

Three More EFA Contracts Won...



Three development contracts for equipment on the European Fighter Aircraft have been awarded which will further involve ISD in this important project.

An artist's new impression of EFA in action. (Courtesy of Eurofighter GmbH).

For these, GAv is in consortium with Teldix GmbH of Germany, Ceselsa of Spain and Alenia of Italy, who are already partners in contracts previously announced. GAv leads the group who will supply wing pylon station units (WPSU), and Alenia is prime for the integrated tip (ITSU) and fuselage (FSU) mounted units. Over 100 pre-production units will be provided over the next two years.

The Station Units will form an integral part of EFA's armament control system, controlling the release of a range of offensive and defensive weapons. Using the latest electronic and computing techniques, the small and light weight units will represent a major technological step forward from current operational equipment on aircraft such as the Tornado.

...and MCD is Selected for Second Flowmeter

MCD, in partnership with Teldix, has a contract to supply EFA's Dry Fuel Flowmeter in addition to the Total Fuel Flowmeter already in hand. Together, the units will for the first time enable total fuel consumption to be monitored over all engine conditions, dry and reheat. The DFFM is already in service with Tornado and Harrier.

...and Deliveries Begin

The CACD - led consortium selected to supply the Flight Control Computer (FCC) for EFA successfully achieved a significant milestone in the aircraft development programme, with the delivery of four 'A' model computers and associated test equipment in November/December 1990.

Our Chairman Ron Howard has been awarded the CBE. This is a fitting reward for his many years of service to the aerospace industry, heading the list of distinctions he has received during his career. Most recent of these has been his term as President of the Society of British Aerospace Companies.

The 'A' model FCCs are rack-mounted units which are functionally representative of the final equipment. These computers will be used in a ground test rig to commission software packages and to perform hardware/software integration. The test rig will also be used as a simulator to familiarise pilots with the aircraft control laws and to allow pilot suggestions to be incorporated into the final control law design. The next phase of development includes the manufacture and test of the 'B' model FCCs, which are physically and functionally identical to the final 'C' model computers but are not qualified for flight; this work is progressing well with first deliveries scheduled for later this year.

This delivery shows the importance of the FCC to EFA's first flight and is understood to be the first A-model to be ready for the rig programme.

Fred Chapman of SESD has received the MBE for his services to the Air Cadets. Holding the rank of Flight Lieutenant RAFVR(T), Fred has been associated with the ATC for many years now, since he left the RAF in 1969.

See inside for a profile of Fred.

Fresh Emphasis for CACD and FCD

Managing Director Brian Tucker announces that:

Two of GEC Avionics' most important and successful divisions have undergone a reorganisation which will improve their business opportunities in today's changing markets.

Flight Controls Division and Combat Aircraft Controls Division operate in similar product areas. FCD specialises in flight controls for civil airliners and has companies such as Boeing and Airbus among its customers. The Division also supplied flight controls for helicopters, airships and unmanned aircraft - largely for military applications.

Combat Aircraft Controls Division has historically operated in the military field, developing flight controls for fixed-wing aircraft such as the Tornado, the Sea Harrier, the AMX and now the European Fighter Aircraft. CACD has now taken over responsibility for helicopter, airship and unmanned aircraft activities.

This reorganisation creates two clear centres of expertise, one in military and one in civil flight controls. There will be no resultant change in employment levels. Each division will benefit from being able to focus on its own business area and continue its expansion across the world market.

Brian Tucker has also announced the appointment of Fred Mackley as Manager for GAv's Merlin Helicopter Mission Systems activities at Rochester.

This and the CACD/FCD reorganisation have led to changes in divisional management.

Andy Hills is now Divisional Manager of FCD. Keith Snelling has moved to ISD, Chris Humphris to ADD, and Ray Dennis to CACD.

Mission Systems Integration Division

During 1990, GEC-Marconi and British Aerospace formed a company called Merlin Helicopter Management (MHM) to bid for the prime contractorship for the Merlin helicopter programme.

The Merlin is the Royal Navy variant of the EH101, under joint development by Westland and Agusta, the parent companies of EH Industries. With its recently revised procurement strategy, the UK Ministry of Defence has initiated a competition to choose a Prime Contractor for Merlin, through fixed price competitive tendering.

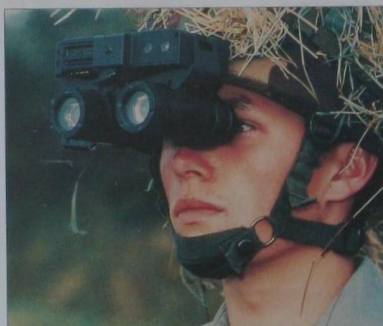
GEC-Marconi companies already hold a number of important contracts under the existing MoD Merlin programme, including Blue Kestrel Radar (GEC Ferranti), Communications (GEC Sensors) and the Acoustic Processor (MASD Rochester).

The MHM management task for the Merlin programme is split into two major areas: Air Vehicle and Engines planned to be controlled by British Aerospace; and the management of a number of major sub-contracts which make up the Mission System, its integration, manufacture and support.

Mission Systems Integration Division (MSID) has been launched specifically for this second purpose. Unlike the normal operating divisions at Rochester, there will be no design/development Engineering and Production manufacture in MSID which will be responsible for managing all Mission Equipment sub-contractors and also for coordinating GEC-Marconi activities for MHM.

The division is being led by Fred Mackley, recently transferred from ISD where he has served for almost thirty years from technician/engineer through Technical Manager and for the last four years as Divisional Manager.

for fixed-wing pilots of the US Navy and Marine Corps. GAv's range of fully integrated helmet mounted displays is now in the final stages of development. Currently undergoing flight trials, the modular design will enable pilots of both fixed and rotary wing aircraft to carry the exact equipment they require for specific missions, by day or by night.



A soldier equipped with the new "Ground Owl" NVG.

NVGs Delivered for the ARMY

The MoD has taken delivery of the first batch of ADD's high performance night vision goggles. 'Ground Owl' has been jointly developed with the MoD over a four-year period to meet the specific requirements of the highly mobile individual infantryman.

Ground Owl is able to operate in any military scenario, functioning in light

levels below starlight and combining high levels of performance with reliability and extreme ruggedness. It can be used either head mounted as in the picture, or hand held, also is fully maintainable by the user and is powered by standard AA size batteries.

In our well-established markets for airborne NVGs, 'Cats Eyes' remain as the highly successful standard fit

NEW YEAR HONOURS

We heartily congratulate two GAv Rochester people who appeared in the New Year Honours list.

