

DECEMBER 1980

**Marconi
Radar**

ECHO

The internal newspaper of Marconi Radar Systems and its people

**WHAT MAKES
MARCONI
RADAR TICK?**

- see centre pages



Reasonable prospects...

As we come to the end of 1980 it is a time to look back on the previous twelve months and to look forward to the future. It has been a fascinating and at the same time a frustrating year for Marconi Radar.

We have received new orders for development and for production for the Royal Navy, we have won the major UKADGE order for renewal of the "Command and Control" System for the Royal Air Force, and several other interesting orders.

On the other hand, we failed to win the main Civil Aviation radars in UK which were ordered abroad. This was in my opinion avoidable had there been a better attitude in the Civil Aviation Authority earlier in the bidding procedure. We also lost two RAF radars to an American firm; these radars are to be paid for by NATO funds, and were therefore awarded as a result of international competition. The US firm were considerably cheaper, in part, because they had enormous financial support from their own Government.

On the bright side, as a result of our performance in the last three or four years we won the Queen's Award for Export in 1980 — we are all proud of that achievement.

We end 1980 with a substantial Order Book, which is more than many firms in Britain can say at the moment. But good housekeeping, sustained effort and improved productivity are more than ever essential if we are to be competitive and continue to win new orders. Unless the possible Ministry of Defence cuts are very savage, our prospects look reasonable for the year to come.

May I now take the opportunity to thank all Marconi Radar people for their efforts during the year, and wish you and your families a very cheerful Christmas and a New Year which brings you contentment and pleasure.

JOHN SUTHERLAND
Managing Director



A radar simulation exercise in progress at RAF Bulmer.

More radar simulators for RAF

THE Air Defence Sector Operations Centre at RAF Buchan recently took delivery of a radar simulator from the Company for control procedures training.

The Ministry of Defence has now awarded Marconi Radar a further contract for the supply of simulation equipment which will enable the RAF to provide training for air defence radar operators at three more radar operating posts. This order will bring to seven the number of air defence simulator systems supplied to the RAF.

Marconi Radar simulators are designed to produce a very realistic situation both for trainee operators and for executive team training. The computer-generated model of air-space activity can depict any particular type of aircraft and armament, as well as geographical or meteorological factors.

The equipment interfaces readily with all types of display and communications equipment. It can be set up either on its own or can be added

to an operational radar system — in which case it operates without interfering with the readiness of the existing radar. It is available either as a fixed or transportable installation.

We have provided simulators of this type to a number of users other than the Royal Air Force. They are to be found in use with defence forces in the Middle East and the Far East, and three systems are currently entering service with the Royal Australian Air Force.

Appointments

A Managing Director's Notice dated November 3rd announces the following appointments:-

Mr. C.A.R. Mackley has been seconded to UKADGE Systems Ltd. as Administrative Manager.

Mr. R. Sherwin is appointed Establishments Manager, Chelmsford, immediately and will be responsible to Mr. J.P. Causey. Mr. J.E. Eaton's group will continue to be responsible to Mr. R. Sherwin.

COVER GIRL...

... gracing our front cover this month is attractive Carol Rate. Carol is secretary to Vic Martin, Resource and Systems Manager, Chemical Engineering Department at Baddow.

RANGE SAFETY RADAR SYSTEM

THE Company is to supply the Royal Air Force air weapons range at Hartland Point in North Devon with an up-dated range safety radar system.

There is considerable sea and air traffic in the area of Hartland Point, which adjoins the Bristol Channel, and the cargo ships, pleasure yachts, commercial and private aircraft all pose a number of problems of range safety. Therefore, before firing can commence, both radar and visual flight checks have to be carried

out to ensure that the range danger-area is clear. These checks also continue while firing is in progress.

At present two radars cover the surface and air environments separately, because the requirement in each case is different. They are backed up by a height-finder radar.

We are to replace the two primary surveillance radars with one system, using a newly-developed S-band transmitter/receiver, the S2022.



John Conrad, Project Controller, with the newly-developed S2022 transmitter/receiver.

Though range safety is the primary requirement for the new radar it will also be used to provide assistance for the Royal

Air Force helicopter flight operating locally for Air/Sea rescue purposes, and for HM Coastguard.



Apprentice awards

Admiral Sir Andrew Lewis, the Lord Lieutenant of Essex, presented a total of 20 awards at the 1980 Apprentice Ceremony at the M.A.S.C. The awards ranged from Best Shorthand Typist to Best Electronic Technician Apprentice and Best Graduate Trainee. Keith Olive, Best Graduate Trainee, gave the vote of thanks and presented Sir Andrew with a copper etching of his final command, HMS Kent.

BACK ROW (left to right): Jim Clarke, Denise Dadd, Ray Strudwick, David Johnson, David Perry, Keith Olive, John Grimes, Michael Lonsdale, Steven Pace, John Nickalls. FRONT ROW: James Harrison, Paul Clarke, Alan Blewitt, Andrew Greenhalgh, Sir Andrew Lewis, Wendy Barnard, Karen Smith, John Sutherland, Mary Sadler, G.D. Speake, Terence Headley, Stephen Baker, Alan Smith.

