

# MARCONI AVIONICS NEWS

House Journal of Marconi Avionics Limited

MOTTO FOR THE MONTH  
 "Be not simply good, be good for something"

## Industry prepares new 'Thermal Imaging' viewing equipment for quantity production in UK

Ministry of Defence orders Thermal Imaging Common Modules from Marconi Avionics.

With the placing of a contract for full development, the Ministry of Defence (Procurement Executive) has now added a new momentum to the United Kingdom's important Thermal Imaging Common Modules programme. The contract, placed with Marconi Avionics Limited, is for full development of standard 'building bricks' suitable for production in large quantities. From these, a great variety of thermal imaging equipments can be made, to meet the requirements of all three UK armed services, for viewing in good or poor visibility, day and night. It is anticipated that many thousands of modules will be produced.

Thermal Imaging Common Modules are being developed and produced by a team of British companies, selected after keen competition for their capabilities in this field. The Electro-Optical Surveillance Division of Marconi Avionics Limited, Basildon, is working closely with Rank Taylor Hobson, Leicester, to produce indirect-view equipment (in which the image is processed electronically

before display, as in television). EMI Electronics Limited, Feltham, is producing the direct-view equipment.

The contract follows the completion of a very successful phase 2 (project definition) programme, which has produced sets of Common Modules and what are known as 'demonstrator' viewing systems, for evaluation by the services. Marconi Avionics Electro-Optical Surveillance Division, as the co-ordinating design authority for indirect-view systems, is responsible for ensuring that the design of the modules is suitable for large-quantity production.

The Ministry of Defence (PE) has already ordered 34 sets of Stage A (pre-production) equipment, for indirect-view thermal imagers which conform to international television signal standards. These modules are being used to make future thermal imaging systems. In all of these, scenes and objects are visualized solely by means of the infra-red energy they emit.



Demand for thermal imaging systems is expected to be considerable. By standardizing on the use of common 'bricks' or modules in these systems, the advantages of large-scale production can be obtained and the number of different types of equipment, held in armed services' inventories, can be reduced. The Thermal Imaging Common Modules programme thus offers obvious cost advantages and simpler logistics support.

The modules comprise scanner assemblies, including detector, polygon motor and frame motor modules, and a range of electronic modules for pre-amplification, buffering, signal processing, gain control and clamping, wave form generation (for infra-red sensing and for television display), electronic storage and power supplies.

Marconi Avionics Electro-Optical Surveillance Division is the design authority for the advanced signal processing electronics for indirect-view systems. Rank Taylor Hobson is design authority for indirect-view scanners and for the associated electronic control modules.

## NEW 100 MILLION DOLLAR CONTRACT FOR MARCONI AVIONICS

World's most advanced head-up displays in USAF's LANTIRN programme for F-16 and A-10 aircraft.

A development contract which, with follow-on production orders could total over \$100 million, has been placed by the US Air Force Aeronautical Systems Division with Marconi Avionics Limited. It is for new technology head-up display (HUD) systems, which will form part of the USAF's very important LANTIRN programme, and involves two of the most recent aircraft types to enter USAF service, the General Dynamics F-16 fighter and the Fairchild A-10 close support aircraft.

LANTIRN, which is a low-altitude infra-red night vision system, comprises an externally-mounted pod, which will extend the capability of attack aircraft to operate, with equal effectiveness, day and night, plus a pilot's HUD of advanced performance. The new Marconi Avionics HUD projects the image of the night scene, together with symbols, representing data important to the aircraft's mission, over a very wide field of view, ahead of the pilot. The new HUD, based on the use of diffractive optics, incorporating holograms, is the most advanced to be developed for a specific service application.

The LANTIRN programme, for which the USAF Aeronautical Systems Division Wright-Patterson Air Force Base, Ohio, is responsible, involves an initial HUD order, for development and prototype manufacture worth approximately \$13 million, plus production options totalling some \$90 million, for equipping the two types of aircraft. Marconi Avionics Airborne Display Division, Rochester, the world's foremost HUD producer, is responsible for this important element in the LANTIRN programme. Marconi Avionics Inc, of Atlanta, Georgia, will participate in the development and production phases.

The new contract is the culmination of a rigorous

competition for which tenders were originally invited from a large number of potential suppliers. It is of great importance to Marconi Avionics as supplier of the HUDSIGHT system, currently in service in F-16 multi-role fighters of the USAF and four European NATO air forces. The Company also supplies the night attack HUD for US Navy A-7E Corsairs, the only system of its kind in squadron service and an extension of the Company's digital HUD system, supplied since 1968 for over 1,500 A-7E and A-7D Corsairs.

The use of diffractive optics, to combine the pilot's view of the scene ahead with symbolic data, provides a wide instantaneous field of view, giving the pilot an easily-interpreted 'day light' picture of the ground when low flying at night.

Holograms, a branch of optical science first developed by Dr Dennis Gabor of the UK General Electric Company in 1948, have since found application in optical developments all over the world. Marconi Avionics developed the new HUD optical system in conjunction with the Marconi Research Laboratories, Gt. Baddow, which has been engaged in basic holographics research for the past 10 years. This is headed by Dr Kenneth Firth, an original member of Dr Gabor's team.

A recent extension of HUD systems to low-altitude night operations, has been pioneered by the Royal Aircraft Establishment, Farnborough, using night vision HUD and imaging sensor equipment supplied by Marconi Avionics. This unique research has provided invaluable flying experience for the RAE and Marconi Avionics, in a hitherto unexplored area of flight operations.

