

# TOPIC

The **GEC** newspaper

October 1987

## EASTERN PROMISE

Japan, South Korea, India, Hong Kong and Bangladesh figure in the latest orders

**GAS turbines for South Korea, Bangladesh and Japan; test equipment for Japanese Airlines; traction equipment for Hong Kong and hydro electric generators for India are among a series of important new orders won by GEC companies.**

**GEC Transportation Projects**, Manchester, received an £8 million order to supply GTO chopper propulsion equipment to Hong Kong in the face of severe competition from Japan. The formal contract was placed by Metro Cammell Limited and is to equip vehicles for which Metro Cammell received an order in 1986.

The decision to specify

GEC equipment was, however, taken by the Hong Kong Mass Transit Railway Corporation and follows successful service experience with prototype equipments supplied by the company to Hong Kong in 1986.

The contract is for 19 sets of propulsion equipment for trains scheduled for service both on the Island Line and on the new Eastern Harbour Crossing.

The majority of the equipment will be manufactured by GEC Traction at its factories in Manchester and Preston but other GEC factories at Lincoln and Rugby will benefit from this important new order.

### Notable

**Ruston Gas Turbines, Lincoln**, has won three contracts in Asia, two of which are notable firsts.

The recent signing of a £2.4 million contract with the Bangladesh Chemical Industry Corporation (BCIC) in North Patenga,

Chittagong, is for a 5 MW Tornado, which is the first to be sold to Bangladesh.

Featuring a GEC Unipak generator, it will provide electricity for BCIC's triple super phosphate complex fertiliser plant, currently relying on power from the national grid.

Ruston has sold its first gas turbine to Japan.

It was ordered by Mitsubishi Heavy Industries and will be fitted with a Japanese generator before being installed at an oil refinery on the island of Shikoku in Southern Japan.

It will operate in a combined heat and power application, saving energy for the refinery, generating electricity and raising steam via a waste heat boiler to increase overall efficiency.

Ruston Gas Turbines also recently announced sales of its EAS-1 gas

*Continued on page 7.*

### £1.5m walk across the Tees

**GEC Reinforced Plastics, Preston**, recently claimed a world first for an all plastics enclosed walkway to be slung underneath the Tees viaduct road bridge at Middlesbrough.

GEC has won a £1.5 million contract from Fairclough Civil Engineering to manufacture 16,000m<sup>2</sup> of extruded hollow glass reinforced plastics panelling.

The panel will clip together to protect maintenance engineers working on the bridge over the next 30 years. It is the biggest structure to be made from extruded composites.



## GEC at Aberdeen

*CECIL Parkinson, Secretary of State for Energy, who visited the GEC stand during the recent "Offshore Europe" exhibition in Aberdeen.*

*He is pictured inspecting GEC's thermal imaging camera made by EEV.*

*EEV recently won a second contract to supply almost £3 million worth of type P4428 thermal imaging cameras to the US Navy.*

*This order follows the one placed last year for 500 units and confirms the success of these cameras in crucial fire damage control operations since their installation on US Navy vessels. Exhibition details — page 7.*

## GEC Plessey joint venture will have £1.2 billion sales

**PLESSEY and GEC** have agreed, to combine their respective world-wide telecommunications business in a 50:50 joint venture.

The new joint venture company will have sales in excess of £1.2 billion and assets of about £600 million, covering public switching, transmission, private switching, other telecommunications and data products and ancillary services.

The announcement followed negotiations focussed on enhancing the international competitiveness of the British telecommunications industry.

GEC Plessey Telecommunications will be the company responsible for the operations of the joint venture.

Richard Reynolds, managing director of GEC Telecommunications, will be the managing director of the operating company. David Dey, for the last two years managing director of Plessey Telecommunications and Office Systems will be chairman. He was formerly with IBM.

## Locomotive contract

GEC Transportation Projects, Manchester, has received an order worth £8 million to equip 21 electric locomotives with power units, for British Rail.

The locomotives will be built at British Rail Engineering's works at Crew. They will be used for both freight and semi-fast passenger services on the East Coast Main Line which is presently being electrified to Leeds and Edinburgh.

## Marconi wins record contract for US Navy

**MARCONI Communication Systems, Chelmsford**, has received a major contract from the United States Navy. The initial development contract, including options, is worth more than \$450 million. This contract could lead to production orders worth as much as three billion dollars over the next 10 years.

Marconi, working in a 50-50 partnership with Rockwell's Collins Defence Communication of Dallas, Texas, is to develop a high frequency anti-jam communications system.

HFAJ, as the system is known, is to be fitted over the next 10 years to virtually every ship, submarine,

aircraft and shore station operated by the US Navy.

Administered by the US Navy Space and Naval Warfare Systems Command, the HFAJ project will be in four phases leading to operational deployment of the systems in 1992-4.

Andrew Glasgow, managing director of Marconi Communication Systems said: "The system we are developing will provide the US Navy's worldwide communications service with an anti-jam capability which will result in enhanced command communications capability for US naval platforms."

The Marconi work will be carried out by the Marconi teams in the US and the UK. Marconi Communication Systems will supply the technology background and execute design, development and certain manufacturing

work. The company already has extensive experience in all types of communication systems including the supply of ships' HF systems to the US Navy.

Work in the US will be carried out at the Rockwell-Marconi programme office, Dallas and at Rockwell facilities in Dallas and Cedar Rapids.

The Marconi-Rockwell team has been working on the HFAJ contract bid for the last two years and during that time was assisted by the Royal Navy which allowed US Navy personnel to see the British communication systems developed by Marconi.

The Rockwell joint venture is the latest in a line of collaborative international projects announced by GEC as part of its stated determination to strengthen its worldwide competitive position.

**INSIDE TOPIC**  
Pg 7 - National youth competition  
Pg 8/9 - Creda  
Pg 11 - Pet photo competition



# Marconi Space Systems wins £8m repeater order for satellite

MARCONI Space Systems, Portsmouth, recently received from Aerospatiale of France an £8 million contract to proceed with the manufacture of a communications repeater for a fourth EUTELSAT II satellite.

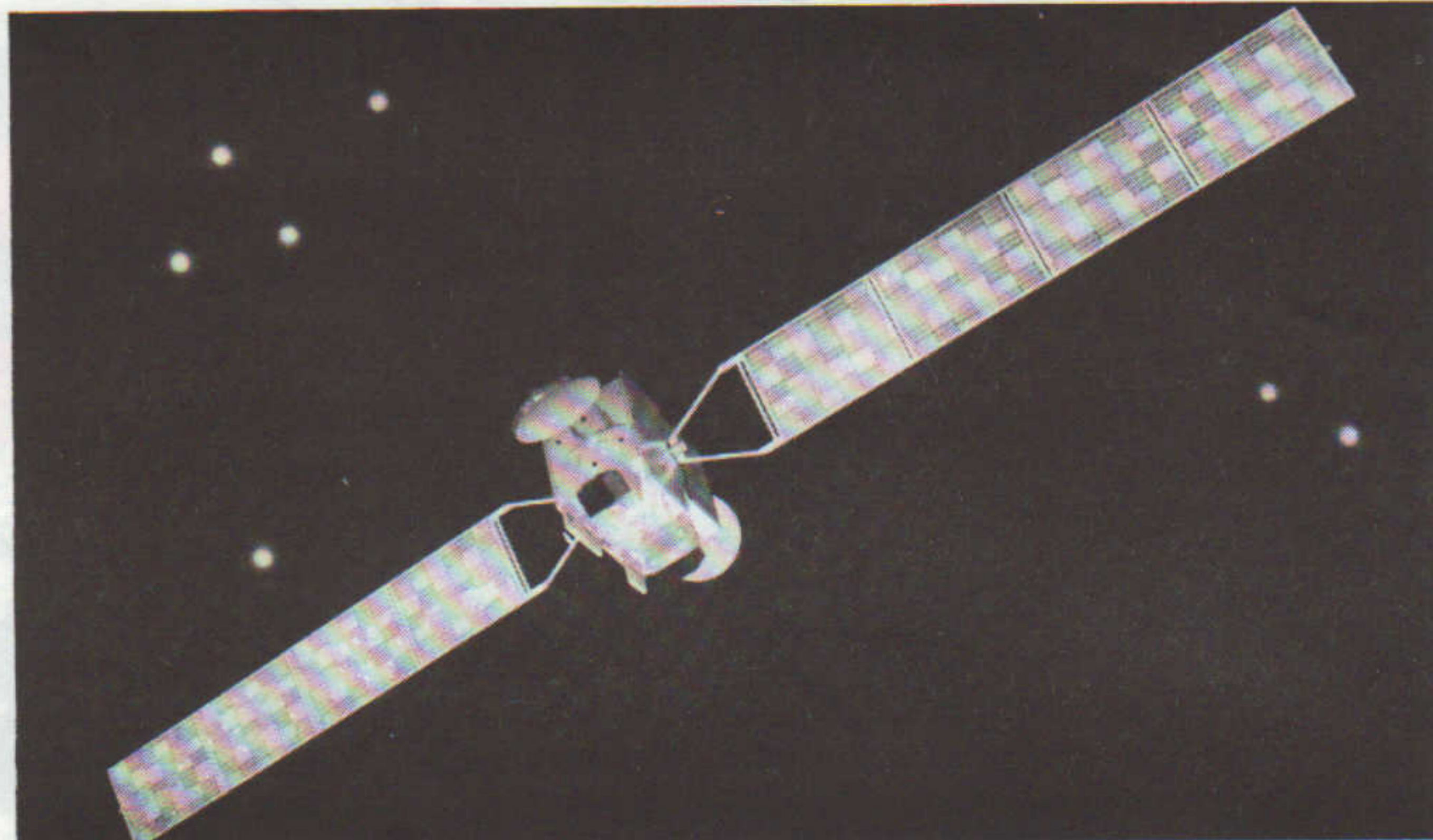
Repeaters for the first three satellites were ordered in May 1986 and were the first ever commercially produced for the European telecommunication and television distribution market. Long-lead items for the fourth

were ordered in June 1986 in a contract valued at £1 million.

### Consortium

The company is part of a consortium, with Aerospatiale as prime contractor,

which has been chosen by the European Telecommunications Satellite Organisation (EUTELSAT) to supply communications satellites for the 26 European member countries. Marconi Space Systems has one of the largest



The fourth EUTELSAT II satellite

industrial shares within the consortium.

### Simultaneous

Each satellite can carry some 16,000 simultaneous telephone conversations,

provide high-speed computer datalinks, carry high-quality television programmes within the Eurovision network, and permit direct broadcasting by satellite (DBS), as well as video conferencing facilities.

The first three satellites are expected to be launched in 1990 and delivery of the fourth repeater to Aerospatiale in Cannes is scheduled for February 1990 with launch in 1991.

## NEW RESEARCH FELLOWSHIP

A SENIOR research fellowship in biomolecular electronics has been established by GEC Research, Wembley, and the Fellowship of Engineering, a

grant awarding body, in the School of Electronic Engineering Science at the University College of North Wales, Bangor.

The fellowship has been

set up for five years and is intended to provide for fundamental long-range research into the development of electronic devices and sensors based upon the electroactive properties of molecular and biological materials. This is an area which some academics feel has suffered.

### Contribution

The initiative is also seen by GEC and the Fellowship of Engineering as an important contribution to the research in universities and polytechnics and the need for strong links with industry.

Dr. Claudius D'Silva has been appointed the senior research fellow and he will work in close liaison with the GEC team.

Dr. D'Silva has held a number of research posts and has recently returned from a three year fellowship in the US where he carried out structure/

function studies on D-amino acid oxidase. At Bangor Dr. D'Silva will be initially concentrating on bio-sensor related activities.

### Established

The university is well placed to undertake the research. Having established the Institute for Molecular and Biomolecular Electronics four years ago. It has brought together from various departments electronic materials scientists, biochemists, chemists, physicists and electronic engineers who work together on long-term research aimed at building up a fundamental understanding of the electronic properties of molecular and biological materials.

### Future

This background will form an essential basis for many of the developments which can be predicted for electronic systems of the future.

## £1.3m warning signal contract

GEC Telecommunications, Coventry, recently gained a £1.3m contract for work associated with the installation of variable warning signals for drivers and closed circuit television between junction three and junction twelve on the M25.

This work includes laying additional cables, erecting camera poles, installing signal posts and

the modifying of crash barriers to make room for them.

At different times work will involve access to the central reserve or the verge at the back of the hard shoulder, and it will require some lane closures.

Wherever possible, this work will be carried out at night or at off-peak periods.

THIRTY five years ago when the London to South-end line was electrified by British Railways, GEC Street Lighting, Wembley, supplied 300 specially designed fluorescent lanterns to relight the stations.

