MSG NEWSLETTER

Summer Special

August 1993

FOREWORD

As I predicted in the last newsletter this quarter has been very busy, not only on the proposals scene, but also in fulfilling current programmes and negotiating new orders.

In the last newsletter I mentioned the name change of the company, GMAv. This is obviously the first Mission Systems Group newsletter, hopefully you will all agree with me that this describes the group's activities more accurately.

I am delighted to say that in the last three months the group has received numerous orders. The major ones being IBM-ASIC Merlin SIM/STIM; an update to the Swedish Navy Programme and more recently the Pakistan Navy. I would personally like to thank Mike Baxter, John Hollands, and Tony Young for their relentless efforts in negotiating the Pakistan contract albeit interrupting many of my weekends.

Tech Pub's "feet have not touched the ground" in generating proposals for each of the five Primes for the RAAF P3 Upgrade Programme. The group has forwarded proposals based on the AQS 934/938 system, GEMMA and ACT systems. Work is now proceeding to generate proposals for the UK Replacement Maritime Patrol Aircraft (UK RMPA) and the Cobra Venom Mission Computer System.

On the project scene, life has also been hectic. In particular we have started the 6116 Issue 5 Software and Active Mods Programmes, the Swedish Programme, and completed OFP'D' SIDT. In addition we have prepared and held the hardware Critical Design Review on the IBM-ASIC Merlin Programme.

On the social scene I was delighted to see the Group successfully defend the mixed hockey trophy. I note that Ian Atkins did not win the recent golf tournament, probably because he was teamed with "proper" golfers. A little bird told me it was unusual for him to keep to the fairways and not look for his "partners balls".

On a personal note I would like to thank each of you for your continued support and wish you and your families a well earned rest over the coming Bank Holiday weekend.

Sue Wood

Sue Wood

PROJECT REVIEW

AQS 901

All activities on the Issue 5.1 Software Update are completed. Now we are providing System Design Support for the RAF managed issue 5.2 Software Update.

There is scope for further changes to the existing NIMROD avionics fit. A number of proposals have been made to the RAF for possible updates which are being considered.

AQS 902

Royal Navy Sea King Mk6

The Issue 5 Software Update is progressing well. A number of software changes have been incorporated and demonstrated to the customer. Trials of the modification to the dipping sonar system have been completed successfully. See article on Boat Trial.

Royal Swedish Navy

We have received an order for a further system plus updates to extend the processing bandwidth of previously delivered systems, with delivery in mid '94. The update to the processing bandwidth is an interesting development and may attract some of our 902 customers.

Work has started, the first internal software delivery is planned for September, with completion by Christmas. The changes are considered minor. Our problem was finding the work force. However by poaching from 6116 we are proceeding on schedule.

Pakistan

Having suggested in the last letter that I take a permanent holiday I thought we had for the contract negotiations in Pakistan; except it was no holiday. In the end it was six weeks well spent.

Contract negotiations continued virtually up until the last day. With major contributions from Mike Baxter (Marketing) and John Hollands (Contracts) we walked away with a contract for six AQS 928G/2069 Dipping Sonar Systems plus logistics support.

AQS 903

Development

The engineering part of the 903 development contract has finally come to an end with the successful demonstration of problems encountered during OFP(C) and miscellaneous tests.

Merlin Drop 1

The Merlin Drop 1 package has been accepted by IBM. Some problems encountered with the software during the SIDT, have been entered into FRACAS. The main software problem was a deadly embrace which resulted in the software package being updated and some regression testing being performed. Currently two racks at WHL are being updated with hardware/software from the SIDT rack, prior to confirmation tests being performed.

Merlin Update

During the last three months the Merlin programme has continued at the same hectic pace as earlier in the year with no respite. No sooner has one critical event been completed successfully than the next task is at hand.

All this hard work has enabled the Group to establish a very good working relationship with IBM-ASIC. Their catch phrase seems to be "well you are leading the pack". As a consequence we seem to be used as a Guinea Pig in a wide variety of areas ranging from how we deliver equipment to holding reviews.

A major highlight has been the successful testing of the first Merlin delivery. This required the midnight oil to be burnt in large quantities by many of the team. The end result is a very satisfied customer who has complimented the group on its professionalism and enthusiasm.

Following the SIDT, we completed the first rack update at WHL, despite a few heart stopping moments on the way.

July saw the manufacture of the first development Dual Processor cards. At the beginning of the programme the card was identified as a significant risk due to the complexity of the design. To date the commissioning of the new design is proceeding well.

MSG has completed successfully the first part of the Sonics Critical Design Review and is on schedule for the second and final parts in September.