During the production phase of the USAF's LANTIRN programme, Marconi Avionics will share the work with its two European partners in the

current F-16 HUD programme, in accordance with the co-production agreement between the countries involved. This participation, by Kongsberg Vapenfabrikk of Norway and Oldelft of the Netherlands, in a strong international team, can be regarded as significant in the continuing progress towards NATO equipment standardization.



**SPORTS DAY**

The 1980 Inter-Divisional Cup was won by the CMS team, pictured here. For more photographs (and a few action shots!) of the athletes please turn to the centre pages.

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Others are required for: ADD, Apprentice School,  
AS & R (New Road), ATE,  
CSD, GYRO, ISD, PSD,  
RAS.

Volunteers should offer their services through Divisional Administration  
Officers or direct to Editor.



### Applications are invited for the Fourth Annual Award of the HASKETT TROPHY FOR ENGINEERING

which is judged for the best engineering achievement of the year that is likely to lead to an improved product.

The competition is open to all engineers employed by Marconi Avionics Limited at Rochester up to and including Project Manager or equivalent grade. It is open to an individual entry or team entry.

A trophy engraved with the names of the winners will be displayed in the main foyer. A miniature souvenir trophy will be presented to the winner, or members of the winning team, as appropriate.

In addition, the Company will donate a gift to be chosen by the winner or winning team to the value of £500.

The sum of £25 will also be paid to every other qualifying entrant, up to a maximum of £100 for a team entry.

The judgement as to whether an entry is of qualifying standard will be made by the Divisional Manager of the appropriate Division.

The competition will be judged by a panel of five engineers from within and outside the Company. Innovation, effort and cost effectiveness will be taken into account.

A written paper must be submitted to support the entry (six copies will be required for review by the adjudicating panel).

Further information about the competition may be obtained from J.M. Neate, Personnel Department. Entries should be made in the first instance through the Divisional Manager of the appropriate Division and should reach the Personnel Department by 30 November 1980. However, a brief synopsis of the proposed entries should be submitted by 31 October 1980.

#### SUGGESTION SCHEME

There appears to be a continuing submission of items for consideration made to the committee. Although some ideas do not qualify for any award there are, nevertheless, a proportion which offer distinct possibilities and these receive nominal awards, whilst the full impact of adopting the submitted ideas is analysed and evaluated.

At the meeting held on 31 July, 1980, the following nominal awards were made:

Mr. R.D. Kingsford ADD, for a suggestion concerning the plugging of plated through holes in printed circuit boards.

Mr. J.C. Hobbs FCD, concerning polyurethaning between connectors of multi-layer boards used on Jaguar and MRCA contracts.

Some 10 suggestions are at present in the pipeline of consideration and evaluation.

#### OBITUARY

We deeply regret to record the death of Peter Sidney Martin, suddenly, after a short illness at the age of 42.

Peter, a live wire and active in many aspects of life, joined the Company in November 1964 as a trainee wireman. In 1965 he was appointed to MAC as a wireman and still remained in the occupation after the merger in 1970. Promoted to Leading Hand in September 1978 and Foreman in FCD in January 1979.

Our sympathy and condolences go out to his widow and members of his family.

### TO BREAK BOREDOM

How did you get on with the magic squares we posed for you in the last issue?

As promised, here are the solutions:

'A' This one is easy because the bottom line is complete. It adds up to 62 which means that all the other lines must add up to 62, the missing figures, starting from the top line and working down are: 20, 12 and 14.

'B' The 'Magic' total is 150, so the missing numbers are (from the top): 32, 37, 36 and 33.

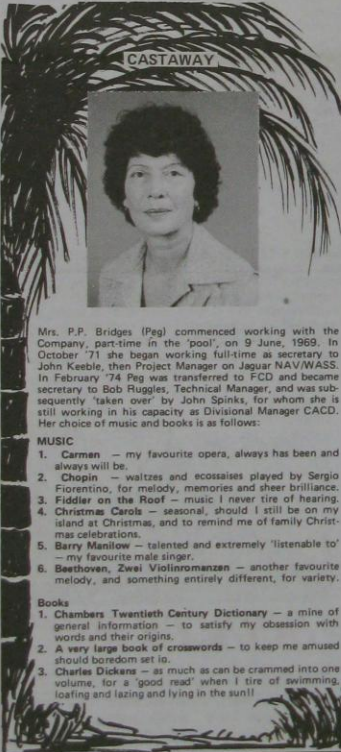
'C' The columns total 50 and the missing numbers are (from the top): 6, 9, 10 and 5.

To construct a 16-number magic square, choose any sequence of numbers, put the lowest in the bottom right-hand square, then follow the order of numbering set out below.

16th	3rd	2nd	13th
5th	10th	11th	8th
9th	6th	7th	12th
4th	15th	14th	1st

for a 25 number square, the pattern would be:

17th	24th	1st	8th	15th
23rd	5th	7th	14th	16th
4th	6th	13th	20th	22nd
10th	12th	19th	21st	3rd
11th	18th	25th	2nd	9th



Mrs. P.P. Bridges (Pag) commenced working with the Company, part-time in the 'pool', on 9 June, 1969. In October '71 she began working full-time as secretary to John Keeble, then Project Manager on Jaguar NAVASS. In February '74 Pag was transferred to FCD and became secretary to Bob Ruggles, Technical Manager, and was subsequently 'taken over' by John Spinks, for whom she is still working in his capacity as Divisional Manager CACD. Her choice of music and books is as follows:

#### MUSIC

1. Carmen - my favourite opera, always has been and always will be.
2. Chopin - waltzes and eccasales played by Sergio Fiorentino, for melody, memories and sheer brilliance.
3. Fiddler on the Roof - music I never tire of hearing.
4. Christmas Carols - seasonal, should I still be on my island at Christmas, and to remind me of family Christmas celebrations.
5. Barry Manilow - talented and extremely 'listenable to' - my favourite male singer.
6. Beethoven, Zwei Violinromanzten - another favourite melody, and something entirely different, for variety.

