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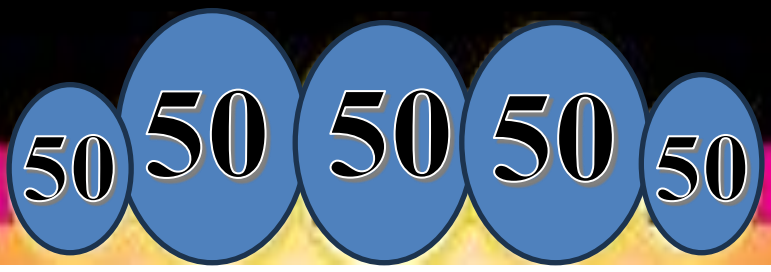
Rochester Avionic Archives Newsletter

From the Curator.
This is the fiftieth Edition of the Quarterly Newsletter. Although the RAA was formed in 2005 the Newsletter only started in 2008. All the editions are on our website.
The first edition notes that ' *The RAA has come a long way from its days in a room at the old Flying School end of Rochester Airport via a secret room within a store on the main site thence to a room on the Ground Floor of Tower 3 and finally to much more space in the Corsair Building*.' It was not long before we moved to our present location and we are expected to move again soon because of the site redevelopment. Each time our task gets bigger as we have so much more material.

We now have eight volunteers but sadly over the years we have lost a number of good friends and I am really grateful for all the hard work that everyone has done. The RAA is increasingly embedded in the site. We regularly host visits by groups like the Scouts, Air Cadets and Work Experience. We support the Long Service Association annual Dinner/Dance and provide wherever possible pictures to support retirement or long service awards. Behind all this we provide pictures and historical information on the site and equipment to the company Communications and Media team and frequently assist the broader company Heritage group, external researchers and other museums and restoration organisations. A busy life!

What has happened to our new Website? Well, we are inching towards going live having well and truly missed our April 1st target but hopefully sometime this month it will happen. Once the website is live we all have to learn how to use it ! Be assured that the web address will not change.

Finally many thanks to you, our readers and researchers, and hopefully we shall be going strong for the next 50 editions.



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D-Day June 6th 1944

D-DAY80

The Lewisham site of Elliott Bros made Naval gunnery tables, which were mechanical analogue computers. They were manufactured until after the Second World War and a special 'bombproof' Admiralty building was constructed for this work. On larger ships, these 'tables' took the form of massive mechanical analogue calculators, weighing several tonnes, in which range and elevation of surface targets were set up on hand-wheels. The Fire Control Table (FCT) then 'computed' the necessary settings for each gun, based upon own ship's course and speed, enemy ship's estimated course and speed, and predetermined wind and ballistics information. The resulting gun bearings and elevations were communicated to the gun crews. HMS Belfast, HMS Nelson, HMS Rodney and most of the British Battleships and Cruisers at D-Day used an Elliott Fire Control Table.

The Fire Control system on HMS Belfast

The Lewisham Factory making Fire Control Computers

The Lewisham factory with the Admiralty Building at the bottom

D-DAY80

B & P Swift Limited who later merged with Elliotts turned to war work from their weighing machine business, and manufactured aircraft equipment for the Ministry of Aircraft Production. This included flap and undercarriage actuators, which called for good gear and screw-cutting facilities, for which the company, though small, developed a high reputation. One of their contracts was for the provision of geared controls for Short's Stirling bomber. The Stirling took part in operations on D-Day, 6th June 1944, and Operation Market Garden (17th September 1944 - 25th September 1944). It was used to tow Gliders by that stage of the war.

A Stirling Undercarriage

A Stirling Bomber towing a Horsa Glider

Test flight of a Stirling at Shorts Rochester Airport Works .

Elliott Bros was not at Rochester until after WWII but the Factory at Lewisham was a major supplier of gunnery control systems to the Royal Navy. One unusual application of the equipment was in the control room for the Fan Bay coastal battery at Dover recently shown on a BBC 'Digging for Britain' programme.

Courtesy D-Davoverlord.com

HMS Belfast was the second ship to open fire on the Normandy beaches and was one of many ships equipped with Elliott Fire Control system which were also built in BAE Systems Heritage shipyards.

HMS Belfast at D-Day

She spent 33 days in Normandy and fired over 5,000 shells! In total, HMS Belfast spent 33 days in support of the landings and fired over 4,000 6-inch and 1,000 4-inch shells. Under the command of Captain Parham during Operation Neptune, which began on 5th June 1944, HMS Belfast was used as a flagship for the Eastern Task Force. It bombarded the German batteries of Ver-sur-Mer at dawn on D-Day and it supported the Anglo-Canadian land forces in the region of Caen for the following days until 8th July 1944, at the occasion of Operation Charnwood.