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The Northrop CF-5, now redesignated CF-116

Big Order for ISD's Small Computer

New miniature Air Data Computer to equip the Canadian CF-116

GAv has been selected to supply a new miniature air data computer for the Canadian F-5A and B aircraft - redesignated the CF-116. The order, placed by Bristol Aerospace, will form part of the Canadian Armed Forces CF-116 avionics update programme and has a value of approximately £1.2 million.

GEC Avionics is already contracted to supply head up displays for the Thai F-5E aircraft and is confident that both equipments will prove successful in many future retrofit programmes.

The MSCADC (miniature standard central air data computer) will replace existing analogue equipment in the CF-116 and will provide greatly improved accuracy, reliability and maintainability. Data processed by the MSCADC will be passed via a MIL-STD-1553B Data Bus to a variety of other enhanced systems installed as part of the update programme, including pilot's displays and navigation systems.

MSCADC combines advanced technology with the proven principles of modularity

developed for the highly successful SCADC (Standard Central Air Data Computer) programme, which has brought the US military massive savings in equipment life cycle costs.

Extensive use of the latest technologies, including custom hybrids and Application Specific Integrated Circuits (ASICs), has minimised the equipment's size and weight while retaining the same level of performance as the SCADC. As a result, MSCADC will suit a wide variety of potential retrofit airframes including the F-5, A-4, T38 and C-130.

Quality Team

The US Department of Defense (DoD) has reorganised its international contract management services, and the team pictured here now forms part of Defense Contract Management Command International (DCMCI), with UK headquarters at Uxbridge. DCMCI, previously known as AFCMC, maintains several residences in the UK, not the least being this team with GAv at Rochester.

Major General Charles Henry, US Army, Commander of the new organisation, views the change as an opportunity to rejuvenate DoD contract management and administration, and for initiatives to promote self-governance among customers. At the recent opening of the Uxbridge HQ, he stated a commitment to improve and foster a 'total quality' attitude in business relationships with customers.

Successful contractors in the UK, such as GEC Avionics, represent necessary cornerstones of a partnership in which DCMCI looks to build the standard for continuous and total contract quality management.

Capt. Mike Chanatry USAF (seated left) heads the DoD office at Rochester. With him are Pat Semler and (l-r) Steve Fekety, Gill Barnes, Laraine Brown, Roy Branch and Bill Noice.



Foothold in the Gulf of Mexico

MCD has secured a major contract with the Exxon Company in the USA, to supply subsea production control system equipment for the Zinc subsea development in the Mississippi Canyon of the Gulf of Mexico.

This contract, awarded to Monitoring and Control Division at Nailsea, represents an important business expansion for this type of equipment into US and overseas markets, and builds on GAv's reputation as a leading supplier of subsea control

systems in the North Sea.

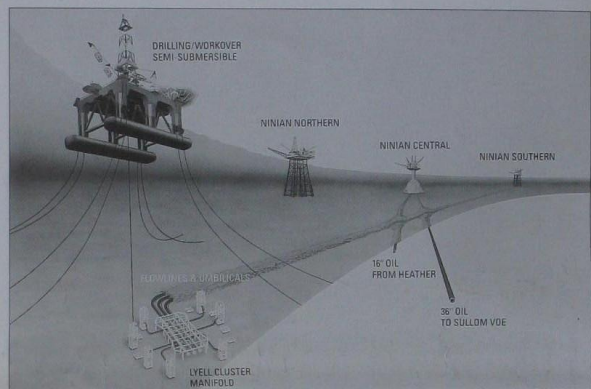
The contract requires the design, manufacture and testing of a complete electro-hydraulic (E-H) control system. These tasks will be jointly performed by GAv facilities in the UK and in Atlanta, with full integration of the system taking place in Atlanta.

The initial phase of the Zinc project involves the development of three production wells situated in 1500 ft of water. Further expansion of up to ten wells is planned downstream. These wells will

produce gas via a 6 mile flowline to the Alabaster platform 50 miles south-east of Grand Isle in the Gulf of Mexico.

MCD's multiplexed E-H control system will control and monitor valves and sensors on the subsea wellheads and manifold. The equipment will be installed and recoverable using diverless techniques because of the great water depth.

Delivery of the equipment is planned for early 1992.



Schematic of the Lyell field

Now Conoco Chooses GAv System

Latest in the growing list of major offshore oil producers to select GAv subsea controls is Conoco (UK) Ltd. Their Lyell Subsea Development in the North Sea is the subject of a multi-million pound order for MCD's Oil/Gas Group at Nailsea. They will supply

an electro-hydraulic control system for subsea wellheads, incorporating surface computers which will be fully integrated with the existing platform equipment.

The Lyell field is close to Chevron's Ninian platform, where other GAv equipment is installed,

and the development will ultimately include 25 wells in nearly 500 feet of water. When the field is in full production in 1993, output will build to 18,000 barrels per day, reaching land through the Ninian pipeline to Sullom Voe with which MCD is already involved.

Phoenix Unmanned Aircraft has shown its Potential

The Phoenix Battlefield and Target Acquisition System, under development by FCD, GSD and GEC Sensors, has recently achieved its 100th flight and is nearing acceptance by the British Army.

During the last few months, we have seen a number of major achievements in the programme, including flights by night and in icing conditions. Flights have lasted over four hours on several occasions. Techniques for recovering and retrieving this air vehicle after each flight have been perfected, and the consistent performance of the Ground Control Station software has led to a high degree of confidence by the Army in an easy-to-operate system. Phoenix has also proved easy to maintain, particularly in the rapid turn-round between flights.

This project is one of the first to combine a fixed price package for both development and production. With such a complex system and the objective of making the system fully operational in an unusually short time, Phoenix combines a remarkable achievement for industry and the Army. We have provided one of the most advanced surveillance systems available, which also includes a major advance in real-time target acquisition, at a fraction of the investment cost for similar projects overseas.

ISD will update US Navy A-6E Intruder

Over 400 Digital Signal Data Converters (DSDC) are to be supplied by ISD to the US Navy, to replace existing equipment which has developed reliability and maintainability problems. The digital electronic DSDC units will

directly replace on a 'form, fit and function' basis the electro-mechanical devices now in service on the A-6E, and will begin to be installed within a year.

