

MASD NEWSLETTER

*Season's
Greetings*

December 1988

FOREWORD

I have decided to restart publication of the Divisional Newsletter as a means of keeping you all informed of events both social and business within MASD. If you have any ideas for articles in future issues don't be shy and contact Barrie Riley. The frequency of publication will be approximately Easter, Mid Summer and Christmas.

My first year as DM has been an eventful one. It has involved some major decisions which will be of benefit to the long-term future of the Division. I have had to make the painful decision to reduce the size of the Division by about 50 personnel, mainly in Engineering. This was necessary to become more efficient so that we are better placed to compete in what is now a very price-sensitive market place. Every effort is being made to transfer these personnel within the Company and I expect the majority to be settled in new posts before Christmas. I should like to take this opportunity to thank them for their efforts in the past and wish them every success for the future.

At the end of September MASD's order book stood at approximately £60M. Our main activity is predominantly against MOD contracts for NSR 6116, AQS 903, AQS 901 Spares/PDS programmes and AI Radars. Other work is being carried out for the Indian Sea King, AQS 902 for Italy, and MAPADS for the S2-T.

Looking to the future, I am confident we will soon be receiving new orders which will ensure our long-term success. A number of export opportunities are being pursued, mainly on the AQS 930 series of Acoustic Processors (export variants of AQS 903) for the Royal New Zealand Air Force and the Canadian Defence Forces. We are also actively pursuing AQS 902 sales in China and Pakistan.

Negotiations are ongoing with several aircraft manufacturers and end users on potential sales of fully integrated Mission Avionics Systems based on our ASN 902 Tactical Processing system, which will continue to be an important aspect of our business. To support these and other market opportunities several major proposals have been produced. Considerable "midnight oil" went into this work and I wish to thank all those involved for their efforts.

The crucial activities facing the Division at present are the timely completion of AQS 903 development and the Project Definition (ASR 909 Study) for the AQS 901 replacement in RAF Nimrods. AQS 903 will be the springboard for much future business; in particular the impending competition for the EH101 Production order and the export opportunities mentioned above. Enhancements to AQS 903 for the incorporation of Dipping Sonar, new Sonobuoys and processing techniques will be vital aspects that will keep our development teams fully occupied.

The Nimrod Update will be the major Programme for the 1990s. We are concentrating our own Research and Development funds (about £1M per annum) on ensuring that technological and operational improvements are available to ensure we have the right solutions when this all-important programme is completed in about a years time. This should keep the Division as the UK and World market leader by enabling us to meet the increasing technical demands of our customers at an affordable price.

On the social and sports side, the Division has been supporting a number of activities and came out winners of the Inter-Divisional Mixed Hockey. In golf Ron Scriven did exceptionally well, winning two events. The various activities within the Division were well supported and included Bat and Trap and Badminton. A special mention is also due to Chris Rossiter who won the Superstars for the second year running. I was also pleased to see the success of the many events and sponsorships organised to benefit local charities. Our thanks are due to all those who organise these events on our behalf, I trust you will continue to give them your support.

Finally, I would like to wish you all and your families a Merry Christmas and a Happy New Year and offer my thanks for all your hard work in 1988. I am convinced that with the skills and dedication you all possess we have the right ingredients to make 1989 a highly successful year for MASD.

Alan Gallagher



WELL DONE

Information Technology Prize

Congratulations to Caroline McKenzie, Marketing Department, who was awarded the GEC Avionics Information Technology Prize for the Most Improved Trainee at Medway ITeC. Caroline was presented with her award by Mr J Couchman, MP, Member for Gillingham, at a ceremony held on 15th April 1988.

Charles Berry Award

Congratulations to Paul Bainbridge (Quality Assurance) who was nominated for the Charles Berry Award for the Quality Apprentice of the Year. After a vigorous interview he was pipped at the post and awarded second place. As Mr Berry said at the award winning presentation on 23rd November, "This is no mean feat and Paul can be justly proud of his achievement."

EDITOR'S NOTE

You will probably notice our newsletter is not in full colour or printed in Wapping and there is no photo on page 3. Couldn't find a volunteer. In future editions we intend to continue with the Rogue's Gallery and include regular features on the work carried out in the Division. If you are a budding journalist and want to submit an article or would like one written on a special topic please let me know. Any potential cartoons would be welcome.

