced. During the years 1935-38 much effort, hard work and many demonstrations were carried out with Police and Military authorities to gain acceptance for portable V.H.F. two-way equipment for use in cars and tanks, but without success and at considerable cost. Certain sections of the Police in different parts of the country built their own experimental equipment and Eddystone components were sold to them, but the Military authorities were lagging behind Germany in making use of portable two-way equipment. It was not until after Munich in 1938 that Stratton's years of effort in development work on V.H.F. bore fruit and was able to serve a purpose of national importance.

The Metropolitan Police Authority covering some 95 police stations and Scotland Yard, sent out an urgent request to Stratton & Co., Ltd., who were easily the smallest organization, among much larger radio firms, to submit equipment for test and also to tender for an automatic wireless telephone. In the event of enemy bombing attacks putting ordinary telephone communication out of action, this equipment had to provide communication between all their stations.

### **GOOD TEAM WORK**

This was just the class of job which Stratton's had been trying to get for three years. A night and day, seven-day-a-week effort was made, suitable apparatus was designed, built and submitted. The Eddystone equipment gave the best performance when tested in trials and the order was placed with Stratton & Co. for its supply. The excellent design and results obtained were largely due to Harold Cox who had the able assistance of George Brown, G5BJ, on the transmitter section of the equipment. Brown, another enthusiastic radio amateur, later left Stratton's to take charge of the radio section of Birmingham Police.

Delivery was of vital importance and by good team work and disregard of working hours the whole installation was built and delivered by July 1939. It worked with great success right throughout the war period. The co-ordination and planning of this project were exacting, and the financial responsibility for failure could have brought about a very serious loss of money.

As it was, it resulted in a breakdown of health on the part of G. S. Laughton, who in May 1939 went out to Australia in place of G. A. Laughton in order to extend development in the Australian factory.

G.S.L.'s place was taken by Jerome Laughton who carried on the co-ordination of the radio section during the whole of the war-time period.

This order was followed by the supply of equipment to many prominent Police forces, including Birmingham, Glasgow, City of London, Edinburgh, Renfrew, Dumbarton, Paisley, Stoke and surrounding Pottery towns.

### **MORE WORK OF NATIONAL IMPORTANCE**

Another item which came to have some national importance was a special form of differential condenser, type 339, for use on high frequencies. This was developed by Stratton's for the National Physical Laboratory in 1935. It was incorporated in special I.F.F. equipment carried by our aircraft. The initials I.F.F. stand for 'Identification Friend or Foe' and it enabled our aircraft to react instantly and correctly to approaching aircraft. Stratton's were the sole manufacturers of this condenser when their factory was completely destroyed by fire caused by an oil bomb in October 1940 (*Plates No. 27 and 28*). This caused considerable consternation in official circles and thereafter a second supplier was appointed. During the night of the destruction of the Stratton radio factory, the fire watch consisted of E. M. Lauze, H. Cox and E. J. Pickard. The latter, G6VA, was another radio amateur member of our staff who had been brought down from our subsidiary business in London, 'Webbs Radio,' because of his special qualifications. These three men displayed great courage and sense of duty in

constantly entering the burning building and bringing out practically all the valuable technical equipment. The oil bomb had set fire to the whole roof and in seconds the building was ablaze from end to end (*Plate No. 28*).

Next day the salvaged equipment was moved to another section of J.R. & L. in Globe Works, a building some 200 yards away and the task of getting production going again started immediately. At the end of three weeks production had been resumed and was steadily being built up. Again a German raid—and this time almost complete destruction! With the exception of two signal generators, one beat frequency oscillator and one Q meter, the intensity of the raid and the simultaneous inferno was such that nothing else was salvaged. The next day the Swimming Lido known as 'The Bath Tub' on the outskirts of Birmingham was taken over by J.R. & L. and the task of getting Stratton's radio production going again re-commenced in these strange surroundings (*Plates No. 67 and 68*).

#### BEATING THE BLITZ

Benches and fixtures were made from timber taken from the dressing cubicles and fittings of the Swimming Lido. Odd tools of all descriptions were purchased from local ironmongers. Determined improvisation was the order of the day. Within a matter of 24 hours, workers were making jigs, tools and equipment so that production could start. Within three months production had outstripped the original pre-blitz figures. Type 339 condensers and type 358 receivers were in full production once more. All this improvisation was done under the direction of Harold Cox.

During the war period no further damage from enemy raids took place and over 4,500,000 radio components for use by H.M. Forces were manufactured. Just over 4,500 transmitters and 7,264 receivers, with 45,000 other supplementary pieces of equipment were supplied, for Police, Royal Air Force, but mainly Admiralty requirements. A final achievement that gave Stratton's much satisfaction was that their two-way radio equipment was used as a cross-Channel link on D-Day for the first British landings in France, and worked with great success.

#### POST-WAR PROBLEMS

After the war a difficult period of years ensued, there was little business placed by the Services and the unloading by Government departments of surplus stocks depressed the market for the type of equipment Stratton's were making and left selling prices uneconomically low. Export markets were also meagre as very good supplies of surplus U.S.A. equipment were available.

A major decision, perhaps an error, not to re-enter the V.H.F. two-way communication field was now made. It was decided to concentrate on specialized communication equipment, well constructed for performance and stability and selling on these points rather than on price, and in any case this policy has brought success. Receivers designed and built in the Eddystone factory were installed on board the 'Queen Mary' and 'Queen Elizabeth,' as well as many other ships.