### New look

Today when GEC's automated, computer controlled, London Docklands Light Railway gives rail travel between Tower Bridge and the Isle of Dogs a new look, GEC continues

to light the platforms.

There are sixteen stations on the 12 kilometer route and 240 GEC ZD4542 pendant lanterns fitted with opal polycarbonate anti-vandal spheres are used. Each lantern houses a 125 watt Osram MBF lamp and control gear.

In addition to lighting

the platforms GEC also supplied five 30 metre high masts each fitted with six Z9103 spacelight 2 lanterns

and 400 watt SON-T lamps to light the carriage repair and servicing complex at Poplar.

## A LIGHT RAILWAY



The attractive lanterns which light the London Docklands' Light Railway platforms.

## NEWS IN BRIEF

MARCONI Instruments, St Albans, recently won a contract worth over £600,000 to supply radio communications test sets for the emergency services in England and Wales.

### Assist

The 2955 test sets will be used at Home Office regional centres to assist in the installation, commissioning and maintenance of communications for the emergency services.

The 2955's were selected for their ability to offer a complete test capability for

VHF and UHF radios using either AM or FM transmissions and for their flexibility in testing cross-band systems. Also important to the Home Office were the instrument's size, built-in storage scope and DVM, and simple push button control.

The radio communications test sets will be used for base maintenance and field repair operations where their ease of use features, such as stored settings, will minimise time involved in radio fault diagnosis.

CINCINNATI Electronics, (CE) Ohio, US, was recently awarded a contract from American Systems Corporation (ASC) for the US Air Force Sentinel Bright II program.

ASC formed a team with CE, Global Information Systems, Perceptronics and Paragon Systems to win this important USAF program.

Cincinnati Electronics' \$4.8 million contract is for the construction of a series of radar signal analysis

trainers which will enable students to learn the operation of an ELINT collection system via simulation. The trainer provides several displays including an angle-of-arrival (AOA) PPI, RF spectrum, IF spectrum, oscilloscope and frequency counter. The system also provides audio signal recognition training.

Should the Air Force exercise several available options to the original contract, the value to CE could exceed \$6.9 million.

AVERY Denison, Leeds, has won an order worth £45,000 from the biggest sugar manufacturer in Denmark.

De Danske Sukkerfabrikker has ordered two machines for their factory in Copenhagen. They are, an automatic RF4e gross weight filling machine and a semi-automatic RF3e net

weight filler.

The Avery Denison RF range of electronic filling equipment features programmable logic controllers for easy maintenance and high accuracy.

Data logging facilities are also available to provide production information for records and analysis.

GEC Hong Kong, was recently awarded a contract from the Hong Kong Housing Authority for the provision of 32 Express lifts at Siu Sai Wan Estate on the Hong Kong Island.

Twenty-eight of the lifts are gearless VVT/ETP-1 having a capacity of 13 persons and a contract speed of 2.5 m/s, and the

other four are geared VAC/ETP-1 with the same capacity and a speed of 1.6 m/s.

When completed, these lifts will provide transportation for 20,000 people living in the six blocks of 33-storey flats. The order is worth £850,000 to The Express Lift Company.

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# First Spearfish goes to the Royal Navy on time

MARCONI Underwater Systems (MUSL), Waterlooville, recently delivered the first Spearfish production warshot torpedo and support equipment to the Royal Navy.

Spearfish, a very fast agile and deep diving weapon employing stealth technology, is the most advanced heavyweight torpedo in production anywhere in the world.

Spearfish can be launched from either nuclear or conventional submarines at their normal operating speeds and depths and directed at either submarines or surface warships.

The new torpedo owes a great deal to the technology developed for Marconi's successful Sting Ray lightweight torpedo.

Both are weapons which "think for themselves" with onboard computers which can detect and analyse information about the enemy target.

Spearfish is connected to the submarine which fires it by a guidance wire along which information can be passed from the vessel in the initial stages of attack.

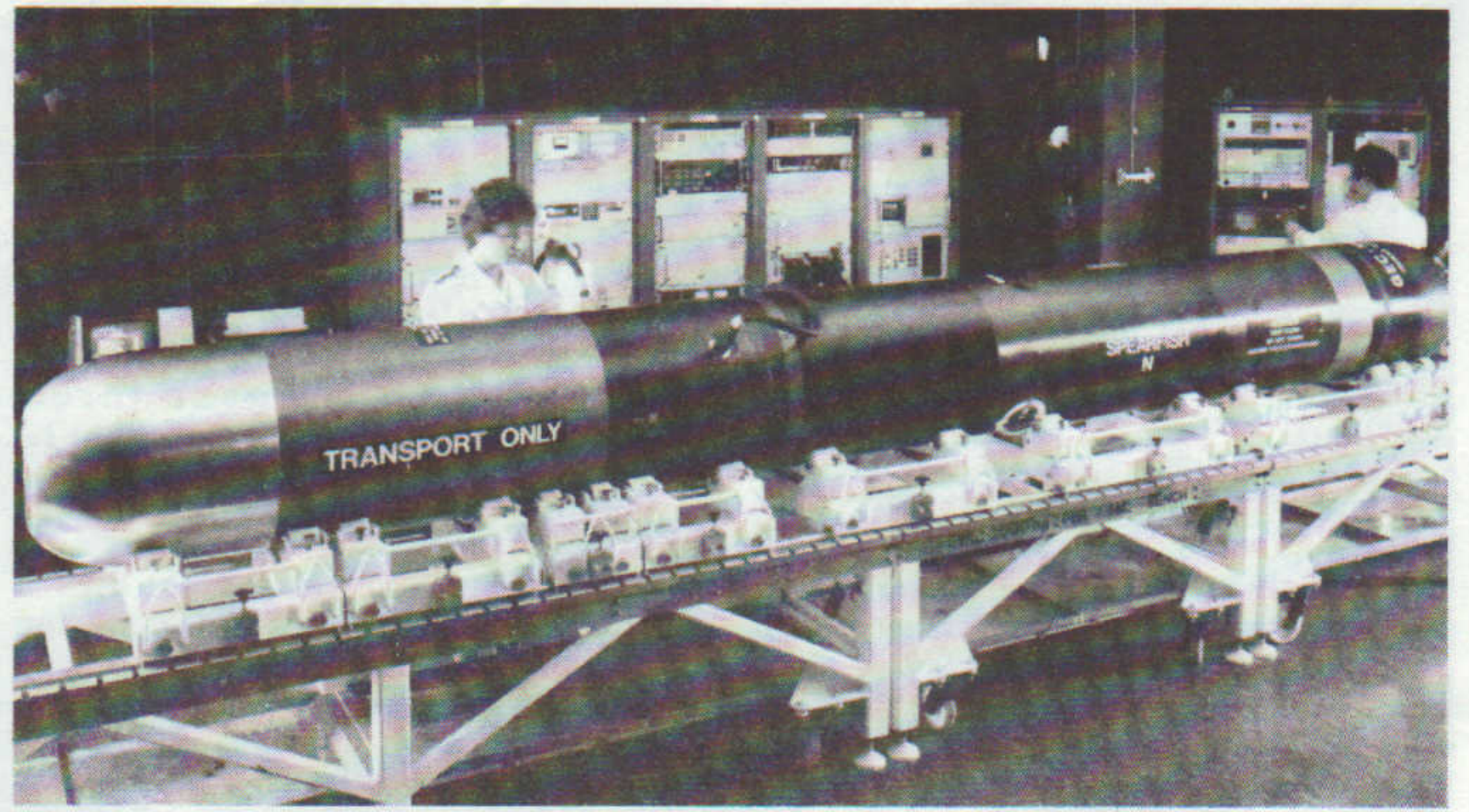
When the link is severed, the torpedo acts auto-

nomously, with the onboard computer adjusting speed, direction and depth of attack.

The weapon is now in production under the terms of the original fixed price development contract and the completed delivery now enables the Royal Navy to begin an introduction into service familiarisation pro-

gramme at its new Spearfish-dedicated facility at Beith, near Glasgow.

MUSL has also supplied more than 230 different items of automatic test, handling and storage equipment to enable the RN to complete the final stages of the development, proving and integration trials.



The production warshot version of MUSL's new heavyweight Spearfish torpedo.

## THREE new contracts for GEC Avionics have been won in North America.

GEC Avionics Inc., Atlanta, Georgia, has been selected as the lead company to develop a new type of laser rangefinder for the M1A1 Abrams tank, with Kollsman Military Systems Division, Merrimack, NH as team partner.

A \$10 million full scale engineering development contract has been placed with GEC Avionics Inc. by General Dynamics Land Systems Division, Sterling Heights, prime contractor for the M1A1 tank.

The new rangefinder system, which can indicate the range to targets viewed through fog, smoke and dust, will be the first to be

## AVIONICS GAIN NEW ORDERS IN NORTH AMERICA

based on an eye-safe CO<sub>2</sub> laser. This key element is the CO<sub>2</sub> TEA (transversely-excited) laser, developed in the UK by the Applied Physics Division of GEC Avionics.

### Developed

TEA lasers will be produced by the company at Borehamwood, backed up

by full manufacturing and support facilities at its US associate's Atlanta plant, where the rangefinder system will be developed and put into production.

GEC Avionics has also recently been selected to supply prototype air data computers for Canadian Forces CF-5A and CF-5D fighter aircraft. Under the terms of a contract awarded by Bristol Aerospace Limited, Winnipeg, a lead-

ing producer of aerospace products, technology and services, GEC Avionics will supply two computers for flight tests.

The new computers will be designed to replace the aircraft's existing analogue equipment with a modern digital equivalent.

The Guidance Systems Division of GEC Avionics, Rochester, has teamed with the Autonetics Marine Systems Division of Rockwell International Corporation, Anaheim, California, to offer a ring laser gyro-based navigation system (RLGN) for NATO ships and submarines.

The RLGN is the GEC/Rockwell candidate for the NATO Ships Inertial Navigation System (SINS) programme, in which the participants are Canada, the Netherlands, Spain and the United Kingdom.

The RLGN is based on a Rockwell system which has already been proven seaworthy and has demonstrated outstanding reliability and accuracy.

### Specifications

The system, which fully meets NATO specifications, includes a control and display unit customised by GEC Avionics for this application. This unit provides the interfaces with the operator and ship, and performs the processing necessary to convert spatial motion measurements to precise and continuous output data on ship's position, velocity, attitude and attitude rates.

## A unique gas turbine from Ruston

RUSTON Gas Turbines, Lincoln, recently became the first European company to commission a gas turbine fuelled by landfill gas.

This major achievement follows Ruston's success last year in gaining a contract to supply the gas turbine to Purfleet Board Mills, Essex, part of Davidson's Limited, a subsidiary of B.P.B. United Kingdom Limited.

### Drives

The Ruston turbine — a TB5000 developing 3.5MW — runs on low calorific value landfill gas. The turbine drives a generator and its exhaust gas is fed into a modified boiler to raise steam for a new steam turbine generating set and for the company's board drying process.

Ruston's Managing Director, Kelvin Bray, said: "We are delighted to have had an opportunity to work with Purfleet on this innovative project. The successful commissioning of the plant augurs well for the future, both for Purfleet's operation and for the application of this technological advance with other Ruston customers."

# Six win GEC Fellowships

SIX GEC employees have recently been awarded GEC Fellowships intended to enhance their capabilities and contribute new approaches to the company's future.

**Bill Jones**, sales manager, Sales and Marketing Division, at the M-O Valve Company, Hammersmith, will be joining INSEAD in France to study for an MBA.

Bill feels the syllabus at INSEAD is appropriate for the needs of modern European business people who need to cope with achieving profitability, innovation and expansion whilst seeking new products and markets.



Bill Jones

**Julian Evans** is an engineer in the systems department of GEC Avionics, Milton Keynes. Julian will be studying at Cranfield Institute of Technology for an MSc in electronic system design. The course will increase the experience Julian already has in real-time software, digital signal processing and analogue and digital electronics.

**Peter Wallace** is currently working as a senior research engineer in the Engineering Laboratory of the Hirst Research Centre, Wembley.

### Laboratory

As a result of gaining the award Peter has been able to enrol for an MSc degree course in communications engineering at Imperial College of Science and Technology, London, and will transfer to the Local Systems Division of the Telecommunications Laboratory on completion of the course.



Peter Wallace

**Yvonne Munro** is a control engineer, Systems Engineering Division, at Marconi Space Systems, Portsmouth, where her main responsibility is computer simulation of satellite control systems.

As reported in the August edition of *Topic*, Yvonne is to attend the University of Surrey where she will research parallel processing techniques applied to satellite control systems. The research will lead to the degree of Master of Philosophy.