IBM-ASIC ACT

The IBM-ASIC ACT 2 is more commonly known as the Sonics Sim/Stim. After a long gestation period, work on the project started in mid April under a Jump Start contract covering system Design and documentation.

After some good, honest haggling, the full contract was agreed with IBM-ASIC on 1 July 1993. The Sonics Sim/Stim Team strength is growing rapidly to cover all the activities needed for final delivery in May next year.

The Sonics Sim/Stim will form part of the Merlin Full Scale Integration Super Rig at Westlands. The WHL Control Computer will provide scenario data to a suite of Sim/Stims for the various sensors including AQS 903. Using this co-ordinated scenario data, the Sonics Sim/Stim will simulate target signatures as detected by LOFAR, DIFAR, BARRA and CAMBS sonobuoys. The simulated sonobuoy data, in the form of RF signals, will be fed to the AQS 903 providing our system with a realistic acoustic scenario for ground testing and Integration.

PFC TEST SET

Since the last Newsletter PFC Test Set work has concentrated on two main areas. Firstly, we have been supporting the FCG Integration programme and supplying software enhancements to allow testing of the PFCs. The majority of this work was completed by the end of May and a formal software delivery was made to FCG. However, ongoing use of the Test Set by the FCG Integration teams has identified further new requirements. These have resulted in additional formal and informal software deliveries. This support activity is still ongoing with new requirements currently being included on our plans.

The second area of work, and by far the largest, is including the Boeing 777 Aircraft Model into the Test Set. Due to very tight timescales this task became a joint exercise with Boeing. Boeing supplied Ada code for the aircraft Model, sourced from a FORTRAN model it had implemented at Seattle. MSG's task was to produce the interfacing software and integrate the model into the existing PFC Test Set software.

The overall aircraft model was sub-divided into two areas, the Actuator Confidence Test (ACT) Model and the Flight Functions (FFT) Model. It was agreed with FCG that the ACT Mode would be developed first.

Work commenced on the ACT model in mid April and although occasionally progress was far from smooth the model was delivered successfully to FCG on the 9th July. Since then it has been used extensively for ongoing PFC Integration work.

FFT Model work commenced on schedule in mid June. To date the Implementation work for the interfacing has been completed on schedule and the ISTG testing commenced as planned. The initial delivery of the FFT Model to FCG is planned for the 18th August with a final fully tested delivery on the 8th September.

SR(SA)902 PD STUDY

MSG, together with MUSL and Dowty (Prime Contractor) is about one third of the way through an 18 month MOD awarded Project Definition Study for two new passive sonobuoy types, HARP (a random array of Jezebel/DIFAR buoys) and VLA (a Very Long vertical passive Array). We are responsible for the processing, control and display aspects of the sonobuoy system, with particular emphasis on the potential impact of these new buoys on the AQS 903 Merlin. The bulk of our work will be carried out over the next six months once the sonobuoy configurations have been fully defined. However, we have made significant progress on the preliminary definition of processing strategies, performance and impact on loadings.

PVR&D 93/94

Private Venture Research and Development (PVR&D) funding this year has been split between three areas:

a) PVR&D 0057 : Tactical Mission Systems
b) PVR&D 0074 : Transients
c) PVR&D 0077 : Future Acoustic Processing

In previous years under PVR&D 0057, VAX based demonstrators of our proposed GEMMA Tactical System Man-Machine Interface (MMI) have been developed. As a result of limitations on the VAX system we have developed a new demonstrator on an IBM based PC. Alan Smith is producing an impressive PCB based Tactical MMI demonstrator which will be used by Marketing to promote our GEMMA Systems.

Under PVR&D 0074, Gerald Witchlow is updating the Transient demonstrator to include a classification system. Currently, the system, based on a Silicon Graphics Iris Indigo Workstation, can detect transients (short duration pulses or periods of energy from submarines), not detected on conventional lofargrams for up to two channels. The aim this year is to include a classification facility (i.e identify the type of transient and hence indicate the type of vessel), and a localisation facility so that we can determine the position of the target.

Under PVR&D 0077 we are working towards a new real time 8 channel processor, based on a 903 pipeline with a VAX Alpha Workstation. The Workstation approach allows us to demonstrate new MMI concepts and algorithms, such as the colour bearing (which many of you will have seen demonstrated on 901) on a 903 based system.

TACTICAL DEMONSTRATOR
Alan Smith

Earlier this year, our Marketing Department raised an urgent requirement to develop an advanced Tactical Demonstrator based on Microsoft Windows and an IBM PC. It was decided that this PC based demonstrator would be best housed in a rugged, military looking style console so as to resemble real maritime aircraft equipment.