Technology already extensively used in the SCADC (Standard Central Air Data Computer) range will be exploited in the new DSDC unit. Production techniques which have led to the delivery of over 4500 SCADC units in the past five years have further enhanced ISD's ability to offer the only solution to the USN which satisfies their stringent requirements, both technically and logistically. The A-6E is already one of the 40-plus variants of US military aircraft equipped with SCADC.

For this new programme, ground testing will be carried out here at Rochester and at the Naval Air Test Center, Patuxent River, Maryland and flight testing will be accomplished at NATC during 1991.

FIT for WORK

GEC Avionics has won its third Fit for Work Award for its work in recruiting and retaining people with disabilities. We are the only employer in Kent, and possibly in the whole country, to have been honoured as many as three times.

In December Fred Mackley, then ISD Divisional Manager, represented the company at a reception at Lancaster House in London, at which the Secretary of State for Employment met guests from nearly 100 winning employers from throughout the UK. Guest of Honour was Lord Snowdon, and several government Ministers were present.

GAV is noteworthy for using its own resources, and not those of the Employment Service, to help people with

disabilities work alongside the fully able. We have consistently recruited such people and helped to make their working lives more comfortable, and we have worked hard to retain existing employees facing difficulties because of illness or injury.

GAV also works closely with the four trade unions represented at Rochester to ensure proper working conditions for all employees with disabilities.

The Fit for Work Award will be formally presented to the Company at a ceremony here later in the year.

The Rt. Hon. Michael Howard QC MP, Secretary of State for Employment, congratulates Fred Mackley at the Reception.



Obituary: Ron White

ADD Logistics Department will never be quite the same again having lost a really colourful character.

Ron died in hospital on 12th January after a short illness. Friends and colleagues send condolences to his wife Daisy and son Ray.

The funeral service was held at Medway Crematorium on 24th January to which, at family request, only a small spray of flowers was sent; a donation of £56 was made to the Molly Wisdom Hospice Appeal.

Having served his time as a Dockyard apprentice, Ron spent many years at

Chatham maintaining ships of the realm. After a period with BP on the Isle of Grain, he joined GAV (then Elliott Bros) in August 1961 as a Technical Assistant with IND. It was from the IN PDS organisation that ADD tempted him to become a Logistic Support engineer in November 1978. Formal retirement in October 1986 could not keep him away so, on a part time basis, we all enjoyed his company until shortly before Christmas.

Throughout his career at GAV he made many friends who will greatly miss him for a long time to come.

From ADD

A Good SUGGESTION

Lloyd Benton, Production Technician in GSD, had an idea which has won him £1,013 in the Suggestion Scheme.

Lloyd works in the Clean Room on the 'Hamilton Standard' gyros, manufactured here under license for the Stingray torpedo project. He found that a simple re-arrangement of wires would greatly reduce the failure rate of a component, not discoverable until the test of a sealed unit and therefore liable to cause expensive scrap. Evaluation of the likely savings resulted in the record award, which was handed over by Assistant Managing Director Robin Sleight.

Lloyd's 2 years at GAV were preceded by a period with the motor trade and by 6 years, following apprenticeship, with REME where he was engaged on repair and maintenance of Chieftain tanks, as Craftsman. His mechanical interests are complemented by his hobby of motor cycle racing.

Your suggestions are encouraged and welcomed. Suggestion Scheme forms are available throughout the establishment. The assessment Committee hopes that the recent trend to more entries (30% increase) will continue, and we should soon have news about the winner of the 'Suggestion of the Year'.



Lloyd Benton sees to his gyros in the Clean Room.

1991 Career Opportunities for SCHOOL LEAVERS at Rochester

GEC Avionics is now recruiting at GCSE and 'A' Level standard for its five training programmes.

At GCSE level we are offering opportunities on our Clerical Training Programme and our Skilled and Technician Training Programme.

The Clerical Training Programme is a two year scheme which supplements on-the-job experience with skills training, and provides openings into secretarial and administrative careers.

Candidates should have reasonable GCSEs including English and Maths, and be well motivated to working in a business environment.

The Skilled and Technician Training Programme is a three to four year scheme, again combining skills training, both through a college course and through our training centre, with practical on-the-job experience.

Opportunities on completion are varied and depend upon individual strengths and aspirations and the Company's requirements, and can lead to technical and managerial careers in production, engineering and engineering service functions.

Candidates again should have at least 4 good GCSEs including Maths and a Science, and be well motivated.

At 'A' level we are offering training opportunities leading to careers in software, commerce and engineering.

The Trainee Software Engineering Scheme entails sponsorship on a three year thick sandwich HND in Software Engineering at either Mid-Kent College or Bromley College. The middle year is spent

in a divisional Software department which will not only give hands-on experience but will also give the opportunity to contribute to a project team. On completion, opportunities into software are excellent.

Candidates interested in this scheme should have at least 4 GCSEs including Maths and English, and at least 1 'A' level preferably in Maths or a Science subject.

The Commercial Training Scheme is a two year programme offering placements in departments such as Contracts, Cost and Budget, Purchasing and Accounts, plus day release to study for a HNC in Business Studies. This scheme offers a depth of experience which can lead to a successful career path in any of these fields.

Interested applicants should have at least 4 GCSEs including English and Maths, plus a good 'A' level or BTEC ONC/OND in a business related discipline.

Finally the Company offers a Student Engineer Scheme, which includes a range of degree courses on a sandwich basis. Again the scheme involves working on engineering and production projects, to provide skills and experience which will enable entry to a Development or Production Engineer position at the end of the training programme. Career opportunities for individuals on this scheme are excellent.

Candidates for this training programme should be expecting to gain sufficient qualifications to enter a Company approved degree course.

If you know of any candidate who might be interested in pursuing any of these opportunities please ask them to contact Sarah Kenny, Senior Personnel Officer, on Medway (0634) 816212 or 844400 extension 3212 for further information and/or an application form, or alternatively ask them to write to her at:

GEC Avionics Ltd Airport Works ROCHESTER Kent ME1 2XX

craft and decide which way to move the controls - the seat-of-the-pants effect.

Mechanical

Over the years, many improvements have been made in the way that flight control systems are made and in the help that they give to the pilot.

It became very tiring for both muscle and brain to fly large aircraft for long distances and so the aviation industry developed various systems to help reduce pilot workload. Hydraulics were introduced to provide powered flying controls and these gave the pilot's muscles a break. Similarly, autopilots were developed to keep the aircraft automatically on an even keel without the pilot having to think about it all the time, and so his brain had a break too!