Jubilee Cup winners

FOR the third year in succession, Marconi Radar technician apprentices have taken First Prize in the Chelmsford Engineering Society Jubilee Cup Competition. This year the project entered was a power supply test unit.

Richard Stockley, a 4th year Mechanical Technician Apprentice, was responsible for mechanical design and packaging; Alan Beal and Rhys Lankester, both Electronic Technician Apprentices, were responsible for the design and development of all electrical and electronic units and final system commissioning.

The unit will allow the evaluation of sample power supply systems by development engineers and the testing of purchased power supply systems at 'Goods Inward' by inspection and test engineers.

Pictured here with their equipment are (left to right) Richard Stockley, Alan Beal and Rhys Lankester.



Admiral's visit

Admiral Sir Anthony Morton, UK Military Representative to NATO (designate), visited the Company during a day with GEC-Marconi at Chelmsford recently. After discussions with management, Sir Anthony was escorted

on a tour of Writtle Road factory.

Seen here during the tour are (left to right) Sir Philip Watson, Naval Consultant, Bob Scott, Production Director, Sir Anthony Morton and George Mott, Assistant Works Manager.

Safety award

THE Engineering Employers' Federation Two-Star Award for Safe Working has been awarded to Writtle Road Works in recognition of their success in minimising accidents and injury in the year 1979.

The award is presented to member firms who successfully reduce the number of accidents which occur in their factories. Unlike some safety awards, which are given for achieving a 'better than national average for the industry result', the E.E.F. award is for improving on one's own past record.

It is, therefore, not easy for an already good safety-conscious company to obtain it. This is the first time for Chelmsford, but not for MRSL — Blackbird Road received a Two-Star Award in 1973 and a Three-Star in 1975. Gateshead Works managed a Three-Star in 1974 and by the present returns look set to qualify again for the 1980 Awards.



Writtle Road Works Safety Committee gather together to show off the new Safety Award, held here by Peggy English, Safety Representative for Wiring Assembly.

Pictured left to right are: George Mott (Committee Chairman), Jim Wallace, Jim Mantle, Alf Jex, Tony Blake (Safety Representatives), Bob Barnard (Fabrication Manager), George Adams (Safety Representative), Ken Gamblin (Company Health and Safety Services Manager), Nick Creak, Ray Martin, Peggy English, Rick Hepher, Paul Francis (Safety Representatives), Dave Welsman (Works Convenor), Sue Watson (Minute Secretary), Eric Fewell (Assembly Manager), Florence Newland (Nursing Sister), Bob Haste (Plant Engineer), Charles Rand (Chief Production Engineer), and Clem Monk (Fire and Safety Officer).



Naval Briefing

Vice Admiral Sir William Pillar, KCB, Chief of Fleet Support (left) is shown a model of the Type 909 Sea Dart radar by John Sutherland

during a recent visit to New Parks. Also in the picture, from left, are naval officers Captain S.P.C. Harwood, Captain P.J. Witcombe and Captain R.T. Frere.

Sir William, who also visited Stoughton Test Site, was briefed on recent developments, including 909, CMM, GWS25 and STIR.

The Molecule Club

THERE will be an opportunity for you to bring your children to a special showing of 'Shine a Light' produced by the Molecule Club, at the Marconi Athletic and Social Club, on February 14th next year. This play is aimed at 7-11 year olds and combines entertainment with education in basic scientific principles.

GEC-Marconi in association with English Electric Valve Co. and the Mermaid Theatre are staging performances of this production for Primary school pupils between 10th and 13th February 1981, and have extended the run into Saturday 14th February for company employees and their children.

The various subjects are introduced by way

of exciting plays, in which dance, music and high drama are mingled with actual scientific demonstrations, the whole serving to remove science from routine classroom terms by pumping into it the visual excitement of the living theatre. The standard of performance has been applauded nationally.

If you would like to take advantage of this special performance, which begins at 10.30 a.m. and lasts for approximately one and a half hours, tickets are available in limited supply from Training Department at Chelmsford, free of charge, on a first-come first-served basis. It should be noted that children must be accompanied by an adult.

Christmas Fayre

(First see pages 10-11)

CROSSWORD SOLUTION
ACROSS: 1. Moth; 3. Adaptable; 9. Tags; 10. Perfection; 12. Not least; 13. Smudge; 14. Polite parlance; 18. French polisher; 20. Escape; 22. Gazetted; 24. Cross bench; 25. Line; 26. Tempoise; 27. Isis.
DOWN: 1. Mating; 2. Tight-rope; 4. Deep Sleep; 5. Puff; 6. Accomplished; 7. Laird; 8. Angered; 11. Percospe's up; 15. Alliance; 16. No entries; 17. Offence; 19. Adders; 21. Chore; 23. Near.

MIXED BAG
 1. The Severn, about 4 miles long. 2. The Simpson, from Switzerland to Italy, over 12 miles long. 3. The rearmost mast of a three-masted ship. 4. One that sheds its leaves annually. 5. (a) 1912; (b) 1906. 6. 5th January. 7. (a) nest; (b) labour; (c) dray; (d) murder. 8. The Cheshire Cheese, in Fleet Street. 9. 1/2. 10. The speed of sound at sea-level.

