WINTER 1986/87

EARSHOT

65

editor J. Kinnear

journal of GEC AVIONICS—Borehamwood

Sword of Honour

Every year the British Safety Council presents Swords of Honour to the thirty companies with the highest standards of safety performance.

GEC Avionics - Herts and Bucks, was chosen by the Board of Governors of the British Safety Council to receive this prestigious award, presented to our representatives at a formal luncheon at the Goldsmiths' Hall on 21st November.

In May last year the Borehamwood Establishment won the British Safety Councils' annual award for the 21st consecutive year, again registering a safety record significantly better than the average for the industry. The new award is fitting culmination of this long record, and a recognition of the effectiveness of the Company's safety management and of the attention given to safety by all our employees.

The Sword of Honour award was initiated in 1979 to recognise companies dedicated to accident prevention, where safety is actively promoted throughout the company at all levels, and where modern techniques are used to reduce damage to personnel, plant and machinery. Competition is tough as only 30 swords are awarded annually. These are specially minted by Wilkinson Swords.

The Borehamwood Establishment Safety Officer receives The Sword of Honour from Dr James Latto, Chairman of the British Safety Council.

The 1986 awards included GEC Avionics Borehamwood Establishment, amongst 14 first time winners. GEC Avionics was one of only four companies in the electronics industry singled out for this highly sought-after award. At the presentation ceremony Lord Ezra said: "I know from my days in the coal industry the need to maintain a vigilant attitude to accident prevention and safety in general. The companies here today have proved themselves to be among the safest in the world.

21st Consecutive Annual Safety Award

1965 saw the introduction of the British Safety Council's Annual Award Scheme. To qualify for the prestigious National Safety Award, companies have to return, for the previous year, an accident record lower than average for their particular industry. This is based on a formula that takes into account the number of days lost from personal injury accidents, related to the number of employees. Later, the British Safety Council introduced the ten-year award scheme and this year for the first time a fifteen-year award scheme.

Since 1965, GEC Avionics Limited (Borehamwood) has qualified for no less than 21 annual awards, 7 ten-year awards and the new fifteen-year award. So confident is the company in its employees maintaining a first class lead in the National Safety Awards scheme that it has suggested the introduction of a twenty-five year award, the holders of which would belong proudly to the most exclusive group of safety award winners in the history of British Industry.

The company owes its successful record to implementation of the Company Management's sound 'Statement of Safety Policy' by all employees from the moment they join the company.

All new joiners attend a detailed induction talk on all sites. Health, Safety and Fire training also forms part of the syllabus for those attending supervisor, apprentice, post graduate and youth training courses.

Organised, trained and continually updated are those volunteers who provide their vital services as Safety Officers and Representatives, Fire Wardens and First Aiders. These in turn are supported by the Medical staff and Security Guards, and by the Safety Office, which provides specialist advice on Safety matters.

The achievement and maintenance of high standards of safety, although achieved through the attitudes and performance of individuals, are vitally dependant on management functions.

More and more individuals with foresight and interest in improving their own areas of work or managerial skills are seeking the most recent information from the Safety Office in advance of using new processes and substances, in order to set up safe systems of work. The improved awareness of what the Safety Office has to offer is most definitely paying dividends as reflected in the accident incident rate figures for the last ten years. The sudden improvement in the already good standards from 1981, in spite of the steady rise in the number of employees, is the result of improved training and communications.

To meet the challenges and trials of the future we cannot rest on our laurels, we must all develop and nurture the team spirit and encourage co-operation throughout the length and breadth of the company with the aim of being the first to achieve the new 25-year safety award.

My personal congratulations and appreciation is extended to you all, well done.

A. N. Hall, Safety Manager
GEC Avionics (Borehamwood)

Young Engineers

YES News . . .

The Young Engineers Section held its first AGM at the end of April, at which the rules of the section were adopted and the Committee elected as it stood. The activities organised by the Section have included visits to the RAF stations at Coningsby and Waddington, to Alton Towers and to Silverstone, Ten Pin Bowling, Cricket, Rounders, and Softball matches, Treasure Hunts and Egg Races as well as Social Evenings at the Windmill at Chippenham, the Plough at Tyttenhanger Green, the Cat & Fiddle at Radlett, the Green Dragon at London Colney and the Goat at St Albans. At the time of writing an assault is planned on Boulogne early in December.

Membership of the section is open to all young staff, not just engineers, who are not eligible to join the Apprentices Association; so if you're missing out on these activities contact the Treasurer Cheryl Gibson on Borehamwood Extn 6904 for membership details.

The 'YES' contingent and Waddington's Vulcan.

Milton Keynes Team in the Final of the GEC Business Game

A team of Engineers from Milton Keynes came through six months of play in this year's GEC Business Game to win a place in the final at the College of Management, Dunchurch, on 21-22 June. This proved to be a very close, tough event between the five finalists, with the Milton Keynes' team securing third place.

Team Leader, George Shaw (Group Leader) and team members Nitin Tank (Engineer), Andy Nejman (Section Leader), Mike Renshaw (Senior Engineer) and Paul Worrall (Section Leader), all work in the Systems area.

The game is an opportunity for employees at all levels and in all types of jobs to become acquainted with business as whole in an enjoyable and entertaining way. 210 teams from 53 GEC Companies and 71 sites - including sites in South Africa, Hong Kong and Australia - were involved. Five teams from Borehamwood, four from Milton Keynes, two from Welwyn and one from Radlett were entered in the Game which involves a business simulation played over five 'quarters'.