However, as people expected more and more from their aircraft's flight control system, these systems became increasingly mechanically complicated. Control had to come from the pilot and autopilot, through actuators, pulleys, cables and springs to the flying controls. Not only were such systems com-

plicated to design and build, but they were very expensive to set up during manufacture. At the same time, the electronics used in automatic flight control systems were getting more powerful and more reliable.

Electrical

All this led the avionics industry to ask 'Why do we need the mechanical cables at all? Why not just have the signals from the pilot's controls going straight to the computer, and the signals from the computer going direct to the control surfaces?' Good questions indeed, because such a system without mechanical control cables or pipes is what we now call 'fly-by-wire'. In practice, it is not just the pilot's inputs that go to the computer, but also signals from gyros and air data systems. As well as saving weight by removing the mechanical bits, the flight control system became more reliable by getting rid of moving parts that could wear out or jam.

So what does all this mean for GEC Avionics? Aircraft manufacturers are increasingly designing

their aeroplanes to be fly-by-wire for all the good reasons that I have described. Thus they will be looking for avionics manufacturers with a proven track record in supplying highly reliable, ultra-safe systems. GEC Avionics is in an excellent position to take a large slice of this growing market.

GEC Avionics News

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So What's All This About Fly-by-Wire? By John Aplin

Many references in the national and technical press as well as 'GAV News' have told us that GEC Avionics has been chosen to supply the fly-by-wire computers for the next Boeing airliner, the 777.

But if you have not been involved with the programme you may not be quite sure - what on earth is fly-by-wire, and why is it so important to the company? In this article I will try to answer those questions by giving some of the history to show where fly-by-wire came from, what it is and its importance to GEC Avionics.

To start with...

Right back at the turn of the century, Wilbur and Orville Wright succeeded where all before them had failed when they achieved sustained, controlled flight. Their experience with petrol engines meant that they had enough power on their 'Flyer' to take off and keep flying. But equally important was the experience they had gained on gliders which showed that all flying machines had to be controllable. They had developed flying controls made up of a stick and bar connected by

cables to the wing, rudder, and foreplane, so that these flying surfaces could be moved by moving the stick and bar. This gave the pilot the ability, for instance, to level the wings, if one wing had dropped down due to turbulence. The point of all this is that the Wright Brothers' success owed as much to the flight control system as to any other single factor. You could call it a 'fly-by-muscle' system, since it relied on the pilot's own efforts to move the cables that moved the control surfaces. It also relied on the pilot's brain to feel the motion of the air-

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Caught in the GULF

A Funny Thing Happened on the way to the Office!

Much has happened since Wednesday 1st August in Kuwait, and in Baghdad. TV and the papers have given us only part of the story, and to many of us events may still seem to be a long way away. But for John Chappell and his family, that date was the start of a nightmare.....

As one of LCSD's Senior Technical Representatives, John, with his family, was bound on that day for Cochin, India, via Kuwait. There, he represents GAV with the Indian Navy where their Sea King helicopters equipped with MASD's AQS 902 anti-submarine system are based. The BA flight had been delayed and a stop at Kuwait took place early in the morning. Suddenly, as they waited in the aircraft gunfire and bombing started. The passengers had to evacuate rapidly to the airport lounge, without even hand luggage, and some time later John was able to get his family to the airport hotel where he booked them in and got a message off to LCSD.

By Friday, following a move to a safer hotel half an hour

away from the airport, hopes of leaving Kuwait on their aircraft were fading fast. Some clothes were obtained or borrowed from the BA staff, and over the next few days there was a confused series of planned and cancelled evacuations to Baghdad by coach or plane, or by road when they would have had to find their own transport and accommodation. Heavy gun and mortar fire close by was frequent. Despite the efforts of a BA Manager also acting as a 'British Embassy Warden' to keep British subjects in touch, diplomatic support was not very successful.

Early on Sunday 19th, the British citizens were told to assemble in the hotel lobby. Passports were confiscated, and around 48 people set off in minibuses, with the story that they were to fly to Basra, travel by coach to Baghdad and then by air to London. This was not to be, and the journey ended at a 'Married Quarters Camp' but still in Kuwait. Bungalows, already ransacked and filthy, were allocated to families or groups. Food supplies and the living conditions were horrendous, but with the help

of some of the Brits already familiar with the area some semblance of bearable existence emerged.

John's wife Maureen started to clean up the kitchen with its putrid half-eaten food and freezer contents, and the children John and Jennifer tackled the rest of the overturned house and the bathroom, best left to the imagination. Soon it was possible to have some reasonably settled sleep. Neighbouring quarters were searched for usable food, and with the help of a BA Purser the supply of any food (and drink) was pooled with the Iraqi deliveries for sharing out. This ensured the necessary minimum contact between women and children and the invading soldiers. John decided to allow his electrical expertise to repair some equipment for the Iraqis, as the perishable food came via their fridge and the doctor lived in the place too. Camp settled into a routine, with some of the Mess facilities available.

Thursday 30th arrived, also a large coach with Iraqi officers and armed guard. Women and children wanting to leave for London were to assemble in 1 hour, and a tearful farewell saw 18 of them depart.

After two of the most emotionally draining days he ever experienced, John saw on Sunday on Bahrain TV his son descending the steps of an Iraqi chartered aircraft in England. From then on, for John at least, things looked up.

(To be continued)

Later developments saw the liberation of John to England, in December. By the time you read this, John and Maureen will have returned to India for another 6 month tour. They did not travel via the Gulf area.



John and Maureen Chappell, at Gatwick for a joyful reunion in December.



GAV and Schools Training Initiative

GAV, the North Kent Area Education Authority and the Department of Trade and Industry have joined forces to create working models to demonstrate avionics engineering activity in Kent classrooms.

To launch this venture, a number of selected engineers from GAV and an equal number of science/technology teachers from local schools were invited to attend a demonstration and workshop at the Professional Development Centre, Chatham. GAV's (then) Engineering Training Officer, Brian Gillon and KCC Technical Project Officer, Mr. A. Ross explained a pilot exhibit which demonstrates basic

flight control principles. This exhibit consists of an actuator from Education, to be used in conjunction with curriculum material which will be developed to give pupils 'hands on' experience to help their learning.

The teachers and engineers were paired off and invited to develop their own exhibits and curriculum material for an exhibition in March. Each school will receive the 'Electronics Now' set of 10 videos, jointly funded by GAV and the DTI, which will be invaluable in the teaching of technology in schools. Pupils in the participating local schools also have the opportunity to

design an exhibit of their own using schools' own standard educational electronics units for use at the exhibition.

