

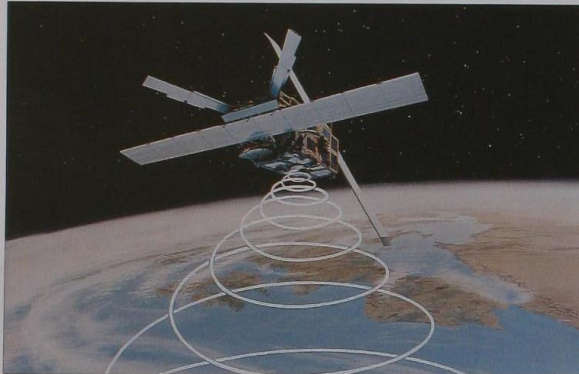
GAV WILL CONTRIBUTE TO SATELLITE WEATHER RESEARCH

LASERS FOR SPACE

Applied Physics Division at Borehamwood is to play a major role in an European Space Agency contract to build a demonstration laser for Spaceborne Doppler Wind LIDAR (Light Detection and Ranging).

Working as part of an international team which also includes the Defence Research Agency, Electronics Division (formerly the Royal Signals and Radar Establishment) at Malvern as prime contractor, CISE of Italy and Dornier of Germany, APD will be responsible for designing, building and testing the demonstration laser to a demanding specification.

For this application, a frequency stable pulsed carbon dioxide laser is mounted on a satellite and its 'eye-safe' beam directed towards the Earth's surface. As the laser beam passes through the atmosphere, some laser radiation is reflected from tiny aerosols carried by the wind and detected by a receiver on the satellite. A measurement of the Doppler frequency shift of the return beam provides accurate information on wind speeds. As the



A composite picture showing how the Laser Wind Sensor, mounted on a satellite, will use a laser beam to scan the upper atmosphere and determine the wind field. The example shown here, ERS-1, is the first remote sensing satellite for the European Space Agency, and is the forerunner of a new generation of Earth observation missions contributing to the World Climate Research Programme. (Picture by courtesy of Marconi Space Systems, co-designers of ERS-1 with Matra of France).

satellite orbits the Earth, a map of wind speeds at different heights and positions can be built up and then regularly updated.

These detailed maps of wind speeds around the world will dramatically improve the accuracy of weather forecasts from one to five days ahead. The information will also be used

for the modelling of climate change and global warming.

YEAR 2001

The project will complement an on-going programme of work in APD for the Lockheed Missiles and Space Company in the United States, in support of the equivalent NASA

programme, called LAWS (Laser Atmospheric Wind Sounder), due to be launched in the year 2001.

The first phase of this programme is worth £350,000, and will be complete in two years' time. We are pleased to be involved, especially as it takes the Division into commercial activities.

MOVES AND APPOINTMENTS

We congratulate John Spinks, Assistant Managing Director for the last 4 years, on his appointment as Managing Director of English Electric Valve Company at Chelmsford. This move for John comes after over 27 years at Rochester, during which he played a vital leading role in the company's entry into the US export market and into the oil and gas control industry.

General Manager of the then Controls and Instrument Systems Group of divisions.

Now, Lear Astronics Corp and Developmental Sciences Corp in the USA report to John, and he also has management responsibility for CACD, FCD, ISD and MCD.



John Spinks

Also, we welcome John Colston, now appointed Assistant Managing Director here at Rochester, returning after 2 years at Chelmsford where he has been Director of the Marconi Research Centre, Great Baddow. John's earlier 20 years at Rochester were spent with FARL (now TSRL), ADD, PSD (now MCD), then with ten years in ISD where he became Divisional Manager. His latest post here was as



John Colston

In MASD, Sue Wood has been appointed Divisional Manager. Deputy DM for four years, she moved to that post from the former ATED, where she had risen to Chief Engineer after joining that division in 1973.

Alan Gallagher, the previous DM, joined in the same year and has now moved after 18 years in MASD to the new post of Management Executive with Assistant Managing Director Robin Sleight, in the development of our business base across the divisions of the company.

OUR HELMET DISPLAYS ARE ON THE F1 GRAND PRIX RACE TRACK

In a spin-off from the Company's work in aviation, GAV will this month deliver helmet mounted displays designed for racing drivers, to Frazer-Nash Technology Ltd of Leatherhead.

The system will be used during the 1992 World Championship Grand Prix season by the Team Lotus Formula One racing drivers, Johnny Herbert and Mika Hakkinen.

A helmet mounted device, based on the latest military pilot's displays, allows the driver to continuously monitor vehicle performance during the race without diverting his gaze from the outside scene at

any time. This new technology will constantly show crucial vehicle information such as revs per minute and gear selected, plus a variety of potential fault indicators such as temperature, pressures, fuel status and the approach of the rev limit. The immediacy of the display which remains available to the driver's eye wherever he points his head, combined with the simplicity of data presentation, will maximise driver performance and efficiency.

The system uses a custom made high brightness light emitting diode (LED) display which is relayed to the eye via an optical combiner eyepiece.



The Team Lotus Formula One car. Inset is the miniature eyepiece which is mounted inside the driver's helmet at the lower rim of the vizor aperture. (Courtesy of Team Lotus).

The complete equipment, measuring 46mm x 18mm, is fitted to the driver's helmet with a small bracket and is off-set to the driver's normal direction of gaze.

This venture into Formula One follows the highly success-

ful START gyro first supplied in 1987 by GSD to Team Lotus as part of their innovative Active Suspension System. In this application START measures vehicle yaw rate, and has proved more than a match for the demanding environment.

Indeed to quote a Team Lotus representative:

"START was without exception the only item that worked fault free throughout the 1990 season".

MBE FOR OUR CHAIRMAN OF SHOP STEWARDS

In Her Majesty the Queen's New Year Honours List, Tony Mason, Chairman of Shop Stewards at Rochester, was appointed a Member of the Order of the British Empire (MBE).

This award recognises his contribution to British industry over more than a decade.

See also Page 4

INSIDE

Page 2,3 and 4 Company News and People; 5 Scanner Appeal Snippets; How it Works; 6 Long Service Awards and Retirements; 7 Sports and Social Club, Crossword

www.rochesteravionicsarchives.co.uk

Latest Night Vision Helmet Proved In Helicopter Trials

A team from the German Army Test Squadron 910 based at Celle, near Hamburg, paid a 3-day visit to Rochester in December. This Squadron is responsible for the flight test and evaluation of all advanced helicopter avionic systems, and as such has been flight testing ADD's latest Integrated Helmet System. The trials, conducted on a MBB BO 105, have been the most comprehensive helicopter trials of a helmet mounted display system carried out by any military force.

Recommendations derived from the nine-month trials programme have been incorporated into the helmet system which the company is currently offering for the German PAH2 helicopter for anti-tank roles.

910 Squadron is the elite of the German Army and has been flying night vision equipment since 1976, clocking a total in excess of 2,500 hours using night vision equipment. Commanded by Lt Col Haidn, who himself has over 850 hours flying with Night Vision Goggles, the Squadron is now advising several other air forces on the use of helicopter NV Systems.

The party arrived for their visit in two squadron helicopters, one of which was the BO 105, and at the end of the 3 days they showed their appreciation by performing a fly-past over the site.