I would also like to continue the "Hatches, Matches and Despatches" column but its success depends on your co-operation in letting me know "who, where and when". Don't forget this is your newsletter. The intention is to publish again around Easter. The deadline for any articles is 10th March 1989.

Barrie Riley

PROJECT REVIEW

AQS 903

During 1988 a major effort has been made to finalise the AQS 903 design. This has involved finalising the hardware design and a major software phase. Our progress is monitored by the customer against milestones, their achievement ensures the Division is paid. This year has seen the timely completion of the build of the last three electronic racks and the systems clearance for 'safety for flight'. The latter will enable the system to be flown in the EH101 next year.

In October the Phase 4 Rig Trials were completed on schedule. The trials give RAE visibility of system performance during development and help us to formally calibrate the system. The successful completion of Phase 4 was important since it gave the customer confidence in the system and our ability to meet major milestones.

In order to gain an insight into the software development, as part of the overall assessment of the EH101 Merlin aircraft programme, the Royal Navy (NATEC) team visited us in October. They were given access to the design data and software documentation. Their report commented favourably on the Division's understanding of software development, the standard of design documentation and our capability in comparison with other system suppliers.

INDIAN SEA KING

Due to the efforts of the ISK team the software has been delivered on time and accepted into service by the Indian Navy. All 20 production systems have been delivered to Westland Helicopters and helicopter deliveries are expected to commence before the end of the year.

Software update 4 is on schedule for delivery to Westlands early in 1989 and future update contracts are anticipated.

We are also discussing, direct with the Indian Navy, the introduction of additional sonobuoy processing into the Tactical Mission System.

The Indian Navy is also considering introducing Ground Replay Facilities, the Air Crew Trainer and the Basic System Trainer.

MAPADS

Development of the MAPADS is now nearing completion. It has been difficult to meet the programme milestones but the hardwork of the MAPADS team is bearing fruit. We expect to deliver the first system to Atlanta in January 1989 and the first six production systems by March 1989.

AQS 902C

A production order for 18 AQS 902C systems has been received from the Italian Navy for incorporation in the Atlantic Maritime Patrol Aircraft.

AQS 901

All software updates for the Operational Flight Programme and Engineering Test Programme were delivered on time. Hardware issues continue to be delivered on schedule, these included a new semi-conductor memory which was designed, developed, built and passed to Production on schedule.

NSR 6116

Significant software developments have been achieved and successfully tested on several trials which the Division supported i.e, JSAT (see article in Newsletter), FORACS and AUTEK.

On 22nd September 1988, an 824 Squadron Roll-Out was held. A ceremony to mark the delivery of the first Sea King Mk 6, fitted with AQS 902G/DS and the Plessey 2069 Sonar, to the Royal Navy.

MASD STRUCTURE

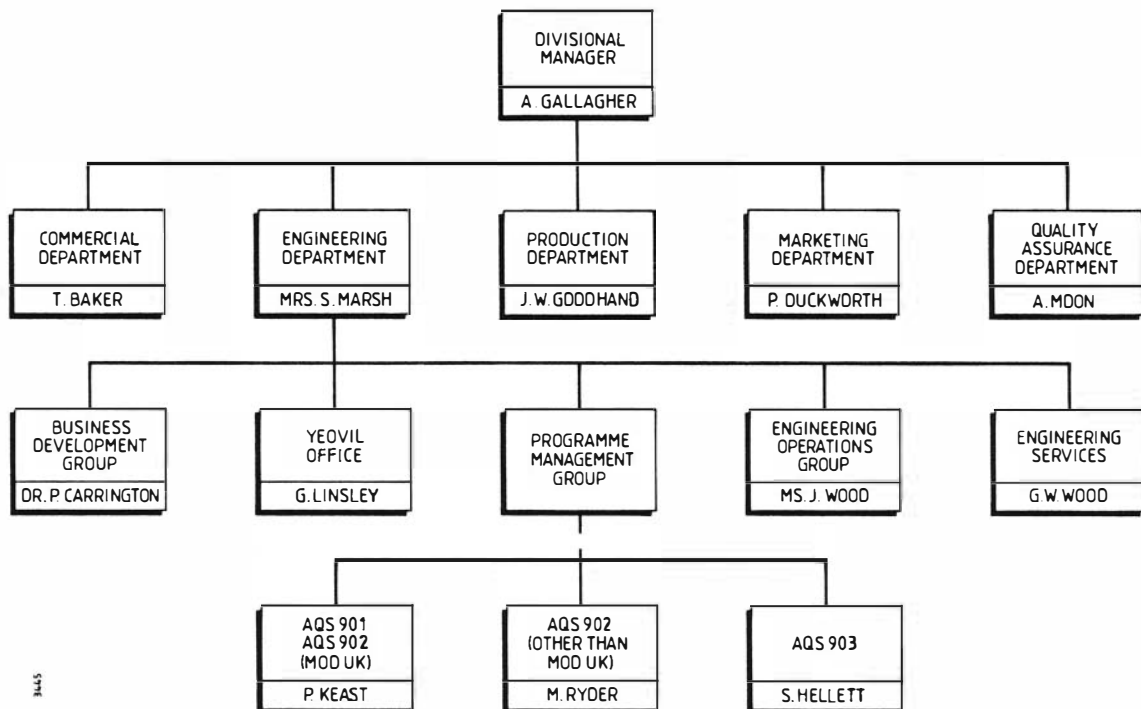
MASD is an autonomous Division responsible for the design and manufacture of airborne maritime Anti-Submarine Warfare Systems and associated Tactical Systems. The Divisional Manager, Alan Gallagher, reports to the GEC Avionics Board, through the Group General Manager. As an autonomous Division we are responsible for balancing the books and hopefully making a profit each year.

