No.3 Q42009

Rochester Avionic Archives Newsletter

From the Curator

No, you have not missed some issues, but I have had a family bereavement which made it difficult to work on RAA matters. Apologies to those of you eagerly expecting the next issue.
Increasingly the RAA is being used as a resource by the Company. We had a stand at the Open Day in the main Restaurant and had a display in our cases illustrating 100 years of the company in avionics which included items from the RAF Museum and Ron Bristow's private collection of early Elliott Bros items. We are also supporting the Graduate Day and the Rochester Long Service Awards. The Website has expanded with more equipment added and Newspapers and Magazines slowly being populated. Eventually we hope to have PDF files of the Newspapers and possibly some film clips on the Website. So the RAA is busy and many thanks to our small team of volunteers.

Chris Bartlett

Some of the items from the RAF Museum on show at Open Day

The Elliott Instrument Board No.2

The board was described in Flight Magazine in 14 September 1912, An example is illustrated in the Aeronautical Journal August 1916 fitted to a BE2c at the Olympia Exhibition of 1912. Public records show Elliott supplying about 200 of these in 1912 – 1913.

100 years supplying aircraft instruments in Kent

In 1909 H. E. Wimperis, a government scientist sought a manufacturer for an accelerometer he had invented. He was directed to Elliott Brothers who jointly patented this instrument and later advertised a a model particularly for aircraft use. The Company carried out experiments for Wimperis in 1909 on an aircraft gyro turn indicator, referred to as a gyrostat.

From there on, Elliott's continued to produce aircraft instruments and even before World War I produced an 'Instrument Board', a standard aircraft instrument panel containing an altimeter, airspeed indicator, ascent/descent indicator and a clock.

The Archive of Negatives has proved a real treasure trove already. Any person retiring or receiving a Long Service award be warned we might hold a picture from many years ago! In the old days most of the passport pictures were produced on-site. The pictures are recorded in hand written notebooks but we have had the five of the oldest books transposed into an Excel Database so at last we can begin to search. We shall get some more done next year and eventually we shall catch up with the company computerised archive. We have found that the best way to produce positives from the glass plate negatives is to photograph them over a Light Box.
I love this picture from 1967 only because I had both a Ford Popular and a Hillman Imp. I recall carrying eight F-16C/D PDU's in my Imp; certainly several orders in value over that of the car! (*Curator*)

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The Film Archive

The conversion of films seems to go on forever. Some of you may have seen some of them at Open Day. There was a terrific DVD of a Tornado flying at low level through the Lake District. Another gem is the beginning of the Blue Steel DVD with a mass take-off of Vulcans.
We now know how to load films onto our Website using Youtube as the host but first we have to get permission from Lockheed and others.

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From the Collection-The Mess Motor

This is at first sight a rather dull item but it has an interesting story. The Electro - Methods Ltd. Low Inertia Motor was copied from the original German Mess Motor, one of the technology/patent items taken from Germany at the end of World War II. The original German Mess Motor was used as an integrator in wartime German autopilots and missile analogue computers. In the Mk 13 autopilot (as used on the Lightning) it was chosen by Jack Pateman of Elliot Bros as a low inertia, low current, low friction servo motor which could be driven from a small magnetic amplifier.
In this unit the low - inertia Mess motor drives a potentiometer and an Elliott AC pick - off via a gearbox. There were two such units in the Mk13, only one having the AC pick-off. There were used to follow-up attitude from a Master Reference Gyro to give the zero reference for bank angle and pitch angle attitude lock. The unit with the AC pick - off was the reference for the height - lock required for the automatic approach coupling.
The Mess Motor was also used as an integrator in the analogue computer for the inertial navigational system for the Redcheeks guided bomb c. 1951.

Just to show that almost anything is collectable and eventually has historic value. The little bug was from a Company Open Day and the Medallion is for the short-lived F-16XL. The RAA was donated a collection of ties (all of which had to be washed!).In the recent clear-out in Phase3 Building the Scroll for the 1989 Queen's Award for Export awarded to Flight Controls Division was recovered and all the Blocks and scrolls are now on display.

EFA NEWS

No.8 ELLIOTT-AUTOMATION IN AVIATION July 1968

Wolfe named Young Exporter

Bank Recognises ADD Achievement

BRIAN WOLFE, manager of ADD, was up to his neck in publicity on May 14 when he was formally presented with the winning award in the National Provincial Bank's Young Exporter of the Year competition. Although much of the press coverage was lost during the next day's newspaper strike, interviews with Brian were broadcast by the BBC home and overseas services, and reports appeared in the London evening papers and the local Kent newspapers.

Brian entered the competition last year and was named the winner for his part in gaining the order for head-up displays for the A-7 aircraft, because it represented a major breakthrough into the difficult American electronics market. There were ten runners-up, who also received their awards in a formal ceremony and press conference held at the National Provincial Bank's headquarters in the City.

Brian says he fully appreciates that the order was won by teamwork. The Bank's recognition of EFA's pioneering work in selling to the USA is another factor in establishing our reputation and strength in this very difficult market.