Kevin Reed, Senior Systems Engineer, is wearing the 'latest model' Integrated Helmet System. The 40° field-of-view lenses at the side gather light for image intensifiers similar to those used in Night Vision Goggles; Forward Looking Infra Red (FLIR) imagery and flight and weapon information are brought in from the aircraft systems to be projected onto the combiners in front of his eyes, which perform in the same way as miniature cockpit Head Up Displays. Thus a 24-hour mission capability is provided in the single helmet assembly.



ADD's German Army visitors, led by Lt Col Haidn (fourth from left), were welcomed by John White, Marketing Executive (next to him, in front) and Mac McNalty, Assistant Chief of Test (third from right).

Dick Collinson Retires

Dick Collinson BSc(Eng), CEng, FIEE retired in November after over 38 years of distinguished service at Rochester. Dick's career with the company started in 1953 when he joined us from the Bristol Aeroplane Co., where he spent two years following graduation from London University. The first few years were spent on Inertial Navigation Systems development and Air Data Systems for Lighting and Buccaneer aircraft. In 1961 he became Chief Engineer of the newly formed Flight Automation Research Laboratory, and Manager in 1963. From 1966-71 he was Divisional Manager in FID and then IND; this period included responsibility for development and production of our first air data systems exported to the USA, for the C-5A.

In 1972 he resumed the management of FARL (now TSRL) and has been responsible for the development by the Research Laboratory teams of a wide range of innovative systems and techniques which have subsequently been used in the development of avionic equipment for many European and United States aircraft.

These include 'Fly-by-Wire' Flight Control Systems, Helmet Mounted Displays, Holographic Head-up Displays, Unmanned Aircraft

Systems, MIL STD 1553B Data Bus Systems, Display Generation Systems, Video Map Displays and an Optically Signalled Flight Control System for Airships-Fly-by-Light'.

Most recently, Dick has been Technical Executive in GAv, responsible to Technical Director Bob Wilkinson for advising on future avionics research.

Dick is a Fellow of the Institution of Electrical Engineers, and has been a committee member of the Midway Branch of the Royal Aeronautical Society for many years. His greatest distinction came from the main RAeS, who in 1989 awarded him the Society's Silver Medal, "in recognition of his most significant contribution to research and development for advanced avionics equipment and systems and to their service in the UK and abroad".

In his retirement, Dick will continue with his pastime of oil painting, with a particular interest in aviation art. He is also at present preparing a text book on Avionics.

We wish him a long and happy retirement.

Dick Collinson received best wishes from Jack Pateman at his retirement presentation.



DUBAI 91 - A MAJOR EXHIBITION

A big event in GAv's continuing marketing programme to the Middle East was held in Dubai, on the Gulf, in November. Brian Gotting, ADD Marketing Executive, was our Stand Manager.

He said "This was the second of the biennial Airshows to be held in Dubai. I am told it was bigger and better than last time. Certainly the two very large hangars, used for vendor static displays, were fully subscribed".

British industry played a major role, with the Society of British Aerospace Companies stating that over 25% of the exhibition space was taken by UK companies. This was the largest country participation and showed the 'special relationship' that the SBAC believe British industry has with the region. GEC Avionics attended as part of a GEC-Marconi corporate appearance which included displays by GEC-Ferranti,

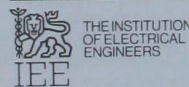
Marconi Radar and Control Systems, Marconi Defence Systems and GEC Sensors.

The GAV section of the stand, with the theme of Night Attack, had two main working exhibits: the F-5 Head Up Display, and the Digital Map Generator. Both displays received a good deal of attention from visitors to the show, who were able to try out the equipment. The F-5 HUD has been developed for the Royal Thai Air Force as a 'drop fit' replacement system to improve the weapon aiming and efficiency of the F-5E/F. Forty-three production systems have been delivered, with most of the aircraft now back in squadron service.

The Digital Map Generator (DMG), based on the production Harrier GR7 version, was also demonstrated. A series of maps of the area around Dubai had been loaded into the database, which proved to be a good talking point with the locals who recognised the

area. We heard several people saying 'you can see my house from here'!

The static display included the CDU display panel, Cats Eyes Night Vision Goggles, SPARTAN covert navigation and terrain following system, the miniature air data computer and a Crash Recorder Unit.



With the retirement of Dick Collinson, Chris Bartlett FIEE, Chief Engineer in ADD, has taken his place as site membership adviser for the Institution of Electrical Engineers.

His role is to assist anyone wishing to join the IEE or those considering a transfer between grades of membership. He can provide the following assistance:-

- Advice on requirements for qualifications, training and experience
- Reviewing submittals to the IEE
- Providing links with suitable supporters and sponsors

YOUR CONTACT FOR IEE MEMBERSHIP

- Advice on further training and career development.

He holds most of the various application forms and advisory booklets.

One of the greatest problems is ascertaining who is already a member on this site and Chris would appreciate hearing from any existing IEE member with name, telephone number and type of membership. Similarly if you know of anyone applying to the IEE he would like to be made aware even if they do not require assistance.

Chris can be contacted on Ex 3321.



GAv's section of the GEC-Marconi stand.

RN DISPLAY TEAM SEA KING VISITS GEC AVIONICS

On Thursday 17 October a Royal Navy Sea King Mk 5 helicopter of 706 Squadron visited GAV's Rochester headquarters. The Sea King and its crew form part of the Royal Navy Sea King display team which has been sponsored during the 1991 season by GEC Avionics.

In the last 12 months the team has performed at 32 Airshows, as far apart as Mildenhall in Suffolk and Ursel in Belgium, Southend in Essex and Scheveningen in the Netherlands. Four aircraft were also involved in a Queen's Colour Presentation Fly-past at RNAS Yeovilton.

The Sea King is the Navy's main anti-submarine helicopter. Both the Mk 5 and the latest version the Mk 6 carry a GEC Avionics acoustic

processing system which is used to detect, identify and track submarines. GAV has also developed the acoustic processing system for the Royal Navy's next generation of ASW helicopters, the Merlin.

At the beginning of December, a Sea King of 810 Squadron, Culdrose, came to Rochester to enable an important exchange of views between the operational crews and the manufacturers of the acoustic processing system. This included an opportunity for some 15 engineers and other people working on MASD's AQS 902 project to take a short flight, in a helicopter which has been operational on a Royal Navy aircraft carrier

with the system now coming into full service. On the following day around 50 more people were able to visit the aircraft on the ground and see their equipment installed. The senior RN officers were shown round MASD and there was a 'debrief' on the success of the project; ADD also provided a demonstration of their Night Vision Goggles and Helo Helmet Mounted Display.

The visiting crew on the October visit comprised Lt Cdr Matt Jennings, Lt Mike Swales, Lt Pete Carden, and PO ACMN Wilde. They are seen here with a windswept Brian Tucker, David Cleus, Ray Reese and Robin Sleight.



The three GAV engineers at Farnborough, watching Harvey Pipe from GEC Sensors at the screen, are (l-r) Tony Francis, Rob Davis and Mark Walden.

will be in the form of a re-routing to avoid the threat, but it may also advise the use of other defensive or evasive measures.

A number of other 'systems management' functions will be undertaken by, or closely linked to, the MMA. These are the management of sensors, navigation, communications and aircraft health and status monitoring. Thus the MMA is much more than a static planning aid.