**Julie Dye** joined GEC Telecommunications, Aycliffe, four years ago and is a development engineer in the Electro Acoustic Laboratory.

Julie is currently working on the specification and evaluation of acoustic requirements of telephone handsets. Following completion of a MSc/MPhil at Cambridge University Julie hopes to contribute towards the development of the next generation of



Julie Dye

'Dial-by-Voice' phones.

**Stephen Wood** is principal engineer, in the Weapons System Division of Marconi Underwater Systems, Portsmouth. Stephen has been successful in obtaining a Fellowship to study at Durham University for an MSc in electronics.

### Interested

Anyone who is interested in further details of how to apply for a GEC Fellowship will be able to get details from their personnel department early next year.



Stephen Wood



Julian Evans



Yvonne Munro

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## GEC companies put council on the right lines

COVENTRY'S Mayor, Jeff White, is pictured getting to grips with the council's new telephones. These were supplied by GEC Reliance, Wellingborough, and the PABX was manufactured by GEC Telecommunications, Coventry.

Coventry Council's new £700,000 iSLX telephone system is now coping with its 5,000 daily calls.

With 200 external lines, 1,800 extensions and direct lines to departments and key officials, the new system replaces an elderly and overworked system which was installed by GEC Reliance 20 years ago.

## Licence agreement leading to success

MARCONI Radar Systems, Gateshead, recently signed a licence agreement for its 'Isolator' range of equipment shelters with Compagnie Industrielle de Montage (CIM) of France.

Marconi launched its high technology range of shelters three years ago and has already won many large orders from British customers for UK and overseas applications.

'Isolator' provides

exceptional protection from electro-magnetic pulse (EMP) and electro-magnetic interference (EMI).

Within days of signing the licence agreement with Marconi Radar Systems, CIM won its first order for 'Isolator' shelters.

The shelters will be used for a missile system support facility for Matra, an international defence and aerospace company.

ASSEMBLY of 25kV ac suburban and mainline trackside substations has recently started at GEC Distribution Switchgear's plant at Higher Openshaw, Manchester.

The most recent trackside substation delivery was to Doncaster main supply point. This substation consisted of a 25 module building resulting in a total length of some 84 feet which is one of the largest installed on the British Rail system.

### Problem

Delivery of the trackside substation posed a problem as the only road access to the site was via a bridge over the Doncaster-Leeds canal. Unfortunately, the bridge was of a type with integral overhead structural steelwork spanning the roadways, resulting in insufficient headroom.

However, the navigable canal enabled GEC Distribution Switchgear to

SALFORD Electrical Instruments (SEI), Heywood, recently gained a long term contract to supply 100 per cent of Ford Motors' backlite antenna requirements for the next three years. The contract is worth in excess of £10 million.

The product utilises a car's rear window heater pattern as an aerial, dispensing with the need to drill holes in a vehicle in order to accommodate the traditional whip antenna.

SEI has become a leader in the backlite antenna

## £1 million upgrading contract

AN EXPORT order valued in excess of £1 million has been awarded to Marconi Communication Systems, Chelmsford, by Cable and Wireless (Hong Kong) Ltd., for the upgrading of the Hong Kong satellite 4 ground station.

### International

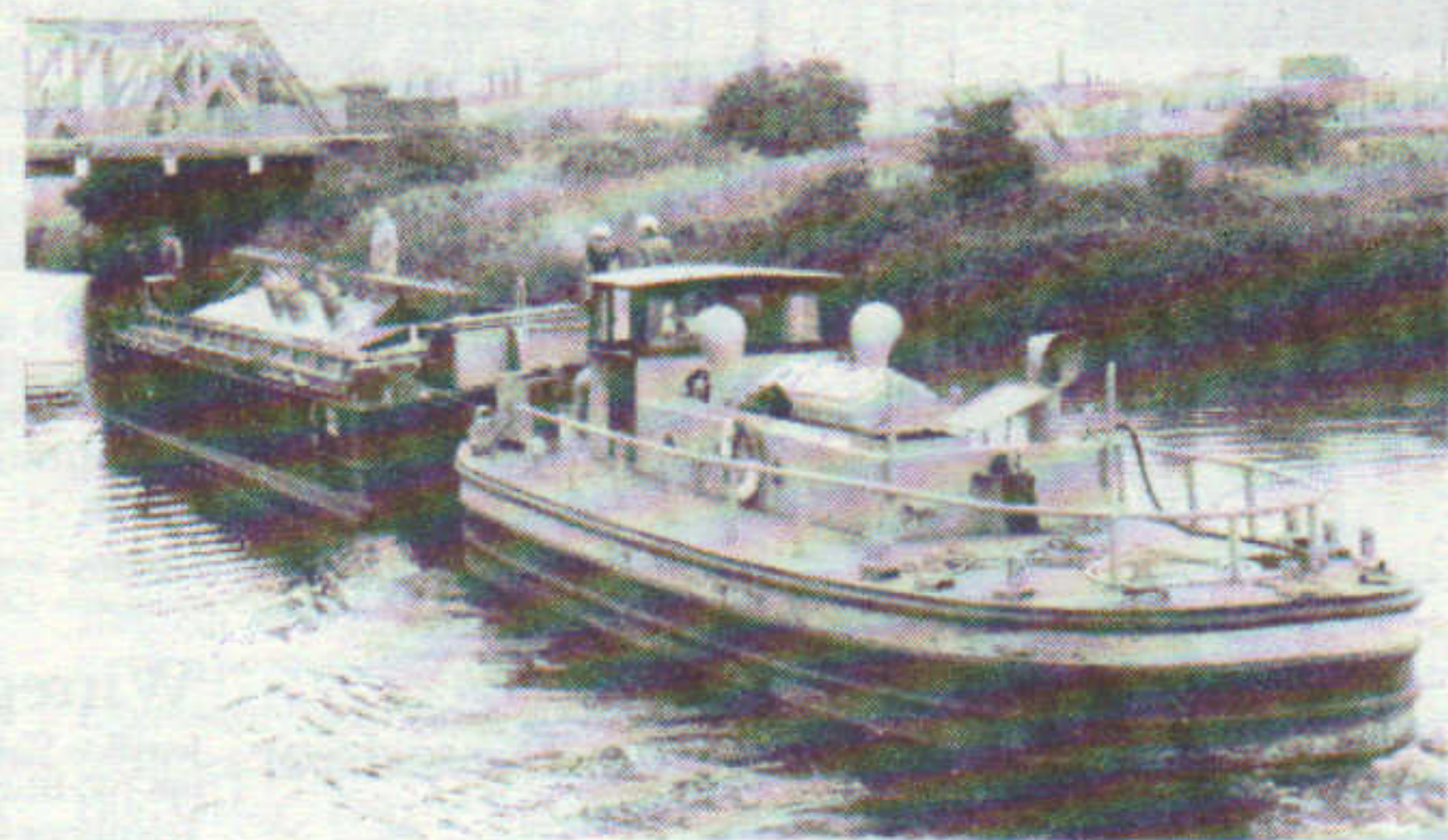
Under the terms of the contract, Marconi will upgrade the transmit system of the terminal aiding the transmission of intermediate data rate carriers. This international digital satellite communication service, recently introduced by INTELSAT, provides for the transmission of data at rates up to 8.44 Mbps.

### Commissioned

The equipment to be supplied and installed includes high power amplifiers, high stability frequency converters and a computer-based control and supervisory system. The new installation is due to be commissioned in mid 1988.

## SUBSTATION BARGES IN

deliver the substation in three sections by canal barge.



A section of the substation being delivered by barge.

## SEI'S BIG NEW CONTRACT

# Radio aerials fitted in car rear windows

market during the last few years. The concept of the backlite antenna stretches back to the early 1970s, when a small Manchester based company, BSH, designed and manufactured a simple backlite antenna. SEI was involved in the project, as a supplier of ferrite pot cores and coil winding expertise.

The desire among car manufacturers for a less overt radio antenna was clear by the mid 70s. Many customers had experience of vandalism, but for the car manufacturer the main concerns were anti-corrosion warranty, jeopardised by holes for whip antennas; expensive radio systems performance marred by the degradation suffered by telescopic antennas; new aerodynamic designs creating wind noise from whip antennas and, the most costly, the complexity of producing cars with antennas on the left or right of the vehicle, or, on the continent, no antenna at all.

Further interest came from marketing people

who needed an 'extra' to offer on the high range models.

BSH attempted to interest major European car manufacturers in the antenna system.

### Support

They did raise some interest with one engineer at Ford who noted that, despite the theoretically planar properties of this antenna, it was subjectively omnidirectional. He advised BSH to gain the support of a large company and develop the VHF capability, both of which were pre-requisites to dealing with companies like Ford.

This advice led to the development of basic VHF circuitry and the licensing of SEI to design, develop and manufacture the active antenna system which is now in production.

The licence was signed in 1981 and SEI began work towards the first module to be supplied for an OEM production vehicle. This was the Ford Orion. The

pattern of new model introduction following the Orion has been: Rover SD1; Ford Granada/Scorpio; New Escort Range; Rover 800; Range Rover and the New Ford Sierra Range. Each unit has been individually designed for each type of vehicle as it can only be fitted as the car is being built.

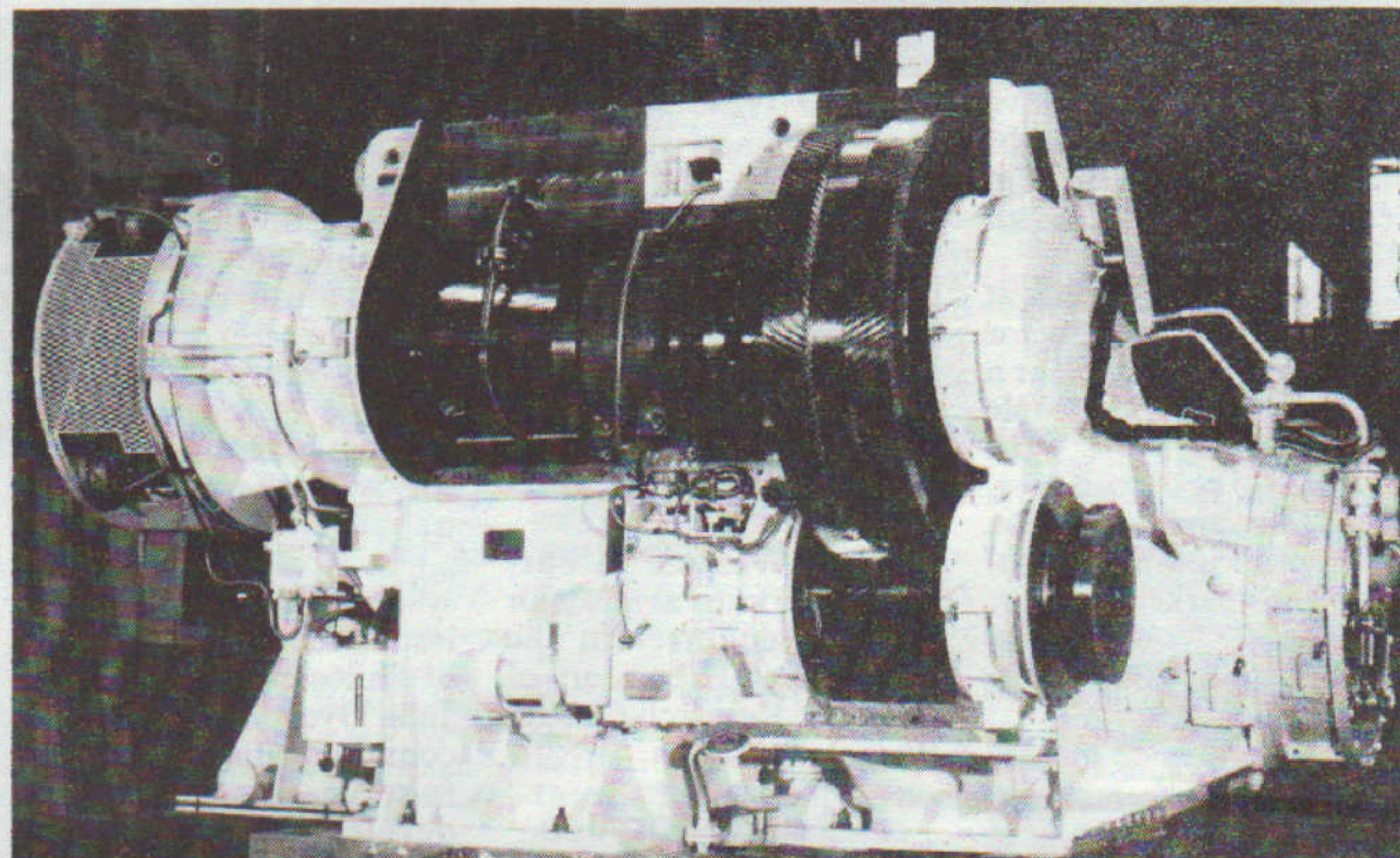
The future looks promising for SEI's product. Existing customers intend to expand their utilisation of backlite antennas.