With very little encouragement or enthusiasm from potential users, a tunable V.H.F. and a tunable U.H.F. receiver project was designed by Harold Cox ably assisted by Bill Cooke, the Eddystone yyoR and yyoU, two receivers that have met with world-wide sales. The former has proved an ideal receiver for earth satellite or 'Sputnik' reception and quantities have been sold to Russia and the U.S.A. for this actual purpose. In fact, with these receivers and the present range of receivers there is hardly a country in the world to which Eddystone equipment is not exported (*Plates No. 66, 71,72*).

At the present *time* several new projects are in the development stage and the future is looked to with confidence.

#### C. WEBB LIMITED, LONDON: WEBBS RADIO

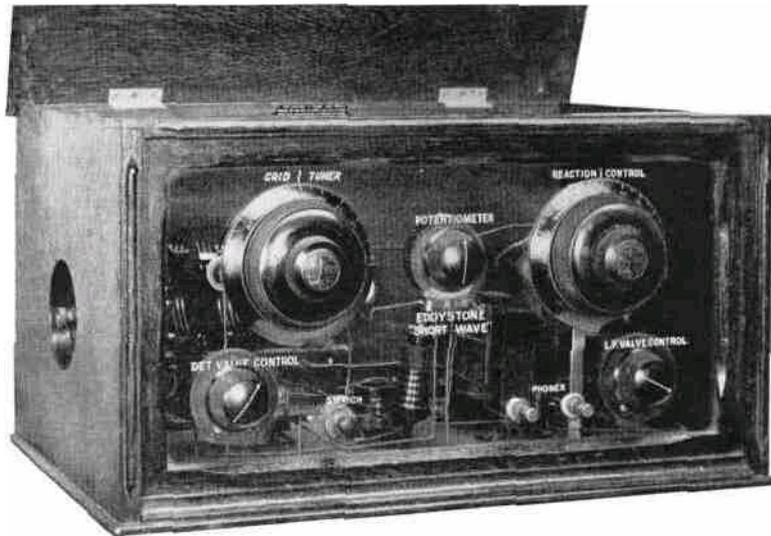
This company was formed as a retail organization in 1924 just after Stratton & Co., Ltd. commenced operations as radio manufacturers. Its inception was an announcement by G. A. Laughton to his eldest son that he had taken over the lease of a shop in Stephenson Street, Birmingham, and that because of good prospects in a new industry, G.S.L. had better get busy and open it as a radio shop, intended to be the first of a chain of retail shops to come.

Five shops were eventually opened, but due to the war, many other business developments, and the absence of G. S. Laughton in Australia, the project did not grow. It was finally decided to retain only the London business of 'Webbs Radio.'

This business, under the able management of E. J. Pickard, specializes in high fidelity and stereo-phonics equipment, laboratory gear and communication apparatus, and it exists as a flourishing specialist business.

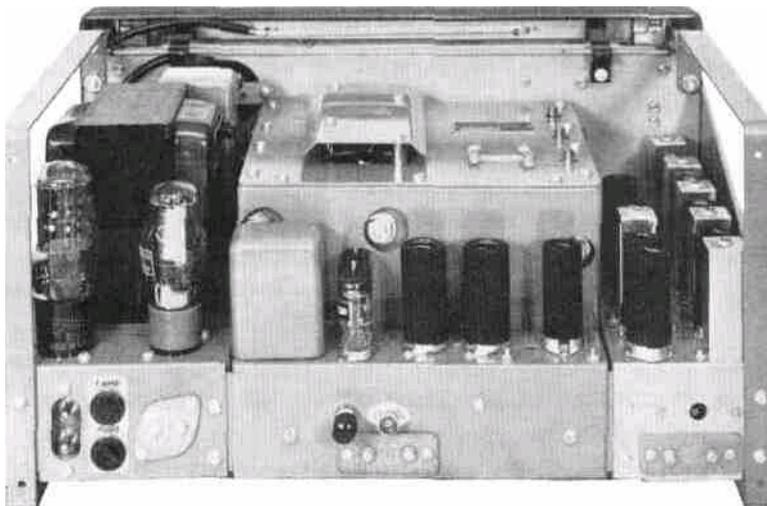
The premises just off Oxford Street, No. 14 Soho Street, have been re-built—after their own share of war damage—and the freehold purchased. As Eddystone agents, fidelity reproduction experts and stockists of a wide range of laboratory components for the manufacturer and radio enthusiast, Webbs Radio is one of the leading establishments of its kind in this country and also does considerable export business.





FIRST EDDYSTONE SHORT WAVE RECEIVER *Plate 64*

The Eddystone 'Short Wave Two' receiver was manufactured in 1927 and covered a range from 15 metres to 85 metres. Two six-volt valves were used, one as regenerative detector, the other as a transformer-coupled amplifier, HT being derived from a standard 120 volt battery. In its day, this receiver performed very efficiently and brought in stations over long distances. It is interesting to note that a 'Short Wave Two' receiver, still in excellent working order, has been presented to the Birmingham Science Museum for incorporation in the projected section dealing with radio and electronics.



**A MODERN EDDYSTONE: 770R**

EDDYSTONE RADIO

Working in improvised surroundings at 'THE BATH TUB,'  
1941



ASSEMBLING EDDYSTONE RECEIVERS IN FORMER LADIES  
DRESSING ROOMS *Plate 67*