ABBREVIATIONS
 1. Fellow of the Royal Society. 2. (a) Distinguished Service Order; (b) Distinguished Conduct Medal; (c) Distinguished Flying Cross. 3. Senatus Populisque Romanus (the Senate and people of Rome). 4. (a) Bachelor of Dental Surgery; (b) Licensate of the Royal College of Physicians. 5. Queen Alexandra's Imperial Military Nursing Service. 6. (a) Royal Army Ordnance Corps; (b) Royal Electrical and Mechanical Engineers; (c) King's Royal Rifle Corps; (d) Royal Horse Artillery. 7. (a) Dichloro-diphenyl-trichloroethane; (b) Trinitrotoluene. 8. These are the abbreviations used by the Bishops of (a) Canterbury; (b) Norwich; (c) Winchester; (d) Salisbury. 9. (a) General Agreement on Tariffs and Trade; (b) Organisation for European Economic Co-operation; (c) United Nations Educational, Scientific and Cultural Organisation. 10. United Kingdom Air Defence Ground Environment.

PEOPLE
 1. Sir Robert Walpole, from 1721 to 1742. 2. Amerigo Vesputci (1452-1512). 3. Vincent van Gogh (1853-90). 4. Mozart. 5. A German fighter-plane, one of the first World War. 6. (a) Francis Chichester; (b) Alec Rose. 7. Since 1066 only three — Edward V, Lady Jane Grey and Edward VIII. 8. George Harrison, Paul McCartney, John Lennon and Ringo Starr. 9. (a) Admiral Sir John Jellicoe; (b) Admiral Nelson. 10. Richard Rodgers.

PLACES
 1. (a) Berwick-upon-Tweed; (b) Lerwick, Shetlands; (c) Hammerfest, Norway. 2. The Jordan. 3. Ohio. 4. The Volga and the Danube. 5. Israel and Syria. 6. About 1,400 miles, built about 228 B.C. 7. Vladivostok. 8. Winchester. 9. Gold Coast. 10. (a) Dyfed; (b) Gwynedd; (c) Clwyd.

QUIZ PUNCH ANSWERS

CHELMSFORD RETIREMENTS

TOM GOWERS has retired from the Company after 50 years' service. He applied to join the Marconi W.T. Co. before leaving school at Christmas 1929, but had to wait until March of the following year before a vacancy occurred. At that time the Company required three references, and these were obtained from his Headmaster, Parson and the Registrar of Births and Deaths!

Tom's first job was on the turret lathes in the Machine Shop at nine shillings a week under Foreman George Roiffe. He then embarked on a long career as an instrument maker, first in the Instrument Shop and then in the Model Shop and Jobbing Shop where the work required all-round skills in turning, milling, instrument making and wiring.

He remembers working on a "rush job" at Daventry in 1935 to install a short wave transmitter in time for the Silver Jubilee of King George V.

When the Jobbing Shop moved to Building 720 as SQC, Tom joined Section 50 (Repairs) with Ron Bernhardt and stayed there until 1959 when he transferred to Baddow Workshop, where he remained until his retirement.

Tom's hobby in years gone by was watch and clock repairing, but most of his spare time now is occupied looking after his mother, who will be 98 years old in December.

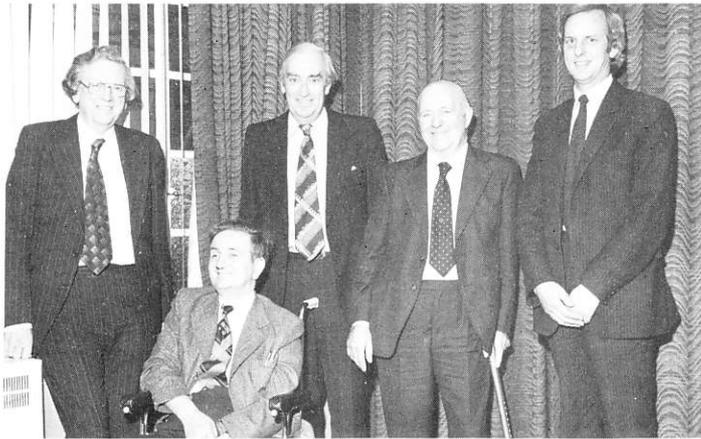


Pictured here (left to right) are Alan Shelley, Works Manager; John Sutherland, Managing Director; Tom Gowers; Alan Thorogood, Manager; and Bob Scott, Production Director.

Stan Morris

Stan Morris has retired at the age of 60 after 32 years' service due to health reasons — unfortunately he contracted multiple sclerosis in 1967/68 which means that he is confined to a wheel chair and has only the use of his right hand.

In earlier days Stan served with the Army in the Royal Corps of Signals from 1934-47. He joined the Marconi Company in Marine Accounts in October 1948, later transferring to Design Office at Baddow as a D.O. Clerk, where he continued until his retirement.



Our picture shows (left to right) Cyril Holvey, Chief of Office Services, Stan Morris, John Sutherland, Ted Bacon and Neil Bennett, Supervisor.

Ted Bacon

Ted Bacon has taken early retirement as a result of a war injury which left him with osteo-arthritis of the ankle. He joined Marconi in the Machine Shop at New Street in 1948, and after 14 years there moved to Production Con-

trol at New Street and Widford.

