



Rochester Avionic Archives Newsletter

From the Curator

A New Year is always an opportunity to look back over what we have achieved as sometimes it is difficult to see what progress we are making. Each year the RAA gets more involved in Company events and we particularly enjoy working with Work Experience students and are looking forward to a visit by a group of Sea Scouts early next year. The number signing up to this Newsletter is increasing and website contacts likewise. To those who comment on our site entries we are grateful and we are always pleased to see colleagues who drop in to see the Museum especially if they bring items they have found in their attic! We are recording the story of **your** Company past, present and future.

It still seems a little early but may I wish you all a very Happy Christmas and a peaceful New Year from myself and all of us at the RAA.

Chris Bartlett

Curator

The story of the Mil Mi-24

In 2003 BAE acquired an ex-Polish Air Force Mi-24 HIND, which it modified as a non-flying demonstrator of new technology to target markets in the Czech Republic, Hungary, Poland, Slovakia and Bulgaria. A simulator/demonstration rig was also built.

A Company electro-optical (EO) turret was fitted on the starboard side at the nose and the upgrade also gave 24h, all-weather capability, enhanced situation awareness, and an improved work split between the gunner in the front and the pilot in the rear cockpit.

The pilot was provided with a Head Up Display (HUD) and a Helmet- Mounted Display was an option.

Despite investing some £3million in the project it is not clear that any business was acquired and the HIND was transferred, on loan, to the Midland Air Museum at Coventry

<http://www.midlandairmuseum.co.uk/aircraftlist.php>

The HIND at Rochester below and at the Midland Air Museum to the right.



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The Blackburn Buccaneer a reminiscence

The Buccaneer was designed to be carrier borne and was a bomber particularly nuclear. It weighed 20,000lbs and it was the heaviest aircraft to land on an aircraft carrier.

Elliott Brothers (later GEC) was awarded the contract for the auto pilot in 1960. I was involved in late 1960 at Boreham Wood. Later the team moved to Rochester. The specification was for auto-stabilisation and auto-pilot functions.

I will concentrate on the most important aspects of the auto pilot. The means of attack was to fly at low level (100ft!) primarily over the sea under the radar beam. The autopilot controlled the height. Normal height control used height information from the pitot head and effectively flew along a line of constant barometric pressure. We could not use this alone because barometric pressure was not accurate enough that close to the sea; we used a combination of barometric and Radio Altimeter. Unfortunately the Test Pilots would not test the autopilot below 200ft. *(That seems very sensible to me! Curator)*

The auto pilot was intended to provide automatic control of (the over the shoulder) manoeuvre to release the nuclear bomb. I don't think this was even tested.

We had a large team including design, flight testing and a rig at Brough where autopilot functions were tested. The rig included power controls.

This aircraft went into production and I saw it land on the Ark Royal. Subsequently it was sold to South Africa.

G.A.EVE October 2012 *(Thanks for your story, Curator)*



INTER-DIVISIONAL FOOTBALL CHAMPIONS
BACK ROW LEFT TO RIGHT - RAY PORTER, TEEVOR BUSNELL, DON BROWN,
DANNY SMITH, DEREK HARVEY, BARRIE DURSLEY, HARRY EAGLES
FRONT ROW MELVYN DOGGET, STEWART MCCOLL, BRIAN MARSHALL,
ROGER TENNER, ROGER GRIFFIN, GARY BERG.



A Navy Buccaneer on the Ark Royal in 1970
Courtesy of <http://triservice.blogspot.co.uk>

The Inter-Divisional Football Champions are MASD

Mr George Sedge Managing Director of BAC Filton visits Rochester in 1968



MR. GEORGE SEDGE shows a model of the Concorde auto pilot control panel to Mr. J. E. Pateman, deputy chairman and joint managing director of Elliotts, and apprentices David Lerner (left) and Jim Cumberlidge.

Mr Sedge flew into Rochester to present prizes and apprenticeship agreements at Elliott Flight Automation and Elliott Control Valves. He is here shown holding a model of the Elliott Auto-Pilot Control Panel for Concorde. Mr Sedge was born in Rochester and served his apprenticeship with Short Bros in the 1920's.

He told the apprentices "This country is in a bit of a mess at the moment and you young men have got a job putting it back where it always has been. There is a lot of legislation curbing the freedom of the country, the Industrial Relations Bill is one of them. You must ensure we don't lose our freedom like so many other countries have lost theirs"