Stage one of the development programme has been underway for eight weeks. It has reached an initial functional baseline which includes several new advanced features. The demonstrator has a scenario control language which allows contacts from all aircraft sensors, Radar, ESM Acoustics etc, to be simulated. The tactical situation display, similar to our current systems, contains a tactical plot and advanced control facilities, and is provided with an option for a backdrop of digitised colour seabed contour maps. The method of interaction has changed dramatically

as operations are invoked in a 'point and shoot' type manner. The cursor (Freemarker) is used to select contacts and objects, and a button used to display a pop-up menu of commands appropriate to the type of object selected. Additional controls and readouts, such as totes, are provided by two touch sensitive plasma display panels.

The advanced Tactical Demonstrator is not intended to be a prototype facility nor to demonstrate what all our future tactical systems should look like. This eye catching system is to be used by Marketing to show that we, as a Company and a Group, have a vast maritime avionics technical knowledge, and to stimulate interest and discussions on our products and capabilities.

THE STORY OF A STRAIGHTFORWARD DELIVERY TO WESTLAND HELICOPTERS LIMITED

Steve Collins

After problems obtaining a hire car and waiting for the PCBs to be updated, Dave Baker, the test equipment and I set off for Westlands in our Peugeot 505 tank, we arrived just after the night shift started.

The next day Tim (I'm Easy) Sellars, with assistance, updated B16 to OFP 'D' (Drop 1) standard. At this point we entertained the thought of going to the coast on Sunday. Yes you guessed it! By 5:00pm everything was cooking; that is the control Motherboard. We were looking at a long weekend of investigations.

On Monday Ian Attoe rushed down with a replacement Motherboard and his overnight bag. In the end it lasted him three nights.

After a day of painstaking checks the Control Motherboard was powered up, relief. But powering up the Pipeline Motherboard caused a few heart attacks when the power supply went crazy. A bit of hunting revealed a few card problems and a duff power supply. As a result the evening was spent heavily anaesthetising our frayed nerves.

The next day Ian and I shot back to Rochester to collect replacements for the rack while Tim and Dave tested the rig.

On my return to Yeovil the replacements were fitted and the rack worked. What a relief. The weekend was spent Dry running the Site Confidence document and sampling the delights of the WHL vend and nuke it canteen.

We formally demonstrated the rack to IBM-ASIC one stressful week late. IBM-ASIC accepted the rack at the wash-up shortly after.

Through an up and down week the only thing that remained constant was Dave "Moo" Baker's choice of food.

A DAY IN RAWALPINDI

Tony Young

The taxi driver insisted we see the processions associated with the religious festival MUHARRUM. Reportedly one of the bloodiest days in the MUSLIM calendar since one of the MUSLIM sects celebrate the death of a martyr by moving through the streets in a slow procession beating themselves on the chests with fists or in some cases on their backs with chains and knives, hence the blood. However, there is another sect of Muslims which disagrees violently with this practice and there are frequent clashes which are often fatal. All forms of police and military are out in force in all the major cities to keep the two factions apart.

We accepted a taxi driver's invitation and, along with the taxi driver's cousin who is acting as minder for the day, proceed downtown Rawalpindi. Just before the drivers intended destination we meet an armed police road block and a discussion ensues on whether we can go through. The answer is no! However the policeman on duty turns his back for 10 seconds and the driver slams his sandal down and we are through. Surprisingly there is no reaction from the road block and we park.

The procession is taking place a hundred yards up the road. We proceed, festooned with cameras, the only whites for miles, and in the light of recent Baghdad bombings a little nervous. The procession comprises some two hundred people arranged in two columns facing each other beating their chests and chanting. We mingle with the watching crowd who are about five times the size. The procession, a small one we are informed, is one of many taking place in the city. We are feeling a bit conspicuous and nervous about taking photographs so the driver organises a roof top view. The house we go up through is a pleasant surprise. From the outside, lumps missing out of the plaster, paint peeling, verandahs collapsing. From the inside an open central stair well with rooms leading off three floors, cool, clean and comfortable.

The view from the roof is good, we take our photographs. Twenty minutes is long enough. The chest beating was getting boring. The driver thought we might find a procession where there was more happening (more blood). So back to the taxi and the police road block.

This time the road block had been reinforced with barricades and police. The minder gets out to negotiate. We watch with interest as a small crowd gathers. There is a lot of discussion. The driver gets out to join the negotiations and a larger crowd gathers. We sit patiently watching events develop. The minder removes part of the barricade. In the ensuing melee we escape in the car through the barricade and the minder joins us up the road.

At this point we are well clear but the driver gives the police some verbal. They are not pleased and give pursuit.