A second team from the Systems area at Milton Keynes - Mike Sambrook (Section Leader), Duncan Williams (Senior Engineer), Kevin Freeman (Senior Engineer) and led by Gillian Longhurst (Section Leader), narrowly missed a place in the final.

Looking back over the past six months, George Shaw commented, "The game has been very interesting and a total and refreshing change from our usual Engineering environment. We didn't approach the game with any preconceived notions or theories and have certainly gained a realistic insight into the management of money in a business."

Mr J. A. G. Luck, Divisional Manager ARSD presented the trophy to the successful Milton Keynes team: (l. to r.) Nitin Tank, Mike Sambrook, Andy Nejman, Kevin Freeman, Mr J. A. G. Luck, Duncan Williams, Martin Woolley, Gillian Longhurst, George Shaw, Paul Worrall, Mike Renshaw, Mr J. Cross (Personnel Executive).

RAF Scampton Charity Evening

The GEC Avionics team at Tornado Radar Repair Unit (TRRU) based at Royal Air Force Scampton, were involved in the Station Charities Evening. A model Tornado was constructed to carry alternative 'bombs', either an egg (to drop on some unfortunate volunteer) or a dart to attempt to hit a prize (plastic aircraft construction kit). The aircraft ran down a wire and the 'bomb' was released by means of radio control, the 'pilot' being seated in a cockpit which utilised a genuine Hawk aircraft ejector seat kindly loaned by the Red Arrows aerobatic team (seat value £250,000).

The feature was a major attraction of the evening, which also featured several other sideshows, a police dog demonstration, the Papua New Guinea Police Band and a demonstration of radio controlled model helicopter flying, including exploding model buildings, organised by Mr T. Tomlinson of TRRU.

The TRRU contribution to the evening was undoubtedly appreciated by the RAF and was an effective method of drawing attention to the Company presence on site.

An apprehensive A. Thompson (GAv TRRU) is target for a young 'apprentice pilot' 'egged on' by Sue Tinker (also GAv).

London Marathon

Trevor Day, Cost Controller from 302 Division (right) and John Mahony from Research Lab, ran in the 1986 London Marathon on 20th April. They were among 18,000 who finished, Trevor at a personal best of 3 hrs 38 mins and John 4 hrs 15 mins. £600 was raised between them which will go to the Tadworth Childrens Hospital and Action Research for the Crippled Child respectively.

* * *

'Sponsored Famine'

Kathy Sainty and Chris Bennett of Airborne Software Division were brave enough to take part in a "Sponsored Famine" to collect money for the Ethiopian Famine Appeal.

After fasting for 24 hours they managed to collect some £79 in sponsorships to send to World Vision, the Agency who organised this scheme. They haven't as yet admitted how many £'s they lost in weight!

1986 GEC Fellowship

Two applicants for this year's GEC Fellowships - Doug Everard a Senior Mechanical Engineer, from Airborne Radar Systems Division at Milton Keynes and Mike Jones, the Senior Personnel Officer at Hemel Hempstead - reached the final interview stage at Stanhope Gate in May. Doug was subsequently notified that he had received one of the six Fellowship awards.

The holders of the Fellowship are able to undertake full time training or study or planned job experience related to their Careers and the Company's business.

Doug was sponsored by GEC Avionics whilst studying for a degree in Engineering at Cambridge and began full-time employment in 1982. He will use the Fellowship to read for a Masters Degree in Business Administration at the Cranfield School of Management, near Bedford. The main subjects studied include Accounts and Finance, Human Resources, Economics and Marketing.

Doug Everard is congratulated on his award by Jim Luck, the Manager of Airborne Radar Systems Division. Also present left to right, Pat Boyd, Training Manager, John Cross, Personnel Executive and Keith Lawrence, Doug's supervisor.

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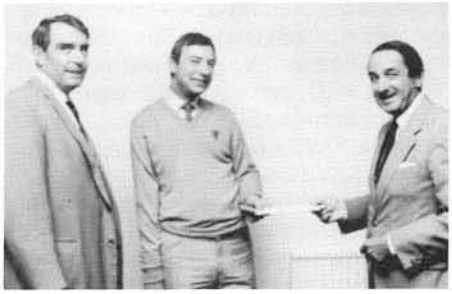
Suggestion Award Scheme

On 11 September Peter Harris, Chairman of the GAv Borehamwood Suggestions Committee, presented a cheque to Ian Meadows, a Tool Instrument Maker in the Central Machine Shop, in respect of a tool designed by him which enables considerable savings of material to be achieved during the machining of Al radar base mounting rings.



The Suggestions Committee is always glad to receive novel and practical ideas put forward by employees, on any matter which will lead to extension of the company's product line, improvement of productivity or reduction of costs. Any such ideas should be sent through internal mail to Mr P. L. Harris at Borehamwood, using forms available from divisional and departmental supervisors.

Apprentices Build Public Address System for Watford Day Centre

A sophisticated public address system, designed and built as a project by apprentices from GEC Avionics, Borehamwood, for the Balmoral Day Centre in Clive Way, Watford, was recently inaugurated in a special ceremony by Peter Chinn, GEC Avionics Engineering Executive, when he presented the system's Control Unit to the Centre's manager, Kathy Young.

The Centre caters for 140 mentally handicapped adults with sessions in independence and self help skills, further education and recreational activities.

Guests from Hertfordshire County Council, the Balmoral Parents and Friends Association and GEC Avionics then met some of the trainees in a tour of the Centre, during which they were able to see the system operating in its various modes.

The equipment will contribute to numerous activities at the Centre. As well as relaying messages, it will be used for background music, as amplification for social functions and entertainment, in music, drama and speech correction sessions, and as an external public address system at events such as the annual sports day.