Ted left the Company in 1969 but returned to New Street in 1974. He transferred to Order Control at MRSL in 1976, and after being admitted to Queen Elizabeth Military Hospital,

Woolwich, for an ankle operation in 1978, moved from Senior Production Control Expeditor to Section Leader. Earlier this year he transferred to Section 110, Test Equipment. Ted was well known as a keen snooker player.



BACK ROW: W.P. Fitzgerald, C. King (27), A.R. Pinches, B.H. Charlton, J.W. Sutherland (Managing Director), C.R. Shaw, R.R. Clover, M.G. Rogers, R.D. Turner.

FRONT ROW: J. Brown, P. Marlow, F.R. Watkin, T.E. Gowers (50), P. Riley, B. Atkinson.

All 25 years' service except where stated.

CHELMSFORD LONG SERVICE

Reg Harmer

IT is with very deep regret that we report the sudden and unexpected death, at the age of 60 years, of Reginald James Harmer, Group Leader and Principal Systems Engineer in the Technical Department of Military and Airspace Division (UK).

Reg joined the Marconi Company in 1950, after war service with the RAF, during which he was a prisoner of war for three years. For the whole of his service with the Company he worked on Radar, starting in Services Equipment Division at Rivenhall, commissioning static and mobile radars. From there he progressed into the systems departments of Radar Division and eventually the Radar Systems Company, where from 1962 he was engaged almost exclusively on systems for NATO. In this field he developed a thorough and valuable understanding of the NATO radar system and market, and an excellent rapport with the staff of collaborating organisations in Europe.

Reg was very well-liked. His efficiency, his good humour and equable temperament, his willingness to help, no matter what the circumstances, and the guidance he gave to his staff in their careers were some of his essential characteristics for which he will be remembered by those who have known and worked with him.

He leaves a widow, Barbara, and two sons. We extend our deepest sympathy to them in their sad loss.

Ian Whitlock
Technical Manager,
Military & Airspace Division (UK)

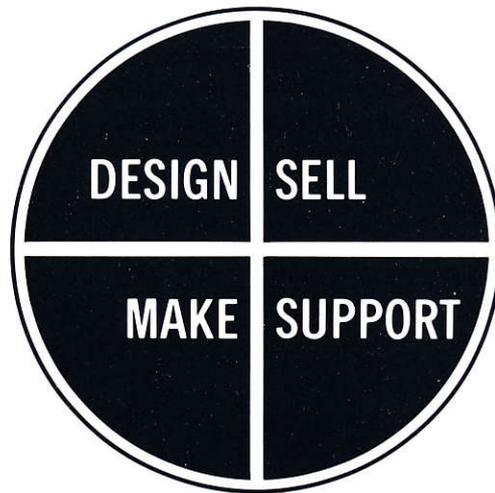
WHAT MARCONI R

WHAT DO WE DO?

The customer buys our products and services, but of course our activity is very much broader than just manufacture.

●First, we must **DESIGN** the new products; this is laying the foundations for the future, since today's development work will yield new equipments to be delivered to the customer in four or five years time, and for the rest of the 1980's.

●Secondly, we must **SELL** our products, both at home and overseas. We are now operating in a **BUYER'S MARKET** and it is even more important to be



competitive and to work hard to convince our customer that he should buy from Marconi Radar.

● We **MAKE** our products in three main works; massive injection of capital into new plant and facilities in recent years gives our factories a very comprehensive manufacturing capability.

● And finally we **SUPPORT** our systems and products through 'after sales service', handbooks and manuals, a wide ranging spares and repairs facility and through a large organisation of engineers and technicians in the field.

AND WHERE ...?

⊕ MAIN FACTORIES

CHELMSFORD
LEICESTER
GATESHEAD

⊕ MAIN DESIGN CENTRES

CHELMSFORD
LEICESTER

★ TEST SITES

BUSHY HILL
RIVENHALL
STOUGHTON

■ OTHER ESTABLISHMENTS

ACCRINGTON — Design
SOUTHEND — Design
PLYMOUTH — Design and Support
NORWICH — Support
WATFORD — Design



MAKES RADAR TICK?

OUR PRODUCTS

NAVAL WEAPON SYSTEMS
DISPLAY AND DATA HANDLING SYSTEMS
NAVAL SURVEILLANCE RADARS
AIR DEFENCE AND AIR TRAFFIC CONTROL RADARS

MILITARY RADARS
CONTROL EQUIPMENT FOR
WARSHIPS AND MILITARY VEHICLES
SIMULATORS, TRAINERS AND MONITORING SYSTEMS

BEING COMPETITIVE

BEING COMPETITIVE is essential, and we want to devote the next centre spread of ECHO to this subject.

To be competitive in the full sense, we have got to have:

- the **RIGHT PRODUCT**
- at the **RIGHT TIME**
- at the **RIGHT PRICE**

The selection of the **RIGHT PRODUCT** becomes increasingly difficult with the rapid advance in technology; this choice is probably the most demanding task of the Marconi Radar management team.

The **RIGHT TIME** depends on a quick turn-round in the factory, and a judicious policy of holding a certain amount of equipment in stock, to react quickly to market needs.