SEI believes that work planned with Opel and VW and other work with Becker, a German radio manufacturer responsible for Daimler-Benz in-car entertainment, will yield results. The early results from French manufacturers is also encouraging.

### Potential

The European OEM antenna usage is 3-4 million per year. Worldwide, this figure is 15-20 million and rising, which is a huge potential requirement.

## Gearing up for AOR



The Type 23 gearbox which is assembled at Rugby.

GEC Marine and Industrial Gears, Rugby, was recently selected by Harland and Wolff, Belfast and the Ministry of Defence, to design the diesel powered main propulsion gearing for the new class of auxiliary oiler replenishment (AOR) Vessels for the Royal Navy.

The design and build contract for the twin screw first-of-class vessel has already been placed with Harland and Wolff and the gearboxes are currently being manufactured at the Mill Road, Rugby works. Each AOR gearbox weighs over 40 tonnes and transmits approximately 9 MW to a fixed pitch propeller.

Special design features are incorporated to achieve the specified ultra low noise levels, making maximum use of GEC's estab-

lished facilities for the manufacture of high accuracy naval gears.

### Complementary

This contract award is complementary to the supply of GEC gearboxes for the current Type 23 frigate programme. The propulsion gearboxes for the first-of-class vessel H.M.S. 'Norfolk', have already been supplied to Yarrow Shipbuilders, Glasgow.

The manufacture of fol-

low-on Type 23 shipsets of gearing is also well under way.

Copy date  
November  
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# Lord Nelson retires from the GEC Board



Lord Nelson

LORD NELSON of Stafford, retired as a director of GEC at the company's annual general meeting in September.

Lord Nelson received his practical training as an engineer in France, Switzerland and in English Electric, of which his father was managing director and chairman.

### Chairman

He began his fulltime career with English Electric in 1939 at its Preston works, where he had the task of switching the factory to aircraft production, subsequently building a record number of Hampden and Halifax bombers. It was in 1956 that Lord Nelson became managing director and on the death of his father, the company's chairman and chief executive in 1962.

In 1967, GEC took over AEI and in 1968, following an abortive bid for English Electric by Plessey, Lord Nelson negotiated with Lord Weinstock the

merger of English Electric and GEC. Lord Nelson held the position of chairman of the new and enlarged company until 1983.

### Honorary

Lord Nelson is, or has been associated with a great number of bodies and advisory councils concerned with engineering, science and technology and overseas trading. He was director of the Bank of England from 1961 until January this year, president of the Sino-British Trade Council from 1973-1983 and chancellor of the University of Aston from 1966-79. He holds honorary degrees from a number of other universities.

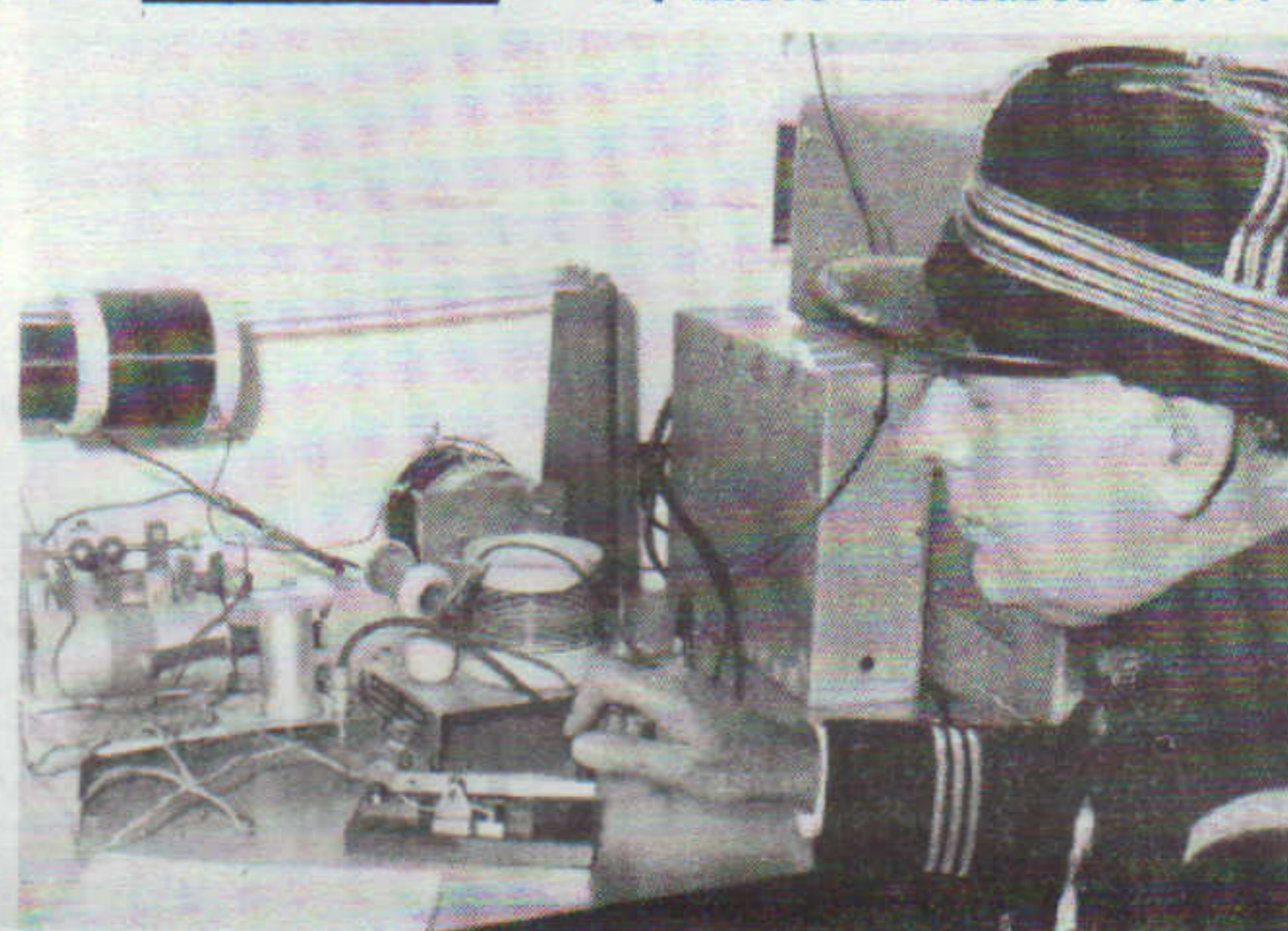
### Select

Lord Nelson is currently a director of Inco. Ltd of Canada, and of the Enserch Corporation of the US; this entails frequent visits to Toronto and Dallas to attend the Board meetings. He is a

member of the House of Lords Select Committee of Science and Technology and a past prime warden of the Worshipful Company of Goldsmiths of the City of London.

### Affection

Lord Nelson is regarded with esteem and affection by all his colleagues and he will retain his links with GEC by remaining chairman of The English Electric Company, now a subsidiary of GEC.



A resplendent Brian Ely transmits the historic message.

# MARCONI RELIVES AN HISTORIC MOMENT

A SET of four stamps, values 18p, 22p, 31p, and 34p have recently been issued to commemorate the 150th anniversary of Queen Victoria's accession to the throne and centenary of her golden jubilee.

### First

Each stamp depicts a period of Victoria's reign, the 34p stamp covering the final period. It is on this stamp that a morse code key denotes Marconi's first wireless telegraph message across the English Channel, which was the world's first international wireless message. It was sent from Wimereux, near Boulogne to South Foreland, near Dover — a distance of 32 miles in March 1899.



James Prior posting his first day cover, which was hand-franked by postman Doug Williams dressed in period uniform.

Later that year signals from Wimereux were received at Chelmsford, 85 miles away. So it was appropriate that the Post Office chose the Marconi museum and archives, at Marconi Research Centre's Great Baddow site to launch the stamp issue in their East England region.

### Transmission

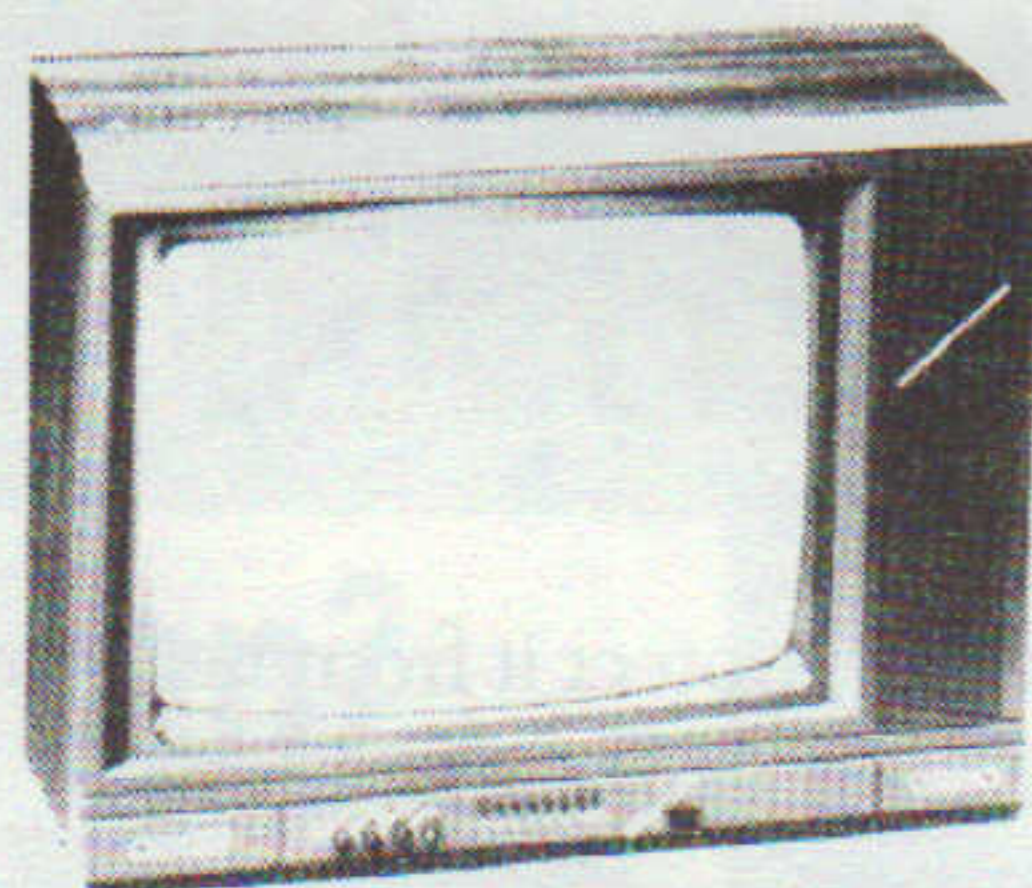
At the launch a re-enactment of the historic transmission took place. Brian Ely, research officer, Material and Display Division of the Marconi Research Centre, dressed as a French Government official, transmitted the same message that was sent 88 years

ago across the room, where it was received and read by Mike Southall, section leader, design office, Marconi Communication Systems. Both Brian and Mike are members of the Marconi Philatelic Society and they used specially built equipment based on the original designs.

Amongst the guests who watched the re-enactment was James Prior, chairman of GEC, who is a collector of first day covers.

Alan Boyce, secretary of the Marconi Philatelic Society, said there had been a great demand for the covers and as a result about £400 had been raised for the Marconi Charities Fund.