While providing a useful link with the community, the project has enabled the apprentices to gain real life experience in meeting and resolving both technical and managerial problems. The basic assessment of the requirement began in October 1985. Since then the project has involved different apprentices at its various stages - electronics apprentices to design and manufacture the equipment, mechanical apprentices to design and build the housing and apprentice electricians to deal with the installation.

The project did pose some special problems - the system has to allow each of the Centre's eight areas to have its own public address system with the facility to be linked and overridden with a signal from a central console. Special care had to be taken to ensure very high standards of safety and ease of operation.

By designing several prototypes, significant refinements to the system were achieved - the original six component boards were reduced to three, and cabling rationalised through single cables carrying three signals simultaneously.

The team of apprentices was led by Jonathan Attias, 18, a technician engineer apprentice, from Lullington Garth, Borehamwood. He commented on the experience they had derived and added "Naturally much of this - such as design feasibility and finished appearance - was of a technical nature but none of us at the outset had really appreciated the importance of matters such as customer relations and associated liaison, budgeting and deadlines. Working 'in the field' is really very different from working in a lab where everything is to hand".

Left to right: Simon Garbett, Ken Pippiatt, Andy Parkins, Jon Attias, Trevor Olsson, Sid Padfield (GEC Elliott Automation Ltd.), Derek Lamb, Keith Cannon, Pat Boyd.

Other members of the team spoke of the great sense of achievement at having successfully designed, built, installed and commissioned the system in 10 months.

NEWS RELEASE: NEWS RELEASE:

GEC AVIONICS DEVELOPING STEALTH AVIONICS SYSTEMS

Following extensive flight testing of the GEC Avionics terrain reference navigation system, developed in conjunction with RAE Farnborough over the last six years, GEC AVIONICS are now combining this powerful technique with their new range of advanced avionic sub-systems. This combination is designed to produce stealth avionic systems for the 1990s, capable of covert operation without telltale and detectable emissions.

This new generation of systems, known as T²A (Total Terrain Avionics), uses digital contour and map information, developed for the original navigation role, to provide a major enhancement of the existing sensors and displays in the aircraft. The result will enable a pilot to fly confidently at high speeds and low altitudes in all weather conditions, without the need to use the high energy emissions associated with radar and other aircraft sensor systems.

Combining T²A with the new airframe shapes of the stealth aircraft of the 1990s will result in a military aircraft whose presence is far less detectable than any of the existing generation of aircraft.

The core of the T²A system is a powerful data base, which stores not only a 3-dimensional digital model of the terrain, but also the associated cultural details and additional military mission intelligence information. The original more limited use of this model, which has been demonstrated by a number of companies, including GEC Avionics, is to measure the contour profile over the ground using the aircraft's radio altimeter and then compare this with the stored contour profile within the digital data base. The GEC Avionics T²A system makes avilable the digital data base on a much broader basis to interface with, and to complement, the wide range of sensors, controls and display systems manufactured by GEC Avionics.

One of the several new developments associated with this system is the GEC Avionics digital electronic map display system, which can operate either as an integral part of the T²A system, or on a stand alone basis in existing aircraft using its unique dual capability store. This store enables the digital map to display in full colour, without any moving parts, any existing paper chart. It can also display Digital Land Mass System (DLMS) data. Digital data derived from conventional maps will still have to be used in the near future for areas where DLMS is not yet available.

Following successful completion of earlier trials, GEC Avionics' T²A systems are now starting flight evaluation and development in a Hunter aircraft at RAE Farnborough and also in a US Naval Air Systems Command aircraft under the designation 'Project Real Night'. This ongoing series of flight development testing will establish the basis for the new stealth necessary for military aircraft operations in the 1990s.

Happy Retirement

A number of long serving members have retired since our last issue and we would like to take the opportunity to acknowledge their contribution to the Company. These include:

J. C. Edwards, Applied Physics Division, after 39 years service.
H. Cheeseman, Airborne Radar Division, after 35 years service.
R. W. Hamilton, Mobile Radar Division, after 29½ years service.
S. Pearson, Central Machine Shop, after 27 years service.
J. D. Wilkins, Applied Physics Division, after 26 years service.
T. Butcher, Mobile Radar Division, after 24 years service.
T. Troll, Thick Film Department, after 24 years service.
G. West, Research Department, after 24 years service.
R. Aytoun, Head Office, after 18 years service.
Mrs. Luff, Security, after 13 years service.

Gwen Luff, who retired on 26th September, was Secretary to our Security Controller, Henry Ellis and also to his predecessor Cdr. Clive Macintyre, joining him on 21st April 1973. Gwen was well known to a lot of people not only within Avionics but also within the other GEC Companies based at Borehamwood. She will be missed by many to whom she gave a sympathetic ear to their problems, by those who had lost keys or who couldn't open their desks and a host of other day-to-day problems which no-one else seemed to be able to solve.

T. Butcher

At a small gathering in the Security Department she was presented with a cheque and a monster card from her many friends who wished her a long and happy retirement.

J. C. Edwards

H. Cheeseman

J. Williams

Congratulations: Congratulations: Congratulations

Congratulations to P. L. Harris, GEC Avionics' Site Services Manager (alias Group Captain P. L. Harris, AE, FIEE, ADC) on his commission as a Deputy Lieutenant of the Lieutenancy of Greater London.

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Congratulations to David Haynes (319) and his wife Sue on the birth of their daughter, Anna, on 12 November.

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Congratulations to Gloria Manly (301) and her husband Reg, on the birth of their son on 9th March.