The site redevelopment

Work is beginning on redevelopment of the Rochester site and a number of familiar buildings are due to be demolished. The Huts, the Fuel Flow Laboratory, Corsair Building and the Phase III building are the first to become piles of rubble.

The Huts

Since their construction in 1957, when the site was owned by Elliott Brothers, they've been the site of numerous programmes, functions and teams. At different times the Huts housed finance, the training department, the on-site bank, manufacturing space, the site cash office, and Works Engineering. One comment on the Huts was: *'You always felt very close to the elements in the huts – it was freezing cold in the winter and oppressively hot in the summer. You knew when it was raining because the roof always leaked and occasionally collapsed in very heavy rain. I remember moving the filing racks which we would push to one side at lunch time so we could play darts.'* Another comment:' *We made a Badminton Court at the other end of the Hut. This rather ruined my game as the low roof stopped those useful high lobs. In winter the gas heaters hanging down were even more of an obstacle to the game as shuttlecocks were quite flammable!"*

Looking West between Huts 10 and 11

Work taking place in AEID Hut. 1965

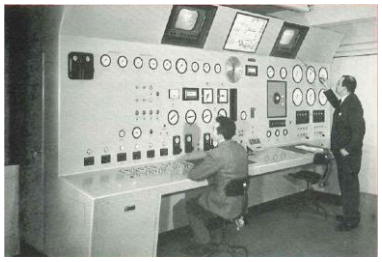
Looking South towards Hut 11

The Fuel Flow Laboratory

On November 20th 1963, Mr Neil Marten, M.P., Parliamentary Secretary to the Ministry of Aviation, officially declared open the new high-temperature fuel flow laboratory of Elliott-Automation Ltd. at Rochester in Kent. The Laboratory consisted of two buildings, the Test House and the Control Building. These are situated within an area which was originally a fenced compound; it also contains a number of underground storage tanks for test fuels and other tanks for boiler fuel and liquid nitrogen supplies. As far as is known this building was unique.(See RAA Website Catalogue No. D0709)

The Fuel Flow Test Building

The Control Building



The Control Room in the Control Building

Corsair Building

The Corsair Building was of prefabricated construction being a tile clad timber frame and regarded as having a limited lifespan. Construction was delayed by finding old air raid shelters under the site. On the 9th August 1978, the Corsair building was opened by Mr Paul Hare, Vice-President of the Vought Corporation, for whom the company made the A-7 Corsair II Head Up Display system. Hence the name of the building.

The opening of the Corsair Building. l-r Arthur Colwell (ADD Div Manager), Peter Hearne Assistant General Manager, Mr Paul Hare VP of the Vought Corporation, Jack Pateman Deputy Managing Director of Marconi-Elliott Avionic Systems Ltd

The Corsair Building in August 1978

Airborne Display Divn Production area

The Phase III Building

The Phase III Building was commenced in November 1978 and occupied by September 1980
There has never been another name for this building; it has always been called the Phase III Building. In 1979 a competition was held by the Company Newspaper to seek an appropriate name for the new building '*which will epitomise Marconi Avionics long and successful association with flight controls The name should capture some aspect of our involvement in this field* '. It would appear that no suitable names were forthcoming!

First hole in the Carpark November 1978.

Phase III building in Nov 1979.

Phase III building in March 1985.

The Brussels Exhibition of 1897

The Company was receiving awards at many exhibitions and in 1897 it received two 'Grand Prix' awards at the Brussels International Exhibition.
The Brussels International Exposition of 1897 was a world fair held in Brussels, from 10th May 1897 through 8th November 1897. There were 27 participating countries, and an estimated attendance of 7.8 million people. (As reported in the 'Moniteur') The main venues of the fair were the Cinquantenaire Parks, as well as a colonial section at Tervuren, showcasing King Leopold II of Belgium's personal property, the Congo Free State. The two exposition sites were linked by a purpose-built tramway.
New items on display included wireless telegraph by Marconi, car racing, microbian photography, new tramways, electricity applications, giant cinematograph with 20-minute film, balloon journeys, luminous fountains, large Christmas manger by Italian sculptor, babies incubators, and more.
Many sporting events were held, including a major international cycling race that drew twenty thousand fans. There were two women's sections. 400 British companies participated and occupied 70,009 square feet.
THE TIMES' October 20th, 1897

Birdstrike

One of the vital qualification tests for a Head Up Display is to withstand a bird striking the canopy. On the 28th September 1981 Arthur Colwell, Divisional Manager ADD, together with Staff Ellis and Brian Riggall, received a Plaque presented by Major Eric Kliener of the United States Air Force to commemorate a successful test. The plaque was in the Corsair Building, but sadly has been lost.