We don't stop. Having negotiated several road junctions we encounter another procession and have to do a U-turn in the road. Having completed this manoeuvre we are met head to head with the chasing motor cycle mounted policeman.

We think "fair cop guv", but no, sandal to the floor again and we are away. We drive at break neck speed through the back streets of Rawalpindi. Streets that were built for traffic no wider than two passing donkeys, an open drain either side, where men work, children play, women chatter. We are braced against the roof to stop us going through it and hanging onto the seat in an effort to maintain contact with something. For the next half hour there are images of people diving out of the way, cyclists dismounting hurriedly, donkeys panicking, crates and boxes flying. Great lumps and craters in the road miraculously did not break the sump and the only visible damage was a smashed wing mirror. We eventually escape into open country with no police escort and return to the hotel. Our last negotiation is a price for the taxi and the days entertainment.

ROGUES GALLERY

Phil Liddiard
MOD 903
Programme Manager

Phil is a product of the 1950s which makes him thirty-something.

He joined the company in 1976 working on AQS 901 as a Technical Assistant testing core memories and power supplies. The B model equipments had just arrived and he became an expert at rolling up paper tapes and producing whole programmes using a hand punch!

In those days he had it tough. TAs were not entitled to chairs or desks and one had to arrive early in order to obtain a stool in the lab area and then jealously guard it all day. The division had four terminals which had to be booked several hours in advance by adding ones name to a list by each one and waiting until called.

His fondest memories were making tea for all the hardware team at 10:00am and 3:00pm (an honour shared on a daily basis by the last five people to join the team). One pint of milk had to supply forty cups - or else.

The low point in his career, dropping a new oscilloscope onto the floor which redesigned the control panel. However, he managed to keep the job and furthermore obtained an HNC using company sponsorship.

As a hardware development engineer he became involved in the AQS 901 DCU 3 update and enjoyed his first trip abroad. This was to Atlanta: his task to remove the DCU 3 hardware subcontract from them due to lack of work at Rochester (caused by the moratorium on new MOD contracts). He was very popular!

Around this time he remembers his first example of inter-divisional trading. ATE was producing the AQS 901 service test equipment (which was slightly late) as always. One ATE engineer (male) was assuring one of ours that the power supplies were short circuit protected. Quick as a flash our chap shorted it out, whereupon it promptly blew up! Mind you they got their own back....

He became involved with the AQS 902 Difar update and his first experience of that nebulous substance called firmware, (and Em).

Eventually he was appointed Hardware Project Leader for AQS 902. This during the time when we built our first (and only) display processor and imported into 902 the new Z8000 technology that had been developed by the AQS 903 team (then know as WG34).

During this period we produced a trials package (in six weeks) which was used by the US Navy on a LAMPS 1 helicopter for 18 months. He raised this point because one of the Printed Circuit boards was designed, procured, built and commissioned in just ten days. Try and tell this to the young people of today - they won't believe you!

At this time the Group won the Indian Sea King tactical update. After initial problems and a few management changes he was asked to form the Integration team. A hectic time followed, full of memories. He had his only flight in a helicopter which reached the giddy height of approximately four feet. Just as well as the signal generator was still powered from the ground!

After ISK he was appointed Integration Manager, subsequently Project Manager/ Technical Authority and finally Programme Manager for AQS 903. The highlight on this programme was the Phase 5 sea trials, which saw the successful culmination of all the team's work both for the Acoustic Processor and the trials organisation.

Throughout his time he has retained his contacts with Tactical Processing and Mission Systems. This involved spending some time in Spain and currently involvement on our programme for the UK Replacement Maritime Patrol Aircraft.

In 1990, after a very short engagement! he married Alison who has worked for the company since she was seventeen. They have a son Jason who is currently at college training to be a hairdresser.

His hobbies include all Motor sports (he has marshalled on the RAC Rally for the last fifteen years), Swimming, Do It Yourself (or rather only do half of it) and Gardening.

He is a qualified Youth Leader but not actively involved in a project at the moment.

Last but not least he enjoys cycling. The culmination of this activity was to complete the London to Brighton run this year. If he can do it so can you, why not try next year?

Next year he intends to walk the Channel Tunnel, anyone interested?

'I agree, it's disgusting. I'm going to switch it off very shortly'

TQM

Today, if you believe some people, loyalty is dead. The relationship between an employee and his or her company is strictly a matter of "What have you done for me lately?" Nothing matters except a pound in the pocket right now - today.

But is this really true? Have people really changed that much? Or does this view merely reflect the frustration of those managers who haven't bothered to develop the warm, direct, person-to-person relationship with their associates that leads to loyalty?