#### Books

1. Chambers Twentieth Century Dictionary - a mine of general information - to satisfy my obsession with words and their origins.
2. A very large book of crosswords - to keep me amused should boredom set in.
3. Charles Dickens - as much as can be crammed into one volume, for a 'good read' when I tire of swimming, loafing and lying in the sun!

## Marriages

Maria Mills of CAC Purchasing Dept, was married to John Sampson, a Planning Engineer in CMS, at Maidstone Register Office on 6 August. A Service of Blessing was held at Holy Cross Church on 9 August.



Maria Mills and John Sampson.

John Newton, an Inspector of MASD, was married to Sharon Newton, of ATE Library, at St. Stephens Church, Chatham on 25 June.

John has been with the Company for five years. He is the son of Pat Newton in Accounts (Cashier Section) and Erin Newton of AS&R. Sharon has been with the Company for one year, she retains her name in marriage, becoming Mrs. In place of Miss.



The happy couple at their reception.

#### ENGAGEMENTS

The following engagements are announced for forthcoming marriages:

Martin Lovage, a Planner within FCD, to Janet Hinchcliffe on 26 July.

Ann Golding of ATE, a trainee Programmer at Gads Hill, to Barry Smith on 16 August.

## Kitchen Kapers

#### HOME-MADE PORK PIE

The most famous pork pies come from Melton Mowbray in Leicestershire. Traditionally they are made from chunky meat, with hard crust pastry.

Ingredients: 3lb shoulder of pork  
1lb flour  
1 teaspoon salt  
1 egg yolk  
6oz lard  
½ teaspoon gelatine  
salt, pepper and cayenne

Method: Chop the pork meat into small pieces, and use the bone to make stock. Make up a hot-water crust from the flour, salt, egg yolk and lard, blending in the lard with the flour well. Use 2/3 of the pastry to line a greased pie mould or a loose-bottomed cake tin lined with foil. Fill the pie with the chopped meat, well seasoned with salt, pepper and cayenne.

Make a pie lid from the remainder of crust, leaving a hole in the centre, then cover the pie, pinching the edges together well.

Bake at 450°F (gas mark 8) for 20 minutes, then for a further 2 hours at 325 (gas mark 3).

Meanwhile strain the stock, reduce it to about ½ pint and thicken with gelatine dissolved in hot water. Pour the stock through the hole in the pie lid. The stock will set to a jelly once the pie has cooled.

#### CHRISTMAS CAKE

Now is the time to be thinking of Christmas festivities and fare. The recipe that we have printed below is an old Yorkshire recipe, which can be thoroughly recommended.

Ingredients: 1lb flour (if plain flour is used, add 2 teaspoons baking powder)  
¼lb lemon or orange peel  
¼lb margarine  
1lb caster sugar  
2lb currants, or mixed fruit.  
¼lb almonds  
1 grated nutmeg  
lemon and almond essence to taste  
6 fresh eggs  
some milk

Method: Clean and prepare fruit, skin almonds and cut small, grate nutmeg.

Beat up eggs for 10 minutes. Cream margarine and sugar together, add essence, nutmeg, almonds and peel, and mix well; add some egg and fruit, mix well, add more egg and flour alternately, mixing well and complete; lastly add a small ½ cup of milk to bind (add more milk if necessary).

When all is well beaten together, put into a prepared baking tin, 10 inches diameter, and bake in a moderate oven for 5 to 6 hours at 300°F (gas mark 2), for 1 hour and 250°F (gas mark 1), for the remaining time.

If a really dark cake is preferred, cover the top with butter paper to prevent burning.

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# PRIZE WINNERS OF THE COLOURING COMPETITION

A ceremony was held recently in the Towers reception where the winners of our colouring competition were presented with their prizes by Mrs. S. Westrop.



Class 1 winners (left to right):  
Keith Fullagar, Andrew Collyer and Emma Mogan.



Class 2 winners (left to right):  
Joanne Mullan, John Milham and Tracy Cashen.



Class 3 winners (left to right):  
Nina Milham, Susan Cashen and Tina Barton.



The three first prize winners.



The successful entrants being congratulated by Mrs. Susan Westrop.

## APPOINTMENTS

We have pleasure in announcing the appointment of Mr. P.B. Rayner as Assistant General Manager, responsible to Mr. P.A. Hearne.

Mr. Rayner will undertake general management duties in the Navigation Group of Divisions and will have particular responsibilities for Maritime Aircraft Systems Division and Automatic Test Equipment Division.

Consequent upon Mr. P.B. Rayner's promotion to Assistant General Manager, the appointment of Mr. D.G. Clews as Divisional Manager of Maritime Aircraft Systems Division is announced.

Consequent upon Mr. D.G. Clews' appointment as Divisional Manager of Maritime Aircraft Systems Division, it is announced that Mr. A.D. Evers will be rejoining the Company as Divisional Manager of Inertial Navigation Division.