The **RIGHT PRICE** is a constant battle. The main elements of price are:

- **labour**
- **overheads**
- **materials**
- **profit**

Clearly, by introducing more advanced plant and machinery, by designing equipment which is easy to make, and by managing the effort in the factory efficiently, we can improve productivity. This is happening, but there is a long way to go.

■ **MATERIALS** are a large part of the cost of the product. Better designs can make more effective use of components and raw materials and thus reduce costs; more efficient purchasing can reduce the price we pay for our supplies — it is no longer adequate to 'place orders', we must 'buy' aggressively and always ensure the best deal.

■ **OVERHEADS** are those costs which are necessary for the success of our business, but which are not a part of the labour and materials put into our products. The biggest element is the cost of the people not directly making products — these are the supervisors and managers, the engineers and draughtsmen developing new equipment, the people moving materials and planning production, the accountants and personnel people, the hundreds of people under training, and so on.

■ **FURTHERMORE**, every employee has extra 'social costs' like holidays, sickness, National Insurance, pensions etc., which all have to be paid for.

■ **AND** there are the enormous bills for rates, rent, heating, lighting and other energy costs, telephones, postage, stationery. The list is endless, particularly if you are trying to keep the overheads down so that we can be competitive!

■ **AND FINALLY PROFIT** — An element of profit is essential to provide the finance for new investment and expansion, and to support the vast capital assets vested in Marconi Radar.

'Thank-you' from Charities Committee

THE Committee of the Marconi Employees Charities Fund at Chelmsford wish to thank all those employees who donate to the Charities Fund.

The recent appeal for increased subscriptions met with a splendid response. Marconi Radar's employees' subscriptions have increased by over 100 per cent.

This is a magnificent result and will enable the Committee to continue to support those organisations who depend so much on voluntary help.



The Marconi Charities Fund Committee in session at Chelmsford. Standing (left to right): Malcolm Robinson (MCSL), Bernard Hazelton (MIMCO), Joan Gower (Winding Shop, New Street), Clive Butcher (Spares Dept., Waterhouse Lane), Roger Dorking (Baddow Workshop). Sitting: Les King (MRSL), Henry Flack (MRSL), Bert Whitworth (Secretary), Roy Ransom (Chairman), Eric Ainsworth (Baddow Research), Audrey Bevan (GEC-Marconi), Millie Knight (Winding Shop, New Street).

Visit from the Mayor



THE Mayor of Chelmsford, Councillor Arthur Cole (seated) is shown with Peter Jeffries, Software Bureau Manager, during his recent visit to Writtle Road.

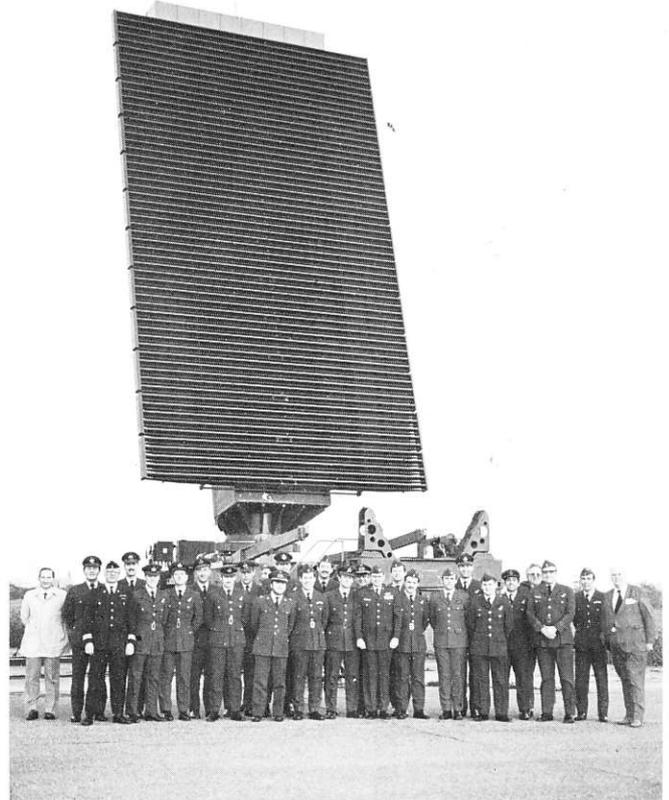
The Mayor, who was accompanied by Mr. R.M.C. Hartley, Chief Executive Chelmsford Borough Council, and Mr. Colin Mussett, Secretary to the Mayor, had earlier visited Marconi College, the Research Laboratories at Baddow, and New Street. At Writtle Road he was introduced to Marconi Radar by John Sutherland and escorted on a brief tour of the Works.

Ken Walker leaves us

Ken Walker, formerly Manager of Technical Services, Support Division, has left the Company to take up an appointment with a consortium responsible for the management of Saudi Arabia's civil airports. Ken joined Marconi in 1954 as a graduate apprentice and became a member of the staff in 1956. He moved to MRSL in 1973 and became Manager, Technical Services, the following year.



Ken is pictured (centre left) with Managing Director John Sutherland at a presentation attended by many of his colleagues. The new manager of Technical Services is Ken Michael.



Cranwell students

Senior students from the Royal Air Force College, Cranwell, who attended this year's GD Aero-Systems Course organised by Marconi Radar are pictured under the huge Martello antenna at Rivenhall.