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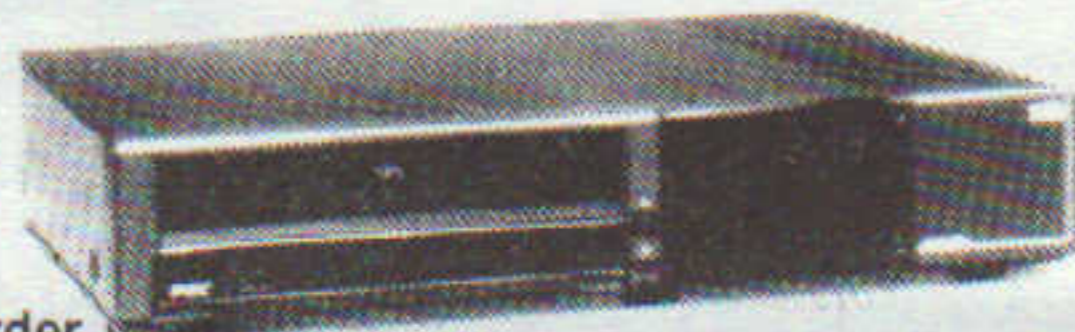


Model 2000 20" with stand

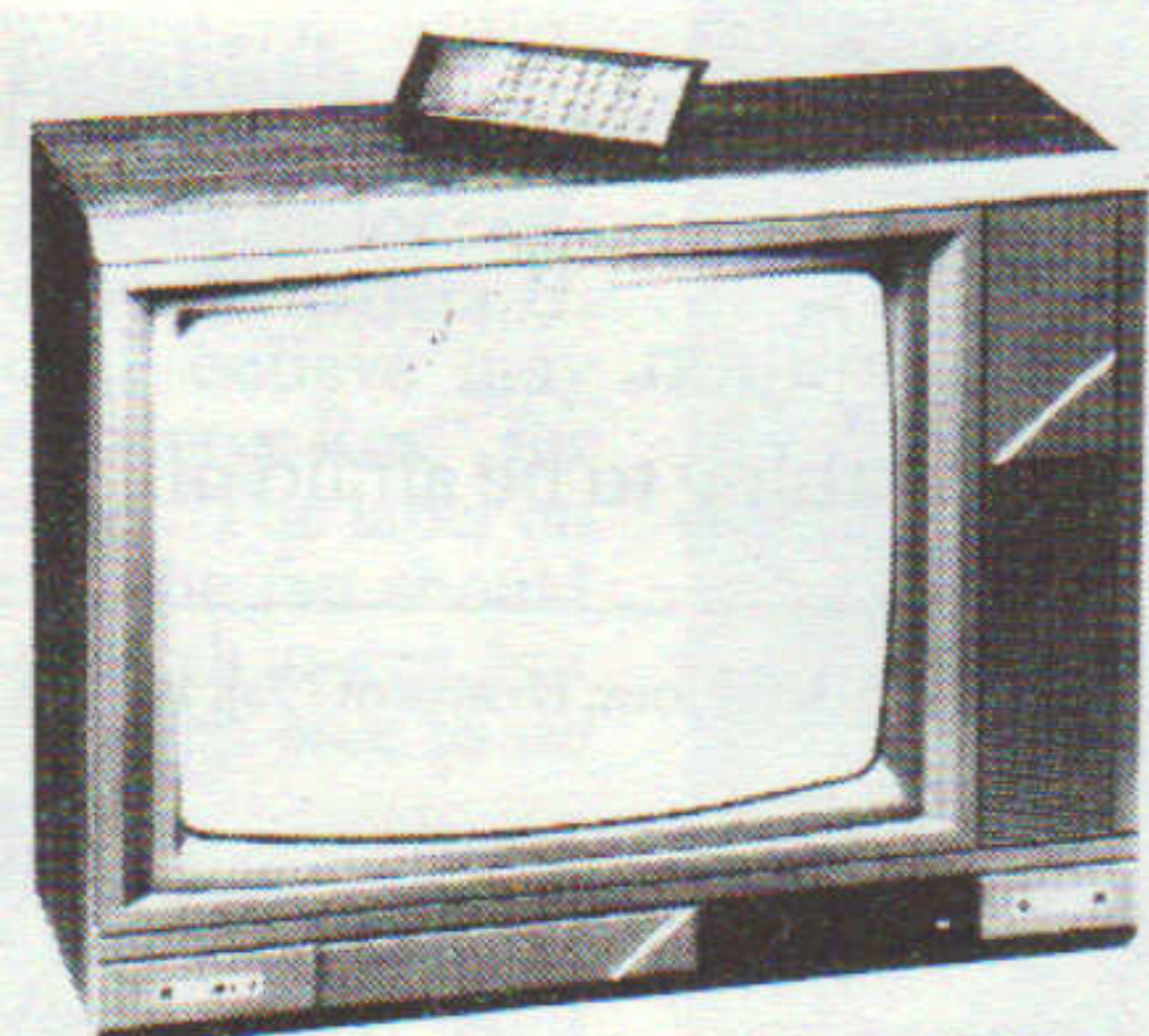
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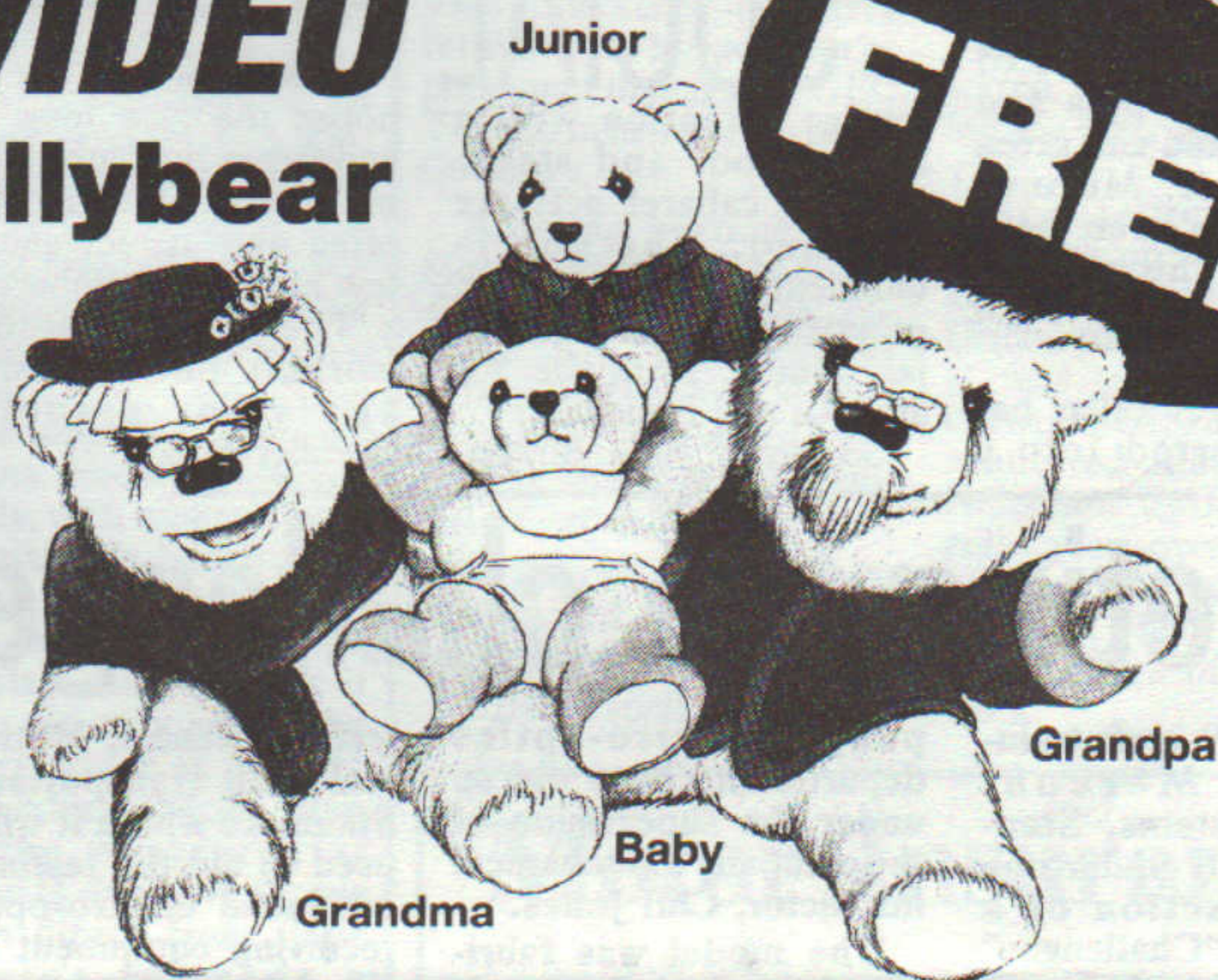
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## Haskett winners

# TWO TIE FOR THE TOP PRIZE

AT A ceremony held at GEC Avionics, Rochester, five engineers from GEC Avionics and GEC Sensors, Basildon, received Haskett trophies and cash prizes for outstanding achievement.

The annual competition, the tenth held to encourage young engineers to apply

innovation in successful projects for customers, is in memory of Fred Haskett, a former executive of the company.

This year there were two winning entries which were judged as having equal merit. The winners shared a £2,900 cash prize.

Tony Fordham and Adrian Taylor, of the Powerplant Systems Division, Rochester, submitted one of the winning entries. It was for an equipment which automatically tests twelve different types of gas turbine engines for aircraft.

### Manpower

The computerized equipment, which saves fuel, lengthens an engine's useful life and economises on manpower, has been purchased by the Royal Air Force, the US Air Force and the Royal Saudi Air Force.

Keith Norton and John Little of the Airadio Products Division, GEC Sensors, submitted the other

first-prize entry. It was for a radio communications system, designed for the RAF's new GR5 Harrier, the first units being delivered for trials only six months from initial concept.

### Potential

The system has already earned several million pounds worth of orders and has good export potential.

The winner of the 1987 award for the outstanding runner-up was Dave Puleston, of the Airborne Display Division, Rochester. He won a £500 prize for his entry "New Displays for T<sup>2</sup>A — Total Terrain Avionics". T<sup>2</sup>A is a technique by which pilots can navigate over the terrain, in all weathers, without giving away their position.

Pictured left to right are: John Little, Keith Norton, Ann Haskett, deputy mayor of Maidstone and widow of Fred Haskett, Adrian Taylor and Tony Fordham.

## Making waves of success

ANDREA Peters, a training assistant in the personnel department of Marconi Radar, Chelmsford, recently became the world's ladies "two-man" Mirror dinghy champion.

### Olympic

Andrea, was one of 75 competitors from the UK, USA, Australia, Canada, Malta, Sweden and Africa, and the only woman in the UK's 15-strong team, who competed in six daily races

over an Olympic course in Sligo Bay, Eire.

While men took the top 15 places, Andrea at 16th was seven places ahead of her nearest rival, Charlotte Greppe of Sweden, and was the first lady in five of the six races.

Andrea, whose crewman-fiance Mark Stenhouse is a mechanical and production engineering apprentice at Marconi Radar, has a maritime background. Her grandfather was a shipwright and her parents are keen sailors and members of the Half-

way Yacht Club in South-end. Andrea's father Barry, a senior engineer, Airspace Control Division, Marconi Radar, built the craft in which she sailed to victory at Sligo.

Andrea's success in taking the world's ladies title, crowns an enviable record for someone who

only took up dinghy racing nine years ago.

"It's a pretty expensive sport", says Andrea. "The British definition of 'amateur' isn't quite the same as it is in other parts of the world, as we discovered in Sligo, so my success is all the more gratifying for that."



Andrea with Mark Stenhouse (right) just after receiving their awards from the Commodore of Sligo Yacht Club (left).

THE Len Grice GEC social club in Stoke, Coventry, has just spent £35,000 to refit its main lounge with a sophisticated new look.

The old fittings and decor have been replaced with plush carpets and seating in a gold and green colour scheme. Mirrored recesses have even been built into the ceiling complete with "Casablanca" fans.

The old beer cellar has been converted into a

## TELECOMS' NEW SOCIAL SCENE

lounge extension with a dance floor and stage. Regular cabaret acts are planned. The entertainment is aimed at all age groups and includes discos, jazz, music from the 50s and 60s and comedians.

Secretary, John Bowen,

hopes the new look will encourage the club's 7,000 members to visit more often and attract another few hundred members.

The club is for GEC workers but others can apply for associate membership.