## DATE FOR YOUR DIARY

By popular demand a return evening of

### MUSIC & SONG

featuring:  
THE ELLIOTT CONCERT BRASS BAND conductor Alec Cooke  
SOLO ARTISTS  
TOM CROOKS as compere

To be held on Friday 24 October at 7.45pm in aid of the Medway Hospice.

Tickets for sale in the Elliott canteen - £1.50

## Apprentice Activity

The following apprentices are due to complete their period of agreement during October 1980 and will become members of the Divisions as listed:

Crozier B.S.	ADD Engineering
Fogarty A.K.	FCD Planning
Kirby M.	ADD
Rice N.A.	ISD
Shaw T.B.	FCD

# SPORTS

Though the weather remained three without interferences. The events were w  
The Inter-Divisional Cup was won by the team from CM  
The prizes and trophies were presented to the winner

*Full details are not yet to hand, due to holiday*



*A smiling Joan Hodge receives the Inter-Divisional Trophy from Mrs. Alexander.*



*Determination to 'put the shot'.*



*Down but not out.*



*The long jump.*



*The judges decide.*

## Individual competitors



# DAY 1980

reopening the programme was completed well contested and some good results obtained. MS, captained jointly by Malcolm Osborn and Mrs J. Hodge. ers by Mrs Alexander, wife of the athletic club President.

by commitments, but will appear in a later issue.

## s receiving their prizes



G. Gallacher and Ian Gower — joint winners of the Victor Ludorum Cup



G. Gallacher tensed up for his discus throw.



Up and over, what a relief!



Watch it go! The javelin about to soar.



Change over in the relay race.



# Rochester

continued...

## THE CATHEDRAL.

"And Cathedral fanes majestic, monuments of human skill,  
And dismantled piles monastic, where the beating heart  
grows still."

Rochester Cathedral dates from the year 600 A.D., the original edifice, which was erected after Augustine raised the church to archiepiscopal dignity, having been rebuilt in 1088 by Gundulph. Since then, however, the building has suffered much rough usage, having been converted into stables during the attack of Simon de Montfort on the Castle, and later on being used not only as stables but also as a 'tippling shop' during the Cromwellian Civil War. The building, however, abounds with intensely interesting features, including the *West Front* with its noble entrance, and the *Nave* as far as the transept, which are portions of the building erected by Gundulph. The *Choir* dates from the year 1227, and of two tombs near the altar one is supposed to be that of Bishop Gianville (ob. 1214) and the other that of Lawrence de Martin (ob. 1274), while a third tomb, near the communion table, is conjectured to be that of *Gundulph*, who died in 1107. Considerable alterations have been made in the Cathedral since the Reformation. Until the reign of Henry VIII the Cathedral was occupied by Benedictine Monks, whose Priory adjoined that building. On the Dissolution of the Monasteries a change took place in these arrangements, and after the Roundheads desecrated the church it was subsequently used as a carpenter's and sawyer's yard. Eventually it was repaired in the 18th century, and was further restored by Callingham in 1830. Portions of the ancient *Priory*, including the *Priory's Gate*, the *Sacrists' Gate*, and the *College Yard Gate*, are now to be seen in the Deanery Garden. The *Cathedral Library* is a modern building, but possesses the ancient carved doorway of the Chapter House, and contains valuable ancient manuscripts, including the *'Textus Roffensis'* and the *Custumale Roffense*. One of the most interesting features of the Cathedral is the *Crypt*, which represents three different orders of architecture, and *St. William's Chapel* at the north end of the upper transept has an interesting legend attached. William was a baker from Perth, who, on his way to Rome on a pilgrimage, broke his journey at Rochester Priory. He was murdered by a servant or comrade of whom he made a confidant, and who wanted to appropriate his gold, and afterwards the fame of William of Perth became great for sanctity, the result being that he was eventually canonized.



EASTGATE HOUSE  
(From *Posidon's Artist Series*)

THE GUILDHALL, which was erected in 1687 and is the property of the city, is a remarkable building in the Doric order, with a heavy brick front, the gift of Sir Cloudesley Shovel, in 1706. The interior is handsomely decorated, contains a fine series of portraits, and is provided with all the necessary accommodation for municipal meetings, the sittings of the magistrates, and the general transaction of all public affairs.

Among the other buildings of note is the *Corn Exchange*. The *Clock House*, or *Corn Exchange*, erected in 1706 by Sir Cloudesley Shovel, stands on the site of an ancient Guildhall. To the rear is the new *Corn Exchange* erected in 1871, and providing spacious accommodation. The city can boast of a great number of churches, chapels, and benevolent establishments. Among these *St. Nicholas Church*, dating from 1421; *St. Margaret's Church*, dating from somewhere about the Norman Conquest; *St. Catherine's Hospital* on Star Hill, which has a history dating back to the beginning of the 14th century, although the present building was erected in 1825; *St. Bartholomew's Hospital and Chapel*, founded in 1078 by Bishop Gundulph, and the *Poor Travellers' Rest*, are worthy of special mention. The latter institution, which was founded in 1579 by Richard Watts, who designed it for the accommodation of poor travellers 'not being rogues or proctors,' has been celebrated by Charles Dickens, who has indeed, left his mark on a great many of the buildings and institutions of the city. In

connection with *Watts' Charities*, the following particulars regarding their scope and administration will prove of general interest. The estate is managed by eighteen trustees, appointed by the Charity Commissioners, and it is the duty and privilege of these gentlemen to carry out the wishes of the founder. In addition to maintaining the *Travellers' Rest*, which being situated on Watling Street—the old Roman road—had always more claimants upon its bounty than could be accommodated, the Charity supports an *Almshouse* for ten poor women and ten poor men.