Subjects covered during the one-day course, which began at Writtle Road with an introduction by Colin Latham, Manager, Military and Airspace Division, included radar sensors for air defence, signal processing, trends in antenna design, and ECCM techniques. In the afternoon the members visited Rivenhall for a Martello demonstration.

David springs to the top

DAVID Sundin, who joined the Company at Gateshead in August as an apprentice technician, had the honour of representing Great Britain in trampolining in the annual match in Stuttgart against the West German international team.

Over the two days in October when the competition took place, he competed in all three routines. Final victory went to the West Germans by the smallest margin.

David's training has to be very demanding if he is to stay at the top of his sport. At present he attends a local college for 1½ hours four times a week.

Last year he won the under-15 boys British Championship and took part in the match between Great Britain and West Germany at Poole, Dorset. As a member of the senior national squad he looks forward to representing Great Britain in a senior competition.



David Sundin



Hermes Club

"AYE, lad, times were hard in them days — up at three, bread and drippin' for breakfast, then down t' pit for a sixteen-hour shift. But we still managed a smile..."

With winter's cold days upon us, it's good to remember how we spent our summer (writes John Carver, secretary of the Hermes Club). One of the events the club got up — or rather, down — to was potholing in Yorkshire.

Hermes is a club for young professional people working for Marconi in the Chelmsford area. Our main aims are to organise

social and sporting events for our members that are just a little out of the ordinary. Events from last year's calendar include windsurfing, canoeing, punting, and visits to concerts and the theatre. We are also involved in local community work.

But we don't stop there. We are always open to suggestion; when our members have new ideas and things to do, we try to organise them. If you'd like to join the Hermes Club, or find out more about it, contact Jill Howell (membership secretary), Room 32, Waterhouse Lane, Ext. 2347.

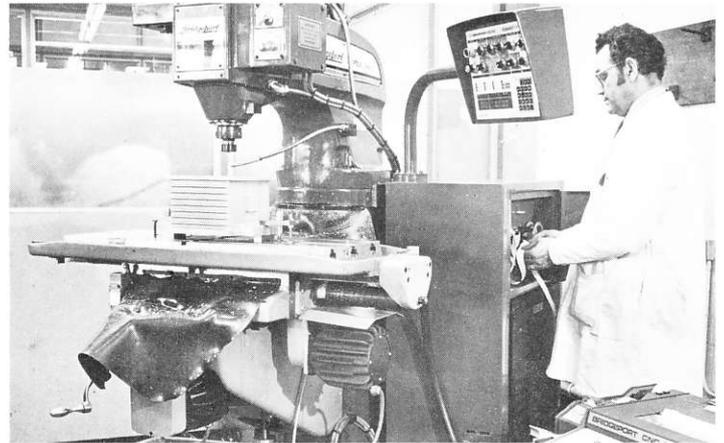
CNC Technology

A CNC (Computer Numerically Controlled) Bridgeport Series 1 milling machine has recently been installed in the Development Workshop at New Parks.

With its ability to machine relatively complex geometrical shapes, this machine is ideally suited to prototype work, where the operator is frequently required to use it in M.D.I. (Manual Data Input) mode.

'John' Bednarek, shown

operating the new machine, has adapted to the new technology without difficulty, having previously been a skilled machinist with the Company. He is now a confirmed CNC enthusiast and together with Ron Rockett, Machining Foreman, edits and optimises his own control tapes during the prove-out stage. Pat Wilford, Development Planner, is responsible for the programming of the more complex components.



★CONGRATULATIONS to Annette Hinderwell of the Data Base Office, Management Services, Writtle Road, who was married on September 27th to Steve Green, who also works for Marconi at Baddow. Annette is shown with D.A. Keable, Company Management Services Manager, on her right and T. Chinnery, Data Base Supervisor, on her left, surrounded by colleagues who presented her with a number of gifts.

Denis Dawson

Denis Dawson, of the Workshop Planning Office, MRSL, Baddow, who died suddenly on September 26, was a long-serving member and former Divisional Superintendent of Marconi Division St. John Ambulance.

Denis's loyal service is greatly missed, and in his memory donations have been made to the Marconi St. John Ambulance Division from his colleagues at Baddow and his family and friends.

As a result, the Division has been able to buy an Entonox (pain-relieving gas) equipment set for the Baddow ambulance. This means that the Division can now have Entonox equipment on all four of its ambulances.

The equipment was formally presented by Mrs. Dawson and the family on December 2 at Baddow to Peter Weathersby, Divisional Superintendent of Marconi Division. A memorial plaque is also being fitted in the ambulance.



Christmas

Places

- Which is the most northerly town in (a) England; (b) Scotland; (c) Europe?
- Which river flows into the Dead Sea?
- Of which American state is Columbus the capital?
- Name the two longest rivers in Europe.
- Which two countries border on the state of Lebanon?
- What is the length of the Great Wall of China and when was it built?
- Where is the termination of the trans-Siberian railway?
- What was the capital of England before London?
- What was the former name of Ghana?
- In which counties of Wales are these seaside resorts: (a) Aberystwyth; (b) Llandudno; (c) Rhyl?