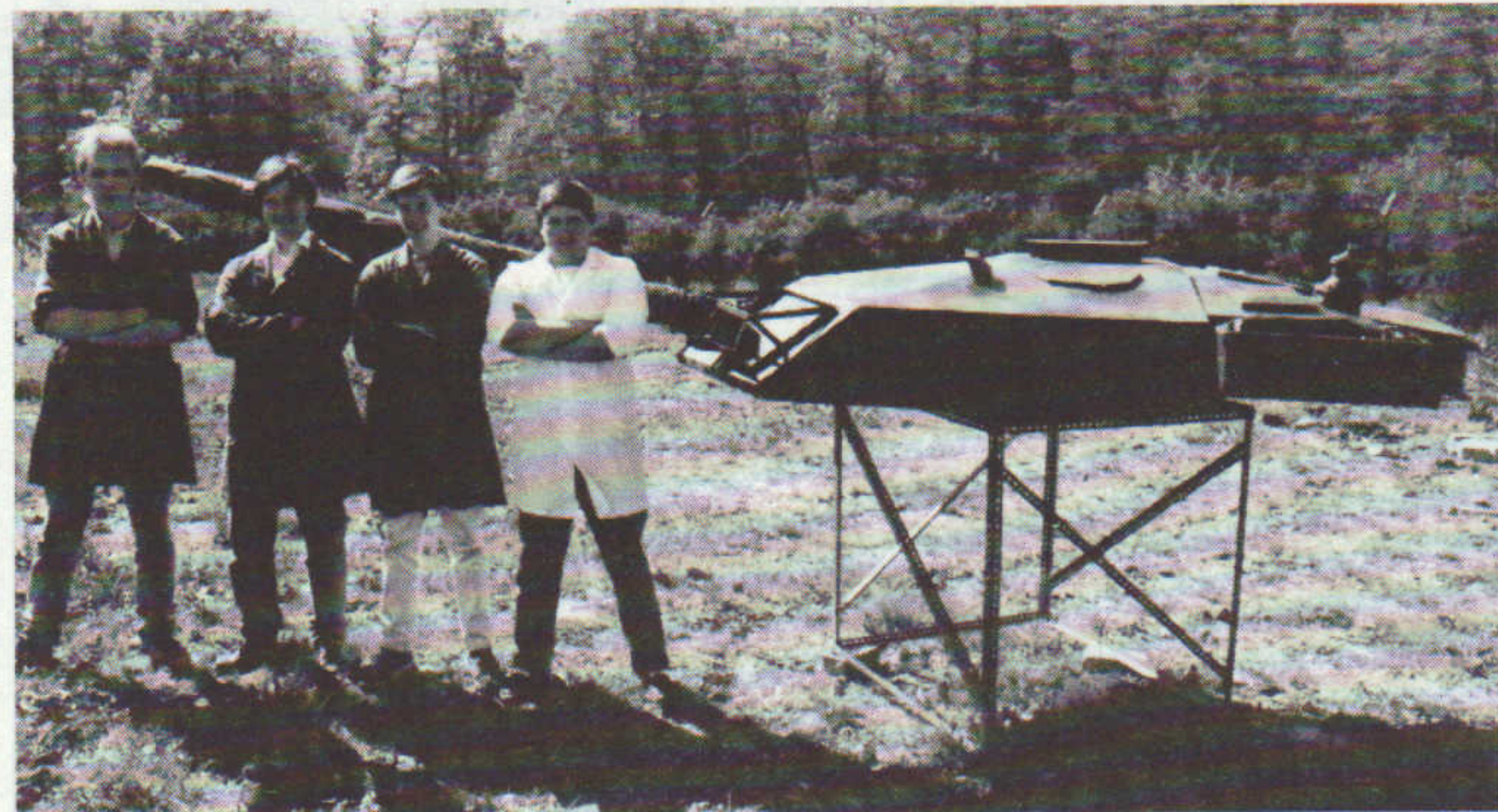
## Meeting the challenge

THREE YTS craft trainees from Marconi Defence Systems, Stanmore, recently undertook the construction of a model of a "Challenger" tank turret for the com-

pany's electro-optics department. They did so under the supervision of the company's mechanical instructor, Cliff Jones.

The model was fabricated at the company's

training centre, Watford, and then transported to Stanmore where it will be used to aid the testing of advanced electro-optical receiving equipment in a simulated environment.



The finished model with the team of trainees. From left to right: Andy Freeman, 2nd year trainee, Glyn Evans, 2nd year trainee, Paul Tibbles, 1st year trainee and Cliff Jones.

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# RESULTS

# NATIONAL YOUNG EMPLOYEES Intrepid 4 finish first

## TOP TEAMS — OVERALL FIRST TEAM

Marconi Research Centre,  
Great Baddow  
Francis Boundy  
Simon Guest  
Graham Craddock  
Hazel Moore

Howard New  
Gary Skinner  
Julie Kerr  
Catherine Veltch

## SECOND TEAM

Ruston Gas Turbines,  
Lincoln  
M Baskomb  
D Harper  
P Ireland  
A Walker

## THIRD TEAM

GEC Hirst Research,  
Wembley  
Philip West  
Paul Sleigh  
Julie Wilcox  
Nicki Spalding

## THIRD TEAM

EEV, Chelmsford  
Rob Turner  
Cary Allen  
Mick Mandon  
Neil Hibbert

## TOP FEMALES TEAMS FIRST TEAM

Marconi Radar Systems,  
Chelmsford  
Laura Faithful  
Kelsey Duchesne  
Sue Barsey  
Kim Evans

## TOP MIXED TEAMS FIRST TEAM

Marconi Underwater Systems,  
Waterlooville  
Richard Yarman  
Niki Smith  
Adrian Adams  
Lisa Clarke

## JOINT SECOND TEAMS

Marconi Radar Systems,  
Chelmsford  
Kate Knill  
Sue Cheatham  
Clare Boakes  
Jenny Tott

## SECOND TEAM

GEC Industrial Controls,  
Rugby

GEC Telecommunications,  
Coventry  
Sue Smart  
Damey Towler  
Karen Bale  
Joanne Hensley

A TEAM from Marconi Research Centre, Great Baddow, won GEC's National Young Employees Competition held at the end of September.

The winning team, all aged 19 and all taking part in the competition for the first time, are student apprentices.

After working for a year at Great Baddow, they left immediately after the competition for university where they are reading engineering or natural sciences.

The fact that there was a

girl — Hazel Moore — in the Marconi Research team came as a bit of a surprise to some people.

The team's manager, Brian Lynch, a research engineer at Great Baddow says, "Hazel was a full member of the team, making a complete contribution and was never at any point carried along by the others."

Mr Lynch, who also had not taken part in the event previously nor managed a team was asked by the young people to take on the job.

What was their secret? "Preparation, fitness, endurance and intelligence" says Mr Lynch. "Perhaps the last was more important than anything else. Before each event they gave the matter a few minutes thought before plunging in. It paid off handsomely."

The team and manager, now a tightly knit group of friends, practised on an army assault course at Colchester and got help from sections of Marconi Sports Club with archery and rifle shooting. They approached

a local firm to teach them something about scaffolding and organised an event which enabled them to learn about rafts.

Eighty-seven teams comprising of 450 youngsters, from 61 GEC companies took part in the competition which started on Saturday morning, and ended at lunchtime on Sunday.

The events included abseiling, building a bridge and a jungle survival course.

James Prior, chairman of GEC, presented the prizes.

## Over 30,000 visit oil industry show

ABERDEEN has been at the heart of the UK's oil and gas exploration development since the outset and is also the host to the "Offshore Europe" exhibition and conference — an important gathering of oil personnel from all over the world.

Despite the blows caused by last year's oil-price collapse, the industry remains in a good position to take advantage of the upturn which is being indicated. Over 1000 exhibitors from 17 countries were in attendance at the exhibition, including a major presence from GEC. It is estimated that 35,000 visits were made to the

show.

Cecil Parkinson, Secretary of State for Energy, opened the exhibition and spent some time with people on the GEC stand. Ozires Silva, president of Petrobras, the Brazilian State oil company, also visited with Wagner Freire his director of exploration and production.

GEC Electrical Projects'



Kelvin Bray (left) being presented with a plaque by Brian Cook.

new fire and gas safety systems attracted considerable interest from the oil companies. The GEM 80 based system is designed to monitor hazardous areas on an offshore platform in a cost effective manner. Full demonstrations were given to many oil company personnel during the exhibition. Safety was also the keynote of EEV's gas detection devices and thermal cameras.

A newcomer to the exhibition was GEC Measurements, showing that its expertise in protection systems for the electrical supply industry can be of much use in oil industry.

GEC Avionics' remotely

operated vehicle for the oil industry revealed that at current trials in Canada it was operating at 5280 feet.

Also on the GEC stand were AEI Cables, Birtley, Ruston Diesels and GEC Mechanical Handling.

### Ceremony

Ruston Gas Turbines presence at the exhibition coincided with the completion of testing of the first 23MW gas turbine generating set for the Shell Tern platform in the North Sea. At an informal ceremony to mark the occasion, Kelvin Bray presented a commemorative plaque to Brian Cook, engineering manager, Shell UK Exploration and Production.

## EASTERN SUCCESS

Continued from page 1.

turbines, worth over £8 million.

Hyundai Heavy Industries, Seoul, South Korea, selected Ruston to supply the gas turbine generating sets for an offshore oil platform in the Bombay High South field, owned and operated by the Oil and Natural Gas Commission of India.

When installed, the turbines will provide all electrical generation on the platform, including power for the water injection pumps used to enhance oil recovery.

GEC Avionics, Rochester, has won a contract to supply an ORION 4400 series automatic test equipment (ATE) to Japan Airlines (JAL).

JAL will use the GEC equipment in servicing the important inertial navigation systems and performance management systems which are fitted on its Boeing 747 fleet.

GEC Large Machines, Rugby, has gained an order worth £4½ million to supply three hydro electric generators to the Andhra Pradesh State Electricity Board, India. This follows an order for two generators placed by the same customer in 1980.

They will be installed in the Nagarjunasagar Canal power stations in the south of India.

In addition to supplying electricity to thousands of villages, the power stations will discharge water into canals, irrigating many districts in the Andhra Pradesh State.

## MARCONI WINS £3.7m CONTRACT

MARCONI Communication Systems, Chelmsford, recently won a contract for the supply of two Intelsat Standard A terminals to be installed at the Mercury Communications satellite earth station at Whitehill, Oxfordshire. The contract, won in the face of strong international competition, is valued at £3.7 million to Marconi.

The terminals are to be installed and ready for service early in 1988 and will extend the services already being provided by Mercury from this site. They will be used to communicate with the Far East and US via the Indian Ocean and Atlantic Ocean satellites.

## PROGRESS AT TELECOMS

GEC Telecommunications, Coventry, has recently been involved in two major moves.

The first being a £25 million contract from British Telecom for over 100 of the new SLX range of large PABXs.

This is due to performance improvements in the processing and traffic carrying capacity of the SLX range centre around the SLX-N, for up to 1200 extensions and the SLX-XN for up to 5000 extensions.

The second move is by GEC Network Systems,

an operating unit of GEC Telecommunications, which is collaborating with ANT Nachrichtentechnik GmbH of West Germany, Société Anonyme de Telecommunications of France and Telettra, Telefonica Elettronica e Radio Spa of Italy, in the development of 2.5Gbit/s optical fibre systems that can carry vast quantities of data, video traffic and telephone conversations.

Initially the work will be directed at long distance transmission but the project will also lead to systems for local networks.

## Lloyds rings the changes

GEC Reliance, Wellesborough, has won a £130,000 order to supply the world's leading insurance market, Lloyd's of London, with a new telephone system. It is the second contract Lloyd's has placed with GEC Reliance in recent months.

The latest order is for an iSLX, a top-of-the-

range digital telephone system for Lloyd's administrative and computer centre in Chatham, Kent.

GEC Reliance has already installed an iSLX at Lloyd's futuristic headquarters in the City of London. The new system will link into this over super fast digital telephone lines, enabling all calls to be answered in London. Lloyd's has also ordered 500 of GEC Reliance's new E-Link 101 telephones.

The new telephone system will handle 592 extensions and 48 exchange lines. The London system handles 2,500 extensions.