EASTGATE HOUSE, which stands on the exact site of the ancient East Gate, is otherwise notable from its fine carved oak ceiling and the reference made to it by Dickens in "*Edwin Drood*" as the Nun's House, the Academy of Miss Twinkleton. It is now used as a museum.

RESTORATION HOUSE, is a quaint picturesque residence, and is specially noted as being the *Satis House* referred to by Dickens in "*Great Expectations*"; but the actual house in which Queen Elizabeth was entertained for five days, in 1573, by Richard Watts, was situated at Boley Hill near the Castle, and overlooking the river. On the fifth day of the Queen's sojourn she seems to have uttered the word '*aisis*' as a brief but significant indication of her frame of mind, and in memory of the event this very ambiguous title was attached to the house.

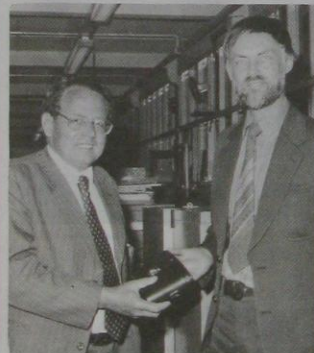
THE BULL HOTEL, opposite the Guildhall, is another house on which Dickens has set his seal in his description of its internal arrangements in the *Posthumous Papers of the Pickwick Club*. The Bull Inn, however, has a history of its own, as it has had a continuous existence here of over three centuries and a half, it is now known as the Royal Victoria and Bull Hotel.

The Kings School, founded by Henry VIII for twenty King's Scholars, had been enriched by many valuable bequests since then, and has become a well-endowed and ably-conducted educational establishment, with valuable scholarships and prizes. The residence of the Head Master is situated in THE VINES, a handsome public garden.

Besides numerous extensive *Cement Works*, which form a vast congeries of kilns and tall chimney stacks, lining the bank of the river for miles above Rochester bridge, there are many of the river for miles above Rochester bridge, there are many large and important factories employing in the aggregate some thousands of work-people. Notable amongst these was the celebrated '*Invicta*' Works of Messrs. Aveling & Porter, of steam roller fame.

Rochester has not only much to interest the visitor in her own compass, but also forms a most convenient centre for visiting the most picturesque scenery and the most interesting places in Kent. A few of the outlying points of interest are all that we can find place for here, but in whichever direction the visitor ventures, abundant recompense will be found in the scenery and other attractions.

## 25 YEARS' SERVICE



Mr. P. Rayner receives his binoculars from Mr. P. Hearne (R).

Another member of the senior management team of the Company has recently completed a period of 25 years' unbroken service. Mr. Paul Rayner, who at that time was the Divisional Manager of MASD, was presented with a pair of binoculars to mark the occasion by Mr. P. Hearne, Director and General Manager.

He began his career in 1955 at Borehamwood in the Computing Division as a Development Engineer. In 1959 his activities switched to Guided Weapons and TBR 2 until its cancellation. He then joined Airborne Computing as Chief Engineer and later became the Department's Divisional Manager. This Division, after it had established itself at Rochester, became MASD.

A Kentish man, he was educated at Imperial College, London, where his interest in computing and computers and electronics was founded. He likes adventurous pursuits which include mountaineering.



Mr. L. Arnfield (A)

Len Arnfield, Deputy Contracts Manager of MASD celebrated his 25th year of service with the Company on 3 January 1980.

He started his career with Short Bros. as an Apprentice Aircraft Electrician, in June 1945, and on completion joined the English Electric Company in the Drawing Office working at both Stafford and London. Len joined the Company on the 3 January 1955 as a Design Draughtsman in the Radio and Radar Drawing Office, subsequently being promoted to Assistant Chief Draughtsman in March 1962 in the then Aircraft Direction Division. In March 1963 he was promoted to Chief Draughtsman in TAC Division. In August 1969 he transferred to the Contracts Office of Airborne Computing Division which subsequently became MAS Division where he is currently employed.

He is married with two children, is a keen gardener and DIY enthusiast.

Mr. P. Rayner, Divisional Manager MASD, on behalf of the Company, presented a canteen of cutlery to mark the occasion.

Percy Nottage, Assistant Chief Inspector of IN Division, is another stalwart to join the Long Service Association, after 25 years' unbroken service.



Percy Nottage (central) holding his commemorative watch.

For 25 years too, he was a member of the Royal Navy having joined the service as a boy seaman in 1930. During his naval career he saw service in battleships, cruisers, but not submarines, and was a torpedo instructor. In 1941 he was in service in the Mediterranean and was sunk in 1942.

On leaving the Navy he joined Elliott Bros. in Aero Accessories (part of Servo Division), which eventually moved to Lewisham. He transferred to IN Division, as an Electrical Inspector on Blue Steel contract. He progressed with the Division and was appointed Assistant Chief Inspector, a position he still holds.

A widower for some five years he has two married daughters and he enjoys listening to the radio and when time permits to indulge in woodwork.

## LONG-TERM SICKNESS

There are a number of former employees who have been indisposed for some time, we hope to bring you news of them from time to time. They are not forgotten and contact is maintained through the Company Welfare Department.

Mr. A.C.S. Neat of ATE Production  
4, Abdon Road,  
Lordswood, Chatham

Mr. Fred Longley of IND Production  
Lennor Wood,  
Petham Green,  
Rainham, Gillingham.