'Wedding Bells'

Congratulations to Keith Loffhagen, of Publications Unit, on his marriage to Mandy Smith on 21 June 1986 at Watford Registry Office.

– and all in Research Laboratory – Ian Montandon, on 9 August at Davyhulme, Manchester, to Jane Wong; Mike Casey, on 27 September at Radlett, to Anna Ossowska; David Taylor, on 27 September at East Barnet, to Diane Sheehan; and Trushal Patel, on 19 October at Kingsbury, to Chetna Patel.

National Young Employees Competition 1986

This year's competition saw the largest involvement yet by GEC Avionics Borehamwood with teams from Hemel, Welwyn, Borehamwood and two from Milton Keynes.

The competition's form continued to include outdoor events, combining physical activity and problem solving in the remote countryside of mid-Wales. There were several new events including the construction of a scaffold bridge across a 20 ft. wide 'river'.

The marked rise in the standard of the competing teams - increasingly 'all male' - posed quite a challenge, especially for our two 'mixed' teams from Hemel and Borehamwood and our 'all girls' team from Milton Keynes. Nonetheless, team managers were unanimous in their praise of their teams' enthusiasm and determination as they wrestled with ropes, pit props, oil drums and scaffolding.

Thanks must be extended to all team managers, members, reserves, marshals, supporters and especially Dave Lidbetter who organised our entry.

Team from Borehamwood (left to right) Gary Uismeg, Alan Cole (Manager), Gordon Wilkinson, Kevin Church, Sarah West.

Team from Hemel Hempstead (left to right) Amanda Digweed, Dave Page, Jane Bosher, Steve Wright.

Team from Milton Keynes (left to right) Mandy Smith, Sam Colville, Sharon Muller (Manager), Juliet Andrews, Kate Burgess.

Team from Milton Keynes (left to right) Richard Gray, Jason Dimmock (Manager), Dave Higson, Eric Stannard, Perry Coultrup.

Team from Welwyn Garden City (left to right) Stuart Archer, Mark Charlish, Bob Brook, Marc Lehrer (Manager), Ewan Cassidy, Mark Pond.

NEWS RELEASE: NEWS RELEASE:

GEC AVIONICS HEAD UP DISPLAYS CHOSEN FOR LATEST AMERICAN CARGO AIRCRAFT

Douglas Aircraft Company, Long Beach, California, a division of the McDonnell Douglas Corporation, has selected an advanced Head Up Display (HUD) design from AIRBORNE DISPLAYS DIVISION, Rochester, for the new C-17 long range transport aircraft.

Two identical HUD units are to be fitted in the cockpit coaming, one in front of each pilot. They will project into their forward view an image of electronically-generated symbols representing instrument readings and other information required during a mission. This enables the pilots to view critical flight data such as attitude and airspeed superimposed over their view of the outside world whether in level flight or taking off or landing.

The full scale engineering development contract, including production options, is currently valued at over $9 million. The C-17 is under full scale development to meet the future heavy lift requirements of the United States Air Force and will be able to operate into short, austere fields.

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A NEW SHAPE IN THE SKY FOR THE BRITISH ARMY

GEC AVIONICS PHOENIX remotely piloted surveillance system is airborne.

Flight testing of the pilotless air vehicle, which forms part of the PHOENIX battefield surveillance system for the British Army, began in May at a special trials site in England.

The PHOENIX system comprises a small air vehicle with advanced avionics and infra-red imaging system, an air/ground data link, a mobile ground station and logistics vehicles for launch and recovery of the air vehicle.

Vital to the objective of PHOENIX, as an autonomous airborne surveillance platform, is automatic flight control. This was demonstrated on 30 May when the 'A' model air vehicle's 35 minute first flight was under the control of its automatic flight control system.

A specially developed trials ground station has now been brought into operation by GEC Avionics and integrated with the range. This allows the company's trials team to control the air vehicle through its sophisticated digital flight controls and to monitor the performance of both the aircraft and its systems.

The satisfactory progress being made with PHOENIX is already attracting interest from other potential users overseas and the company is following these up by agreement with the Ministry of Defence.

Long Service Awards

1986

R Baxendale
MRD

A Butvenick
AWSD H/H

L T J Choules
Applied Physics

R Collett
Applied Physics

D H Fassnidge
Model Shop

V W Foster
ARS Milton Keynes

Awards in recognition of their 25 years continuous service with the Company were presented to 23 employees by Mr D I Jackson at an informal ceremony on 26th November 1986.

Mrs P B Hales
MRD

R H Hatton
ECD

D F Gandy
AWSD Radlett

S D Lewis
MRD

R J F Naish
AWSD H/H

L W Oakhill
ARS Borehamwood

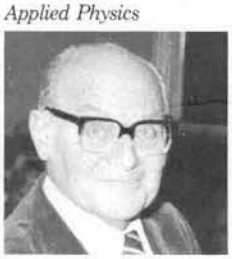
Mrs E N Parkins
MRD

R Robinson
CMS

Mr D I Jackson making the presentation to Harvey Trudgett (918/700).

V C Rowntree
Applied Physics

P W Spooner
ARS Milton Keynes



A J Tanner
Applied Physics

Mrs V R Town
Model Shop

T E Tranter
AWSD Radlett

Mrs R L Turner
MRD

M J Wildman
Model Shop

F J Winfield
ARS Borehamwood

Local Apprentices Win College Prizes

Judith Hill and John Murphy, apprentices with GEC Avionics, were recently presented with prizes by Cecil Parkinson, M.P., at de Havilland College's award ceremony in Borehamwood.