The participating Schools are Borden Grammar, Chatham Grammar (Girls), Chatham Grammar (Boys), Chapter, Christchurch, Fort Pitt, Fulston Manor, Howard Grammar/High, Rochester Mathematical, Rochester Grammar (Girls), Sheppey, Thomas Aveling, Walderslade Girls and Westlands.

We are hoping for a very successful Industry and Education liaison exercise leading to an equally successful exhibition.



Flt Lt Chapman at his Headquarters desk. (Photo by Courtesy of HQ Air Cadets, London and South East Region).

frames), his first posting was to RAF West Malling to work on Meteor night fighters. Later, Fred served throughout the UK with Fighter Command on Hunters, and then with Middle East Command, in Cyprus and Aden.

When he finally left the RAF in 1969, he joined the company to work as Technical Clerk in ADD. Since 1972 he has been with ATEDSED, involved with Nimrod, Tornado and Indian Sea King projects before his present post. It was soon after coming to 'Elliott's' that Fred began his long association with the Air Cadets, joining the local ATC Squadron as an instructor. In 1972 he was commissioned in the RAF Volunteer Reserve (Training), and in 1977 he was appointed Officer Commanding 1039 (Gillingham) Squadron ATC. He is currently serving as a Wing Staff Officer with Kent Wing HQ ATC at Maidstone.

Last September Fred took part in the RAF 50th Anniversary parade before the Queen in London. He said that until the news of his MBE, that had been the highlight of his RAF/RAFVR career. His invention tour place just as we went to press.

R W Howard CBE, BE, CEng, FRAES



Ron Howard at Buckingham Palace with his wife Enid and younger daughter Jane.

NEW YEAR HONOURS

Ron Howard received his CBE from HM the Queen 'for services to the avionics industry'.

This honour is the climax to a career spanning three and a half decades with the company, devoted to flight control and aeronautics. A graduate of Adelaide University, Ron first worked in Australia and the UK on guided missiles. He joined Elliott Brothers in 1954, and has pioneered many of the principles which are the foundation of GAV's business.

These include automatic landing systems for VC-10 and Concorde; he developed the

principles of the first safety critical fly-by-wire systems for the Tornado and EFA military aircraft, and now coming into use for passenger airliners.

Ron was first appointed to our Board in 1965, becoming Managing Director in 1987 and Chairman in 1989. His many distinctions include the Bronze and Gold Medals of the Royal Aeronautical Society, also their Simms Prize on two occasions. He has been Technical Board Chairman for the Society of British Aerospace Companies, and has recently completed a year of office as President of the SBAC.

Flight Lieutenant F G Chapman MBE, RAFVR(T)

This officer is better known to us as Fred Chapman, Project Controller for the TIRF project in SED.

Fred was awarded the MBE in the New Year Honours List, 'for services to the Air Cadets'.

His long association with the RAF started when he joined up as a Boy Entrant straight from school in 1954. Qualifying as an Aircraft Fitter (Air-

GEC AVIONICS

1991 SCANNER APPEAL



The very first contribution to the GAV Appeal after the Company's donation was £500 from ADD's Social Club fund.

Here Peter O'Keefe (Accounts) who is acting as the Appeal Treasurer, receives the cheque from Dave Lucas (ADD).

Your Pension Scheme Representatives

Elected from six candidates, Alan Gillet and Chris Church are now the representatives for the GAV Rochester/Nailsea/Borehamwood constituency, on the GEC Pension Schemes' South Pension Consultative Committee.

Alan, re-elected after 3 years as representative for Rochester/Nailsea, is a Project Leader in MCD, having moved from GSD in November after many years in that division; he first joined Elliotts in 1956.

Our second representative is Chris Church, Quality Technician in LCSD, who joined the company as an apprentice and has been in LCSD since 1975.

The election was voted by 49.7% of the 1,968 eligible members.



Alan Gillet



Chris Church

A spectacular (?) line-up for GSD's Fancy Ties and Outrageous Tights Competition. Roy Hawthorn, Leslie Nicholls (winner), Fred Rowe (behind), Tony Heritage (in fishnets), Cathy Timms, Doug Harris, Bob Ruggles, Sharon Clarke, Ann Seymour, Kevin Taylor (winner), Brenda Clifton and Derek Moore.

Scanner Appeal WANTED

Single Ladies and Gentlemen ages 18-30, to take part in a 'Blind Date' entertainment to be held during a GAV Brass Band Musical Evening in May (date to be announced). Prizes will be awarded.

Apply to George Graham (EX 3493) or Des Morrissey (EX 3218).

Children's TOY APPEAL

For some years now Joan Hyams, who is Secretary to Ken Rhodes and Eric West in LCSD's Production and Repair Dept., has organised a collection of toys for needy children at Christmas. This year was no exception, and Joan says:

'May I take this opportunity to thank everyone who contributed so generously to the Children's Toy Appeal once again at Christmas.

The Family Support Unit at Strood were both surprised and delighted at the huge amount delivered. In fact we had to make two runs to the Unit as your response was so great.

We received a very prompt acknowledgment from the Officer in Charge at the Unit who expressed his grateful thanks to GEC Avionics.

May I wish you all a Happy New Year and thank you once again for your generosity.'

Medway Scanner Appeal IN FULL SWING

With the announcement that GAV had adopted the Scanner Appeal as 'charity for the year', events and collections began to happen as part of an ongoing programme which is growing all the time. The company started the ball rolling towards the £25,000 target with a donation of £5,000, and with each division having appointed a representative to the Appeal Committee, ideas for fundraising are flowing thick and fast.

As this is written, the splendid total of over £15,000 has been raised, from sources large and small.

- Among them are
- Apprentices' Disco £200
- Fancy Ties and Outrageous Tights (GSD) £140
- Valentine Messages £190

- Valentine Disco (GSD) £277
- Christmas Lunch collection £150
- Christmas Dance collection £135
- Raffle of goods from Marks and Spencers (Surgery) £540
- St Trinians collection (MASD) £200
- Popmobility raffle £160
- Central Charity Committee £200

£80 was raised by GAV/Personnel from a sale of unwanted Xmas presents, and GSD Production has a varied programme, raising amounts so far including £210 for a sponsored 'Quiet' and £345 for a 'Wine and Wisdom' quiz. This was so successful and popular that more are to be held; the first will be on 16 March, guest teams are invited.

