



# Rochester Avionic Archives Newsletter

## From the Curator

**Sadly I have to record the death of Ron Bristow in April. He was the guardian of the original Elliott Collection which he saw safely into the Museum of the History of Science at Oxford. However he recognised the value of a museum on the Rochester site and helped me acquire items from that Collection to form the basis of the RAA. Ron was a great supporter of the work of Elliott Bros through its many names to the present day. Our sympathies go to Stella Bristow, their sons, Julian and Lucian, their grandchildren and all their family.**

*Chris Bartlett*

**Curator**

## Ron Bristow, 1927-2016

Hubert Ronald Bristow was born on the 30 December 1927; he never liked his first name and was always known as Ron. Ron did National Service in the army, his expressed preference for the air force being ignored, and studied electrical engineering at Southampton University, where he finally managed to learn to fly.

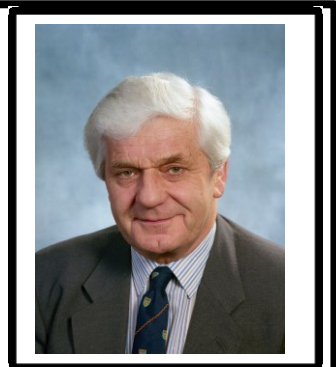
After university Ron worked initially for Elliotts at Borehamwood but was made redundant and left to join Standard Telephones and Cables Ltd in North London. He was 'head-hunted' back to Elliott Brothers in Borehamwood by Jack Pateman who was recruiting engineers to work on the Blue Steel Guidance system. The RAA has a staff photo of 1951 with many other well-known names who came on to senior positions in the company. In the early days he worked as an analogue circuit engineer and developed a Transistor Amplifier block which was used in many designs. In 1968 Ron transferred to GEC, and moved to Rochester where he began a long career on Test Equipment.

He worked his way up the to become the Divisional Manager of Automatic Test Equipment Division and then to be an Assistant General Manager of the company.

Ron was always interested in the history of Elliott Bros and looked after the Elliott Collection. He retired from GEC in late 1992 but continued to take an interest in the historical collections in a voluntary capacity. In the subsequent reorganizations occurring within GEC, the Elliott Archive and Collection became the property of the Marconi Corporation and spent the next few years in inaccessible locations in Essex. However, because of the difficulties befalling the Marconi Company, this important historical material once again was at risk of being sold or broken up. Ron worked behind the scenes with others in the Company to try to ensure that the collection remained in the UK. Eventually in 2003 he secured agreement that both the archive and the collection of historic instruments would be transferred to the Museum of the History of Science at Oxford, where they could be used by students and researchers and seen by the public. Ron's interest in the history of Elliott Brothers had led him to acquire a small personal collection of about thirty instruments by the firm and its predecessors, and in 2015 he decided to donate it to the museum of the History of Science at Oxford, so that it could be with other Elliott objects from the GEC-Marconi collection.

In addition to his association with the Museum at Oxford, Ron was also a long-standing volunteer at the National Maritime Museum and Royal Observatory in Greenwich from shortly after his retirement until a few weeks before his death. He was a member of the Scientific Instrument Society, serving on the Committee from 1990 onwards, and acting as a very effective Chairman from 2004 to 2008. As an electrical and electronic engineer Ron was also a member of the Institution of Electrical Engineers, now the Institution of Engineering and Technology, and became an active participant in their historical section, giving talks at some of their meetings.