A team of twenty scientists, engineers and aircrew from RAE and Industry is working on this project at Farnborough. A robust Mission Management Aid prototype has been developed which will shortly be used in the next stage of 'Proof of Concept Simulation'. This will simulate key MMA activities in real time to reduce the technical risk in areas such as how information is best presented to the man.

In summary, in the 21st century some form of machine intelligence will be essential to aid the aircrew of combat aircraft if missions are to be completed safely and efficiently. The MMA is the way that this can be achieved.

FUTURE SYSTEMS: The Mission Management Aid Project at Farnborough

Current combat aircraft, with their relatively limited sensor fit, already produce situations of high crew workload. Future combat aircraft will contain even more sensors which will produce increasing quantities of data to be processed and more systems to be monitored. The problem will be exacerbated by the trend towards single crew operations in increasingly complex hostile environments.

This future problem of aircrew overload was predicted in the mid 1980s by the Royal Aerospace Establishment (RAE), and the UK avionics and airframe manufacturers. It was decided, then, to pool the available knowledge and to plan a method to explore the problem and to suggest ways in which it can be overcome.

As a result, an agreement was reached between RAE, GEC Avionics, GEC Sensors, Ferranti, Smiths Industries and British Aerospace to provide equipment, scientists and engineers to work on a Mission Management Aid (MMA) for the pilots of future

combat aircraft. Thus, in November 1988 the MMA Project team was set up at Farnborough to work initially on developing an MMA prototype and associated test scenarios. Initially, effort has been concentrated on an air-to-ground attack mission with the intention of extending the MMA to cover air-to-air. Group operations and other scenarios. The work is based on a powerful computing system.

The MMA will gather data from many independent systems, and collate, assess and advise the aircrew of the required response so that their survivability is increased and workload reduced. Often this

MERIT AWARD FOR OUR CALENDAR

The company Wall Calendar has for the third time been selected from several hundred entries to be exhibited in the National Business Calendar Awards show in London, and will be further shown in Germany. For 1992, seven watercolours of Kentish Villages by Chas Clift, LCSD's Chief Illustrator, were used; design and production work was by LCSD Publications and the colour printing was by Gros Monti of Ashford.

The Calendar was awarded a Certificate of Merit in the category "Kodak Excellence in Colour Reproduction".

Charles Berry Award 1991

After 2 blank years due to the lack of apprentices entering QA, the Charles Berry Award was re-introduced for all members of QA Departments under the age of 26. The widening of the qualification criteria led to an excellent response and the selection committee had a difficult task of choosing a winner from 7 experienced and well qualified candidates.

After much deliberation the committee of Charles Berry, Peter Bowyer, Andy Craven and John France selected Nick Parnell of ADD QA as the winner.

Nick joined the Company in 1985 and after attending the

Company Trainee Computer Programmer Course obtained his HND in 1988. He is a Senior QA Engineer with responsibility for all aspects of ADD Software. He has recently broadened his scope and is liaising with the Chief Engineer to see how QA can assist in improving the effectiveness of hardware Design Procedures.

When giving the Award, Mr Berry complimented all the entrants on the high standard of their presentations to the committee. He hoped that under the new qualification criteria the younger candidates would try again for the award in 1992.



At the Award ceremony were all the candidates; (l-r) Marie White (ISD), Dave Ford (MASD), Nick Parnell receiving the Shield; Andy Refault (ISD), Mark Philips (ADD), Charles Berry founder of the Award, Dave Amos (ISD) and Ray Turner (ADD).

Congratulations

As a follow-up to the item about the Central Charity Fund, and the Tomorrow's Child Trust Fund, we are delighted to hear that Kim Grindley of Accounts Dept who was in the picture, had a baby boy on 16th November. His name is Liam Michael. Two former apprentices, now Trainee Software Engineers Emma Kingsford and Darryl Coward, have ended speculation among their friends and college colleagues by announcing their engagement. We and both sets of parents wish them a long and happy future together.

Professor John Shepherd, MSc, CEng, FIEE, FRAES 1937 – 1991.

John Teesdale Shepherd was born in Sunderland, Co. Durham in 1937 where he attended the Bede School, one of the premier grammar schools of the north-east. His professional career started with an apprenticeship at RAE Farnborough where he specialised in control systems, with secondary honours in rugby football and trumpet playing.

Peter Hearne, now President of GEC-Marconi Corporation in the USA but for many years based here at Rochester, remembered John Shepherd in a tribute at his funeral.

"I first met John in early 1961 when I was interviewing new graduates in their final year at Cranfield. I was showing a piece of a new guided missile, which we were developing, to each candidate and asking them to comment. Not only did John pick up all the critical points (the only student to do so) but in his typical style he went on to tell me how the design could be so much better. He also told me that he was going to join Ferranti, something which I told him was very misguided. After a bit of a discussion about the fact that we came from the same town and had been to the same school and same college, our mutual admiration for Newcastle brown ale finally clinched him into joining us at Elliotts.

Once with us he started working on the new technology of airborne digital computers. This saw also the burgeoning of John's remarkable intellectual gifts as he

started to grapple with the wider range of opportunities that this new technology offered him. And grapple he did. Some 5 years after joining us he was Chief Systems Engineer of our Rochester research laboratory, and not too long after that Chief Systems Engineer in the new head up display division. Later he worked with me as the Technical Executive of the Navigation group of divisions, before leaving to spend 5 years as Professor of Electronic Systems Design and Head of Department at the College of Aeronautics, Cranfield.

In a business in which success is only achieved by closely controlled teamwork, it is a measure of John's contributions that they stand out as so clearly identifiable as his own ideas. Federated computers not centralised ones, and integrated head up display weapon aiming systems, were but two of his many major contributions which put our company among the world leaders.

He came back to Rochester in 1981 as Technical Director of the whole of GEC Avionics including the radar and electro-optical groups at Borehamwood and Basildon.

It was about this time that he became aware for the first time of the illness which would finally claim him. But to the outside world at least he was dismayed for only a short period.

and thereafter seemed to regard the contest to preserve his life more as an exercise in chemical research. He remained creative right up to the end, having in 1987 been appointed Research Director of GEC-Marconi, the 5th largest defence electronics company in the world.

Anyone who worked with John professionally rapidly came to realise that they were dealing with an intellectual giant, such was his insight into the most difficult technical problems and, even more important, his exceptionally innovative solutions.

Throughout the GEC-Marconi group he was recognised as the person to speak to when you were in technical difficulties or when you couldn't see the way forward clearly. And because his capabilities had caused him to be selected for many national and international bodies, such as the UK Defence Science Board and NATO committees, his reputation rapidly became international.

Despite, or perhaps because of, his outstanding abilities he remained a gentle giant with no

arrogance or side, an ever ready help to all who sought his advice or counsel - and to those who knew him best a dear and much loved friend! He also had a proper balance in his life and his strong and enduring marriage to Audrey, and their children Christine and Kevin, were as much a part of his life and as important to him as the leading-edge technical challenges which

occupied his working days. Christine's career as a British Aerospace engineer and Kevin's architecture were great sources of pride to him.

John always had an eye and feeling for people; he was always able to identify and reward unnoticed merit and to take an interest in the matters that interested the people around him, even if they were far removed from his own intellectual plane. Because he related to people so well with his kindness and unassuming manner, he had over the last few years attracted an enormous following of support and sympathy from everyone who had come in contact with him.