Judith, 19, from The Croft, Barnet, a second year technician engineer apprentice, won the Marlow Prize, awarded for outstanding effort on the General Engineering Appreciation course run by the College.

Judith commented, "Naturally I am very pleased, especially since there were only four girls in a class of twenty-five students. Clearly, there's increasing scope for women to make a career in the traditionally male professions."

John Murphy, 18, a second year electrical craft apprentice, won the Lloyds Bank Prize for his performance on the College's City and Guilds Electrical Engineering Part 1 course.

John, who lives in Rowley Lane, Borehamwood, said, "it's very rewarding to have your efforts acknowledged - currently I'm enjoying the challenge of the second part of the course."

In his review of the past year, the College Principal, John Evans, made considerable reference to the strong links between the College and GEC Avionics. Through the support from its Training Department and Airborne Software Division, de Havilland was now running a Higher National Certificate course in Software Engineering. This new course was believed to be offered by only one other centre in the country.

★ ★

A reminder that "Earshot" is your magazine compiled from your contributions. Any item of general - or even local - interest and any articles or pictures are welcome and can be submitted through your local reporter/agent.

★ ★

20 Sixth Formers Attend Training Workshop

As part of their participation in the Sainsbury Trust, twenty sixth form pupils from Hertfordshire schools attended a day long training workshop at Kenwood House earlier this year.

The Trust - which aims to promote an understanding of the world of engineering amongst senior pupils - also aims to give participants an insight into the human side of industry.

The day, therefore, included group exercises, films and role play on topics such as communication skills, decision making and leadership.

Katherine Edey and David Russell tackle an interviewing exercise, observed by other delegates.

NEWS RELEASE: NEWS RELEASE:

GEC WINS RECORD AVIONICS EXPORT ORDERS

In the financial year to March 1986, GEC Avionics Limited won export orders for aviation electronics worth over £300 million, an all-time record for any UK avionics company.

No less than £185 million of these orders were won in the highly competitive United States market. GEC Avionics has established a leading position, as a supplier to the USA, in such fields as aircraft head up displays and specialised aircraft computers.

In 1985, GEC Avionics exported aviation electronics worth the equivalent of more than $200 million (at the average exchange rate for the year). According to figures published by the influential US aerospace magazine "Aviation Week", the United Kingdom's total exports of avionics for the same year were $450 million. This means that GEC Avionics exports represented almost half the UK avionics industry total exports.

Principal contracts were in wide angle "see in the dark" pilot displays for the very successful General Dynamics F-16 fighter. These included some which incorporate holograms, an optical technique pioneered in Britain and progressed for aviation by GEC.

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GEC WINS BIG ORDER FOR AIRCRAFT HOLOGRAPHIC DISPLAYS

$72 million production for UK technology

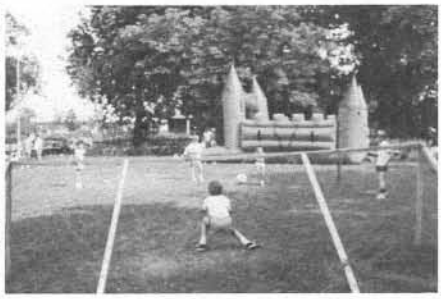
AIRBORNE DISPLAYS DIVISION, Rochester, has received a $72 million production order from General Dynamics Corporation, Forth Worth, Texas, for a new type of pilot display, which uses advanced holographic techniques. Over 450 of the new type of head up displays (HUD) have been ordered, to equip General Dynamics F-16C Fighting Falcons.

The new display is the world's first holographic HUD system to be put into volume production. It uses diffractive (holographic) optics to provide the pilot with a wide field of view suitable for both day and night operations.

In developing the new HUD, the company drew on the extensive experience it had gained during the US Air Force LANTIRN programme. This involved GEC Avionics holographic HUDs flying over 1000 missions with the LANTIRN/F-16 Combined Test Force, with the majority of flights being low level and at night.

MILTON KEYNES

28 JUNE



1986

FAMILY DAY

NEWS RELEASE: NEWS RELEASE:

GEC AVIONICS WINS ANOTHER MAJOR ORDER IN THE UNITED STATES FOR AIRBORNE COMPUTERS

A $56 milion production order has been received by AIRBORNE DISPLAYS DIVISION, Rochester, from the United States Air Force and Navy for their Standard Central Air Data Computers (SCADC). This is the second successive Airborne Computer production order received by GEC from the USAF and USN.

"With orders now approaching $100 million for nearly 3,000 computers, GEC will be a major supplier of Air Data Computers for the USAF and USN inventories," said Ron Howard, the GEC Avionics Director responsible for this business.

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GEC AVIONICS WINS POWER CONVERTER CONTRACT FOR US MISSILE

POWER CONVERSION SYSTEMS DIVISION, Nailsea, has received a contract, initially worth $146,000, from McDonnell Douglas Astronautics Company (MDAC), a division of the McDonnell Douglas Corporation, St Louis, Missouri, USA. It is for the design and qualification of a new power converter for the latest version of the McDonnell Douglas Harpoon missile, which will equip the Royal Navy's new Type 23 frigates.

The Harpoon missile, already proven in 7 years' service in a number of versions launched from air, sea surface or underwater, is regarded as the principal anti-ship weapon in the US Navy and 16 other operators world-wide.

* * *

BRITISH ARMY ORDERS NEW GEC AVIONICS NAVIGATION AID FOR HELICOPTERS

AIRADIO PRODUCTS DIVISION, Basildon, has received an order for its lightweight Tactical Air Navigation (TACAN) systems to equip British Army Air Corps Gazelle Helicopters.