Forthcoming Events

MAD HATTER'S FANCY DRESS BALL 22 MARCH (disco, bar and buffet, Main Canteen).

EASTER BUNNY COLLECTION 28 MARCH (bunnies from MCD will move among us all, collecting).

INTER-DIVISIONAL AND INTER-COMPANY TUG-OF-WAR CONTEST 7 APRIL

PLUS Sports contests to be arranged: Raft Race; Rugby (Veterans v Graduates); 5-a-side Football; Mixed Hockey; Squash; Netball; 6-mile Road Race; 'Superstars'; ...and Much Much More.



The final number looks like £4,000 at least

Now the dust has settled, we can give a better picture of the amounts raised for the BBC Children's Appeal in November. There could be more because some people may have been rather shy about telling us what they did - other than private donations that is.

The final number looks like £4,000 at least.

The power of radio and TV helped ADD's Software and Computer Services stalwarts bring in over £2,500 after the final count, a superb result for their Custard Pie Fight at Radio Kent. Further efforts by groups and individuals, urged on by Melissa and Tracy in ADD Commercial, included £66 on a pub visit; the removal of half Smiley's beard (Tony Giles, QA) by glamorous Ray Turner, QA, for £52; and the total loss of Paul Brien's fine head of hair for £420. Richard Docker (C & B) made £25 with his 'guess weight of gâteau' and a further £28.01 with his Nice-athon, deciding to be nice to everybody for a change. Maybe the 1p indicates a difficult encounter! The 'Lucky Raffle' included at least one rather rude prize and made £36.

A great success was the Volleyball Tournament between ADD Contracts, ADD Systems, ADD Software, FCD and MASD Software, which raised almost £300. Part of MASD's share of this was credited back to them enabling them to beat their £500 target together with their collection of old 5p bits, and of loose change in a bucket and the manager-as-baby photo contest.

Many thanks are due to all who helped organise, collect for, and give to the campaign - not forgetting the families and friends who stirred and baked to help ADD's Cake Sales' raise £67.

And certainly not forgetting the GEC Avionics Brass Band, whose concert at the Central Hall, with an internationally renowned euphonium guest artist, brought in £450 after expenses.

Ray demolishing Smiley's beard.



The Supreme Sacrifice?



Malcolm Moulton is preparing to make the ultimate (for him) sacrifice in aid of the Scanner Appeal.

If colleagues sponsor £300 he will shave off his moustache on his Birthday, 17th April. For £500, he will wear half of it from then until the end of work on Friday, 19th. As no-one has ever seen him at Airport Works without his 'tash' in all his 30 years of service (and Mrs Moulton has never seen him moustacheless), it ought to be good value for money. "You can regard this offer as unrepeatabe" says Malcolm.



Didn't He Do Well!

Did you see Barry Robinson of SESD and his daughter Melody on the Bruce Forsyth 'Generation Game'?

They were one of only 56 couples chosen for the series out of over 900 interviewed, and their programme went out late last year.

The recording day, Barry says, was hectic. 'We met the show's researchers and the other contestants at lunch at the hotel, before going on to the BBC TV centre to prepare for the show itself. That involved being told where to go and to stand on the stage, meeting Bruce, going to make-up (including me) and generally being well looked after to put us at ease. But we were not told anything about the games to be played, that secret was only to come out when we went on stage for real.

Later, when we got back to the studio it was starting to fill up with the audience of around 350. This was probably the most nervous time of all - knowing that in a very few minutes we would be 'on'. But we were to find that as soon as the show starts, everything goes so quickly and smoothly there is no time for nervousness.

Once Bruce had done his warm-up routine to get the audience relaxed and noisy, the recording from which the programme is edited began. The games are spontaneous,

and you see what you are to do only when you are called to do it, with 1½ minutes and no second tries if you make a hash of it. Strangely, once you are on stage and doing things you become unaware of the audience or the cameras.

Melody and I won our heat and went on to take part in a playlet, 'Casanova'. We had to dress up in period costume and wigs, and read lines as they came up, often mis-written to add to the confusion. This time our rivals won so we didn't get to the conveyor belt and its goodies, but we had such a marvellous time just taking part it didn't seem to matter.

After the recording everyone in the show enjoyed a casual buffet party and drinks with the contestants and their guests. We met all those in the programme for a chat and photos, with the stars who this time were Bruce, Rosemary Ford, Russ Abbott and a group of Maoris, not looking anything like so fierce in their everyday clothes!

Back at the hotel and some final celebrations, Barry's summing up was of a never-to-be-forgotten experience and fond memories - 'if only I can ever live down the way I looked as Casanova'.

P.S. The Generation Game, and others, are crying out for contestant applications. You budding stars out there, what about dropping a line to the BBC?

Apologies to FCD We lost a DIGIT

The hi-tech processes of getting GAv News into print succeeded in losing £1000. Last issue's note about the London-to-Brighton sponsored Bike Ride should have read 'succeeded in raising the splendid total of £1,762, and two pence'. So once again, even bigger congratulations to all.

TAXPAYERS Welcome TESSA

Since 1st January, banks and building societies throughout the Rochester area have been encouraging savers to bring a TESSA into the family.

The TESSA - Tax Exempt Special Savings Account - was announced to the public by the then Chancellor of the Exchequer, John Major, last March.

TESSAs are designed to encourage saving and are particularly beneficial to taxpayers, as the interest earned on the account will be paid without any tax deducted. Every taxpayer aged 18 or over can open one TESSA. You can switch from one building society or bank to another, as long as you don't have more than one at any time.

The money must be invested for five years. The maximum amount you can have in the account is £9,000, which can be paid in either as a lump or as regular monthly savings. There are

annual investment limits in each of the five years: £3,000 in year one and £1,800 thereafter.

If the maximum is invested in the first four years, the limit in year five will automatically be £600. A regular monthly saving of £150 over five years would ensure the £9,000 ceiling is reached without exceeding the annual limits.



As long as you don't touch the capital - the amount you invest into the account - you will receive your interest tax free after the five-year term.

The account will be earning interest each year, and the TESSA

GAV/BP KENT CLUB AGM

The Committee elected at the postponed AGM will be listed in the next issue.

rules allow you to withdraw that amount, less basic rate tax. The taxed element of the interest will stay in the account and will be yours at the end of the term.

The best advice is to shop around. Check the terms and conditions, as well as the interest rates, before you commit yourself. If you don't think you're getting a good deal, look around to see if there is a better one elsewhere. If you don't understand what it all means, ask your building society or bank manager, who will be only too happy to explain how it works.