There are so many of us who have been influenced by John in so many different ways - the pilots and engineers who use the equipments which he conceived; the students from his department at Cranfield who learnt a way of thought and progress from his lectures and advice; his colleagues and friends at GEC, and in the UK and US aerospace industry and across the world who shared his ideas and achievements.

All of us will hold some well-remembered part of John in our hearts and minds, and we will be that much better and wiser because of it, in the way we lead our lives".



FIELD SERVICE ENGINEERS GET TOGETHER

LCSO Field Service Engineers, normally scattered around the UK and Europe supporting our products with the customers, gathered at Rochester to exchange views and receive updates on a variety of matters affecting their work, which includes a role in helping to develop our business.

Tony Mason MBE

Tony Mason has worked for GEC Avionics since 1969 when he joined the Company as a trainee wireman. He was elected shop steward of the Amalgamated Engineering Union (AEU) in 1973, and was appointed to the full time post of Chairman of Shop Stewards in 1978.

Tony also sits on the Central Charity Fund Committee and Health and Safety Committee, and has recently played a very active role in the Company's fundraising activities in aid of the Medway Hospital Scanner Appeal. Since 1987 he has

also worked in the local community as a Justice of the Peace.

Congratulations to Tony, who will attend an investiture at Buckingham Palace later in the year.



Seated, left to right are Peter Hopkins (Tornado, Northern UK); Rachel Rayfield (Secretary, Rochester); Divisional Manager Fred Mackley; Customer Support Manager Mike Andrews; Leo Griffin (Tornado, Eastern UK); Dave Jempson (Tornado, Southern UK) and Jim Cuff (Tornado, Germany). Behind are Peter Osborn (EFA HUD, Rome); John Chappell (IFE, Havant); Tim Richmond (Technical Support, Rochester); Derek Clarke (Tornado, Germany); John White (Lynx/EH101, Yeovil); John Kavanagh (Airbus, Toulouse); John Day (Tornado, Warton); Paul Martin (Engine Test Beds, Tornado Bases); Andy Bryce (Tornado, Warton); John Mason (Coordinator, Rochester); Derek Lyons (Tornado, Eastern UK); Gavin Spiers (AMX, Turin); Mervyn Cole (Civil Aircraft, Gatwick); Andrew Jenkinson (Oil Industry, Aberdeen); Doug Weaver (Falconet, Benbecula) and John Chambers (Tornado, Northern UK).



The Grumman F-14 will be fitted with the latest SCADC.

SUCCESS FOR SCADC CONTINUES

The fully approved contract amendment for the next batch of the highly successful Standard Central Air Data Computers for the US Air Force and US Navy has been received by ISD.

This order, seventh in a series of options, includes a total of 392 SCADC, together with quantities of Mounting Trays and supporting data. This substantial addition to the order book will require hardware deliveries over the period October 1992 to September 1993.

Deliveries are already in progress for the previous sixth option order; this latest order brings the total procurement to 5262 units.

PRESTIGE AWARD FOR GRAHAM

Graham Leach, sponsored Student Technologist, has been awarded a Whitworth Scholarship under a scheme administered by the Institution of Mechanical Engineers on behalf of the Department of Education and Science.

At the IMechE in London on 28th November Tim Eggar, Minister of State for Education, presented the awards to ten 'non-traditional' engineering students. The winners, who will receive a cash award each year for the duration of their courses, all left school



Graham Leach receiving his Whitworth Scholarship from Tim Eggar, Minister of State for Education, with Martin Swainston, President of the Whitworth Society looking on

after taking 'O' Levels or equivalent. Ranging in age from 19 to 25, they worked in industry for companies such as GEC Avionics, Marconi Defence Systems and Hotpoint, studying part time to prepare for an engineering degree course. Upon completion of their degree they will be entitled to use the designation Whitworth Scholar (Wh Sch).

Graham joined the company as an apprentice in 1988 after leaving the Thamesview School, Gravesend with 7 'O' Levels. Through his apprenticeship he made excellent

progress, achieving consistent reports for his on-job training within GSD and later TSRL. At College he proved to be an above average student who achieved an excellent average of 90%. Graham is currently being sponsored by the company, studying towards the BEng (Hons) Degree in Electronic Engineering at the University of Southampton.

The Whitworth Scholarships were founded in 1868 by Sir Joseph Whitworth, who developed national standards for engineering measurement and dimensions.

Scanner Appeal Snippets

Having failed in their bid to get permission to scale the heights of the Towers, the climbing club arranged a sponsored climb at Harrison's Rocks near Tunbridge Wells. A cold misty day was specially selected for the attempt to complete as many climbs as possible in four hours. Under the watchful eye of umpire Mandy Faint the intrepid heroes all met their targets. Around £250 was collected for

the Scanner Appeal from CACD, FCD, TSRL and GAV. The USA were also represented with Rob James both participating and arranging sponsors from the Redmond office.

Some of the group in action. Rob James is on the left with most of the rope, and Gordon Belcher is wearing a bat that is not hard.



The First Prize in the final Draw of the year was won by Jean Roberts of CACD, seen here with Lorna McPake, and Tony Mason and Tony Goulden who operated the drum. Jean will make the final arrangements for her return trip for two to Los Angeles with Virgin Airways later this year.

Pictured below at the Reaper Club's Old Time Music Concert, the chairman Cyril Boorman and his wife Edith, Pearly King and Queen, ran a Raffle which raised over £100 towards more than £300 contributed to the Appeal.



Second Prize of a water-colour by John Gilson of CACD was presented by him to Pat Melhuish of Accounts.

First Prize in the Autumn Raffle for American Airlines tickets to any destination in the USA went to LCSD Nightsift Foreman Mick Williams and his wife Pat, a Buyer in CMS. Travel Manager Lorna McPake, on right, gave them the voucher.

CHRISTMAS 1991 TOY APPEAL

I would like once again to thank everyone who so kindly donated toys, games, books, etc., for the Medway Towns Family Support Unit.

I have received a letter from the officer in charge of the Unit thanking us for our generosity.

I shall be retiring in August and hope that some kind person will take on the task this coming December.

Thank you all once again, and a very Happy New Year to all.

Joan Hyams
LCSD

Anyone interested in following this up, please contact Joan on Ex. 4025.

WHAT A SPLENDID RESULT!
£75,000
Three times the original target, was passed during January.
WELL DONE EVERYBODY!



HOW IT WORKS

Helicopter Air Data System (HADS)

The Helicopter poses special problems for the accurate sensing of air data due to the predominantly downward airflow created by the main rotor. This is complicated even more when the helicopter flies at very low levels by the effect of the ground on the airflow (known as "ground effect"). Instrument Systems Division's Helicopter Air Data System (HADS) was the world's first digital air data system specifically designed to cope with the complexities of helicopter flight and to provide accurate air data information for the full flight envelope of any machine

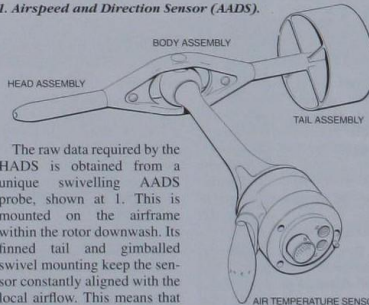
In 1979 ISD received its first contract via the US company

Bell Helicopter Textron for a HADS for the AH-1S Cobra.