TACAN, a widely-used navigation aid in military aircraft, provides pilots with range and bearing information derived from ground radio beacons, to enable them to navigate accurately. The GEC Avionics AD2780 is considerably smaller and approximately one third of the weight of any competitive system through the use of VLSI electronics and a compact solid state transmitter. It is thus ideally suited to small airframes such as helicopters.

With the new radio navigation system, the Army will not only benefit from a greatly improved navigation capability in the tactical role, but will also be able to continue operating communications flights in European air space with the greater flexibility that the civil air authorities now require.

This is the first Army use of the AD2780 TACAN, the first navigation system of its kind compact enough to be conveniently installed in small military and civil helicopters.

The AD2780 TACAN has already been selected for helicopters operated by the Royal Netherlands Air Force and the RAF's new Tucano trainer aircraft. A Mil Std 1553B version of AD2780 has also been supplied for the UK's Experimental Aircraft Programme (EAP) demonstrator.

GEC's Centenary Half Marathon

Despite weather more reminiscent of the monsoons than the Midlands, over 1,000 GEC staff ran in the Centenary Half Marathon at Dunchurch on 13th September. Nearly 40 runners came from GEC Avionics, Borehamwood Establishment's sites including Geoff Whitworth, our first 'man' home in 27th place. All participants were awarded a commemorative medal.

A team from the Training Department, Kenwood House, finished as the best apprentice team, reflecting earlier training by the apprentices, including success in the Barnet five-mile Fun-Run. Encouragement was given on the day - and in the rain - by Pat Boyd (Training Manager) and wife, Jackie Howard (Training Officer) and husband, and Maggie Kain (Training Officer). A 'high profile' by the Training Department was further assisted by Keith Cannon (Head of Technology Training) and Ken Lippiatt (Instructor) who finished 113th and 123rd respectively.

Checking the official results of the Barnet Fun-Run – and displaying the Medallions they were awarded – are (l. to r.): Ken Lippiatt (Instructor), Stephen Knight (Software Apprentice), Derek Lamb (Senior Training Officer), Richard Gass (Technician Engineer Apprentice), Judith Hill (Technician Engineer Apprentice), Keith Cannon (Head of Technology Training).

Team Lists for GEC Centenary Run

E. Ammon	309
Peter Davenish	309
Gill Simpson	309
John Horton	Sponsored
Paul Bamfort	Students
Steve Westwood	
Robert Guyler	Sponsored
Justin Crossley	Students
Ian Double	
John Attias	Training
Andrew Parkins	Kenwood
Mark Pond	House
Adrian Landmann	Training
Gary Petrie	Kenwood
Trevor Olsson	House
Derek Lamb	Training
Keith Cannon	Kenwood
Ken Lippiatt	House
Stephen Knight	Training
Judith Hill	Kenwood
Richard Gass	House
Trevor Day	302 - E/W
John Mahony	307 - E/W
Mike Scorer	307 - E/W
S. Rees	307 - E/W
C. Gibson	307 - E/W
D. Judge	307 - E/W
A. P. Jenkinson	309 - M/K
C. M. Kenlay	309 - M/K
D. C. Thorne	309 - M/K
P. Barnes	309 - M/K
P. J. Buckingham	309 - M/K
P. K. Conway	309 - M/K
W. G. Skimming	309 - M/K
E. E. Stannard	309 - M/K
C. V. Gough	309 - M/K
Christopher Walker	309 - M/K
Dave Goddard	309 - M/K
Martin Eve	309 - M/K
T. Billows	309 - M/W
G. Lyons	309 - M/W
M. Peterson	309 - M/W
Ian Washbrook	317 - E/W
David O'Sullivan	317 - E/W
Jonathan Farthing	317 - E/W
K. T. Wilman	317 - E/W
D. M. Lewis	317 - E/W
Mervyn Short	317 - E/W
David Kirsopp	317 - E/W
Albert Wakfield	317 - E/W
Geoffrey Whitworth	317 - E/W

TOTAL OF SEVENTEEN TEAMS (17)

Local Music Talent

Two of the Radlett based music group 'Safe in Bed' are GEC employees at Borehamwood. David Ross (far right) works for GEC Computers and Tony Gerred (second from right) is a draughtsman with GEC Avionics in Mobile Radar Department. Both served their electronic engineering apprenticeships with the Company.

The group have played in and around London since early 1983. Aged between 23 and 27 they play lead base guitar, drums and keyboards, and have a good vocal act. Their venues have included the Embassy Club, Old Bond Street; the Fortune Theatre, Covent Garden; the Middlesex & Herts Country Club, Harrow Weald and just recently Paradise Lost, Watford.

Their recently released second independent single record (available from 'Track Records' in Borehamwood) has already been played on Radio 1 and Chiltern Radio.

NEWS RELEASE: NEWS RELEASE:

GEC AVIONICS TO SUPPLY THERMAL IMAGING SENSORS FOR THE ROYAL NAVY'S HONG KONG PATROL CRAFT

ELECTRO-OPTICAL PRODUCTS DIVISION, Basildon, has received a new contract from the UK Ministry of Defence to supply Thermal Imaging Sensors to equip the Peacock Class Patrol Craft operated by the Royal Navy in Hong Kong.

With the new equipment, the Royal Navy will be able to carry out long-range target detection, identification and tracking, by day and night. The GEC Avionics equipment comprises V3800 Thermal Imaging Sensors and below deck remote control units.