It's true that employees aren't as indiscriminately loyal as they used to be. Today's workers take a lot more convincing that you really have their interests at heart - not just your own. But it can still be done. Supervisors or managers who work at it can still develop a feeling of loyalty among their people.

The key to loyalty is deserving it - and showing that you do. What kind of leaders deserve loyalty? Among other things, they're people...

- who give loyalty
- who are sincerely and genuinely interested in the present and future of those who work for them
- who appreciate their viewpoints, problems, hopes, and ambitions
- who deal with them openly, honestly, and fairly
- who delegate responsibility and develop people
- who give and share credit liberally.

It takes all this - and sometimes more - to earn loyalty. Perhaps that's why more managers complain about the lack of loyalty than truly deserve it. But it can be had - and it's well worth the price.

RAAF P-3 UPGRADE PROGRAMME

Patrick Keast, The Pommy B in Australia

Background:

Currently the Royal Australian Air Force (RAAF) operates a fleet of 19 P-3C Orion Aircraft.

The aircraft, based at Edinburgh airfield just outside Adelaide, South Australia, are tasked with the surveillance of all Australia's sea lanes and approaches. They fly long missions and are deployed to airfields in the Northern areas, the Cocos Islands and neighbouring countries.

The aircraft spends considerable time in the tropics and the existing Mission equipment operates at the limits of the air-conditioning system. As a result there is often condensation in the cabin due to the high humidity.

As a consequence of the operating requirements, weights and procedures, aircraft fatigue life is reducing faster than planned and action is needed now, to ensure that the fleet can continue to fly safely to 2010 and beyond.

In addition to carry out its Mission, the RAAF needs a better radar system.

The RAAF is tackling the problem in two ways. Firstly by buying some second hand P-3s, currently stored in a US desert, for Pilot training, circuits and bumps. Secondly whilst fitting a new radar, undertaking a major refurbishment of the Mission systems to reduce weight and hence the fatigue inducing stress on every flight. This should reduce the cooling and power requirements.

Project Approach:

The Commonwealth/Department of Defence procedures for this major project are similar to those of the UK Government. RAAF personnel have undertaken a number of studies, visited potential suppliers and Contractors to assess the state of development, potential programme risk and to ensure awareness of, and interest in, the $A600M RAAF programme.

Last year all the elements came together and specifications, Statements of Requirements, potential Contract conditions and a Request for Tender (RFT) were issued.

The responses have to be returned to the Dept of Defence by mid September, when the assessment will begin, followed by contact negotiations and further visits to preferred suppliers. The formal Contract award is expected in October 1994.

Project Scope:

The RAAF RFT defines the requirements as:

- Improve radar performance
- Improve Data Management system flexibility and growth
- Improve communications
- Reduce overall aircraft weight by 3500lbs (which is the reason that the Acoustic Processor is being replaced - two AQS 901s weigh about 1800lbs)

Considerable emphasis has been placed on minimising risk and contractors will be required to demonstrate the development status of proposed equipments. "Off-the-shelf" equipment with some tailoring to meet the P-3 requirements is preferred. Contractors can suggest other changes that save weight, improve maintainability or performance, as long as they are within budget.

The tasks required include:

- Selecting and procuring sensor systems (with any necessary development)
- Developing a central Data Management System
- Integrating the Mission system
- Stripping down the aircraft
- Modifying the airframe and installing the Mission system

- Ground and flight testing the P-3C aircraft
- Developing and providing
    - An Operational Mission Simulator (OMS), used to train individual operators or complete crews
    - A Systems Engineering Lab (SEL), used to develop and test subsequent changes requested by the RAAF and
    - A Mission Replay and Analysis Module (MRAM)
- Developing new Ground Support equipment, spares and training packages.

MSG has been actively supporting this process over the past months, with Customer and Contractor demonstrations in Rochester and visits and presentations in Australia and America. Most recent activity has been the flurry of proposals to Prime Contractors for the AQS 938 Acoustic Processor and the ACT.

MSG Competition:

The AQS 938 Acoustic Processor is based on the Merlin AQS 903 system but modified to provide colour, high resolution display and control facilities for two equal, but independent, operators.

We are offering the ASW Crew Trainer (ACT) systems for in-flight training, for inclusion in the SEL for system performance and integration testing and for the OMS for aircrew ground training.

Our main competitors for the APS are Computing Devices of Canada, with a variant of the UYS503 (an earlier version is fitted to RAN SeaHawk helicopters), and Thomson-CSF with a proposal to productionise a development Barra processor.