Both send their greetings to former work-mates and colleagues. They are also as well as can be expected in the circumstances of their indisposition.

# MAGNET HOLIDAY PRESENTATION



Come along at 8-00pm and win a FREE HOLIDAY at one of the following:

26 SEPTEMBER 1980 MARCONI SPACE AND DEFENCE SYSTEMS LTD Hillend, by Dunfermline, Fife	14 OCTOBER 1980 MARCONI SPORTS AND SOCIAL CLUB, Dever Hall, Queens Road, Farnborough, Hants.	21 OCTOBER 1980 MAGNET SPORTS AND SOCIAL CLUB Daykin Avenue, Witton, Birmingham.	29 OCTOBER 1980 AEI CABLES LTD SPORTS AND SOCIAL CLUB Kings Farm Estate, Gravesend, Kent
6 OCTOBER 1980 RUSTON CLUB Unity Square, Lincoln	15 OCTOBER 1980 GEC SPORTS AND SOCIAL CLUB 127 Preston Road, Wembley, London HA9 8NN.	22 OCTOBER 1980 W & T AVERY SPORTS AND SOCIAL CLUB Sandon Road, Birmingham B17 8DT	30 OCTOBER 1980 MARCONI ATHLETIC AND SOCIAL CLUB Beehive Lane, Chelmsford CM2 9RX
7 OCTOBER 1980 GEC MACHINES SPORTS AND SOCIAL CLUB Dick Lane, Thornbury, Bradford 3.	16 OCTOBER 1980 MARCONI SPACE AND DEFENCE Broad Oak Works, (staff canteen), The Airport, Portsmouth PO3 6PQ	23 OCTOBER 1980 GEC-AEI SOCIAL AND SPORTS CLUB Hillmorton Road, Rugby, Warwickshire CV22 4AR	31 OCTOBER 1980 PAKMAN SPORTS AND SOCIAL CLUB Hythe Hill, Colchester, Essex
9 OCTOBER 1980 ENGLISH ELECTRIC SPORTS AND SOCIAL CLUB East Lincs Road, Liverpool L10 5HB	20 OCTOBER 1980 GEC SPORTS AND SOCIAL CLUB GEC Whetstone, Cambridge Road, Whetstone, Leicester	28 OCTOBER 1980 ELLIOTT SPORTS AND SOCIAL CLUB Gillingham, Kent.	12 NOVEMBER 1980 ELLIOTT SPORTS AND SOCIAL CLUB Borehamwood, Herts.

## LEARNING A FOREIGN LANGUAGE

by Leslie Trafford  
ISD Technical Publications



How many people I wonder, who, after returning from their holidays abroad this year, will express the desire to learn the language of the country they have just visited? Judging by the ever increasing number of people who enrol in foreign language courses every year, I would say quite a number. But I also wonder just how many of them have any idea exactly what is involved in learning another language, or indeed the best way to set about it.

The fact that, in all probability, more than 50% of all those who start out with such fervent enthusiasm will give up their studies before the end of the first year, is a clear indication that so many people embark on this very worthwhile venture completely unprepared for the task ahead of them. Let us examine briefly then, some of the possibilities open to the would-be language student.

I would say that there are four methods that the average person can choose from, and are as follows:-

First, and undoubtedly the best but most expensive way is to engage a private tutor and to learn your chosen language in the privacy of your own home. With this method, the student will almost certainly make very rapid progress, the course being tailor-made so to speak to his or her personal requirements and learning ability; having the undivided attention of the tutor the student should very quickly pass through the rather onerous preliminaries and soon be on the way to enjoying a rapidly increasing comprehension of the language. If the tutor be a foreign national so much the better, as a good accent can be acquired in the very early stages, even so, with all these advantages some two or three years study, depending on the time devoted to lessons, will be needed to achieve a good working knowledge of the language and considerably more if anything like fluency is envisaged. The main drawbacks in choosing this method are of course the prohibitive costs involved, along with the difficulty in finding a tutor, especially if your interests lie in the more obscure or classic languages. Nevertheless, the amount of personal attention that can be given by a private teacher will lead to a fairly rapid assimilation of the language and the benefits gained

may well be worth the high outlay in costs. Current rates for private tuition in this area are about £5 per hour.

It is probably true to say then, that this method will appeal only to a minority of intending students, but its obvious advantages should not be overlooked.

Let us now consider the second method, the one that I would personally recommend, as it is admirably suitable for the majority of people whether they be approaching the subject for the first time, or intend to improve the knowledge they already possess. It is then, quite simply to go and enrol in one of the many language courses held every year in the Adult Education Centres that exist in most towns these days. These courses exist in abundance and for the most part are excellent in content, presentation and are very good value for money. The student will learn a language usually from a teacher who is a foreign national with very high qualifications; this being a great help in the early stages when difficulties with pronunciation will be a problem for some students, but by listening carefully to the teacher, these problems can be quickly overcome and here again a good accent can be developed by most dedicated students. Learning a language this way in a small group can have its advantages as well as its disadvantages, for example:-

One advantage in group learning is that students can support and encourage one another in acquiring confidence in using another language amongst themselves, thus quickly overcoming the natural shyness that most people experience at first. For the more advanced students, ample opportunities exist for the development of discussion groups and here usually every student will be given the chance to lead the class in a subject of his or her own choosing; an ideal way of increasing self-confidence and utilizing the material already learned. The main disadvantages are that a class can either proceed at a pace suitable to the learning ability of the slowest students, which may lead to a lot of repetition and perhaps a loss of progress, or, take its pace from those students who have the ability to absorb knowledge at an above average rate, leaving the slower ones floundering, so to speak, in a sea of incomprehension to become thoroughly disheartened and disinterested. The costs involved however, are relatively small, approximately £11 per term at present and anyone willing to devote up to five or six years working in class and at home following such a course will achieve a sound working knowledge of their chosen language, the ability to speak and understand it at a modest level and, in all probability, to read and write it at a more advanced level. This method of learning a language within a small group at evening classes is undoubtedly the most popular one at present and can be highly recommended.