(My thanks to Gloria Clifton for permission to use her words. Curator)



The Transistor  
Amplifier



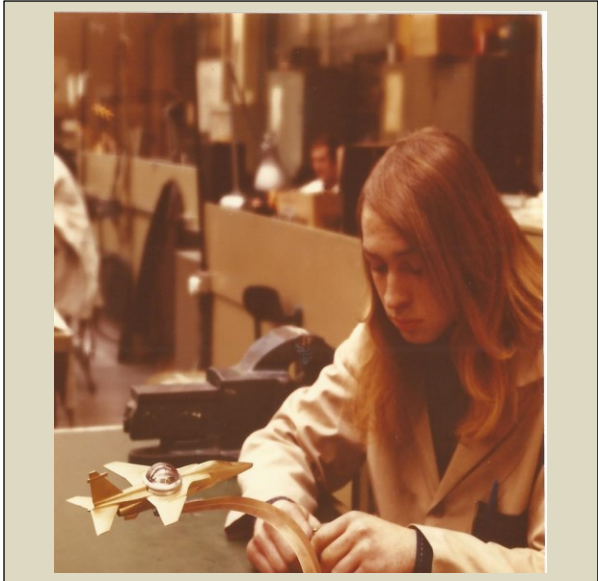
The Blue Steel  
Navigation system  
on test

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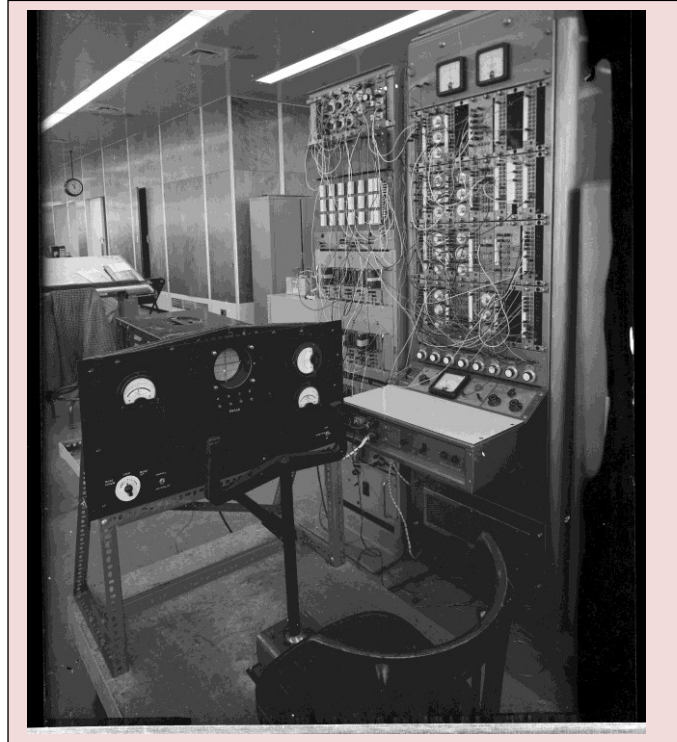
e-mail: [curator@rochesteravionicarchives.co.uk](mailto:curator@rochesteravionicarchives.co.uk)

Website: [www.rochesteravionicarchives.co.uk](http://www.rochesteravionicarchives.co.uk)

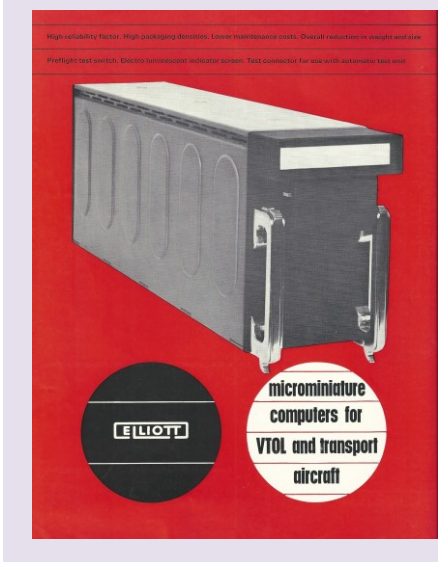
**Jaguar NAVWASS Trophy**



At a ceremony held in May 1977 at Royal Air Force Strike Command at High Wycombe a trophy was presented to the C-in-C Sir Dennis Smallwood KCB CBE by Robert Telford CBE Managing Director of GEC-Marconi Electronics. The ceremony was to celebrate the success of the Marconi-Elliott Avionic Systems Ltd Instrument Systems Division in winning the Queen's Award for the Navigation and Weapon Aiming System fitted to the Jaguar. The Trophy was made in the Apprentice Training School. The Company had won the Queen's Award for the NAVWASS in 1975