The HADS consists of three Units: the Airspeed and Direction Sensor (AADS), the Electronic Processor Unit (EPU) and the Low Airspeed Indicator (LAI). These units provide vital low airspeed information which:

- enhances flight safety by providing accurate information to the pilot on horizontal airspeed in forward, rearward and side-ways flight.
- enables the Fire Control Computer to adjust the launch angle for armaments to compensate for the effects of rotor downwash. The combined effect of the airspeed, the flight path and the weight of the helicopter can create a downwash which will deflect rockets by up to three degrees. This will result in an error of approximately 100 yards at 1 mile range.

1. Airspeed and Direction Sensor (AADS).



The raw data required by the HADS is obtained from a unique swivelling AADS probe, shown at 1. This is mounted on the airframe within the rotor downwash. Its finned tail and gimbaled swivel mounting keep the sensor constantly aligned with the local airflow. This means that the rotor downwash, ground effect and movement of the helicopter through the air in any direction can all be accurately measured by the sensor.

Both total pressure (ie caused by the speed of the air flowing over the sensor) and static pressure (as sensed by

within the body of the AADS, measures the temperature of the free airstream.

These sensed pressures, the angular information and air temperature are transmitted to the EPU 'black box' where the data is processed and distributed to other critical systems such as Fire Control, Flight Controls and Cockpit Displays.

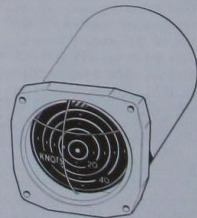
the household barometer and used, in this case, to measure altitude) are calculated, whilst the movement of the head of the AADS provides information on the pitch and yaw movement of the helicopter. An Air Temperature Sensor,

A typical cockpit display instrument (shown at 2) demonstrates how low-range airspeed is displayed with two bar pointers (fore/aft and left/right), up to 50 knots. The intersection of the two bars when related directly to the circular scale indicates the helicopter airspeed and direction.

To date over 1500 HADS have been provided for use on the AH-1S Cobra for the US Marine Corps whilst a variant of the Cobra equipment is used on the Agusta A129 MongOOSE.

The latest version of the HADS is used on the Naval EH101 Helicopter (Merlin). The equipment is also used world-wide in helicopter test stations, notably those at Boscombe Down and at Edwards AFB in the US.

2. Low Airspeed Indicator (LAI).



GAV Long Service Awards and Retirements

25 Years Service



Dave Reeves, following a short break after time in AEID Cost and Budget, started his 25 years' service as Cost and Budget Officer in CMS, transferring to ADD in 1967. There was a period in Contracts, and in November 1973 Dave was appointed Cost Controller. August 1975 brought a move to ISD as Divisional Controller - later Commercial Manager - and in September 1980 he was seconded to GAV Projects Ltd. as Commercial Manager. In 1984 he also took on responsibility as Group Commercial Manager for the Navigation Group, then in October '89 he was appointed Business Management Executive, receiving his promotion to Commercial Director of GEC Avionics 18 months ago.

years Pat has worked tirelessly organising social events and fund-raising for causes such as the Special Care Baby Unit, a Wheelchair for a disabled athlete, and most recently the Scanner Appeal. The MASD Social Club also benefits from her enthusiasm.



Dave Hughes of LCSD has estimated that he has been with the company for much more than his actual 25 years. Always in AS&RD/LCSD, he joined as Trainee Estimator and has stayed in the 'business' overseeing the reorganisation of the department a few years ago, as Senior Estimator.



Joyce Ambrose, Secretary to the Manager of CQD, is one of the few people who have been with CQD since it was formed in 1969; the previous three years were spent in FARL (now TSRL) as Reliability Decoder, and she became a Clerk Typist in CQD before her appointment as DM's Secretary in 1975.



Pat Warner, Project Admin Officer in MASD Engineering, spent her earlier years in wiring, progress chasing, stock control, and scheduling where she became Head of Scheduling. Over the

Joyce, married to Ted who until recently was in ISD Production, has taken up Bowls with the GAV Club.



Malcolm Easter has been in AS&RD/LCSD's Clean Room since he finished his apprenticeship, and is thus the longest serving member in that area. He has held an inspector's stamp for almost 20 years, and was promoted to Leading Hand in 1982. Particularly, Malcolm has undertaken the training of a great many people in the high-precision skills of his department.

Two of Malcolm's sons, Paul and Nicholas, are working here, respectively in CMS and CACD.



Ed Cheeseman, originally on contract at Elliott's, Sydenham, joined the Rochester establishment, much closer to his home, when the ADD activity moved here. Successively Ed has been Design Draughtsman, Section Leader, Design Engineer and now in his present post as Principal Design Engineer which he has held since 1985. He has been involved with

almost all of ADD's projects, often representing the company with customers in the US and Europe. He has still found time to gain a BA degree in Design and Technology at the Open University, and to indulge in his hobby of radio-controlled model aircraft. Also his years of involvement with the Scouts have brought him to be Scout Leader with a local troop. Ed's wife Roz has worked here in the past, as secretary in several divisions and on the top floor.



Terry Obray first started at Rochester as Wireman in a division which moved to Scotland, and he transferred to ACD which later became MASD. Terry then went to FCD, working on Concorde, and after a few months attached to BAe at Bristol he returned to the Model Shop as Prototype Wireman, for some of the time on nights. Since 1980 he has been in ADD as a Methods Engineer. Terry's son Brian is now an apprentice here.



Peter Royall, now Publications Liaison Officer in

LCSD, originally was an apprentice and then Instrument Technician at Elliott's in Lewisham. Later, he joined Rank Cintel at Sydenham, which was taken over by Elliott's and moved to Rochester to become ADD. In 1966 Peter also moved to Aylesford and joined ADD as Design Draughtsman. By 1978 he had become Chief Draughtsman, and 24 of his 25 consecutive years were spent in ADD.

Peter has a great interest in walking, and was a founder member of the first Ramblers' Association group in the area, also taking part in the formation of other groups throughout Kent.



Brian Teather was in IND for 3 years before a break in service, but rejoined a few months later; a year in ADD was followed by a move back to IND in 1967 as Systems Engineer, and in 1971 Brian was appointed Project

Manager on the Naval Compass Stabiliser Mk 1 contract. In 1973 he moved to MASD and six years later became Chief Development Engineer, then a year later in 1980 Engineering Manager. In 1985 he moved to ADD, and most recently has been Programme Manager on some of the helmet display programmes.



Senior Production Engineer **Brian Martin** started as Model Shop Technician in TACD, and 3 years later moved to IND as Estimator. 1977 brought a move to ISD where he is now Senior Production Engineer. Brian has played a major role in the build-up of production programmes such as HADS and SCADC, having also become involved with most of the ISD and MCD programmes. His expertise, particularly in castings, has taken him to a number of places abroad, and in support of Nailsea in early days.

Don't Lose Your Wheels!

A new concept of "Vehicle Watch" is being introduced by Kent County Constabulary, based on a highly successful scheme which has run in the USA for four years. There, it has been shown that a person not enrolled in the scheme is 40 times more likely to have a vehicle stolen than one who is.