Over the last 12 months there have been significant changes in the Divisional organisation. In addition, we have welcomed many new faces throughout the organisation. The reorganisation has been necessary to make us more efficient and to match the way business is moving in an ever increasing competitive market.

If we are to sell our products we have to cut our overheads and raise productively.

The object of this article is to give you a short resume on the overall management structure, see the family tree below, of the Division. Later editions, will give a more detailed description of the work carried out in each department. In this way we hope to show how the Division operates and where you, as an individual, fits into the family tree.

The Division is run on a five prong system namely Engineering, Commercial, Production, Marketing and Quality Assurance Departments. A short resume of each Department is given on the next page.



MASD Management Structure

Engineering Department At Rochester engineering work is handled by four groups as follows:

Business Development Group (BDG)
Programme Management Group (PMG)
Engineering Operations Group (EOG)
Engineering Services Group (ESG)

The BDG personnel are responsible for Proposals, System Analysis and Future Products. The latter team is responsible for new business and contracts and for preparing equipment requirement specifications for customer approval. Once a contract is awarded the PMG steers the product through development and production. Projects are divided among three Programme Managers as follows:

AQS 901 and AQS 902 for MOD(UK)
AQS 902 (other than MOD(UK))
AQS 903

For each contract a Project Manager is appointed who is responsible, to the Programme Manager, for co-ordinating the design, development, procurement of materials, assembly and system testing. In addition the Group produces Development Plans for customer agreement. The EOG consists of a series of teams who are responsible for Hardware Design, Software Design, Systems Integration and Computing Services. The EOG carries out the detailed design and development work for a project. The Engineering Services Group provides the specialist engineering functions for the Engineering Department, Tech Pubs and Design/Drawing Office. The Yeovil office is responsible for the design and development of Tactical Systems and is a Software Group for MASD and other GEC Divisions. In addition it provides appropriate expertise, in common with the rest of the Division, for system design and integration for integrated systems being produced at Rochester.

Thus the Engineering organisation is a coherent structure which has been designed to encourage information flow and liaison between the groups and intergroup involvement with a project before, during and after Project Definition.

Commercial Department The Commercial Department is responsible for

implementing commercial policies and for operating financial cost control and accounting procedures. In other words it ensures that each project is run within its budget. The department is the channel through which we receive orders from our customers and is also responsible for originating the pattern of overall commercial relationships in financial management. Remember earn a £1, spend 95p, contentment, spend 105p disaster.

Production Department The Production Department is responsible for manufacturing and delivering goods in accordance with the design and manufacturing specifications required by the contract. Its resources include a full range of production and test equipments. The department is also responsible for repair, procuring material and for preparing proposals, in conjunction with Engineering, on whether we make or buy components.