Tony Mills, Manager, Leeds Permanent, Strood.

Retirements



Laurie Hampson, who has retired as GAv Business Development Manager, was previously in MASD for over 8 years; he joined in 1979 after a long and distinguished career in the RAF, ending as Group Captain and Assistant Chief of Staff for the NATO Channel Area. In MASD Laurie was successively Marketing Executive, Deputy DM and Divisional Manager.



Arthur Colwell has taken early retirement, after service at Rochester of nearly 32 years. His early days were with the civil aircraft business of TACD, where he progressed through Chief Engineer to Deputy DM. In 1970 he was appointed Divisional Manager of the rapidly developing ADD, and in 1983 he took up his latest position as DM of ATED/SESD.

Arthur Ellis, 31 years at Rochester, contributed greatly for over 20 years to the industrial relations activities here. In ISD in 1967 he was elected as AUEW Shop Steward, and successively became a member of the Works Committee and then Works Convenor, being re-elected for several years until he stood down in 1978. Also he served as Branch Committee Member for the AUEW, and became Branch President and Delegate to the Chatham District Committee. Arthur was on the shop floor until becoming a Training Supervisor in 1978, and most lately was Senior Personnel Officer.

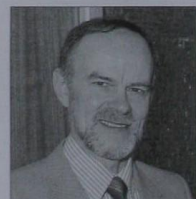
Brenda Pearson, Detail Draughtsperson in FCD for 14 of her 23 years' service, was also renowned for her topical cartoons and characterizations, many of which have appeared in GAv News over the signature BAP. Thank you for these, Brenda.



Senior Nurse Iris Gordon, known to so many of us as 'Sister', has retired after over 18 years in the Surgeries. Iris has asked GAv News to pass on her thank-you to everyone she wasn't able to see before she left, for all their best wishes for her retirement.

Ron Proctor, a much admired friend and colleague in ISD, left at Christmas after 34 years. His many talents as Design Engineer and Consultant have been applied to the vast changes in technology that have occurred. During his work on many of GAv's major programmes the emphasis has changed from his main love of mechanical design to digital electronics. Younger engineers have over the years come to respect Ron's talents and dedication; his many friends in ISD and elsewhere in the Company wish him well.

25 Years' Service



Lionel Budge has reached his 25 years' service having joined the company as a Draughtsman in MAC division (now FCD) working on E.M.A.C. and Concorde. Next he was in MASD as Chief Draughtsman, and is now Engineering Services Manager in SESD (formerly ATED).

Just missing the last issue, Paul Seager and George Relf retired from ISD in October. Paul's 43 years started in Swift and Swallow days and after a variety of Stores jobs, he was in due course promoted to Head of Stock Control, where his ISD Section was the first to go on computer.

George's 26 years were all in FID/ISD, mainly in Test and for the last 5 in Engineering PDS. A far cry from his long RAF service including the Berlin airlift.

Two Senior Technical Authors in GSD have retired; Ron Saville with over 29 years' service, and Barrie Cooke with 22 years. Barrie and his wife are moving to Norfolk, and Ron who is also an accomplished musician is planning an active retirement.

GAv/BP Kent Club Forthcoming ATTRACTIONS

Friday 15th March
DISCO
in aid of
SCANNER APPEAL
Tickets from
Hughie McArthur
Hopewell Drive
Medway BA7923 (6002)

Saturday 30th March
EASTER DANCE
with
Keith Howard
Road Show
7.45 - 11.45

Saturday 6th April
Friday 19th April
Saturday 27th April
MUSIC in the BAR

Saturday 20th April
FCD DANCE
in aid of
SCANNER APPEAL
with
REVIVAL ROAD SHOW

Parlour Derby

CLUBHOUSE NOTICE

Please note that all Social Club members are now required to show their membership cards to the Doorman, for entry to the Clubhouse and grounds. In the near future, new membership card 'inserts' will be issued through divisional Admin offices, and will replace the present plain inserts in the black card.

The Great SUPERJERKS Contest

The 8th ADD Superjerks took place in November but despite the offer of equalising rules, there were no ladies among the 26 starters.

After the usual pre-competition banter and flexing of (mostly jawbone) muscles, the throng at the first event in the Medway Towns Rowing Club boathouse started to find out how an ergometer records how far you can row in one minute. Dayne Reast kept falling off his seat, but the explosives resulting did not gain him any extra points. Brian Harris won, recording 359 metres for his effort.

Next came the 100 metres, won by Tim Baker, and the mile with Dayne Reast as a runaway victor. Joe Ninety finishing second impressed for the only time, but he gamely

stuck to his task, more than once needing to be peeled off the ground in other events.

Next was the gym test, won by Brian Harris with Alan Ward, 'heaven forbid' 2nd, despite much juggling of the figures by the judges.

The basketball on the same evening produced a new winner's name Mark Wilde. But by the plague of the gods Wardy finished 2nd again and was becoming intolerable.

Rifle shooting, a great leveler, brought Andy Wilkinson to win, but Wilfy Quinton to his shame finished last, still not realising that someone slipped him the bent gun.

Two events to go, and Brian Harris almost unassailable. The only person who could have challenged him didn't turn up

for the weightlifting but the worst thing that could happen did, Wardy came 2nd.

The final event, swimming, sorted out the minor places. Dayne Reast won easily from Rob Lindsey, with Phil Holliman just struggling ahead of Richard Smith for third.

So Brian Harris won the Trophy for the third time. The 'Old Boot' went to Wardy, once the previous winner Paul Davis was persuaded to give it up. Joe Ninety got the 'Game for a Larf' and Clive Tilley the 'Barracuda Prize' for sticking so gamely to his swim.

Finally, the organisers offer their thanks to all the people who helped run the events and who are too numerous to name.

Joe Ninety



Cyril Moffett with one of the young winners, Elizabeth O'Bryan.

Christmas Gala at the POOL

On Saturday 5th January the Social Club held its annual swimming gala, which was open to all club members and their families.

The overall gala was split into two parts catering for different abilities and ages. After the first, the children were entertained with a video whilst the other contest was taking place.

Approximately 80 swimmers took part, aged from 4 years, and no matter what their age or ability they all enjoyed themselves. The overall swimming standard was very high indeed, a compliment to children and teachers alike.

When the hard work was over, the swimmers and parents enjoyed a sumptuous

party tea complete with funny hats and crackers. Cyril Moffett even used his extensive influence to persuade Father Christmas to call in and present gifts to the swimmers, these were particularly well received. Cyril then presented the awards for the Gala, followed by the annual Swimming Section awards.

