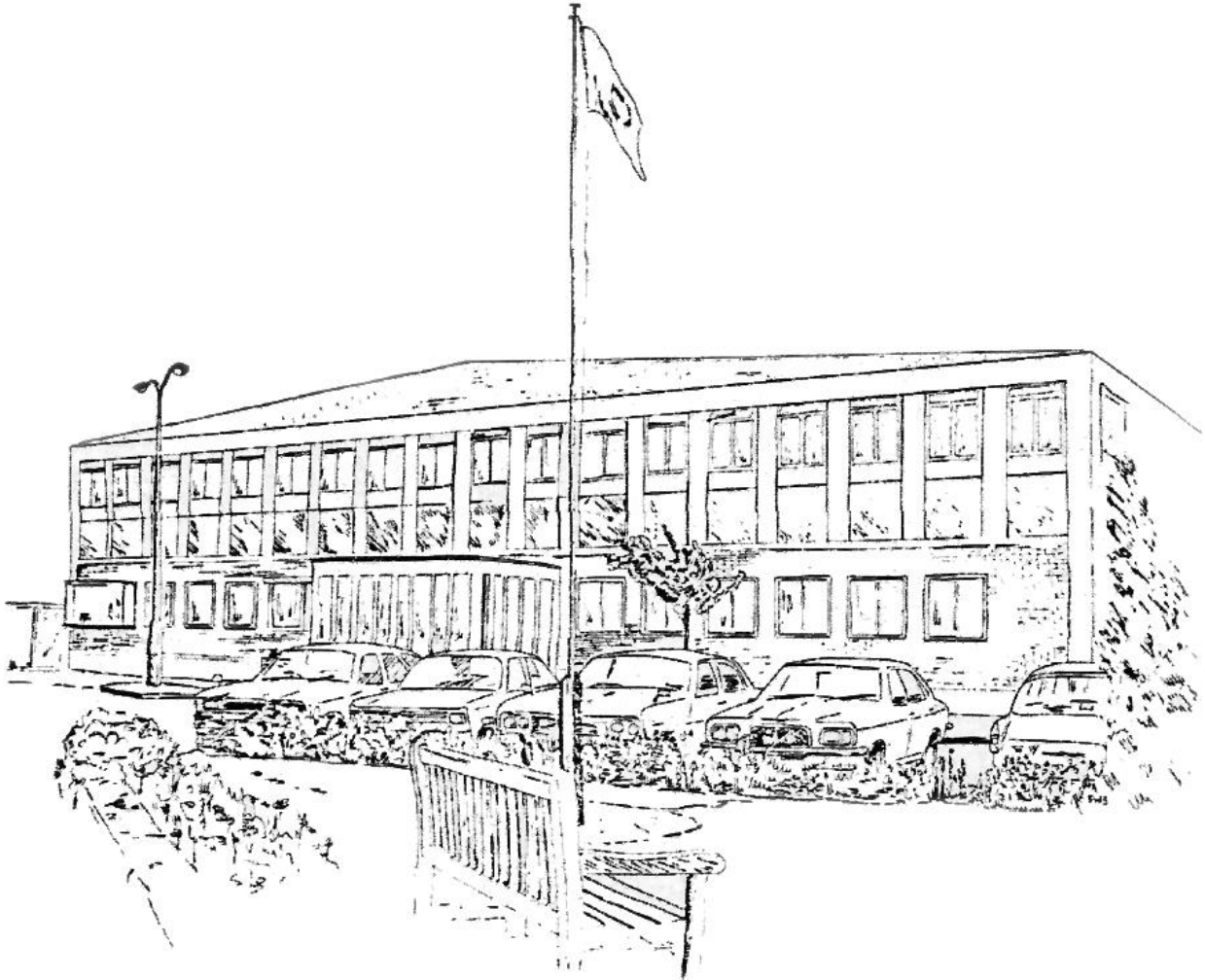


*In the article below, which was written in about 1977, "Our Factory" refers to Mullard Mitcham. We have been unable to establish who author Claire Griffiths was, though the title suggests she was a Mitcham employee.*

## **OUR FACTORY : ITS HISTORY AND DEVELOPMENT**

**by Claire Griffiths**



### **Chapter One**

#### **The Company and Its Founder**

Was there ever a Mr Mullard? How did he start the Company? What was the first product, and where was it produced? How did the Company develop, and what was its scope when it was taken over by Philips?

You may have many other similar questions about the Mullard Company. Too little is generally known about it, and about the dynamic and ingenious founder of the Company Mr Stanley Mullard who, at ninety-four years old, is alive and well and still able to project his strong personality. His pioneer work in developing transmitting valves was very important and gave him the basis from which to set up his Company which developed rapidly into a flourishing and profitable business.

## **The Beginning of Mr Mullard's Career**

When he was fifteen years old, Mr Mullard was apprenticed to a firm of electrical engineers, and at that stage he earned the princely sum of ten shillings a week for working a fifty-six hour week. While he was completing his apprenticeship, Mr Mullard went to evening classes to increase his electrical knowledge, but he wavered in his determination to become a professional engineer when he learned how little it was possible to earn in such a capacity.