Marketing Department The Marketing Department is responsible for long and short term marketing, customer liaison, arranging necessary presentations and administration. The department continually assesses the market flavour, products and our competitors capability, and provides surveys to assist in forward planning. The department liaises with virtually every other facet of the Division as well as making the right contacts with other companies. It is our outlet to the outside world.

Quality Assurance Department The Quality Assurance (QA) Department provides an independent monitor of the performance of the Engineering and Production Departments. The QA Manager is responsible, for administrative purposes to the Divisional Manager but his functional responsibility for the satisfactory performance of the QA tasks is to the GEC Avionics QA Director. Thus an independent monitor of Divisional performance is maintained. For the layman the department ensures our products are produced to the high standards required by the customer. The department is also responsible for Reliability and Maintainability of our products.

ROGUE'S GALLERY



Alan
Gallagher

Divisional
Manager

Alan's roots lie in Mill Hill in NW London where, at the local Grammar School, in addition to gaining the requisite O - Levels he also played for the School's soccer team. On leaving school he served an apprenticeship with Post Office Telecoms and concurrently studied for an ONC/HNC in Electrical Engineering at Willesden Technical College. His next job was with Computer Technology, Hemel Hempstead, as a design/development engineer working on a modular computer using Emitter Coupled Logic (Hi-Tech in 1970).

After gaining his HNC Alan undertook a full-time CEI course in Electrical Engineering at Letchworth College completing the normal three terms work in two. Following a brief spell with Sperry Gyroscope, Bracknell, commissioning 1412 computers for Exocet missiles, Alan took another year's sabbatical, an MSc Course in Computer Science at Herriott Watt University. There his specialist studies looked at software emulation to convert from ICL 4130 to IBM 360 computers. During this time Alan's wife, Sue, acted as breadwinner working in Edinburgh Corporation Traffic Department.

In 1973, Alan joined MAS Division as a Development Engineer working on H/W and S/W design techniques (Compacted High-Level Language) aimed at improving the efficiency of the 920 ATC computer in the AQS 901 acoustics system. However his work was overtaken by the advent and availability of dynamic RAM store.

Subsequently he was employed resolving AQS 901 display design problems and developing bit-slice emulation techniques for the 902 ATC.

As a Project Engineer, Alan then started the LAPADS (later to become AQS 902) Project to design a processor capable of meeting the RN's requirement for an ASW Sea King Acoustics System. In six months, the initial design evolved into a viable SPU development demonstration model the success of which was largely responsible for the award of a MOD (UK) contract in 1977. For this work Alan and his team became the first winners of the Haskett Trophy awarded by the Company for Design Innovation. The following year Alan was promoted to Project Leader and joined the WG34/AQS 903 design team.

In 1980, as a Principal Systems Engineer, Alan returned to the AQS 902 Systems Group with a globe-trotting marketing role and was involved in the early discussions with both Grumman and Kaman. During this time, with Company support, he successfully completed a two year part-time MA course in Management at the University of Kent. A particularly busy period; in one hectic fortnight he managed to fit in, final MA exams, moved house and a business trip to the USA. Subsequently he was promoted to Chief Systems Engineer.

In 1985 Alan was appointed Chief Engineer and assumed programme management responsibility for the Indian Sea King Mission System Project, then in early development, which he saw through to completion of development in late 1987. This was a particularly busy and challenging time for the Division and in the later stages of the project he was appointed Divisional Manager.

The Gallaghers reside at Church House in Higham; a large Victorian property which provides Alan with plenty of scope for his DIY talents and gardening interests but little time for his golfing aspirations. He has two daughters, 12 and 14 years, who attend Rochester Grammar School, both are active in the Medway Little Theatre.

HATCHES, MATCHES AND DESPATCHES

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

Joanne Gilbert (Contracts)
and Patrick English

Trish Taylor (Library)
and Terry Waddell

Ian Attoe (Engineering)
and Debbie Stevenson

Congratulations and best wishes to those who have recently become engaged:

Phillipa Wilson (Contracts)
and Alan Haughton (Engineering)

Elizabeth Delaney (Marketing)
and Mike Banner (FARL)

Beverley Waddell (Engineering)
and Jamie Henderson

Donna Newton (Engineering)
and John Reynolds (Production)

Jon Anderson (Engineering)
and Nicola Banks

Tamme Davis (Contracts)
and Lee Johnson

Sue Cooper (Purchasing)
and Simon Forster

Linda Atkins (MCS)
and Nick Annis

Sarah Clifford (Production Test)
and Vance Matthews (ATE)

Clare Deans (Engineering)
and Mick MacTaggart

Congratulations to:

Anita and John Kyle on the birth of their daughter Jemma.