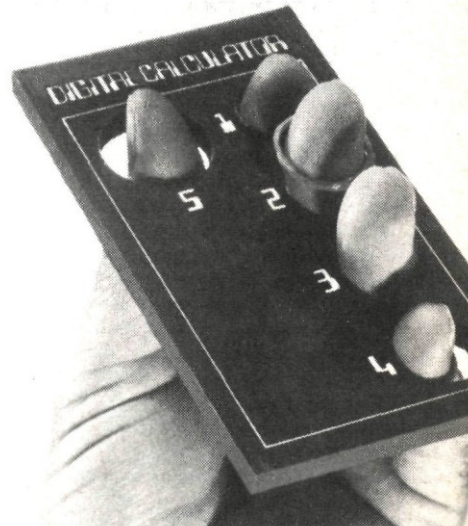
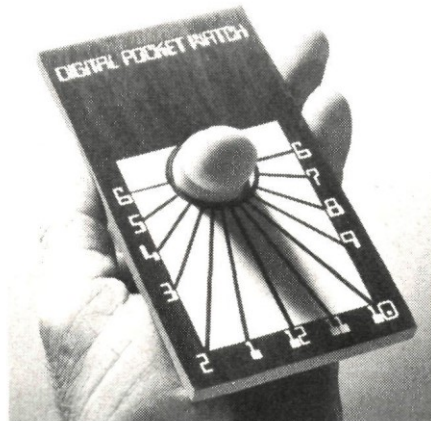
Could be today!
(Curator)



Memories! Seen on holiday was a Qatar Airways A320 with the Registration A7-ADD

Digital Calculator

Digital calculator and digital pocket watch from Tongue in Chic with no push buttons or flashing numerals to confuse the operator (see news story)



A digital calculator, claimed to be suitable for use aboard light aircraft, has been developed by **Tongue in Chic** (226 N West Avenue, Elmhurst, Illinois 60126). The device uses no batteries and is guaranteed not to generate electromagnetic interference which could disturb aircraft avionics. Although capable of operating at any altitude and in all flying conditions, the calculator is primarily intended for use in open-cockpit aircraft. Suggested uses include calculating the number of wings on a biplane or the number of engines on light twins. A digital pocket watch operating on the principle of Solar Time Determination (STD) has also been developed (see photographs).

FLIGHT International, 25 December (1976) (*Nothing to do with the RAA but just a bit of fun! Curator*)

The LOCUS Pod



In 1988 GEC Avionics supplied a Laser Optical Cable Unmasking System (LOCUS) for the US A-6 Real Night night attack trials. The LOCUS Pod is an experimental wing mounted pod (similar in size to the FLIR Pod) for the detection of obstacles such as High Voltage cables. This picture is overlaid on the HUD FLIR image..

Locus is designed to detect a 1 cm-diameter cable at 1-5km range in pouring rain, giving sufficient time for the pilot to avoid an obstacle that is neither logged in the digital terrain database nor visible on FLIR.

The pod worked successfully in the Real Night trial when it detected cables out to 2km.



LOCUS Pod

These pictures show the LOCUS Pod mounted under the Royal Aircraft Establishment Andover for trials. The Pod was eventually scrapped and was sadly chopped into sections with a chain saw before the RAA could recover it. However it is doubtful if we could have got it into the museum in one piece anyway and at least we can just about lift the pod in its sections!

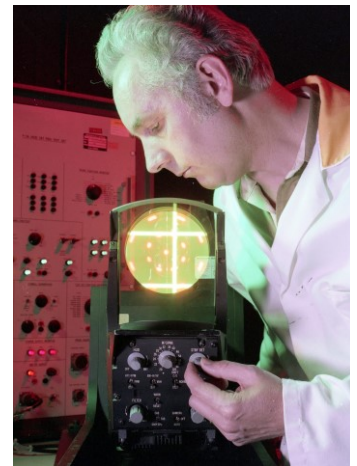
ADA Lovelace Day was on October 11th

Ada Lovelace (1815 –1852) was Lord Byron's daughter, though she didn't know her father very well. She was schooled in maths and science, unlike the majority of girls at the time she was growing up. Her social circle included Charles Babbage, and her grasp of the potential for his Analytical Engine has led her to be hailed as the first computer programmer. In 1842, she translated a description of the Analytical Engine it by Italian mathematician Luigi Menabrea. Babbage asked her to expand the article, "as she understood [it] so well", and this was when she wrote several early 'computer programs'. Ada Lovelace died of cancer at 36, her potential tragically unfulfilled. ADA was the software used by the Company on Eurofighter projects.

(Ada Lovelace day falls on the second Tuesday of October every year and is part of the STEM initiative)



*PROPOSED SITE. (SWIFT FETTLING SHOP)
FOR CONVERSION TO SURGERY & WELFARE BLOCK.
MARCH. 1961.*



Testing an F-16 A/B
Head Up Display in the
Aviation Service and
Repair section in 1990.

This area is in the old factory going South from the 'iron steps' at the end of Tower 3.

'Fettling' was the process of cleaning up rough castings. Another record has it that Swifts had their Cyanide gear hardening bath in this location; it seems appropriate that the Surgery and Welfare Block should have replaced it!



Fuse Division

I know very little about this Division, which is long defunct. I have a note that it was relocated to Dartford at one time. Does anyone know any more about it?
(Curator)

Upside Down

Orders From Above.

"It is necessary for technical reasons that warheads should be stored upside down with the top at the bottom and the bottom at the top. In order that there may be no doubt as to which is the bottom and which the top, for storage purpose, it will be seen that the bottom of each warhead has been labelled with the word 'top'".

MASD Newsletter 1991