Briefly, a member of the public who registers is authorising the police to stop and check the vehicle if it is seen 'on the road' between midnight and 5 am. These hours are chosen to minimise inconvenience to the legal owner who is assumed not normally to be driving in that period. But many stolen vehicles are taken or driven at night, and a potential thief will be aware that the chance of his booty being stopped is very high.

Vehicles registered are identified by (free) window stickers displayed at front and rear. Membership does not cancel your responsibility to insure and safeguard your property; the scheme is fully supported by Lloyds as a measure to increase security of motor vehicles, particularly if left unattended for hours in public view.

Harry Staff, Ex. 3674, will give you more information and a registration form if you are interested.

DO NOT DELAY. JOIN TODAY.

DO NOT WAIT FOR YOUR VEHICLE TO BE STOLEN.

Retirements

As foreshadowed in the last issue, our Area Manager in Cyprus, **Brian Ashley**, has retired. Brian came to us after a distinguished RAF career, which included service as a pilot (in 37 aircraft types), photo reconnaissance, test pilot instructing, and with the international team defining the role of the planned Tornado. This led to his joining GEC-Marconi when he left the RAF in 1977, and his subsequent GAV postings in Hong Kong and Cyprus.

Jack Cooper will be remembered for training a great many draughtsmen in the company, and for his membership of the former DATA union committee for several years. Jack's 34 years' service

started as C/J Turner, and in 1960 he went 'on the board' and was in ATED and TACD/FCD, as Checker and Section Leader. In 1974 Jack moved into Training Dept and from '77 to '85 was Chief Instructor. For the rest of his time he was in CACD as Checker Draughtsman.

Roy Haigh, Company Standards Engineer in CQD, completed 35 years. Ex Royal Navy, he joined the Fuel Flow Lab, and later went through Electrical Testing, Planning and Production Control, reaching AS&RD by 1965. In 1969 he transferred to Standards work which was later incorporated into CQD.

Bob Shaw's 36 years began at Borehamwood, then after

some time at RAE Farnborough he came to Rochester. Most of his time here was in IND/GSD firstly in Engineering but later in QA where he became QA Manager, for ten years. In 1985 he was placed in charge of GSD's MLRS programme.

38 years, all but a month, is **Ken Hopkins'** service record at Rochester. After a couple of years as driller he undertook a Mature Apprenticeship and became a skilled machinist; since then he has been in Aviation Division, FID, TACD, the former FCD, and since 1980 in the CACD machine shop.

Ken Hyde of ISD beats that score; Ken has been at Rochester for 39 years. First he was in the (then) company

Toolroom, became Head of Tooling and moved to AEI/ISD in '68. He was promoted to Planning Engineer in 1972 and recently to Methods Engineer. Also, Ken was a member of the Social Club Committee from 1954 to 1980, and used to play in the pantomime. For the last 10 years he has been an active member of the Long Service Association Committee.

But **Don Oxland** beats the lot with 45 years. Don was originally with Swift and Swallow, bought out by Elliott Bros in 1957. In 1962 he went on a year's wiring course and became a Wireman in AEID, staying with the later ISD amalgamation. Since 1979 Don has been on Inspection.

GEC Avionics News

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Advertise in GEC Avionics NEWS

The GEC Avionics Company Newspaper has a circulation of 6000 and is issued six times a year. Every employee of the company and many of their families and friends will read it. The readership is spread right across the North Kent area and beyond so advertising in GEC Avionics News lets you talk to a large audience.

Many local companies offer their products and services to GEC employees, often at discount rates. Currently these are advertised on divisional notice boards. Obviously the success of this type of advert is limited by the number of people who actually stop to read the notice boards. Advertising in GEC Avionics News is your chance to reach a much larger audience for your products and services.

For more information please contact :

Peter Royall

Publications Liaison Officer, Logistic and Customer Services Division
GEC Avionics Limited, Tel: (0634) 844400 Ext. 4166

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GEC AVIONICS NEWS ADVERTISER

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CLASSIFIED SECTION

CARS

1968 Ford Cortina (Mk II) (yes! 1968) £850 ono. Immaculate condition, lovingly restored. Many new parts, taxed and MoT. Mrs Harney, Ext. 3212 or 0634-576249 (12:30 to 1:30)

Escort Y reg 3-door 1300 GL. 75,000 miles. New tyres and exhaust. MoT until Sept 92. £1350 ono. Dave Miller, Ext. 4240 or 0634-373112

Ford XR3i, 1988 E reg 42,000 miles, MoT until July. Alarmed. VGC. House purchase forces sale. £3900. Paul Williams, 0634-362731

Toyota Carina XL 1600, E/windows, C/locking, P.A.S. 3 year warranty. Free servicing R.D.S. Radio cassette, S/T roof. Immaculate, 7,500 miles H reg. £8750. Chris, Ext. 3101 or 0474-326034

Mini Clubman Estate Auto, W reg. 50,000 miles, blue, MoT May 92. Alarm, recon gearbox and torque converter. £795. Eddie Spillet, Ext. 3919/3920

Ford Fiesta 1300 Supersport, 1981, white. Ford exchange engine. 50,000 miles. Many new parts. Remote alarm. GC. MoT April 92. £1350 ono. 0474-363987

GAS APPLIANCE

Gas fire, Cannon Misermatic, 3.5kW, 5 burners. Complete with installation booklets. Model still available at £220. Price £40 ono. Colin Sandy, Ext. 4439

PROPERTY FOR SALE

Flat for sale, spacious two bedrooms, garage. Balcony with river view. Carpets to remain.

Borstal area. £39,995
0634-811904

COMPUTER EQUIPMENT

IBM XT Computer CGA (Colour Graphics Adapter) Colour display. 640K RAM. 20MByte hard drive, 360K floppy drive. DOS 3.3 (industry standard). 101 key keyboard. 8087 Maths co-processor, printer and mouse ports. Multifunction card, includes expansion RAM, serial port, clock and calendar. £400 ono. Joe Cardwell, Ext. 3468

Amstrad 2086 14" colour monitor. 30MByte hard disk. Lotus Symphony and Windows software. £400 ono. Andrew Whiteley, Ext. 3981

BBC Computer with Acorn cassette player, includes many games. £75 ono. R Telford, Ext. 4299 or 0634-234594

HOUSEHOLD GOODS

McLaren Superdreamer pushchair, lilac clouds pattern. Forward/rear facing seat, sun canopy and rain cover included. 1 year old. VVGC. £80. Farrell, Ext. 4175

Two-seater settee for sale, VGC. £50 ono. James Young, Ext. 3461

Illuminated Display Cabinet, light in colour, about 5' high 4' wide, very good condition worth £60. Need the space, sell for £20. Steve Ext. 3041

Bathroom suite, pink, enamel bath, pedestal basin, close coupled toilet. Could deliver locally. £50. John Colechin, Ext. 3458

Complete Kitchen Unit. Top-of-range "Rational" make. Colour beige with solid oak trim. 5 base units, 5 wall units, 5 top boxes, 360' carousel corner unit. Extractor

fan, C/W door, stainless steel inset sink. Excellent condition. £550 ono. 0634-366102

MISCELLANEOUS

Rowing Machine Weider XR140. One year old, hardly used and in excellent condition, with electronic data console. £60 ono. Paula, Ext. 3969

Generation Belts for rear car seats, inertia-reel, fits child from 4 years to adult. Cost over £20 each, will sell for £18 the pair. Nigel, Ext. 3971

Epilady, Hair Removal System. Complete with travel bag, used only once. £15. Debs, Ext. 3808

Cavalier Wheel Trims £18. Rob, Ext. 3248

Large parrot-cage, oblong on stand. Suitable also for cockatiels. Cost £200, open to offers. Mrs McBride, 0634-841891

ELECTRICAL EQUIPMENT

Pioneer Car Stereo System, Radio cassette with auto-reverse and

preset tuning facility. Graphic equaliser booster. Speakers. £150 ono. Roger, Ext. 3344

Pioneer Stereo Cabinet.