Gill and David Rose on the birth of their son Adam.

During the last year we bid farewell to three of our colleagues on their retirement. On behalf of their friends and colleagues we wish them well, may they draw their pensions for many years to come.

Fred White (QA) who started his career with GEC on 26th February 1951. During the last 37 years he has worked in several divisions including the last 9 years in Quality Assurance. I hope he will enjoy his greenhouse.

Carl Cremona (Drawing Office) joined the Company in 1964 in the Drawing Office of the Transport Aircraft Division. He subsequently worked in Air Space Control, and Airborne Computing Division (renamed MASD in 1973). At long last work will not prevent him enjoying his hobbies of carpentry and golf.

Betty Giddins (Production) who joined GEC in 1971 and moved to MASD on its formation in 1973. During her stay with us she was employed as a storekeeper in the Production Department.

Long Service Association During the last 12 months two of our colleagues, Colin Vella, Engineering and Tony Baker, Commercial Manager, completed 25 years service with the Company. They have now joined the Long Service Association whose members continue to show the youngsters how to enjoy themselves.

NSR 6116

JOINT SONICS ACCEPTANCE TRIALS

Under the NSR 6116 programme the Division was contracted to develop the AQS 902G-DS Acoustic Processing System for the Royal Navy Sea King Mk 6. The system had to be capable of processing data simultaneously from passive and active sonobuoys and the Plessey 2069 Dipping Sonar. The system was developed from the existing AQS 902C which only processed data from LOFAR and DIFAR and presented the information on a Hard Copy Unit. The AQS 902G-DS included an improved Signal Processing Unit, a new Post Processing Unit and Acoustic Control Panel, it presented the information on a Cathode Ray Tube (CRT) display.

During development, which lasted several years, the system had undergone successfully trials at the Plessey quarry, Waterlip and at the Crystal Test Site, Portland Harbour. Finally it was installed in a development aircraft and taken to sea on the Joint Sonics Acceptance Trials (JSAT). The objective was to prove the effectiveness of the AQS 902G-DS in the real environment before its acceptance into service with the Royal Navy.

Several units, as follows, were involved in the trial which was scheduled to last 12 weeks:

a. Two Surface vessels

(1) RAE's research ship, Colonel Templer, a converted deep sea trawler which was used to deploy, control and measure various sound sources.

(2) A Royal Fleet Auxilliary, Fort Austin, on which the helicopters were deployed.

b. The trial helicopter (EZ 581)

c. Helicopters from 824 Squadron

d. Submarines

Basically the trial was split into 3 phases;

a. A shake down/warm up period which enabled the ships, helicopters and

operators to get used to each other's whims and assess problem areas.

b. A period in the South West Approaches, testing the active processing.

c. A period in the North West Approaches, testing the passive processing.

MASD had trials staff on the Colonel Templer, Fort Austin and EZ 581. In a major departure from normal operational trial's practice MASD were responsible for organising and executing the trial under the direction of Dave Reynolds, the Trials Director, who is based at our Yeovil office. As he remarked this created problems and pressures above those normally encountered at Rochester.

The trial finally got underway on 5th April 1988 but it took several days to organise the stores, with parts and personal kit delivered everywhere but to the correct site. By the 13th all was well and Colonel Templer departed Falmouth and deployed her transducers five miles off Dodman Point. The helicopter, with Dave Reynolds and Mick Dollin (Trials Operator) on board, prepared to lift off and join her for 12 weeks at sea. The shake down part of the trial had started with two days of practice active sorties to a set of trials procedures.

No sooner had we started than the RFA deployed for Gibraltar, to re-supply at sea the replacement ships for the Armilla Patrol.

During the trip south the trials team started to get their act together. At last the HAAU (Helicopter Acoustic Analysis Unit - used to replay the aircraft tapes to check airborne performance) was working correctly. Some excellent sorties were flown using the RFA as a target. The team also witnessed the intricate details of a resupply at sea including helicopter supply sorties.