Thermal imagers sense the thermal energy which all scenes emit naturally. They can, therefore, 'see' in total darkness, as well as in daylight and through smoke, mist and haze.

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GEC AVIONICS NEW COMMUNICATIONS SYSTEM CHOSEN FOR RAF HARRIER

Against international competition AIR-ADIO PRODUCTS DIVISION, Rochester, has won a multi-million pound contract to supply advanced ECM resistant radios for front line service with the GR5 Harrier fleet of the Royal Air Force.

The new British equipment, known as AD3500 and developed privately by the company, takes full account of the threat posed by the latest developments in electronic countermeasures techniques and will provide reliable communications under battlefield conditions.

The new system provides 'line of sight' tactical communications in both VHF and UHF frequency bands, using either AM or FM modulation. Facilities are included to provide both clear and secure speech, as well as two separate 'guard' or emergency channels, all in a single Transmitter Receiver Unit measuring 8in x 5in x 4½in (20cm x 13cm x 11cm approximately).

Computastars/Computadarts Championship 1986

THE HEATS

Queen Elizabeth Stadium in Enfield on a cold, very wet and thoroughly miserable Saturday afternoon at the end of May, is not the place one might expect to find heroics of the Herculean variety. Yet, notwithstanding the fairly atrocious conditions, some 140 brave soul athletes and 70-odd not-quite-so brave darts players assembled in an air of happy but totally warranted optimism to compete at their respective sports!

Airborne Software Division managed to field 18 athletes and 30 darts players on the day - a touch of overkill some thought, and one could not help but marvel at the general team spirit that this effort generated in the arena. Obviously, there was a great deal of rivalry between the teams in the COMPUTASTARS athletics competition and this showed in the effort being put into every event. It soon became obvious that some teams, probably based on past experience of this competition, had been training seriously. It was equally obvious that others had done most of their training in the bar, or at best in an armchair. However, after the first few events it became apparent that some of the ASD lads, fit or otherwise, were putting on the show of their lives. Excitement mounted until by the final event ASD had **two** men in the top 5 individuals.

In the Champions Event, Pete Cowan finished overall 8th, Steph Port was overall 9th and Ian Washbrook overall 29th. Add to this the 10th team slot for GAv1 ('The Trackers') and an invitation to the National Finals in Cwmbran in July became reality for Peter Cowan, Mark Smith, Dave Wood, Dave Knowles and Mark Cockwell - well done lads!

The other intrepid athletes, the darts players, fared marginally better. All teams are automatically through to the finals in Cwmbran so the organisers arranged an individual knock-out competition. All 6 ladies made the final stages, so on to Cwmbran went Sue Stenzil, Kathy Sainty, Ann James, Jackie Schauerman, Alison Hughes and Alison Innes. Of the 'gentlemen', Vic Blake, John Cawley and Warwick Bell qualified brilliantly whilst the rest of us 'came 2nd'.

THE FINALS

Unlike the day of the heats in Enfield, the British Finals of Computastars and Computadarts, held in Cwmbran Stadium on Saturday 26th July, was a warm, sunny and thoroughly enjoyable day. Firstly, there were over 30 of our friends and colleagues all bent on enjoying the competition, the cameraderie and the weekend away. Then there were some 500 other like-minded souls from 30 plus other companies from all over the British Isles.

The trip started on Friday afternoon, when everyone piled into two mini-buses and several cars and humped off down the M4 towards the Principality. Cardiff Post Hotel, having handled this event last year, was welcoming and very well prepared.

(Apparently, the bar does not close on the Friday on the grounds that: while you - I mean everyone - is making a noise, they might as well restrict it to one place!). Surprisingly, no serious casualties were reported and on Saturday all the athletes and darts players ate a good breakfast and piled off once more, this time to the event proper.

Cries of greeting and friendship made the arrival of our team at the stadium quite a noisy affair. Obviously the opposition (and 'friends' from Friday night) sought to maximise any advantage to be gained as a result of any accidental self-inflicted wounds from the previous night. These cries turned a little sour, however, when it was realised how our athletes had sneaked off to bed and the would-be saboteurs had spent many hours tiring out the darts teams.

The competitions proper were undertaken with a due sense of pride and an extremely convincing display of effort. No acting in the world is capable of producing the agony induced by some events. I mean to say; any fool can sprint 100m in a reasonable time. But who in their right mind would attempt towing a dumper truck full of sand up and down the track? After one way all was well; half way back a certain amount of strain was beginning to be obvious. By ¾ distance everyone had slowed to snails pace and everyone simply collapsed over the finishing line gasping for air and the organisers throats! Was it coincidence, I wondered over a pint, that lunch was called at this point - I think not perhaps! The afternoon was full of goodies as well. Like hitting tennis balls for a partner to catch; or like heading a football; or even like hopping over 3 parallel bars 18 inches high as many times as possible in a minute. The athletic coup de grâce came in the last event, however, when all the by then tired and grumpy athletes faced . . . the 1 lap steeplechase!

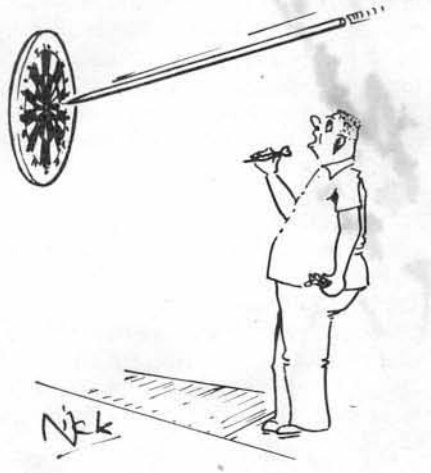
Not much you may think, only 400m plus the water jump - easy. I should warn any reader of delicate disposition **not** to repeat this to any group of people who have just finished 7 other strenuous events on the same day - you won't get much sympathy with this view.