The third method I would like to introduce is possibly the best choice for those people who prefer to study or work at home. It consists in referring here to the 'all-in-one package course' much in evidence these days and acquiring an increasing popularity that seems to be closely allied to the growing proportion of people taking their holidays abroad. This type of course usually consists of a set of long playing records or tape cassettes accompanied by two or three

text books, one of which will contain all the material spoken in the recordings; the others will probably be book supporting the recorded lessons, giving a brief insight to the grammatical structure of the language along with a more extensive vocabulary for the student who wishes to extend his knowledge beyond the scope of the recorded material. These courses for the most part are divided up into some thirty to forty lessons, leading the student slowly, but progressively through the early difficult stages to the more interesting and more rewarding advanced lessons later in the course. Once again there are advantages and disadvantages in this very popular method of learning. The advantage that appeals to most people is that they can decide for themselves exactly just when, and for how long, their study periods will be; studying so to speak when in the mood. Perhaps a word of warning is called for here, inasmuch that some degree of self-discipline is required to complete a home course, as it can be so easily put aside when the going gets difficult, never to be picked up again. But those who have the dedication and tenacity to complete their course will no doubt find that what they have learned is very useful and very valid, but nevertheless somewhat limited. It is easy to see then that once the recorded material has been learned by heart, the course is virtually at an end and the student will find that he, or she, has just managed to get one foot on the first rung of a very tall ladder; however, these home courses can give an excellent insight to a language, and if they start people off on the road to real success then they are most definitely worthwhile.

Costs vary enormously and, as in everything, you only get what you pay for. At the top end of the scale, Linguaphone offer very comprehensive courses in all major European languages, as well as some of the more remote Eastern European ones; Russian and Polish for example is enjoying an increasing popularity among language students at present. The choice extends also to the classical languages, such as Greek and Latin, and even to the major oriental languages: Chinese and Japanese; perhaps evidence of both a growth in interest and the ever shrinking world. At the other end of the scale, the Reader's Digest Association offer excellent courses, leading to a good basic understanding of all the four major European languages for a far more modest outlay. For those then who prefer to study at home alone, perhaps this method has its merits and it is true to say that many people who now have a good command of a language made their initial start in this way. (to be continued)

A tous ceux qui sont déjà étudiants de la langue française, que je vous rappelle les mots de Victor Hugo, pris du quatrième acte d'Hernani normalement exprimé en Latin. Ad augusta per angusta, autrement dit en français: A des résultats magnifiques par des voies étroites.

Turn to page 12 for a translation

www.rochesteravionicarchives.co.uk

# Sports and social club round up

## LAWN TENNIS

The Elliott men's team have made sure of participating in Medway Lawn Tennis League's Division 1, for the 1981 season, as a result of their drawn game against Hobourn.

Elliott can thank Jim Cain and Kevin Towing for their success in winning all their rubbers. This duo have become a top-class pairing.

### League tables

Ladies Division 1							
	P	W	D	L	F	A	Pts
Chatham	10	10	0	0	72	18	20
Castle	10	8	0	2	64	25	16
Rosedale	11	5	1	5	51	47	11
Frindsbury	12	6	1	5	54	54	13
ELLIOTTS	12	4	1	7	46	51	9
City	10	3	0	7	31	58	6
Luton Church	11	0	1	10	22	77	1

Mens Division 1							
	P	W	D	L	F	A	Pts
Chatham	10	8	2	0	71	19	18
Castle	9	7	2	0	66	14	16
Hobourn	10	4	2	4	38	52	10
Rosedale	8	3	1	4	30	42	7
ELLIOTTS	8	1	1	6	19	52	3
City	9	0	0	9	18	63	0



Division 3							
	P	W	D	L	F	A	Pts
Civil Service	9	8	0	1	63	17	16
Winget	9	8	0	1	63	18	16
City II	9	3	0	6	27	53	6
ELLIOTTS II	7	1	2	4	19	44	4
BP Kent	6	1	1	4	20	33	3
Rosedale II	8	1	1	6	22	49	1

Division 4							
	P	W	D	L	F	A	Pts
Frindsbury II	12	11	0	1	80	28	22
Castle III	12	10	1	1	88	19	21
Civil Service II	11	5	1	5	41	58	11
ELLIOTTS III	11	4	0	7	39	60	8
Rosedale III	8	2	1	5	30	41	5
Frindsbury III	10	2	0	8	35	54	4
Luton Church II	10	1	1	8	18	71	3

## '65 CLUB

In August the club was entertained by the Golden Oldies - a group of pensioners performing songs, gags, routines and sketches with an 'old tyme' flavour - after the completion of the business meeting.

Among the bingo winners were C. Divane, J. Mankelaw and Mrs. Drew.

Members offered congratulations to those whose wedding anniversaries occurred this month.