For those with some energy left, there followed a lively disco, which ran late into the night.

On reflection, this was one of the most enjoyable Christmas Galas ever, a tribute to all of the many organisers and helpers behind the scenes who worked very hard to make this such a success.

FAMILY SPORTS DAY 1991

Family Sports Day will be on Sunday 14 July on the GEC Avionics Club Ground at Hoo.

As last year, in addition to bowls, five-a-side football, tug-of-war, netball, swimming and athletics, there will be children's events and amusements, together with musical entertainment.

Each sport will be organised under its own rules. The Champion of Champions Trophy will be won by the divisional team with the highest score of points, awarded as 6 points for 1st place down to 1 point for 6th in each sport.

Subject to the approval of the organising committee, other outdoor sports may compete for this trophy, provided at least six teams from different divisions are entered and all competition is completed before 6.00 pm, on 14 July 1991.

Please note that all competitors must be full or part-time employees of GEC Avionics, or their immediate family.

The organising committee will shortly be holding briefings for Divisional Admin Officers and Team Captains and appointing officials for each activity.

We look forward again to your enthusiastic support and another memorable day.

Ray Reese
Meeting Director

A Long Story Told Again

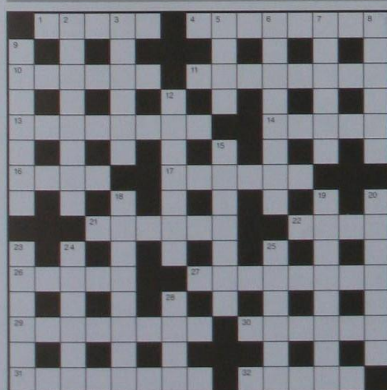
For Sale, Boa constrictor, 6ft, hand reared very good eater, likes children. £350 o.n.o.

from the Chatham News



First five in the 1990 Superjerks; winner Brian Harris in the centre is flanked by (l-r) Alan Ward and Wilfy Quinton who were equal 3rd, and Tim Baker 2nd, with Dayne Reast 5th.

Crossword No. 103 (For amusement only)



Across

1. The sense which detects odours. (5)
4. Which eats its own species. (8)
10. Pass on the knowledge. (6)
11. Sometimes called house for craft. (4-4)
13. A family trait, or portrait. (8)
14. Scope, distance. (5)
16. The plank which gives entry or exit to boat. (4)
17. A football team maybe, or cricket. (6)
21. Dark coloured rock. (6)
22. Airtight structure for animal feed. (4)
26. Large antelope, from Africa. (5)
27. Tableware prone to breakage. (8)

29. By which heat is distributed. (8)
30. Made effort to succeed. (6)
31. Beaten, on the ground or with a tool. (8)
32. Welsh seaside town. (5)

Down

2. South African town famous for its relief. (8)
3. Cavity for vocal chords. (6)
5. Plant with bitter juice. (4)
6. Persons of authority and legal status, abroad. (8)
7. At the rear. (6)
8. A climbing tool for ascent. (6)
9. Cultivation of land. (7)
12. A spear for throwing. (7)
15. A church reading desk. (7)
18. Narcotic plant with forked root. (8)

19. Explosive device pre-set. (4-4)
20. Pious sight for the Pope. (4,3)
23. A blazing one gives comfort and warmth. (6)
24. For a pair, in line. (6)
25. Mowing or reaping tool. (6)
28. Method or means. (4)

Solution to Crossword No. 102

Across 1. Australia; 6. Taste; 9. Relic; 10. Geometric; 11. Deportment; 12. Reap; 14. Estates; 15. Striped; 17. Steamer; 19. Aliases; 20. Near; 22. Persistent; 24. Ill humour; 25. Organ; 26. Lodge; 27. Fire marks.
Down 1. Acid; 2. Saltpetre; 3. Record time; 4. Legumes; 5. Amounts; 6. They; 7. Serge; 8. Escarpades; 13. Brain storm; 14. Essential; 16. Passenger; 18. Beel off; 19. Assured; 21. Allied; 23. Tonge; 24. Lute.

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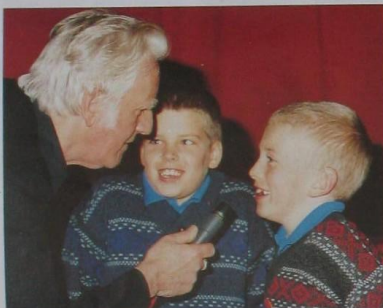
Happy Christmas everybody!



Santa's Grotto was full of good things.....



Snow White and most of the Bears.



Uncle Rod coaxes the words of the song.



.....to take home for our Trees.

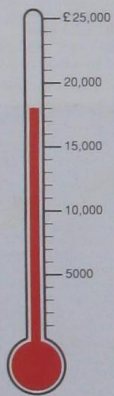


'OK Leonardo, Robin will have crisps too!'

Well done



GEC AVIONICS LTD
Scanner Appeal



DONATIONS AT
15 March

MEDWAY FUND
Has Reached
£167,245

Christmas 1990

Over 600 employees' children enjoyed once again the Parties and Pantomimes before Christmas. Later, in January, around 200 young guests from the Medway Society for Mentally Handicapped Children came in for their annual treat. Thanks to all who helped to make these events such a success!



COMPANY CHRISTMAS DANCE

The Canteen Glide? A festive moment at the Christmas Dance in December, which was enjoyed by over 450 people. AND FOR 1991 - MAKE A DIARY NOTE FOR SATURDAY 21ST DECEMBER.

SNOW WHITE and the BEARS

Written and Produced by Jim Collins

- | | |
|--------------------------------------|---|
| Snow White - Jacqui Cole | Soldier No. 1 - Dawn Gambell |
| Wicked Queen - Sue Parr | Soldier No. 2 - Sue Sifleet |
| Woodcutter - Nigel Turner | Axeman - Rod Cole |
| King - Tim Edwards | |
| Daddy Bear - Mark Horne | Santa - Keith Jones |
| Mummy Bear - Sue Sweetman | Piano - Bert Robbins |
| Raphael Bear - Sue Marshall | Electrics - Paul Barratt & Mark Snowden |
| Leonardo Bear - Catherine Bloomfield | Front Men - Jim Collins, Peter Bird, Rod Cole |
| Michelangelo Bear - Tom Crozer | |