'Birdstrike is not a union dispute by birds, neither is it a young wives withdrawal from their marriage responsibilities or deposits from low flying birds, it is in fact one of the many dangerous hazards facing pilots in modem aircraft. Readers who in their more energetic days, rode bicycles from time to time experienced a bee or fly hitting them on the face —well imagine a 4 lb bird projected at you at 350 knots. Earlier tests proved that the impact was 60 tons and goes a long way to completely wreck the cockpit canopy and it was during such tests that a United States Air Force General was overheard to say that he didn't know birds could fly that fast!'

Marconi Avionics News No.39 1981

Proceedings of the Old Bailey 12th July 1827

Mr James Shaw was accused of stealing from William Elliott his Master.

JAMES SHAW was indicted for stealing, on the 21st of June , 61 pairs of spectacles, value 27l.; 1 case of drawing instruments, value 18s.; 1 compass and case, value 18s.; 1 thermometer, value 7s.; 2 pairs of compasses. value 2l.; 9 magnifying glasses, value 20s.; 4 rules, value 2l.; 2 egg glasses, in frames, value 12s.; 1 set of drawing instruments, value 30s.; 4 dividers, value 1l.; 2 steel pens, value 8s.; 2 bow pens, value 8s.; 27 files, value 8s.; 2 knives, value 3s.; 2 pencil-cases, value 4s.; 1 pen holder, value 2s.; 1 magnet, value 2s., and 38 spectacle cases, value 1l., the goods of William Elliott , his master .

WILLIAM ELLIOTT. I am a mathematical instrument maker . I lived in Great Newport-street , at the time of the robbery; I now live in Holborn - the prisoner had been fourteen years in my employ. I placed implicit confidence in him and treated him like a brother. On Monday, the 25th of June, in consequence of information, I went and searched his house. Mr. Glover and two officers were with me; I there found a quantity of my property. I had never given him authority to take it.

Cross-examined by MR. MITCHELL. Q. Had you missed any of these things? A. I missed property at times, but had not the least suspicion of him, and when I have mentioned that things were missing, he has said, it was most likely I had sold it and forgotten it; he did piecework, but never took anything home except a few wheels. I never allowed him to take anything else home; he had no tools at home to finish anything else. I have other workmen, but nobody but him attended in the shop. I thought him incapable of robbing me - I considered him as one of my family.

MR. PHILLIPS. Q. Look at this letter, is it his handwriting? A. It is; he had 3s. a week. When he first came, he had but 1s. a week: the value of the property is 40 or 50s..

The following extract from the letter was here read: "*It is my first fault: I am truly repentant; you will sooner be pleased by saving a man to his family, who truly repents; it is a greater exertion of virtue to save a repentant sinner than a thousand acts of justice.*"

FRANCIS GORDON . I am an officer. I went with Mr. Elliott to the prisoner's house; I found all this property in his bedroom, on the second floor. I apprehended him before I went there; he asked what it was for, I told him his master had lost a considerable deal of property - he made no answer.

Cross-examined. Q. Did you find any articles of this sort, except what the prosecutor claimed? A. There were a few trifling things, which he said he would not swear to.

MR. MITCHELL to MR. ELLIOTT. Q. What promise did you make to the prisoner's sister, before he wrote you this letter? A. I told her I did not wish to press the capital charge, as I thought he would be hung if I did; I do not know whether that was before or after he wrote the letter. I desired the attorney not to press the capital charge, as these articles must have been taken at different times.(Property produced and sworn to.)

GUILTY. Aged 36. Of stealing to the value of 39s. only .

SENTENCE: Transported for Fourteen Years .
(‘s’ is the symbol for Shilling in the old British currency)

Valves

This wonderful collection of old thermionic valves came from a display at Brimar. The company acquired Brimar in 2013 to protect the supply of Cathode Ray Tubes for the display products. Brimar was eventually closed in 2018 as a solid state alternative had been developed. The oldest of the valves, a diode, was made in 1889 for J.A. Fleming and the acquisition includes other later diodes, triodes and early TV tubes.
(See RAA Catalogue 1865-7and 1869)