Amazing what you can achieve in Flight Simulation with an Analogue Computer an Instrument Panel on a bit of Dexion and an office chair!  
Somewhere in Tower 1 in the early sixties



A Brochure for Microminiature Computers for VTOL and Transport Aircraft from the 1960's



**BAC (Bristol) 221**  
1964  
Elliott Bros supplied the gyros and Flight Control system for this aircraft which is a test aircraft modified from F.D.2 to test the delta wing of the "Concorde". The first flight was on May 1, 1964.

### Denis Gabor

The Hungarian-born electrical engineer Dennis Gabor won the Nobel Prize for Physics in 1971 for his invention of holography, a system of lensless, three-dimensional photography that has many applications.

A research engineer for the firm of Siemens and Halske in Berlin from 1927, Gabor fled Nazi Germany in 1933 and worked with the Thomson-Houston Company in England, later becoming a British subject. In 1947 he conceived the idea of holography and by employing conventional filtered-light sources, developed the basic technique. Conventional light sources generally provided either too little light, or light that was too diffuse, so holography did not become commercially feasible until the 1960s with the demonstration of the laser, which amplifies the intensity of light waves.

In 1949 Gabor joined the Electrical and Electronic Engineering Department at Imperial College London, where this plaque will be found. In 1958 he became professor of applied electron physics. His other work included research on high-speed oscilloscopes, communication theory, physical optics, and television. Gabor was awarded more than 100 patents.

Holography is the technique used in Head Up Displays such as the F-16 LANTIRN and more recent Typhoon display.



Final check being made on the first of the Elliott modular air data computers for the USAF C-5A Galaxy. This unit is the first of an order running to well over a hundred computers ordered by Lockheed last September

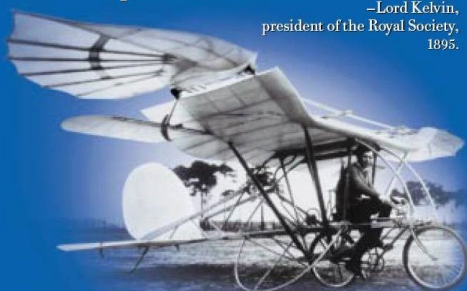


The Air Data Computer for the C-5A. The original 'Cog Box' from around 1967.

(The man on the left is John Spinks and it may be Chris Frost on the right in the picture on the left! Curator)

"Heavier-than-air flying machines are impossible."

—Lord Kelvin,  
president of the Royal Society,  
1895.



Just as well we didn't know that!

Nov 1979 Mav News.  
 Yet another cartoon that we would not use today!



If you want a really incorrect picture enter the Catalogue No. M0519 into the Media/Newspapers section of our website and scroll down to 'CAPTION OF THE MONTH'.



Another Brochure from the 1960's



The RAA has provided photographs and advice to build an Elliott Instrument Panel for the replica Be2c that the Montrose Heritage Centre has constructed. This was shown recently on the BBC 'Countryfile' programme.



### Trollope and Colls

Trollope and Colls was formed out of the merger of George Trollope & Sons (founded by Joseph Trollope, a wallpaper hanger, in 1778) and Colls & Sons (founded by Benjamin Colls, a painter and decorator, in 1840).

The merged firm started to specialise in civil engineering and during World War I undertook pioneering work on reinforced concrete. In 1969 the Company was acquired by Trafalgar House. By 1994 it was the largest contractor in the United Kingdom by turnover.

They built the Towers, from 1961-1966, which have a unique cantilevered floor structure. (*Curator: Which is why the floors bounce gently in a strong wind!*)