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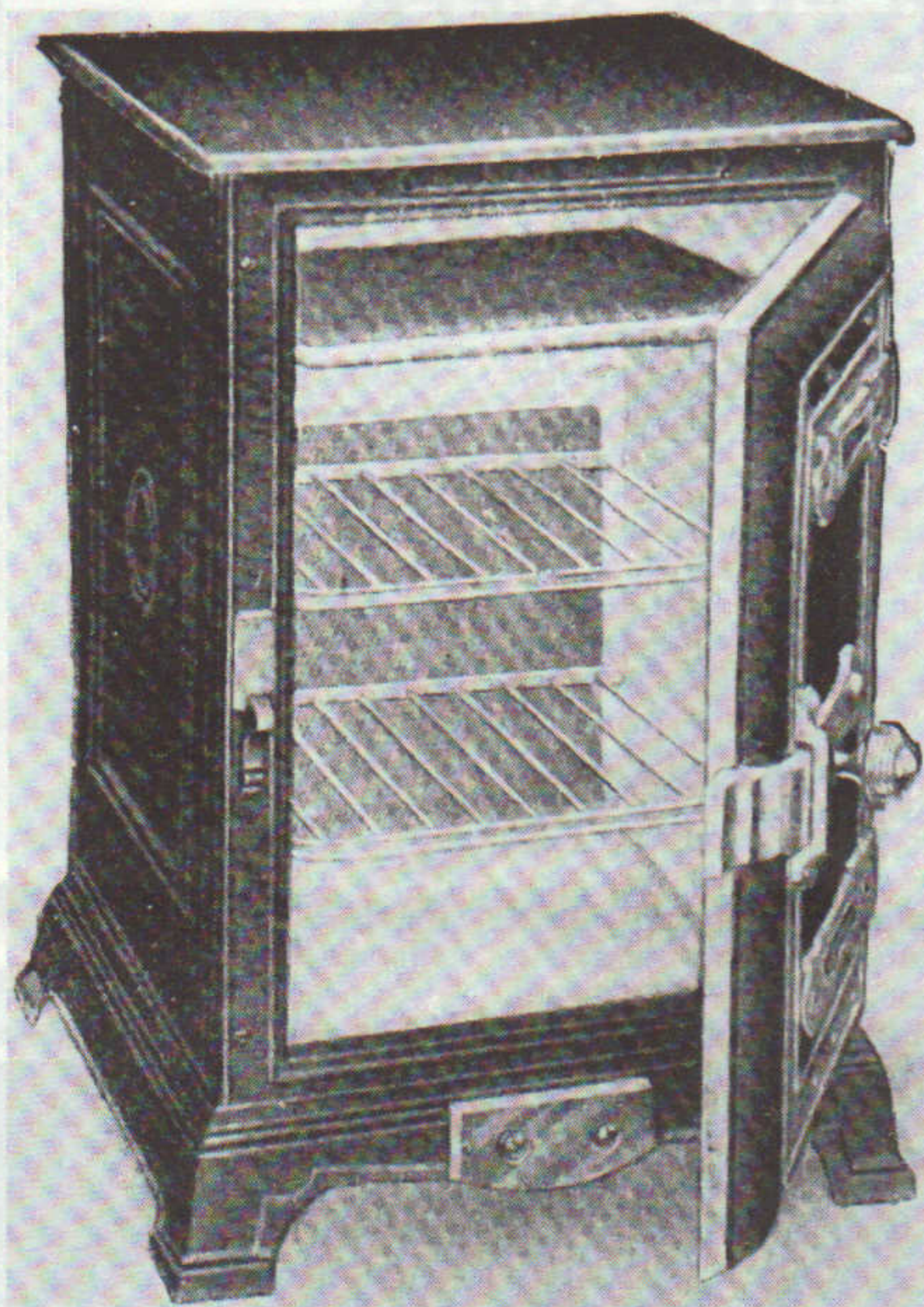
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*Creda's first electric cooker made in 1909*

**WHEN Creda joined GEC recently, it brought not only an established household name, but also a long standing reputation as an innovative and successful domestic electrical appliance manufacturer.**

Creda's beginnings go back to 1898 when the Simplex Steel Conduit

Group was launched. This later became the Credenda Company (which became Creda in 1937) with works and offices at Oldbury near Birmingham. The company's product range has developed extensively since the first electric cooker was launched in 1909.

In 1919, Credenda joined two other organisations, Accles & Pollock and Tubes Ltd, to form Tube Investments. Each of

the three companies worked independently within the new group.

In 1945, Creda acquired works at Blythe Bridge in Staffordshire. Further expansion followed and, in 1973, Jackson Electric merged with Creda. The marketing and sales of all Creda and Jackson products was combined enabling a unified policy for all major white goods and heating products.

Sunhouse heating products which had been acquired by Tube Investments following a merger with the Radiation Group.

Blythe Bridge has been Creda's head office since 1959. The factory is located in a semi-rural environment and is well served with approach roads to the M6 at the heart of the UK motorway system.

Blythe Bridge is supported by two other modern facilities — the Jackson works at Yate near Bristol where tumble dryers and spin dryers are manufactured and Airdun in Glasgow which produces heating appliances.

Skilled employees, together with the most up-to-date robotic installations produce high-technology products.

Today, these three factories provide employment for over 3,600 people and have an annual turnover of £142 million.

Recently, James Prior,

*"A formidable duo"*

Brian Powell

In 1976, Creda also took over responsibility for the sales and marketing of all

**IN JUNE** this year, it was announced the Creda Group from TI Group integrated manufacturer of a wide range of appliances which are sold principally under well known brand names.

**In the year ending December 31 1986** the Creda Group was £142.4 million and operating profit before head office and divisional costs was £10.5 million.

**Taking in Creda brings GEC's total turnover** near to £600 million. GEC is Britain's largest electrical manufacturer.

chairman of GEC, opened one of the most modern toolrooms in Europe at the Blythe Bridge factory.

For many years, Creda has manufactured the majority of its press tools and enjoys a long standing tradition of high quality tool making.

Costing over £500,000, the new toolroom employs the latest manufacturing technology and houses computer controlled wire erosion machines.

Fifty-five designers, toolmakers, and supervisors, manufacture 60 per cent of all capital tools and carry out all the maintenance of press tools.

At the opening ceremony, Mr. Prior said: "Speed of response to market changes is vitally important and it is this kind of enterprise that has given Creda that competitive edge to achieve its success."

Creda's success is continually reinforced by a strong emphasis on research and development, resulting in a constant stream of new and innovative domestic products.

Many notable firsts include: 'Credaclean' oven liners, which rarely have to be cleaned by hand, fan ovens to make cooking quicker, cleaner and cheaper and larger ovens in smaller cookers, through the use of more efficient insulation.

Creda introduced Britain to thermostat controlled ovens for more even heat, autotimers, heated warming drawers, rosta-spit oven roasters and many other convenience ideas which have revolutionised home cooking over the last 20 years.

Creda has also played a notable part in the development of clothes washing and drying processes — introducing the first spin



*To help stay ahead of the competition Creda uses computer aided design equipment.*

dryer in 1956, marketing the first fully automatic tumble dryer in 1973 and introducing a micro-processor controlled washing machine in 1980.

Some of Creda's most up-to-the-minute products include: the Credaplan induction hob, the Creda Microwave Circulaire — an oven which combines fan, microwave and grill facilities — and dramatically restyled electric fires.

Fresh life has been injected into domestic heating with a sophisticated range of storage heaters which sense outside



*The Creda factory at Blythe Bridge, Staffordshire.*



# tion of Creda opportunities

ced that GEC had agreed to buy for £125.9 million. Creda is an le range of domestic electrical ally under the Creda and Jack-

31, 1986, turnover of the Creda operating profit before interest, and tax was £14.5 million.

turnover in consumer products ain's largest consumer durables



n, Creda has a lively development department using the latest

mish, Japanese, Finnish, and Norwegian — gives some indication of its burgeoning markets.

It is almost three years since a project team began to research and develop a plan for entry into the American cooker market. The first 'Americanised' products, which retain a distinctly European style, are coming off the Creda assembly lines and crossing the Atlantic to a good reception in the United States.

Creda cookers are also sold as far afield as Africa, the Middle East and Far East. Creda made tumble dryers sell extensively to apartment dwellers all over Europe and Scandinavia. In Norway they enjoy leadership in the tumble dryer market. The storage heater also goes down well in New Zealand.

There is one development of which Creda is particularly proud. The difficult Japanese market is being opened up for storage heaters by Creda's Far East project manager, Hidetoshi Arakawa.

Hidetoshi's knowledge of Japanese custom and language, plus his understanding of business practice has given him an edge over competitors and given Creda a unique opportunity to enter this fast-expanding market.

The acquisition of Creda by GEC brings together, with Hotpoint, two of the most prominent British-owned manufacturers in the domestic electrical appliance business.

Jeff Samson, chairman of Creda and managing director of Hotpoint, believes that Creda's position in cooking and heating markets complements Hotpoint's activities. Creda and Hotpoint are able to offer even greater manufacturing strength together than independently.

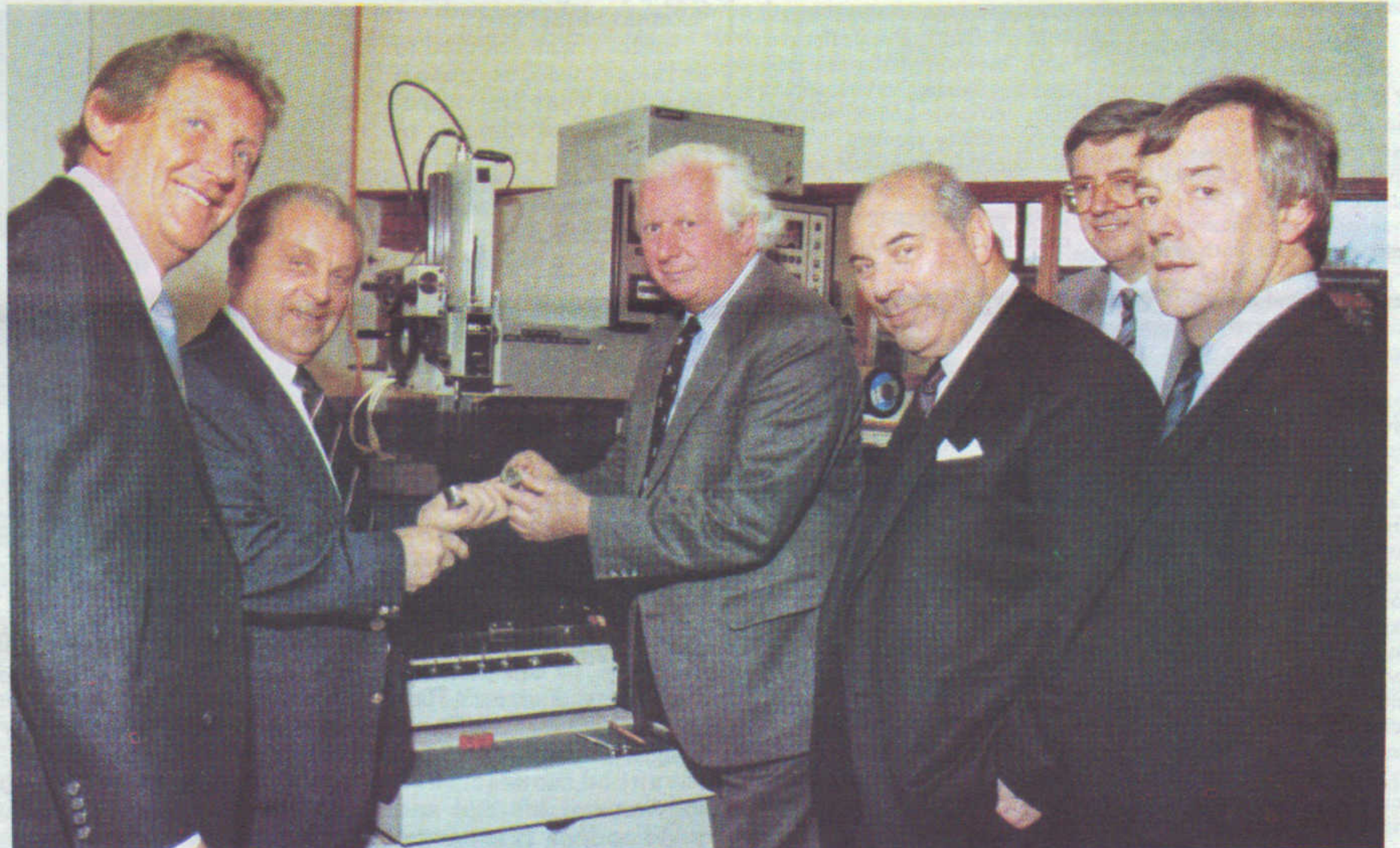
Brian Powell, Creda's managing director said: "Creda and Hotpoint together make a formidable duo."



The Creda magnetic induction hob. The soup can boil but the £10 notes are quite safe, as the energy passes through the ceramic glass directly to the pan's contents.



This kitchen shows the European built-in styling that is now very much in demand in America. It features appliances from 'The Creda Collection', a range designed specifically for the American market.



GEC chairman James Prior inspecting the computer controlled wire erosion machines at the new Creda tool room. Also pictured (left to right) are Brian Powell, managing director, Creda, Stan Pearson, works manager, Jeff Samson, chairman of Creda and managing director of Hotpoint, Don Paterson, works director and general manager and Peter Walker, deputy managing director and marketing director.

temperatures and automatically regulate the energy input and the room temperature.

Almost half the cookers manufactured and sold in Britain come from Creda. This results from a wide range of models and an emphasis on quality and value.

Out of every 100 British homes using electric heating more than 34 will be using Creda products. The company has sold over two million storage heaters.

Creda is looking further afield for customers and is establishing a growing

export trade.