Mr. & Mrs. John Symonds	32 years
Mr. & Mrs. Jim Mankelaw	38 years
Mr. & Mrs. Arthur Hall	38 years
Mr. & Mrs. Noel Drew	40 years
Mr. & Mrs. George Burge	41 years
Mr. & Mrs. Cyril Chandler	41 years
Mr. & Mrs. Cyril Skinner	42 years
Mr. & Mrs. Harry Lower	52 years
Mr. & Mrs. Ted Tarrant	55 years

Syd and Cally Evans celebrated their golden wedding anniversary (50 years) on the 9 August. As usual the members sang 'My old Dutch' (suitably adapted) and the President presented them with a card and a box of 'All Gold' chocolates.

# Marconi Avionics Sailing Club

The annual visit by Rochester sailors to the Marconi Sailing Club (MSC) took place on the weekend of 18-20 July 1980. The cruisers led by Jack Pateman CBE, President of MSC, in the Golden Hind 'Oenanthe', sailed through strong winds to reach the Blackwater on Friday evening. Malcolm Moulton in Macwester 'Centaurina' arrived early on Saturday morning.

Due to illness only three Rochester dinghies raced this year, but the quality of sailing was high and exhilarating.

The first race started in confusion, due to the high winds and the proximity of the start line to moored cruisers. Ron Greygoose (MSC Commodore) led the fleet throughout in a 420 followed by Alistair MacFadyean in a Fireball. Rochester's Gordon Belcher and Dave Jibb in Enterprises capsized on the first lap though Gordon righted the boat to finish third, just beating John Witter (MSC) also in an Enterprise.

The wind had dropped a little for the second race, but again Ron Greygoose got ahead at the start and won easily. This time Gordon Belcher kept the boat upright to finish second with Alistair MacFadyean third and M. Stuart (MSC) in a solo fourth. John Witter capsized and retired leaving Ron Greygoose as the only sailor to avoid the 'early bath'. The combination of strong winds and the chop



created by the wind against the tide had produced a very enjoyable day racing though that first place still eludes Rochester.

The visit coincided with MSC's annual barbecue and disco and the rain stopped to allow a pleasant evening's entertainment. On Sunday the cruiser 'Centaurina' left through the intermittent squalls to end the weekend in best 1980's style, while 'Oenanthe' whose skipper was on holiday, enjoyed an extra day at Stangate.

**DECISION TIME.....No 12**

**WORKS ENGINEERING**

I USED MY INITIATIVE ON HANGING THE DOOR! IT SHOULD SUIT EVERYONE!

**DATE FOR YOUR DIARY**

We shall be holding a

**BEST DRESSED DOLL COMPETITION**

during the autumn

Dolls for dressing will be available from the sports and social club.

Full details will be issued later

Will all interested persons willing to take part, please contact:

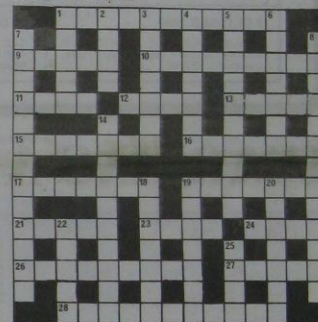
Mrs. E. Papworth  
Social Club (Int. 217)  
or  
The Editor

The completed dolls will be used as gifts and given to a selected Childrens Home at Christmas.

For those of you who couldn't read the French - here is the translation.

To all those who are already students of the French language, let me remind you of the words of Victor Hugo taken from the fourth act of Hernani (one of his early works), normally spoken in Latin: "Ad augusta per angusta", - which means, roughly speaking: 'Magnificent results are achieved by travelling along narrow difficult paths'.

## CROSSWORD No. 28



### ACROSS

- You cannot get away from (3,2,3)
- Complete and nonsensical (6)
- A dunce, or merely lazy (9)
- Without anything (4)
- A slang for legs, but not for seamstress (4)
- Girl's name, to mans added on a (6)
- One to ten and on and on (7)
- Famous lady in the play (7)
- If a Scotman, this won't tickle (7)
- Eastern disease (7)
- To swagger up to and about (5)
- The suns work, supplemented by coal (4)
- Caribbean island (4)
- Look after the change, or he will (9)
- A tenth, or was (5)
- You should rely on, but don't relax (5,8)

### DOWN

- Foreign name, could be contrary (5)
- Man's name, after Matthew (4)
- Stuff made from fibres (7)
- This is not acceptable as evidence (7)
- Foot, being a tall order of man (10)
- By which means it is (7)
- Shows lack of interest or too much sown (7,2,4)
- Landed gentry, without ownership (6,7)
- The old salt keeps a sharp eye (7,3)
- Emission or wear out (7)
- Acute disappointment (7)
- The centre girlie, making all things same (7)
- Tinned, usually of sheet metal (5)
- Preparation by acid activation (4)

### SOLUTION TO CROSSWORD No. 27

#### ACROSS

- Davlight robbery, 8 Upstals, 9 Red Sea, 11 Glen, 12 Impersonal, 13 Idaho, 15 Bohemian, 18 Haymaker, 20 Radar, 23 Nightmares, 24 Tree, 27 Trashy, 28 Well done, 29 Collector, 30 Place.

#### DOWN

- Drugs, 2 Yesterday, 3 Ivan, 4 Harem, 5 Beersheba, 6 Essen, 7 Yearling, 10 Gas on, 14 Heatsache, 16 In a groove, 17 Phonic, 18 Decay, 21 Vaneer, 22 Reverse, 24 Graff, 26 Chip.

Photographs taken by the Staff Photographers will be acknowledged in the following way: (A) Alan Keats, (B) Linda Jones, (C) Laurie Coates.

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