Wooden cabinet unit with half-glazed sides and glass front door, to house stereo system, records, cassettes and CDs. VGC. £35. Roger, Ext. 3344

Electric Guitar, solid body, red, 2 pick-ups, needs strings, good condition. £30. Nigel, Ext. 3971

Compact Disc player. Technics SL-P202A (hi-fi separate). Hardly used, still with original packaging. Usual features including random play and edit. £75. Neil Wolford, Ext. 4237

Tricity Fridge "Perfect", £50. 0634-366102

Hohner Electric Piano, with string sound, plus stand. £125 ono. Casio CT-202, 49 voice keyboard with stand. £100. Neil Balderston, Ext. 4286

TRAVEL SHARING

Whitstable area to GAV Rochester: 4th person

required for car share. Alan, Ext. 3372

PROPERTY TO RENT

Room to rent, use of rest of house, £60 per week. Further details, Phone 0634-722864 after 6pm

Two rooms to rent in Sundridge Drive, Walderslade. Domestic amenities available. Single room £30 pw. Double room £40 pw. Both plus bills. Male non-smokers only. Paul, Ext. 4724

WANTED

Portable record player suitable for use at Popmobility classes. Reasonably priced. Sue Westrup, Ext. 4149

Printer required, to fit Amstrad CPC 6128K. Bev, Ext. 4171

CLOTHES

Brown sheepskin coat, size 10/12, worn once. Cost £125, sell £45. Eve, Ext. 3998

JEWELLERY

9Ct. gold 16-stone diamond ring, Size K. £120 ono. Debbie, Ext. 4109 or 0634-865490

SPECIAL EVENTS

TUPPERWARE. Book your party and receive free gift, or for an individual order. Jeanette, 0634-722722

SOCIAL EVENTS

GEC "Happy Wanderers" Holidays

10 day Venetian Riviera, 1/5 £169; 5/6 £159; 3/7 £199; 4/9 £169.

10 day Benidorm, Lloret and Paris, 9/5 £179; 3/10 £175.

9 day Costa Brava and Paris, 4/4 £129; 2/5 £139.

10 day Andorra and Lourdes, 1/5 £189; 5/6 £179; 4/9 £189.

10 day Hungary and Austria, 10/4 £155; 10/7 and 11/9 £175.

10 day Czechoslovakia and Austria, 12/6 £175; 11/9 £165.

6 day Paris, 13/4 £109.

10 day Austrian Lakes 19/6 £159; 21/8 £169.

Many more, contact for further details.
Theatre 'Joseph' 7/9 and 8/9, £17.75 incl coach. Contact Rod Cole, Ext. 3502 (12-1pm) or 0634-848282

If you would like to advertise in the GEC Avionics News Advertiser, write your Advertisement in block letters in the grid below and send to Peter Royall, LCSD (Publications) Ext. 4166.
Advertising up to 25 words is free to GEC Employees, their families and people who have retired from the Company (additional words 50p per word). Non GEC Avionics employees 50p per word, cheques payable to GEC Avionics Limited.

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ATHLETICS CLUB RUNNERS LEAD THE FIELD

GEC Avionics AC have been in good form recently with some excellent cross country and road race performances in the last few months. GAV started their winning ways in the South of the Thames cross country championships at Coulsdon in November by winning the team event easily. They also provided the individual winner in Spencer Barden who was backed up well by Martin Forder 6th, Cock Van-der-Hulst 11th, and Derek George 26th. Next came the Kent cross country league at Canterbury where Graeme Saker had an excellent run, winning the 5 mile event with GAV packing well behind with Andrew Riddle

5th, Martin Forder 6th and Chris Knight 16th, easily winning the team race again. The next win was on December 22nd at Rochester in the Kent Road Relay championships. GAV were confident of winning the Kent title and they didn't disappoint over the 2+ mile course. Martin Forder ran the first leg superbly bringing GAV home in front with a fast leg of 11:35, handing over to Anthony Whiteman who maintained the lead with 12:08.

STOP PRESS

SPENCER BARDEN selected for Great Britain's Junior Men's Cross-country team to run in World Championships in Boston, USA, next month.

THE REAPER CLUB

Cyril Rhodes writes:-

It has been quite a while since I reported the activities of the Reaper Club, so here goes. Over the year 1991, the monthly meetings have been very successful, with excellent attendance of members. New members have been joining and now we have a membership of around 400.

Earlier in the year our Chairman, Cyril Boorman, gave us a shock by having to go into hospital, and for a couple of months failed to turn up for duty, but I am pleased to say he came back with a bang and now he seems to be his old self.

One of the highlights of the year was the concert given by "Company 80" in the canteen, an excellent professional show enjoyed by all who attended, also the trip to Cliftonville to see the

"Minstrel Show" deserves a mention.

The outings in 1991 were to Hastings, Brighton and the last one to Clacton, kindly given by the Management with a packed lunch, very much appreciated by all.

A special thanks to Harry Staff who has conducted the monthly Bingo sessions and kept us informed of the Company, he has also been asking us to dig deep for the 'Scanner Appeal', which is proving a great success.

* * *

The final highlight of the year was the Christmas Dinner on 17th December.

A well attended AGM was held on 21st January at which Chairman Cyril Boorman thanked the members for their support throughout a very successful year. He then told

THE PHOTO SOCIETY INVITES YOU

On Wednesday evenings from Eight o'clock till Ten, The GAV photo soc regularly meets again. Friendly folk and some photographic fun - Why not come and join us in Conference Room 1?

Photographic Lectures and Darkroom demos too, I'm sure you'll find that there's a lot to interest you. Internal competitions - those pictures that you pride, Monochrome and Colour prints, and separately slides.

Practical evenings also - yes get those cameras out; I guess this is what photography is all about. Learn to use your camera, practise with the lights, Advice seems freely flowing on most practical nights.

The season's half way through now
The committee's had a vote;
The subscription 'til the season's end
Is just a five pound note.

For those without a darkroom
And those who would like to try,
A darkroom is available to members
For a small fee every time.

Note: Non members are welcome at our meetings but are requested to pay 50p each.

Phone Alan Bryant (Ex 4765) for more information and the rest of the season's programme.

the meeting that he and the rest of the committee were standing down and not seeking re-election - a complete new committee would be required. Asking for nominations and volunteers, he wished the club every success in the future. A vote of thanks to Cyril and his committee, and a proposal that he and his wife be made Life Members, were passed unanimously.

Under the chairmanship of Harry Staff much hard work and cajoling took place to

form a new committee, without whom the club would be unable to continue to function.