Company Competition:

Many companies are involved in bidding for some, or all, of the budget. The RAAF want a single, prime contractor whom they can hold responsible for the whole programme. Several companies are prepared to carry out this role and lead teams / consortia of companies to bid for the contract. These are listed below in alphabetic order:

Boeing
E-Systems
Lockheed
Rockwell
Teledyne

Each team has had to assess the RAAF requirements, select its sensors, Data Management System, etc and scale its proposal to the expected budget as well as respond to the RAAF's multitude of costed options. This is a large task and the prime contractors have been working on the problem for some time. They have issued their own RFTs, Terms and Conditions, development schedules and support concepts. Their intentions were to get enough definitive data to allow them to "down select" on the best, most cost and performance effective sensors / systems and then collate, tune and polish their responses when they had reviewed the formal RAAF RFT package.

AQS 902 BOAT TRIAL

Captains LOG, Star Date 1.7.93. Our mission: to deploy a number of men onboard the Research Vessel "Colonel Templer" and try and make them sick and green in colour, while testing a certain AGC (Auto Gain Control) PCB, designed by Derek Comfort and developed by Harry Stewart. Two ex members of The Chippendales!!!

An advanced working party was sent to Portsmouth to make ready the wiggly electrical stuff; who else but Phil Barnaba, the all round main man, and John Kimber, known to the Navy as Johnny Sonics. After much hard work and a night in the local Afterburner Tandoori all was ready for the arrival of Messers Comfort and Stewart. We were advised a 2:00pm depart was critical and indeed it was. Unfortunately the Boys Town Gang missed the boat along with the afore mentioned AGC PCB. Merriment and joy could be heard from the quayside. We collected the not so dynamic duo from Falmouth the following morning and again the happy song of summer could be heard by many a Cornish fisherman.

Anyway things just got worse. Our biscuit ration was cut from a tin a day to none at all. Harry overslept and Derek forgot his hair gel and hot brush. An outbreak of scurvy was overcome with **LIMES** and lager.

The trial went very well although certain instances did tax the patience from time to time. In all five days were spent administering to the whims of the man who advises MOD on what to buy. So it was in our interests to satisfy him in every way possible. Thus explaining the PCV for Dancing Girl, barrel of rum and food whisk.

The last two days were spent taking one ex FSR, dressing him in a funny green suit, making him wear a big hat and sending him up in an inverted food processor for two hours, hovering 40 feet above a really nasty looking sea. When he returned he was told that none of his data recording equipment was working and as a special treat he must carry out three more sorties. I would like to point out that at no time was I relieving myself of any meals unlike Mr Stewart on the Templer.

In short, many hours were spent proving to the MOD that we did have an improvement. Data has been obtained for future use for Iss 5 software fine tuning. It can be said that "The Trial" was a success.

Candidates for future trials should apply in writing to:

Dr Crippen, The Asylum, Lobotomy Lane, Jersey.

Nominees for next years Queens Honours List are:

Derek Comfort for his contribution to hair and beauty tips.
Harry Stewart for conquering his insomnia and sharing his special gift with the world of music and dance.

Phil Barnaba for being able to work with the above. (Guess who wrote the article).

The 1993 Paris Airshow.

J 'Redhead' Anderson

The 1993 Paris Airshow marked the first official public airshow appearance of the newest and largest European Avionics company, also one of the top five companies in the Western World, GEC-Marconi Avionics.

The corporate aim in attending this show was to present a strong , single company image, and as such GEC-Marconi Avionics was promoted as

"...One Team ...One Vision ...One Name"

which offers:

- The expertise of four combined companies
- The systems experience to design and install fully integrated avionics suites
- The resources to lead or support major programmes
- Total commitment to the future of both military and civil aviation industries.

The Company was represented by members of all seven Divisions. The exhibition stand, which was in an ideal position to attract many visitors, promoted and displayed the full spectrum of our products and capabilities.

The Displays Division exhibited the Digital Map, the Eurofighter 2000 Head-Up-Display, and a range of Helmet Mounted and Night Vision goggles. The AQS 903 acoustic processing system, was promoted on the Maritime Helicopter graphics panel along with tactical / mission systems.

The Navigation and Electro-Optics Division displayed two Ring Laser Gyro Navigation systems and the Thermal Imaging And Laser Designation (TIALD) system. The Sensor Division promoted aircraft Comms suites and the Atlantic Thermal Imaging surveillance pod.

The Power Systems Division were in attendance with a range of Fuel Jettison and Hydraulic aircraft pumps.

GMAv, as a company, also promoted the Cobra Venom Attack Helicopter and our systems which will be on-board the Eurofighter 2000 (EFA).

As one would have expected the French avionics and aircraft manufacturing companies were out in force. Dassault lead the way with a large stand on which it displayed a collection of avionic systems and models of various different aircraft. It also displayed the Atlantic 2 Maritime Patrol Aircraft in an outside static display area.