People

- Which British Prime Minister held office for the longest continuous period?
- After whom was the continent of America named?
- Who painted 70 pictures in the last 70 days of his life and shot himself at the age of 37?
- Who started composing at the age of five and toured Europe and played before royalty at the age of six?
- Who was Baron Manfred von Richthofen?
- Who sailed around the world in: (a) Gypsy Moth IV; (b) Lively Lady?
- Which Kings or Queens of England were never crowned?
- Name the four members of the 'Beatles' group.
- Who commanded the British Fleet at: (a) the battle of Jutland, 1916; (b) the battle of the Nile, 1798?
- Who composed the music for 'Oklahoma'?

QUIZ PUNCH

Mixed Bag

- Which is the longest railway tunnel in Great Britain (excluding the Underground system)?
- Which is the longest railway tunnel in the world?
- What is a 'mizzen-mast'?
- What is a deciduous tree?
- In which years occurred (a) the sinking of the Titanic; (b) the great earthquake at San Francisco?
- When is Twelfth Night?
- What are the collective names for a group of these animals? (a) rabbits; (b) moles; (c) squirrels; (d) crows.
- Which London public-house was particularly associated with Dr. Samuel Johnson?
- What is the square root of $\frac{1}{4}$?
- What is MACH 1?



Abbreviations

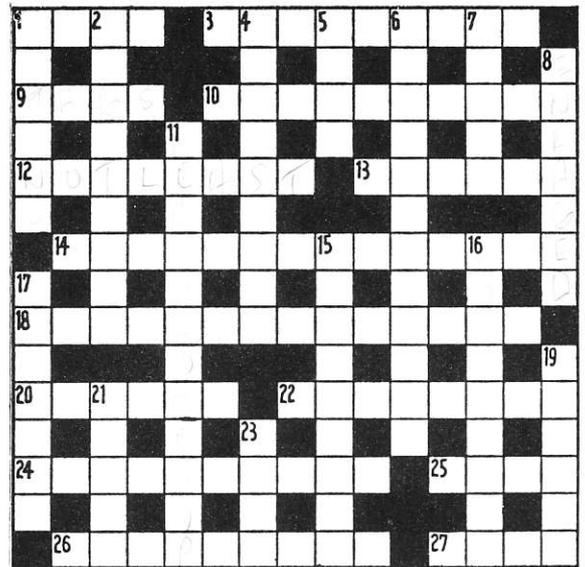
What do these abbreviations stand for?

- | | | |
|---|---|---|
| 1. F.R.S. | 8. (a) Cantuar
(b) Norvic
(c) Winton
(d) Sarum | 9. (a) G.A.T.T.
(b) O.E.E.C.
(c) U.N.E.S.C.O. |
| 2. (a) D.S.O.
(b) D.C.M.
(c) D.F.C. | | 10. U.K.A.D.G.E. |
| 3. S.P.Q.R. | | |
| 4. (a) B.Ch.D.
(b) L.R.C.P. | | |
| 5. Q.A.I.M.N.S. | | |
| 6. (a) R.A.O.C.
(b) R.E.M.E.
(c) K.R.R.C.
(d) R.H.A. | | |
| 7. (a) D.D.T.
(b) T.N.T. | | |



"I've modified it so that everyone gets a sporting chance!"

Fayre



Language and the Motorist

LAST Christmas we reproduced some extracts from motor claim forms which many readers found amusing. We have now been able to track down a few more. They are all genuine extracts from motor claim forms received by a large insurance office in London.

The accident was due to the other man narrowly missing me.

Lorry halted and worked for the Corporation.

The occupants were stalking dear on the hillside.

Car had to turn sharper than was necessary owing to an invisible lorry.

The other man altered his mind and I had to run into him.

Ice on the road applied brakes causing skid.

I told the idiot what he was and went on.

One wheel went into the ditch. My foot jumped from brake to accelerator pedal, leapt across the road to the other side and jumped into the trunk of a tree.

She suddenly saw me, lost her head and we met.

I bumped into the lampost which was obscured by human beings.

A pedestrian hit and went underneath my car.

My car was stolen and I set up a human cry, but it has not been recovered.



"It's just re-organised the firm and sacked the Computer Manager!"

Echo Crossword

ACROSS

1. Might be an emperor - or a gypsy. (4)
3. Ready for a change. (9)
9. Hitches on behind the labels. (4)
10. This couldn't be better. (10)
12. Last, perhaps, but- (3,5)
13. Blemish. (6)
14. Please, thank you, and all that jazz. (6-8)
18. Lady in Paris, who runs a finishing school. (6-8)
20. Get out of it!- (6)
22. Named officially. (8)
24. Neutral seat. (5-5)
25. What's your programme? (4)
26. Miser - Poet (anag.). (9)
27. River existsexists! (4)

DOWN

1. You could twist a little and call it taming! (6)
2. A walk on this is quite a performance. (5-4)
4. Refreshment with complete relaxation. (4-5)
5. Breathe quickly, its sometimes jammed. (4)
6. Done! (12)
7. Macsqwire. (5)
8. Annoyed a grandee maybe. (7)
11. Take a look when the submarine says this. (10-2)
15. Lance ails (anag.). (9)
16. Best reason of all to cancel the race. (2,7)
17. A first one is sometimes excusable. (7)
19. Computing snakes. (6)
21. Quite a job. (5)
23. Miserly. (4)



Why Christmas?