In the end honour was satisfied. The sprinters had sprinted; the throwers had thrown and the sick and ailing had done their bit as well. For my part I can admire the honest efforts for no reward other than having taken part put in by Pete Cowan; David Wood; Mark Cockwell; Mark Smith and Dave Knowles. A great team who tried their damnedest to compete with the spirit of the whole thing; i.e. to try hard but to enjoy it.

Meanwhile, elsewhere, people were throwing darts - for prizes. In the men's singles, Vic Blake, John Cawley and Warwick Bell all made it to the last 8 which was pretty good from an entry of around 150. Also in the team events all 4 teams got past the first hurdle and three finally fell at the quarter finals. For the ladies there were no such disappointments and, having won through to the finals from a 'large' entry, it was perhaps unfair on the opposition to find themselves the only teams left at the semi-finals stage. Add to this that all other opposition for some reason withdrew, through fear or whatever, we don't know. However, Kathy Sainty won the singles, Denise Hale was runner up and Alison Hughes skippered the team to victory with Jackie Schauerman throwing the winning darts. So . . . first and second in both singles and team events . . . Well done ladies!!!

In fact, well done to everyone who went. I can assure anyone who asks - it was well worth all the effort and all the fun - a great event for next year perhaps? By the way, have you ever wondered why darts is a pub game? It's simple; if you haven't got a drink, you can't stop shaking enough to even see the board let alone hit it!

C. G. Bennett



Welwyn Science Fair

A Science Fair, demonstrating how basic scientific principles are utilised in industry, was attended by 1300 fifth and sixth form pupils from Hertfordshire Schools.

Organised by the Hertfordshire SATRO - the Science and Technology Regional Organisation - the Fair, in July, attracted 26 exhibitors and one of the most popular displays was from GEC Avionics, Borehamwood. This featured a data link - devised by the Research Labs - between two microcomputers that could be switched between a microwave system and a laser beam.

SATRO 'Science Fair' Welwyn, July 1986. Martin Jennings – a Senior Engineer from the Research Labs explains the microwave element of the data link to 5th form pupils.

SATRO 'Science Fair', Welwyn, July 1986. The working model of a Tornado's nose cone radar captures the interest of two 6th form pupils.

A backdrop of the Company's activities and products, including its bunker radar and Tornado radar model, illustrated how scientific principles were incorporated in our products.

Technician Engineer Apprentices Kushwant Singh Jabble, Mark Pond and Glenn Robinson were available to explain the Company's apprenticeship scheme. Michael Pegler, Katherine Brunt, Tim Riley and Philip Schryber, who were about to begin their degree studies at Imperial College, and Steve Ramsey and Andy Harris who will attend Bristol and Cambridge Universities respectively, dealt with enquiries about GEC Avionics degree sponsorship scheme.

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Career Opportunities in Engineering Video

As one of the leading engineering employers in Milton Keynes, GEC Avionics was recently invited to participate in the production of a video outlining the career opporunities for young people in engineering.

The video — which will be circulated to local schools in the autumn — was co-ordinated by the Milton Keynes branch of ECCO — the Engineering Careers Co-ordinating Organisation — and showed the career progression of young employees in several local engineering companies.

The filming at GEC Avionics featured Kushwant Singh Jabble and Harvey Willis who are both 3rd year Technician Engineer apprentices. In an unscripted interview, they described not only their 'on the job' and college based training but also the social aspect of work and their involvement in GEC Avionics Apprentice Association activities.

Schools will receive a comprehensive handbook of activities, ideas and techniques stemming from the video to consolidate pupils awareness of the world of engineering and the career opportunities for boys and girls.

Kushwant Singh Jabble (left) and Harvey Willis (right) during the filming of the 'Careers Opportunities in Engineering' video.

Marathon Donation by Apprentices to Children's Hospital

Three apprentices from GEC Avionics Borehamwood combined participation in GEC's Centenary Half-Marathon with fund raising for the Great Ormond Street Hospital for Sick Children.

Stephen Knight, 19, from Clifton near Shefford, Bedfordshire, Judith Hill, 19, The Croft, Barnet, and Richard Gass, 18, King Edward Road, New Barnet, were sponsored to a total of £340 in the 13 mile event which took place near Coventry.

The team's athletic performance also resulted in an award for being the fastest apprentice team in the event.

A cheque for the money was presented at Great Ormond Street on 16 January, specifically for the Endo-Crinal Research Fund. As Judith explained: "The need for research in this area was highlighted following the death of Catherine, the 18-year-old daughter of some friends. We're really pleased that people have been so generous and hope that other activities by the GEC Avionics Apprentice's Association will benefit the fund."

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Open Day for Open Learning at GEC Avionics, Borehamwood

An exhibition of Open Learning from seven of the leading Open Learning organisations was recently arranged at Borehamwood by the Training Department for the managers and staff of GEC Avionics, GEC Computers and GEC Traffic Automation.

As Pat Boyd, the Training Manager explained, "beyond those involved directly in training, the true nature and value of Open Learning is seldom appreciated. Bringing this sort of exhibition to managers proved to be an effective way of familiarising them with Open Learning and thus to make valid decisions about the training and development of their staff".

Some 40 senior managers and many staff attended the exhibition which included displays specialising in management skills, engineering techniques and technical training as well as GEC's own Technical Open Learning Centre.