The new committee is:

Chairman, Bruce Cochran
Vice Chairman, Gerry Paternoster.

Secretary, Mrs Lorna Hosmer
with members C.O'Rourke, Mrs Joyce Cremona, Bernard Woolgar, Peter Green, Alan Walters and Ted Doust. Brian Rogers and Harry Staff will cover the position of Treasurer for a limited period.



GEC Avionics Brass Band is still celebrating after taking the first prize in the Second Section of the Annual Southern Counties Amateur Bands Association Autumn Contest at Folkestone in October.

Eight bands contested the Second Section. The result is all the more pleasing as it is only the band's fourth contest at this level after having moved up from the lower sections over the past couple of years.

The band, conducted by Keith Woodger gave the first contest performance in this country of Bruce Fraser's 'Celebrations'. This piece, originally composed for wind band in 1989, has been transcribed for brass band and was used as a test at the European Championships.

Our principal cornet player Ian Lanceley was awarded the cup for best instrumentalist in the section. This is the fourth year in succession that Ian has taken the prize for the best instrumentalist in this contest, with this year being the second time in the Second Section. Mention must be made of some very fine flugel horn playing from Sian Edmondson who was perhaps a little unlucky not to walk off with the trophy herself.

The band's performance was such that it made the front page of the international paper the 'British Bandsman'.

Over the Christmas period the band fulfilled many engagements, including the Rochester - upon - Medway Dickens Christmas Festival and our own company lunch-time carols in the Canteen, and Carol Concert.

The New Year brings many challenges in the contesting field both at local and national levels. This will require a great deal of dedication and hard work but with Keith out front we believe we are up to it.

Black Dyke can't reign forever!
Martin Polley, Chairman.

The Band has made a professionally recorded tape, jam packed with good music, which is available at £3.75 from Geoff Collins, Ex 3407, or Martin Polley, Ex 3475.

Do Your Sons Play Cricket?

The GEC Avionics Club Colts completed easily their best season for years last summer, beating Lordswood to retain the Medway under-16 Festival trophy. That win closely followed triumph in the under-17 league, the club's first in 17 years of trying.

Eric Rose, Secretary, is most anxious to encourage more youngsters to join. "With many Schools not playing cricket, the Medway Colts League is the only way many can learn the game. Several clubs in the area would fold, were it not for the intake of youth from the Colts teams".

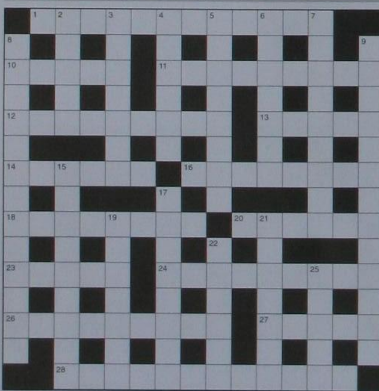
GAV Club Colts start Indoor Nets on 5th March, for 8 Thursdays, 5.45 to 7.00pm. Any boys aged 9-16 interested in joining, should contact Eric Rose on Medway 718030.

Family Sports Day

will be on
Sunday 12th July.

Your Divisional representative will have more information.

Crossword No. 107 (For amusement only)



ACROSS

- 1 and 10. What makes the day go well. (7-4-1-5)
11. Get out of the mess. (9)
12. Game dog. (9)
13. Lying quietly in wait. (5)
14. Caribbean island. (6)
16. Part of heavy petting. (8)
18. Perfection of model. (8)
20. Usually ends up as graffiti. (6)
23. Trickles, in a marsh. (5)
24. Group of Tsarist Russian revolutionaries. (9)
26. Where the toppers foregather. (6-3)
27. Go about stealthily in search of. (5)

28. Perhaps a hirsute scowl! (6-6)

DOWN

2. Authoritative order. (5)
3. Gradually going off course. (7)
4. Faithfully adhere to. (6)
5. The gardener's summer friend. (5-3)
6. To turn knobs, to tune in. (7)
7. Absence of pain. (9)
8. Regard for honour and interests. (6-2-5)
9. Without let up. (13)
15. A God of evil. (9)

17. He crossed the Alps, elephant wise. (8)
19. Sometimes hobby or sport. (7)
21. Joyful West Indian song. (7)
22. Angelic being. (6)
25. Public school in Bucks. (5)

Solution to Crossword No.106

ACROSS

1. Thunder claps; 10. Hand saw; 11. One Club; 12. Prowler; 13. Endorse; 14. Lotus; 15. Inside out; 17. Sun bonnet; 20. Hewer; 22. Nutmegs; 24. Quinine; 25. Slander; 26. Aroused; 27. Free wheeling.

DOWN

2. Hand out; 3. Nestles; 4. Edwardian; 5. Clove; 6. Amended; 7. Salerno; 8. Shapelessness; 9. Absent friends; 16. Set square; 18. Not half; 19. Overdue; 20. Hair oil; 21. Whitsun; 23. Sire.

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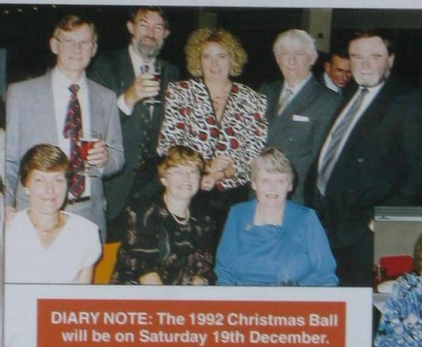
The 1991 Christmas Party and Panto



Here are some of the happy faces seen at the children's parties before Christmas, and the Pantomime which was repeated for the Medway Society for Mentally Handicapped Children in January.



..... and other Christmas Events



Some weeks earlier, the Long Service Association Dinner and Dance doubled as a reunion with friends now retired or moved to different areas.

Here are (l-r) John Pointer, John Pain, John Buckle, and Tony Bargerly with their wives. They were once all together in the old Military Aircraft Systems Division.



Jack and the Beanstalk Cast of Characters

The King Jim Collins
 Giant George Crozer
 Queen Sue Rouse
 Simple Simon Mark Horne
 Princess Liz Hunt
 Nicky Ray Newman
 Nacky Irene Sheridan
 Noo Jane Hales
 Wicked Witch Nigel Turner
 Widow Bean Dave Thorndycraft
 Jack Sue Parr
 Flunkey Sue Sweetman
 Cow/Soldier Suzanne Marshall
 and Dawn Gamble
 Town Crier Rod Cole

Also Starring
 Keith Jones as Father Christmas
 Bert Robbins at the Piano
 Front Men - Peter Bird, Rod Cole, Tom Crooks
 Behind the Scenes - Chief Gofor Elaine Beard
 Written and Produced by Jim Collins.

DIARY NOTE: The 1992 Christmas Ball will be on Saturday 19th December.



Behind the scenes preparing the Christmas Lunch are (l-r) Eileen Phillips, Meryl Rigden, Sue Sweetman, Sue Day (behind), Barbara Shackleton, Chef Dave Jenkinson, Kath Allen and Jenny Taylor. Our thanks to them and to all the others not seen here.

At the Company Christmas Ball, we met our friends and danced the night away - nearly.



At the Christmas Lunch, some of the GEC Avionics Brass Band and a choir from Holy Trinity Church, Teydall Green gave a programme of carols.