Passenger-Carrying Automatic Landings

SERENELY AUTOMATIC VC10

A LANDMARK in EFA's work on automatic landing was reached on the morning of May 15 when Super VC10 G-ASGK, flying the scheduled BOAC service from Chicago and Montreal landed automatically at London Airport with 146 passengers. Captain of the aircraft and supervising the operation was BOAC's Flight Development Manager Capt. Jimmy Andrew, who is to be BOAC's first Concorde captain. He told the passengers about it afterwards.

Gaining Experience

The landing was, of course, made in clear weather because BOAC must build up experience with the system, and familiarise their Super VC10 crews before moving on into bad-visibility operations. Two aircraft already have the additional units for automatic landing; the whole fleet will be fitted by 1970 at a cost, say BOAC, of £2m. Sometime next year, BOAC intend to be making use of the system for automatic landings in Category 2 weather (when forward visibility is only 1,200ft. and the ceiling is 100ft.) and to be progressing towards its Category 3 operational capability, when the pilot cannot see enough to land the aircraft himself.

In Thick Fog

TACD have been working with British Aircraft Corporation and BOAC for the past year and many hundreds of demonstration automatic landings were made at several airports in order to obtain the final official approvals. During February, the trials aircraft made eight automatic landings in thick fog at RAE Bedford with the Air Registration Board, BAC and BOAC pilots and technicians aboard. That proved that the system could perform accurately and safely in the more extreme Category 3B conditions for which it is ultimately intended.

BOAC's achievement of the first passenger-carrying automatic landing came the day before an important EFA sales presentation in the USA. The news was a convenient and convincing addition to our sales arguments.

Capt. Jimmy Andrew made the first passenger-carrying automatic landing at a Super VC10. He will also be the first Concorde captain.

The National Engineering Strike

Denser than usual traffic jams and energetic pickets greeted many Elliott and Thorn employees on May 15 when the engineering unions held their one-day strike in support of the national wage claim. The strike effectively brought Elliott production to a standstill, as happened throughout the country.

INTER-DIVISIONAL SPORTS

Overcast skies and light rain did not stop Elliott Athletes from performing well at the Inter-Divisional Sports meeting held at Elliott Sports Ground in Featherby Road, Gillingham on June 8.

The Victor Ludorum Trophy, awarded to the athlete obtaining the highest number of points, was closely contested and shared by E. C. Wilkins (MACD) and L. Martin (TACD), with a total of 19 points. Ted Wilkins is pictured below right winning the 440yds., with Len Murphy (Dartford) second, and L. Martin (TACD) third.

Ted also ran a well timed race in the one mile handicap. The only scratch starter, he quickly ran through the field to take the lead during the last lap and finish a comfortable first.

Len Martin (TACD), the other winner of the Victor Ludorum Trophy, is pictured below left crossing the finishing line for TACD in the 4 × 110yds. relay. AEID were second in this event, and Dartford third. Len also won the Long Jump with a leap of 19ft.

More pictures on page three.

This EFA News is fromJuly 1968. It tells us that Brian Wolfe, manager of ADD, won the National Provincial Bank Young Exporter of the year for his work in gaining the A-7 HUD.
On May 15th a BOAC VC-10 G-ASGK landed at London Airport (now Heathrow) with 146 passengers.
What was new was that the landing was fully automatic using the Elliott Automatic Landing system. This was a world first. Later after exhaustive tests at RAE Bedford BLEU the system was qualified for Cat3, where the pilot cannot see enough to land without assistance.
This was the time of the National Engineering Strike the only time I can recall that the Company was brought to a halt by industrial action.

The days before spellcheck!

In the June 1971 edition of EFA News there is a lovely little paragraph:- A recent Quality control report from Lockheed Georgia to the Company noted " a case of errotic operation of EMAC Serial No. 0077"! This was the Energy Management Computer on the C-5

Feedback.

Robin Sleight has commented on the picture in the last edition

For your info that was indeed a young me driving that analog computer It was taken during the Lower Sydenham era (1964-1966/7) and as such would be from the ADD Lower Sydenham files but it was, as I said, taken in the huts at Rochester. At the time, we were simulating the Concorde behaviour on take off.

What is not generally known is that although ADD was nominally at Lower Sydenham following the Rank Cintel take over, I retained a small team of about five guys at Rochester (on Flight Director work). That included Ian Whitehouse, John Austin and Fergus Maloney. I personally split time between the two sites being involved with HUD work at Lower Sydenham and flight director activity at Rochester so I kept a foot (and a desk) in each camp.

A Lament

(From an old copy of EFA News)

This may be hard to follow
Once I worked for 'Swift and Swallow'
Down at Chatham on the outskirts of the town
Then one day, with many others
I was joined to Elliott Brothers
And it took us quite a while to settle down.