Throughout the duration of the show all the British stands appeared to be busy, especially GMAv which dealt with many serious enquiries from potential customers and business partners.

All in all, the 12 day show was a successful venue for the launch of GMAv. As well as renewing acquaintances, establishing new contacts we participated in discussions that hopefully will prove fruitful in the years to come.

THREE IMPORTANT AWARDS FOR MSG
(in order of importance)

by Mr C.Mois

1. MSG Hockey Victory
2. Pakistan Contract Award
3. Swedish Contract Award

It was noticeable that after the Christmas break there was slight tension in the air within the Division. The two most important questions on everyones lips were, "When are we going to start the hockey training?" and "What are our chances of retaining the GAv Inter-Divisional Hockey Trophy?" Not that we take this competition seriously.

Soon the news was to break that there was no more GAv, it was now GMAv. Shock, horror ! What would happen to the Hockey Competition ?

Well thankfully, we all know now, and if you don't, you soon will do.

The tournament changed its name to "The GMAv Inter-Group Hockey Tournament". Now the opposition would be in the form of the new Groups and not as before, Divisions. At last an opportunity to throw away the yellow duster MASD T-Shirts and don the new look MSG lilac Polo shirts.

MSG was drawn in Pool A against GMAv, ISG and PSG. After eight hours of strenuous training, well two hours training and six hours drinking in the bar, the selection committee met and after a further three hours in the bar the first beer stained team list appeared.

MSG, playing under a new name and in its new colours, started its defence of the GMAv Hockey Tournament (affectionately known as the MSG Shield) on the 9th June against our old rivals (or are they new rivals) GMAv. Rumour had it that GMAv were struggling for players and sure enough come 5 O'clock they were a female player short. Being good sports we lent them one of our female players, none other than Sam "Nigel" Holder. MSG began the match tentatively, and gradually grew in confidence until the familiar flowing style of play returned as in former years. We strolled home victorious (3-0).

With two of the regular squad missing, MSG took on ISG. Just to show how much the absent two were missed the Group comprehensively beat ISG 5-0 in what was reported as MSG's best display of hockey in the competition. Would Steve Mann and Jon Anderson get back in the team!

Onto the next match and a team we had never played before. By all accounts PSG was likely to be strong opposition. This proved to be the case. But with some stout defending by all the MSG team members we managed to fight off the numerous (well, one or two) attacks that the opposition managed to string together. MSG soon began to establish it's mark on the game and we successfully disposed of PSG 5-0.

As winners of Pool A we were destined to meet last years finalists, CACG, in this years semi-final. We knew their form from past tournaments, and were surprised not to see their General Manager, Ray Dennis, in goal. CACG started strongly and we were again forced onto the defence. As the game progressed our superior fitness began to tell, and in the second period of the game we took control and ran out 3-0 winners.

Relief, in the final for the sixth year in succession. Our opponents were DSG(R), the only other team ever to win the tournament back in 1989 when they were ADD.

As had been the pattern throughout all our games MSG started the final poorly and created very few goal scoring opportunities and at half time the score was 0-0, very disappointing. Then who should walk through the gates, with a grim look on her face having just lost a very important golf match, yes you've guessed, Sue Wood.

After the severe talking to, we managed to pull ourselves together. The goals started to flow and we were soon 4 goals up. As the game neared its end, MSG relaxed, and DSG(R) grabbed a late consolation goal (4-1). Another

successful year in this most prestigious competition.

The company only manages to run this tournament through the hardwork of Hannah Everett and Adrian Kearney (who organises the umpires and the pitch booking), so our gratitude to the both of them.

Thanks again to all who participated in making this such an enjoyable event and for all the support we received during the competition. Thanks also to Robin Sleight, who presented the trophy after watching his old Division lose in the final.

GOLF

It was a fine May afternoon when eleven men, bold and true, set out to conquer the perils of Poultwood Golf Course. Five and a half thousand yards fraught with danger. Narrow fairways lined with impenetrable forests and deep rough. Reminiscent of Tarzan but he had an ape to show him the way.

It was against this background that the Editor led the expedition, hitting his first drive into the timber. A shot to be repeated by one and all during the afternoon. The clatter of the ball, as it bounced from branch to branch, echoed across the course at regular intervals. Bringing a smile to those who had suffered this fate previously.

Some four hours later, the leading group stumbled up the eighteenth fairway. A rate of advance of about fourteen hundred yards an hour, a good walk spoilt. Furthermore they were cheered on by previous visitors to the course who sat on the verandah overlooking the last hole sampling the local nectar. Too much to endure after all that had gone before.