The end of the journey south - Gibraltar, gateway to the Mediterranean, the last bastion of the British Empire, made us feel at home - it was pouring with rain.

During our short stay an updated version of the software was flown out from Rochester and fitted into the acoustic system.

The journey home was used to finish the shakedown. Later, after a respite in Plymouth, we started the active processing tests in the South West Approaches. By this time the trials procedures on the Colonel Templer had been tuned to perfection. Despite this no words could describe the worry that the trial results would not be acceptable. Then the first test run is carried out, analysed, checked and rechecked - a pass. Things were looking up. Day followed day as results were gathered and analysed. Not without interruption from "Captain's Rounds" - all of Fort Austin between the team and the HAAU has been cleaned and polished for inspection and we sat tight in case we upset it. Then there were Lifeboat Drills and Gunnery Practice to liven our day.

The active processing section of the trial, including sorties against a patrolling submarine, nothing like getting data from the real thing, came to an end. All had gone well, credit to all concerned. It had taken long hours to complete the analysis and keep everything serviceable.

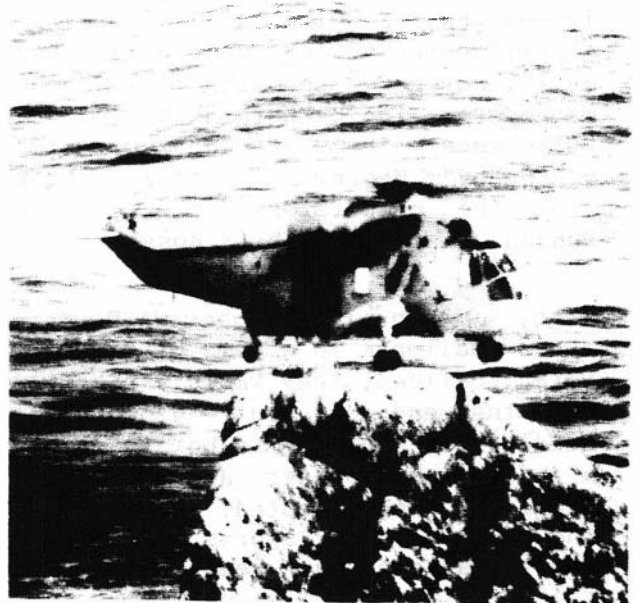
The next phase saw us going north to commence the passive processing tests in the North West approaches. From the beginning these were very successful. For the first time both ships were continuously together in a very empty sea. Oh, for the sight of land or even a seagull. After 10 days our request was granted - a trip to Rockall. A small rock, some 150 miles from the North West coast of Ireland, but an integral part of the British Isles. The object was to confirm our sovereignty and to replace the batteries of the navigation warning light. The exercise was carried out on the evening of 2nd June by two helicopters, ours and one from 824 Squadron. Each aircraft carried out a

single wheel touch down and winched out a team. The visit culminated in a fly past in close formation over Fort Austin and resulted in many photographs being taken. As one cynic observed, to prove we could get two helicopters serviceable at the same time.

After a few days the ships returned to harbour for fresh water before returning to sea for the last two weeks of the trial. We had our ups and downs - all the sorties gave us good results but when a Nuclear submarine was available, for some deep active work, equipment problems prevented us flying. You can't win them all.

Then, suddenly, it was all over and we were on our way back to Plymouth, the only problem to locate and disembark our kit. Overall, an experience not to be missed. The trial involved long hours, considerable hard work and its success was due to the cooperation and assistance we received from all concerned. There is no doubt, that for the landlubber, life at sea is certainly different.

The initial review of the trials data revealed that the system had worked well. It is now entering service, the proof is in the pudding.



Touch Down at Rockall

SOCIAL SCENE

Under the auspices of Hannah Twitchen and Rod Cole, the sports and social sections within the Division have had an active and successful year. The activities, which will be continued in 1989, include:

- Badminton - Continuous throughout the year
- Pitch & Put - Final to be played in December
- Volleyball - To be played in December
- 10 Pin-Bowling - To be played in December

On the social scene arrangements have been completed for the Divisional Christmas Dinner/Dance, and are in hand for day trips to France and Belgium and Pub Superstars. Watch the Notice Board for further details.