Mr Mullard's desire to do better for himself led him to seek employment abroad. He won an excellent managerial position in Germany, where he was able to demand a salary three times that which he could have received for a similar job in Britain. Mr Mullard did not, however, remain in Europe for long, and on his return to Britain in 1910 he took a job as a technical assistant in the Ediswan Company. His potential was recognised and the Company realised that he would be more profitably employed in a development laboratory.

## **Mr Mullard's Development Work for the Ediswan Company**

Mr Mullard was offered his own laboratory at the works in 1913. He thought that his lifelong dream had been suddenly and unexpectedly fulfilled, and was delighted. The laboratory was completely fitted and prepared for his use, but when he finally moved in he realised that he had not been told what he was to invent. His enquiries received only the answer "*It is up to you*". It seems that there was tremendous scope for the development of new devices and techniques at the beginning of the century!

Stanley Mullard was initially daunted by the vagueness of his employers, but once he began to think seriously about what to do, he remembered some experiments which he had carried out in his childhood. He had been amazed at the bright flash which could be produced when various live wires were touched against each other. He wanted to harness this power to make a brighter and more efficient electric light bulb. He encountered many problems in the initial work, but his determination and tenacity helped him to solve them, and he eventually developed the 'Pointolite' lamp. This invention made it easier to strike an arc between tungsten electrodes, by ionising the gas between the electrodes. The effect was to produce a brighter and more efficient lamp which was widely used in projectors as well as in domestic light fittings.

Mullard's success was widely acknowledged and by the outbreak of war in 1914 he became well known in electrical engineering circles.

## **Captain Mullard's Navy Career**

Mr. Mullard enlisted in the Engineers Battalion of the Royal Naval Division in 1914, but because of his technical knowledge and expertise he was allowed to remain at the Ediswan Works and he started work in the field of radio communications.

In 1916 he became a lieutenant, and when he was posted to the Royal Naval Air Service he ran a special laboratory which did much development work on high-power transmitting valves. They were very successful and Mullard earned a military MBE, and when the RAF was formed in 1918, he became a Captain. The work of Mullard and his companions during the war provided a good basis for the development of the thermionic valve industry in peacetime.

# **Chapter Two Technical Development**

## **Silica Valves**

After his demobilisation in 1919, Stanley Mullard accepted a directorship of the 'Z' Electric Lamp Company. At his personal request and with the full approval of the Admiralty, Mullard reserved the right to keep up his wartime association with the staff of the HM Signal School,

Portsmouth, so that he and a small group of colleagues could continue to work on the development of high-power transmitting valves.

This arrangement was satisfactory and the scientists were successful: they perfected the early silica valve. This was a high-power transmitting valve in a durable fused-silica envelope, rather than in a glass envelope which was liable to melt because of the great heat produced in the valve. The Admiralty recognised the importance of this innovation, but there was no real consumer market to make it a viable commercial product, therefore no companies could be persuaded to produce it. Once this became apparent, the Admiralty asked Mullard himself to go into manufacture. They agreed a contract with him which allowed him to enter the business with little personal risk. Mullard was granted the full commercial rights to any patents relating to the silica valves, and the Admiralty placed an order for 250 silica valves at £66 each. Accordingly the Mullard Radio Valve Company was formed in 1920. This was originally housed on an empty floor at the 'Z' Electric Lamp Company factory and the 'Z' Company was fully aware that Mullard was marketing valves under his own name.

### **The Rise in the Popularity of Radio**

The founding of the Mullard Company largely coincided with a very fast increase in the popularity of radio and there was therefore a tremendous demand for both transmitting and receiving valves. These market pressures persuaded Mullard to extend his range to include receiving valves. Radio broadcasting stations were set up all over the country, and there were many excellent programmes. The Mullard company seemed assured of success at this time, and it expanded rapidly. In 1921 Mullard decided to move the plant to Hammersmith, and he placed his machinery in a converted stable. Even this accommodation proved to be too restricted; demand increased to such an extent that queues of radio enthusiasts were always outside the factory waiting for the opportunity to buy radio spares. Mullard again expanded and in 1924 he moved to a larger factory in Balham.





Have YOU thought of the saving you will be able to effect by means of the **MULLARD WECOVALVE** ?

*If you are building your own set, see that you fit it with "Wecovalues"*  
*If you already possess a valve set, "Wecovalues" will pay for themselves in a few weeks.*

‡ Under normal working conditions the filament will last for 4,000 hours.  
 † A Mullard Wecovalve requires only ONE dry cell to operate the filament, and even then a filament resistance is necessary. The life of a cell of ordinary size is several weeks.  
 ¶ The filament is short, strong, and well supported, making breakage from mechanical shocks almost impossible.  
 § The Mullard Wecovalve is suitable for use in all cases where valves of the ORA and R type are now in use.