DO we not find it difficult to build up in our mind a clear picture of God, however much we may strive? To create an image from the meditations of our mind only produces a distorted idea of a Deity. We create a god which is a mere caricature of our own making; therefore we search for a means by which we can focus our thoughts, as we are unable to worship someone we do not know and trust.

God showed himself to us in a form we could understand. This he accomplished at Bethlehem nearly 2,000 years ago, when God put on human form in the personality of Jesus Christ. No longer do we need to depend on our inner striving to find and know God; God has come to us.

Before Jesus came into the world, there was only hope for a few; the rest of the world was without hope, living in fear of what angry gods might do to them, the dread of death and what was to follow.

What then is the 'Good News' or the 'Glad Tidings of Great Joy' to all people? John, a disciple of Jesus, recorded for us the teachings and sayings of Jesus to bring new life and hope to a dark world. A translation of John's writings in modern English for you to read this Christmas is available free to any reader of 'Echo' on application to Doug Jones at Writtle Road (extension 2959).

Copies of our next year's programme are now available.

JON ELLIS, Chairman
Christian Fellowship

SQUASH CHAMPS!

THE Final of the 1980 Squash Knockout Competition at Leicester was played on the new squash courts at the Sports and Social Club, New Parks. Competitors taking part were from Marconi Radar and Fisher Controls, who share the New Parks Site.

The winner this year was Peter Veasey from Marconi, who beat another Marconi man, Graham Baker. Third place went to Lee Norman, who defeated Henry O'Sullivan in the play-off.

Peter received the Annual Shield plus a shield to keep. All four received vouchers for sports equipment, and the prizes were presented by Mr. Stan Mayfield, Director and General Manager, Fisher Controls Limited.

● Winner Peter Veasey triumphantly holds his trophy aloft, while runner-up Graham Baker looks on ... with envy and admiration?



Snookered...

Congratulations to Jim Kerr of Blackbird Road Stores, who passed his Grade C snooker referees' exam at Bristol earlier this year and has already been involved in refereeing All-England CIU matches, with more bookings to follow. Jim is vice-chairman of the Leicestershire Institute Snooker League, of which GEC (New Parks) Sports and Social Club are members.

Soccer news

THE Chelmsford Inter-Department Football Competition have joined the Southend and District Inter-League Competition and play their first Inter-League Representative match at the Victory Sports Ground, Southend-on-Sea, on Boxing Day morning, kick off 10.45 a.m.

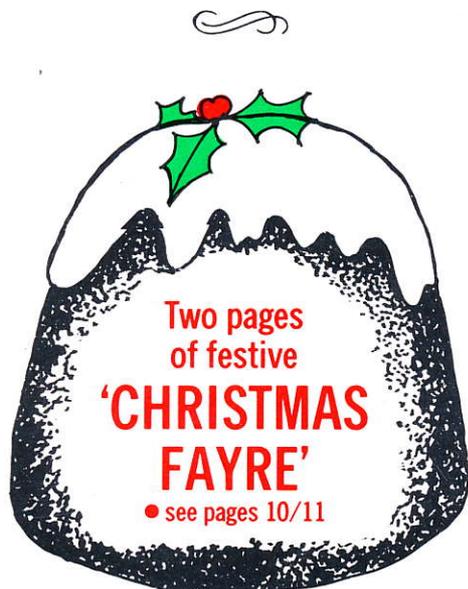
The Marconi team will play the Southend and District League and, if they win through the tie, have the chance to face the winners of the tie between Southend Borough Combination and the Southern and District Wednesday League. This match, for the trophy, is to be played in May 1981 at Roots Hall, Southend United's ground.

The Victory Sports Ground is situated on A127 at Southend and anyone who has the opportunity should come along and support the lads. A large holiday crowd usually attends these matches and it will get you out of doors after the Christmas Day festivities!

● For more details contact Phil Champion, Ext. 2932 at Writtle Road.



"Your public is waiting... go out and sleigh 'em..."



Golf notes

The Neil Sutherland Shield

This event took place on 12th September. It takes the form of a pairs Stapleford Competition played by representatives of 6 GEC Sites in the Chelmsford area. The eventual winners were the Baddow Site represented by Pat Nicholls and John Quill, MRSL.

The Paul Farnsworth Memorial Trophy

This Singles Competition commenced in May this year with 64 players and culminated in the final tie played in October between Bob Franks, MCSL and Adam Stevenson, MRSL. Bob Franks was the ultimate winner.

The Mercury Cup

17 pairs played off in this annual competition which was eventually won by Bernie Wassell, (Software) and Stan Baines (Installation Design) both of MRSL, with 44 points.

The 1981 AGM

This will be held during the third week of January, 1981.

Phil Champion

□ News stories, photographs or other items of interest concerning the Company and its people are always welcome for possible publication in 'ECHO'. Copy date for next issue is Feb. 20.

Your contact is Arnold Smith, Editor ECHO, MRSL, New Parks, Leicester. Tel: (0533) 871481, Ext. 60, Int. 577. Or at Writtle Road material may be handed to Christine Merrill, Assistant Publicity Officer.