During the last 12 months several events have been completed, these include:

Five-a-Side-Football Sixteen teams entered the competition including Software Admin who, in the true spirit of the game, included three ladies in their team. The competition was run on "World Cup" lines with 4 teams competing in 4 leagues. The league winners meeting on a league basis in the final. After a very close, entertaining and often amusing series of games the winners were the 903 Marauders, led by Mark Hadfield, on goal difference from Production, led by W "Bobby" Moore. A special thank you from the competitors to the referees Duncan Jenkins and Chris Rossiter.

Rugby On 13 October MASD accepted ADD's challenge to a game of rugby. They were confident they would win easily but in the end ran out winners 21-18. Needless to say ADD are not interested in a re-match. Their argument is the challenge was accepted, lost and that is the end. Spoil sports. As a result their captain has been sent 3 white feathers and the re-match is now on. Anyone interested in participating in a blood bath should see Hannah as soon as possible.

Inter Division Mixed Hockey The Mature Adults and Seductive Debutants captained by Ian Smythe, won the Inter Division Mixed Hockey competition. By winning all their matches without conceding a goal the team's performance surpassed their own expectations. To quote the skipper "the most notable event was the sight of Gerry Wood actually running". To all who participated, well done. We look forward to a repeat performance next year.

Question

What have you got if you have a hockey ball in your left hand and a hockey ball in your right hand?

Answer

See back page.

Basketball The divisional Basketball competition took place at Mid Kent College during October. The event attracted 8 teams, the eventual winners were TCPs who beat 902 F/W 14 to 9 in the final. A special mention to the "neutral" referee Mike Coyds. Because of the "smell" Marguerite Blackwell is looking for a different venue. Any suggestions?

Superstars This years all male Superstars, which was held in June, included two new events, archery and target golf. This served to open up the competition since none of the 21 competitors had any previous experience of these two events. Archery proved to be a popular choice since all opted to 'have a go'. Not as easy as it looks since half the participants couldn't string the bow or aim accurately. There was one memorable shot - when an arrow hit the target so forcibly that it collapsed and it took four people to remove the arrow - Bob Telford - such strength. Superstars proved to be a nail biting competition which was eventually decided on the last event when, for the second year running, Chris Rossiter ran out the winner. His winning margin was four points from Adam Bridge, Chris Bryant and Danny Hemming who tied for the runner up position. Congratulations to Chris and to all who competed. A special thanks to all the officials, without them the competition could not be held.

Badminton The Divisional Badminton Tournament has been well supported throughout 1988, it has proved to be a popular pastime. The tournament consists of singles, doubles and mixed double events run as a series of Divisions, with promotion and relegation, in each event. Each tournament takes about 3 months to complete. The first 3 tournaments finished in April, June and September and produced a variety of winners. Most of the games are played on a "fun basis". However be aware of the tigers Chris Rossiter, Alan Smith and the mixed double experts Sue Marsh and Tony Young. Everyone is welcome, so if you fancy your chances please contact Hannah Twitchen.

CHARITY DANCE

The Charity Dance, held last April, was the climax of the fund raising activities for the Oliver Fisher Baby Care Unit at All Saints Hospital Chatham. Over £100 was raised on the night and a cheque for £881 was handed to the Unit's representative. Previous fund raising activities had included boot fairs, cake sales and raffles. Our congratulations to the fund raising team from Production, Dave Betts, Brenda Cardwell, Brenda Carter, Ann King, Mavis Thompson and Pat Warner. They would like to thank all those who assisted and contributed to the success of the fund.

Christmas Dinner/Dance

The Christmas Dinner/Dance will be held at the Roffen Club, New Road, Rochester, on Friday, 2nd December. Festivities are open to all in the Division plus friends at a cost of £15 a head for the "full works". A special menu is available for vegetarians. Tickets are still available from Hannah Twitchen.

The more the merrier.

FORTHCOMING EVENTS

MASD will be attending the following shows over the next few months.

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|----------|----------------------------------------------------------------------|
| 21 March | Sea-Air-Space Washington |
| 2 May | International Defence and Equipment and Avionics Association, Turkey |
| 9 June | Paris Air Show |
| July | RNAS Culdrose Open Day |

Notes

1. British Summer Time starts on 26th March 1989.
2. From 1st January 1989 there are only 300 shopping days to Christmas.





Answer

The full attention of the Irish Prime Minister.