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THE MULLARD WECOVALVE  
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 Price 30/-



The same high standard of reliability and efficiency of the "ORA" Valve will be found in

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LIST OF PRICES AND TYPES

TYPE	VOLTS	CAPACITY CONTINUOUS RATING	PRICE
M 1	4	10	1 6 0
M 2	4	20	1 10 0
M 3	4	30	1 15 0
M 4	4	40	1 20 0
M 5	4	50	1 25 0
M 6	4	60	1 30 0
M 7	4	70	1 35 0
M 8	4	80	1 40 0
M 9	4	90	1 45 0
M 10	4	100	1 50 0
M 11	4	120	2 0 0
M 12	4	150	2 5 0
M 13	4	200	3 5 0
M 14	4	300	5 0 0
M 15	4	400	6 5 0
M 16	4	500	8 0 0
M 17	4	600	9 5 0
M 18	4	800	12 0 0
M 19	4	1000	14 5 0
M 20	4	1200	17 0 0
M 21	4	1500	20 0 0
M 22	4	2000	26 0 0
M 23	4	3000	38 0 0
M 24	4	4000	50 0 0
M 25	4	5000	62 0 0
M 26	4	6000	74 0 0
M 27	4	8000	98 0 0
M 28	4	10000	122 0 0
M 29	4	12000	146 0 0
M 30	4	15000	184 0 0
M 31	4	20000	242 0 0
M 32	4	30000	360 0 0
M 33	4	40000	478 0 0
M 34	4	50000	596 0 0
M 35	4	60000	714 0 0
M 36	4	80000	948 0 0
M 37	4	100000	1182 0 0
M 38	4	120000	1416 0 0
M 39	4	150000	1800 0 0
M 40	4	200000	2384 0 0
M 41	4	300000	3568 0 0
M 42	4	400000	4752 0 0
M 43	4	500000	5936 0 0
M 44	4	600000	7120 0 0
M 45	4	800000	9456 0 0
M 46	4	1000000	11792 0 0
M 47	4	1200000	14128 0 0
M 48	4	1500000	17964 0 0
M 49	4	2000000	23800 0 0
M 50	4	3000000	35636 0 0
M 51	4	4000000	47472 0 0
M 52	4	5000000	59308 0 0
M 53	4	6000000	71144 0 0
M 54	4	8000000	94500 0 0
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M 57	4	15000000	179568 0 0
M 58	4	20000000	237924 0 0
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M 69	4	400000000	4746240 0 0
M 70	4	500000000	5929796 0 0
M 71	4	600000000	7113352 0 0
M 72	4	800000000	9448908 0 0
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M 74	4	1200000000	14120020 0 0
M 75	4	1500000000	17955576 0 0
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M 81	4	8000000000	94488912 0 0
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M 84	4	15000000000	179555590 0 0
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M 86	4	30000000000	356266202 0 0
M 87	4	40000000000	474621758 0 0
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M 89	4	60000000000	711332870 0 0
M 90	4	80000000000	944888426 0 0
M 91	4	100000000000	1178443982 0 0
M 92	4	120000000000	1412000038 0 0
M 93	4	150000000000	1795555594 0 0
M 94	4	200000000000	2379106150 0 0
M 95	4	300000000000	3562661706 0 0
M 96	4	400000000000	4746217262 0 0
M 97	4	500000000000	5929772818 0 0
M 98	4	600000000000	7113328374 0 0
M 99	4	800000000000	9448883930 0 0
M 100	4	1000000000000	1178443946 0 0

Delivery ex-Stock.

THE MULLARD RADIO VALVE CO., LTD.

Contractors to H.M. Admiralty  
 War Office, Royal Air Force & Post Office.

### Chapter Three Changing Organisation

#### Marconi v. Mullard Legal Wrangle

During this period Mullard’s business position seemed almost impregnable, but the Marconi Company claimed he had infringed their patents and took the matter to court. There were a total of 23 court hearings and the case went on to appeal to the House of Lords who finally ruled in favour of Mullards.

Once this struggle was over Mullard was free to expand and improve, but the costs of the action had been an enormous drain on his resources. At about this time, he entered an agreement with Philips to fund further research. By the end of 1924 the factory was producing at the rate of 2,500,000 valves per annum.

#### Mr Mullard Relinquishes Control

As the rate of demand for valves increased, Mullard realised that it would be necessary to pay more attention to the commercial side of the company to ensure more effective distribution. This led to the foundation of a separate organisation: Mullard Wireless Service Company. This company tried to provide the customer with a really efficient service, advising the public which valves were most suited to which products, and also telling them how to achieve the best possible results from the valves. As part of the service Mullard launched a magazine in 1926. It was called ‘Radio for the Millions’ and it sold very widely among radio enthusiasts.

By 1927 Philips had acquired all the shares in Mullards and thus Stanley Mullard relinquished control of his company to Philips, although he was made a Director.

In 1930 Mr Mullard was advised by doctors to retire and he was succeeded by Mr SS Eriks, but he retained an active interest in the Company until 1970.

Thus it was the personality of Stanley Mullard which determined the development of the Company in the early years before it joined the Philips Group.