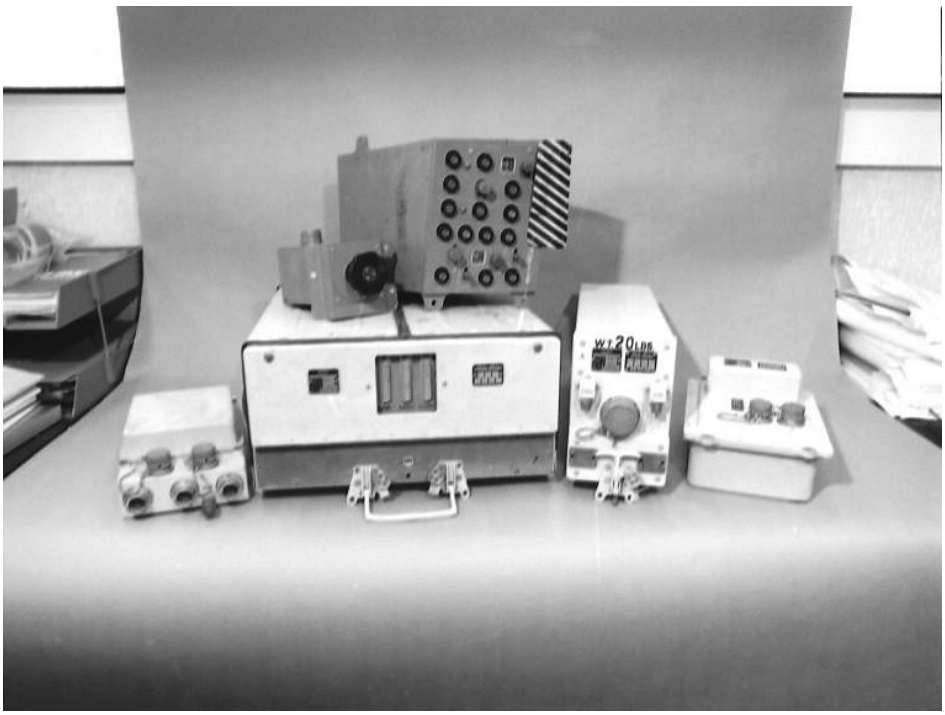
Came a change of situation
We became the 'Automation'
Though the "Elliott' stayed as it was before
Growing larger—up went towers
With a grass patch and some flowers
And a car park for a thousand cars or more.

Came the fusions and the fissions
Of the numerous divisions
But we saw the future safe and prospects grand
Though we thought "we'd had it proper"
When big contracts got the chopper
And they called us "Alexanders Ragtime Band".

Once again the outlook brightened
And we felt no longer frightened
Though Lord Nelson shortly did give us a fright
For with Government as verger
We got married in a merger
With English Electric overnight.

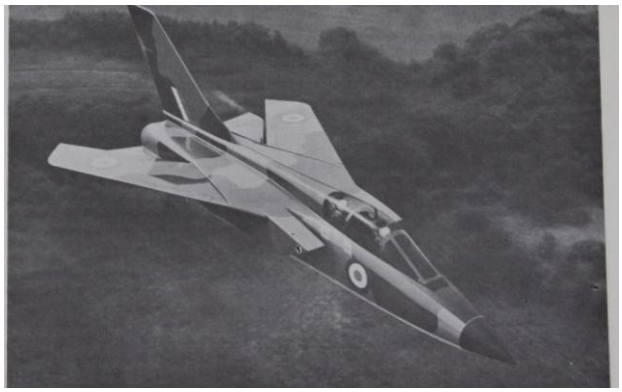
Then things looked a trifle messy
With take-over bids by Plessey
But the GEC outbid them I've heard say.
So each morn I rise from slumber
And I wonder — yes I wonder
Who the hell shall I be working for today!

Negative Archive



This picture shows some of the TSR2 equipment that the Company handed over to The Imperial War Museum at Duxford. The equipment appears to be Flight Control Computer ,Test Equipment and Air Data Computer. Later ADD handed over a Head Up Display, one of only two left (the other is in the Science Museum) but strangely Duxford returned it to the Company.

Does anyone know where this was? It is not certain it is even at Rochester. I do recognise the Tektronix Oscilloscopes. They did a great job of keeping you warm on a cold day and it was easy to find the On/Off switch!



The Multi_Role Combat Aircraft MRCA was in 1971 to be called the Panavia 200 Panther. Certainly by 1974 the name Tornado was in common use probably because Panther was the name of the US Grumman F9F.

The contract for the Batch 1 aircraft was signed on 29 July, 1976. The first aircraft were delivered to the RAF and Luftwaffe on 5 June and 6 June, 1979 respectively. The first Italian Tornado was delivered on 25 September, 1981. Production ended in 1998.

Help needed

The RAA has a good archive of Company Newspapers but we are missing quite a few. Please search your attics and if you find any please consider either donating them or allowing us to copy them. These are missing:- 'EFA News' Nos. 2,5,7,13,29,31. 'Avionics News' No.1. 'Marconi Avionics News' Nos. 1,2,3,4,5,38,53. 'Marconi Avionics News' or 'GEC Avionics News' Nos. 62,63,64,65,66. The name changed at some point. 'GEC Avionics News' Nos.68,70,71,72,73,74,75,77,79,87,99.