When all the flock had gathered in, sampled the brew and enjoyed dinner, the results were announced. The winner and retaining the Trophy once again Ian Atkins with Mike Ryder the runner-up. A special mention to Malcolm Burt, who must have visited the woods far more than he cares to remember, he went home with the booby prize.

Being masochists by nature the group decided to repeat the occasion for the summer meeting. The chosen date 8th July, it turned out to be a hot sultry day. Again the arena echoed with cries of 'no', 'fore' and simulated wood peckers. In the absence of the GM, too much work, the champion was paired with golfers of long experience and know how, who kept the ball on the fairway. A unique experience for Ian, as revealed in the club house over a pint. "I've never played golf before when I didn't have to look for a ball". A comment which brought peals of laugher from the assembled company as his normal playing partner, Kevin (Tarzan) Golding spent the afternoon in the trees. His excuse for keeping cool.

After another enjoyable day the crown was passed to Mike Ryder, handicap reduced to 20 for the next foray, with the runner up prize going to Paul Barnicott, beat 'Ed' in a count back.

Our next outing will be to the Weald of Kent Golf Club on 8th October, 18 holes Stableford plus three course dinner; cost approximately £25.

Bring your store of funny stories for after dinner tales. See you there.

Ed

HATCHES, MATCHES AND DESPATCHES

Congratulations and good wishes on the occasions of their marriage to:

Liza Parnell and Darren Arterton (Eng)

Rosalind Booty and Chris Rossiter (Analysts)

Louise England and Simon Julier (Cost & Budget)

Sarah Robinson (QA) and Darren Tilley (Eng)

Carol McGregor and Paul Bainbridge (QA)

Make a note in your diary for the forthcoming marriage of

Karen Love and John Cayzer (Eng)
4 September.

Our congratulations to our youngest grandma, Pauline Kidney whose daughter gave birth to a son Daniel on 9 July.

SUPER WRINKLEY CLUB

On 14 August our 'Ed' celebrated his Diamond Jubilee - for the younger ones among us that equates to 60 years on God's earth. Still putting left foot before right and keeping them down the middle.

LONG SERVICE ASSOCIATION

August saw another of our colleagues qualifying to join the Long Service Association. Twenty five years in the service of GEC plc. Worse than getting a life sentence.

The innocent party this time was Mike Ryder who joined Elliott Flight Automation before Emma was a twinkle in 007's eyes.

During his time here Mike has been involved in the Central Tactical System, AQS 901 and 902, and not forgetting ISK.

Since his appointment as Marketing Manager he has found plenty of time to play golf, hence the reduction in his handicap.

I have no doubt that John Goodhand will persuade him to join the Association. Our older members can still teach the younger ones a thing or two when it comes to enjoying oneself.

Another of our company members qualifies next month. Guess who? Ex cub pack leader, going thin on top with greying beard!

WRINKLEY CLUB

Congratulations to Ken Watkins who joined the life begins at 40 club on the 13 August. At life's half way house.

DUMB MEN JOKES

Why are all dumb blonde jokes one liners?

- So men can understand them.

What is the difference between Government Bonds and men?

- Government Bonds mature.

What's a man's idea of helping with the housework?

- Lifting his legs so you can vacuum.

What's the difference between a man and E.T.?

- E.T. phoned home.

Why is psychoanalysis a lot quicker for men than women?

- When it's time to go back to his childhood, he's already there.

What Did God say after he created man?

- "I can do better than this!"

How do women define a 50/50 relationship?

- We cook/They eat; We clean/They dirty; We iron/They wrinkle.

What's the best way to force a man to do sit ups?

- Put the remote control between his toes.

How do men exercise at the beach?

- By sucking in their stomachs every time they see a bikini.

What does a man consider to be a seven-course meal?

- A hot dog and a six pack.

How are men like noodles?

- They are always in hot water, they lack taste, they need dough.

Why is it good that there are female astronauts?

- When the crew gets lost in space at least the women will ask for directions.

BLAME THE SOFTWARE WRITERS

Computerised journalists - especially those in aviation - view their software Spellcheckers as a mixed blessing: How little these programs know of the industry.

It is understandable that company names might not ring a bell with the software writers who kindly suggested Martini instead of Marconi; Allusions instead of Allison: Gifts rather than Gifas; and Raffle rather than Rafale.

ACCEPT

But surely they might accept avionics as a bona fide word rather than suggesting advocacies.

And what can they have had in mind to create a programme which politely suggests you change actuator for catgut?

Perhaps readers will be astute enough to know the real identify of the following spellchecker aliases. All, we promise, are well-known aerospace firms:

Skunk
Drunk
Ferret
Asap
Dextrous
Milky