It designs and manufactures products specifically to suit the needs of overseas consumers and this means making a careful assessment of their customs and product preferences.

Language differences must be accounted for, though symbols used on appliances tend to cross international barriers. When words are essential — Creda translates.

The range of product brochures produced by Creda and issued in many languages — French, German, Spanish, Fle-



# CAREERS

**APPLICANTS (men and women) with suitable qualifications are invited to apply for the positions advertised here. They are some of the vacancies which are regularly circulated to personnel departments throughout GEC.**

## HOTPOINT, PETERBOROUGH Personnel Manager

Hotpoint, Britain's leading manufacturer of domestic electrical appliances has been expanding for several years. The company now requires a personnel manager for a site of over 2000 employees to run a small progressive department and undertake a full range of functions, especially recruitment, management development and industrial relations.

Applicants, male or female, should have a degree or equivalent qualification and at least three years personnel experience. IPM membership is desirable.

A competitive salary will be offered together with profit sharing and other large company benefits. Relocation expenses will be offered if applicable.

Telephone or write for an application form to Phil Collins, personnel director, Hotpoint, Peterborough, PE2 9JB. Telephone: (0733) 68989.

## MARCONI ELECTRONIC DEVICES, LINCOLN Applications Engineer

As one of Europe's leading CMOS IC manufacturers, our applications team is playing an influential role in the expansion of our business base, particularly in the areas of telecom, industrial and space products where we are rapidly diversifying into new and highly sophisticated areas.

We are seeking a number of engineers at various levels with experience in the utilisation of high performance IC's in telecom and industrial applications, or a good knowledge of the design and application of micro-processors. An understanding of DSP techniques would also be an advantage.

Responsibilities will be broad based and will include marketing, product evaluation and dealing with customer requirements in a face to face situation.

A qualification to degree level is desired but relevant experience is more important.

Please apply to C F McDonnell, Marconi Electronic Devices, Lincoln Industrial Park, Doddington Road, Lincoln.

## W & T AVERY WARLEY, WEST MIDLANDS

### Production Engineers Mechanical & Electronics

W & T Avery is a world leader in the design and manufacture of microprocessor based weighing equipment. Our record of introducing successful new products and sophisticated information systems associated with weighing applications is the cornerstone of our success and provides a dynamic, invigorating environment for professionals who wish to be recognised for their results.

Additional expansion plans have created the following opportunities at our head office.

Preferably graduates with at least three years experience in high volume manufacturing, involving seeing projects through from product development to production. The mechanical position requires good knowledge of plastic moulding techniques, whilst the electronic vacancy requires knowledge of the latest IC technology including ULA's and VLSI designs.

These positions carry attractive remuneration packages which will reflect your past success and encourage your future potential.

Please apply to Mike Jones, W & T Avery, Foundry Avenue, Smethwick, Warley, West Midlands B66 2LP.

## Software Engineers

Graduates in a computer science or electronics discipline with two-five years industrial experience who have worked as a member of project teams on development work. Experience with the Intel range of microprocessors together with a structured high level language eg. PLM or C in addition to ASSEMBLER is preferred.

This position carries an attractive remuneration package which will reflect your past success and encourage your future potential.

Please apply to Mike Jones, W & T Avery, Foundry Lane, Smethwick, Warley, West Midlands B66 2LP.

## GEC ELECTRICAL PROJECTS

### Airports Division, Nigeria

A vacancy has occurred for a commercial manager based in Lagos.

This is initially a two year contract commencing early in 1988, with the possibility of further extension.

Duties will include administration and commercial activities in running the Lagos office, liaison between the Nigerian authorities, clients and the UK in the implementation of current contracts and seeking new business in the territory.

The company will provide: furnished accommodation, a company car with driver and a return visit to the UK every six months.

We are seeking a person with commercial and administrative experience who has travelled overseas previously. A basic commercial, accounting or engineering qualification would be useful but is not essential — a good general education is acceptable.

Please apply to your personnel department in the first instance for further information.

## GEC INDUSTRIAL CONTROLS KIDSGROVE

### Technical Authors

GEC Industrial Controls, requires suitably qualified and experienced people to fill the vacancies of technical authors in its standards department.

The company is seeking people who have a background in the compilation of user documents data sheets, technical manuals etc. An outgoing personality is sought, with the ability to deal effectively with hardware/software engineering, training, service, applications and sales. Liaison with customers will be required.

Variety and involvement are important elements of these key positions, with engineer grade opportunities.

Qualifications required: Minimum HND Electronic with a minimum of five years experience in a relevant occupation.

Please apply to: G W Taylor, GEC Industrial Controls, West Avenue, Kidsgrove, Stoke-on-Trent, ST7 1TW.

## MARCONI RADAR SYSTEMS, GATESHEAD Product Electrical Engineer

The Gateshead Division of Marconi Radar Systems requires a product electrical engineer to work within the 'Isolator' shelters department.

The successful candidate will be responsible for providing technical assistance to the works during manufacture, preparing and providing assistance during tests, and the provision of repair and maintenance details when necessary.

Applicants must have an HND or degree in Electrical Engineering, a minimum of two years industrial experience, and working knowledge of the IEE 15th Edition regulations.

Please apply enclosing full career details to: H. Grainger, Marconi Radar Systems, Bill Quay, Gateshead, NE10 0UR.

## GEC CERAMICS Marketing/Sales Manager

GEC Ceramics manufactures high technology ceramic, glass and glass-ceramic components for a variety of electronic, thermal, optical and mechanical applications. In order to sustain the planned growth of the business we are currently seeking a self motivated, dynamic person with suitable experience in our main business areas.

This is a senior appointment reporting to the managing director and it is unlikely that anyone with less than three years experience would be suitable.

If you are willing to accept the challenges and demands of an expanding business and can satisfy the above requirements, please write in confidence, giving details of your career history to: The managing director, GEC Ceramics, Castle Works, Stafford, ST16 2ET.

## GEC DISTRIBUTION SWITCHGEAR, HIGHER Openshaw, Manchester

GEC Distribution Switchgear is seeking to appoint two key supervisors based at the Higher Openshaw Site.

## Machine shop Supervisor

Reporting to the feeder services manager candidates should ideally be of graduate calibre or be an experienced supervisor from a related manufacturing environment.

## Supervisor, Manufacturing

Reporting to the assembly manager candidates should be of high educational standard or an experienced supervisor from a related manufacturing environment.

As a first line supervisor, good communication and motivational skills as well as proven man management abilities are essential. A positive approach to industrial relations are considered important within a department currently experiencing technological change.

The successful applicant will be expected to control, coordinate, maintain and effectively utilise the departmental resources to specified weekly production targets, whilst implementing company policies and prompting safe working practices.

Please apply to: R S C Best GEC Distribution Switchgear, Higher Openshaw, Manchester M11 1LF.

**RECENTLY, Andrew Maskery, a first year craft apprentice at EEV, Chelmsford, was interviewed by Jane Townsend and Amy Martin, two sixth form students from Thurstable School, Tip-tree, Essex, for a new school magazine called 'Communiq'.**

**Andrew was selected to be interviewed, because it was felt that he represented a good example of the important link between education and industry.**

## Talent

**Andrew gained eight O'levels at school, but always showed great talent in design and engineering subjects. After passing a preliminary exam at EEV, he was accepted as an apprentice and will receive a wide based training in engineering, as well as further training through a day-release programme. Because of Andrew's flair for engineering and design, he is taking a more advanced course than someone of his age and qualifications is expected to take.**

**Both Andrew and his training manager, John Harris, were questioned**

# FIRST AVERY SCHOLARSHIP Product manager's son is university bound



W&T Avery, Warley, recently awarded the first GEC-Avery Scholarship to Andrew Scott, aged 18, from Great Barr, Birmingham.

Andrew, who is the son of W&T Avery's retail products manager, John Scott, will be taking a BSc in Electronic Engineering and Physics at Loughborough University. For the duration of his degree course, he will receive a bursary of £1,000 per year from Avery and will be offered training employment during the vacations.

The GEC-Avery Scholarship was established last year to commemorate the centenary of the GEC. It will be awarded every year to assist the son or daughter of a GEC-Avery employee who is undertaking a first degree course at university or polytechnic. As well as a bursary and training employment, scholarship holders will be able to apply for supplementary financial assistance towards related training and personal development courses and for industrial experience within the group.

Pictured left to right is Coletta Tumelty, training and development manager, Andrew receiving confirmation of his scholarship from Keith Hodgkinson, managing director, with Cliff Thompson, director special projects.

## Open University success for Roger

ROGER Jones, a System department, at GEC Tele-X development engineer, hardware centre TSG communications, Coventry recently gained a BA in



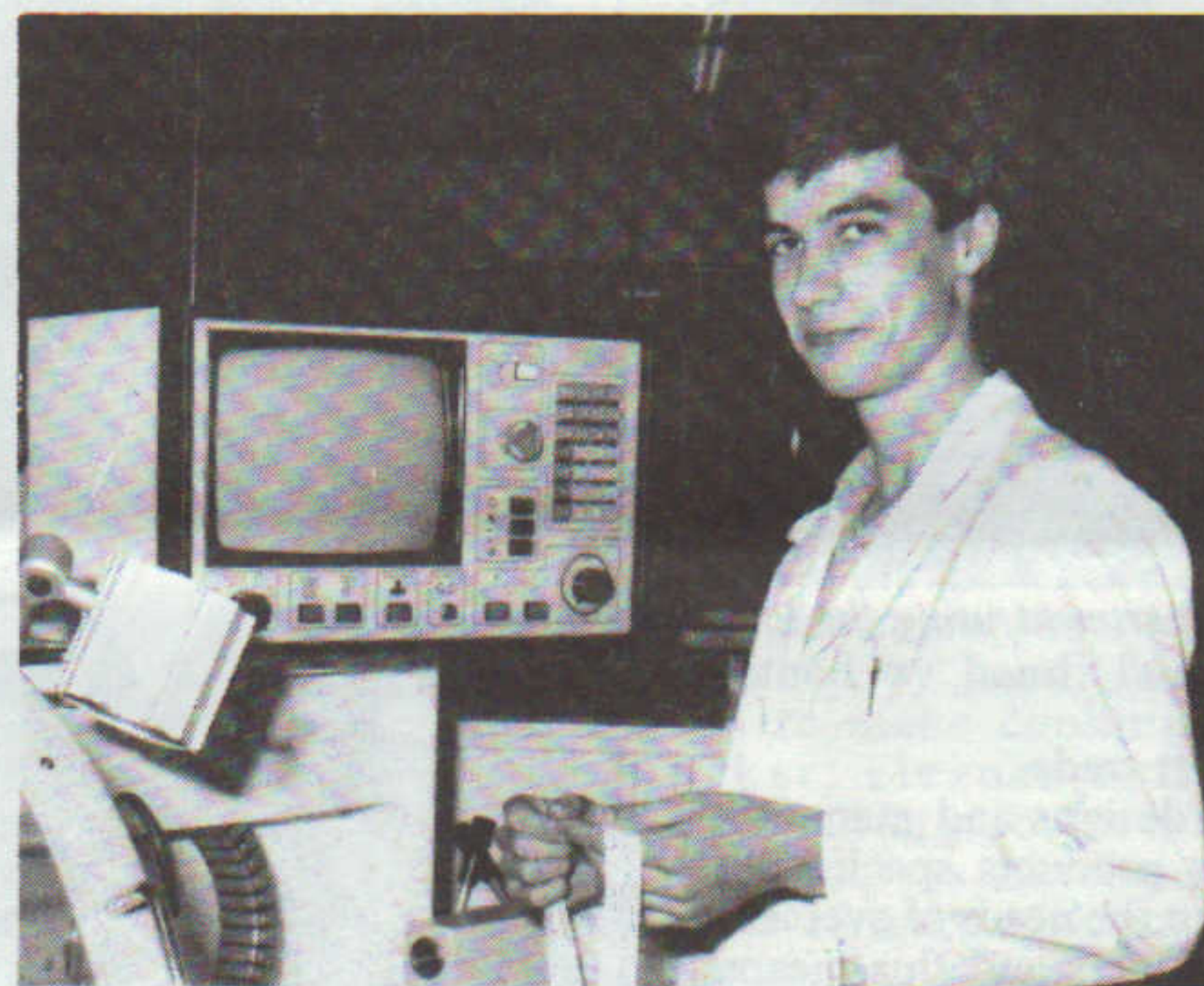
Roger Jones

maths and technology. GEC Telecommunications sponsored Roger to study with the Open University and he is now planning to go on and take an honours degree with the company's continued support.

## Efficiency wins award

VACTITE, Bootle, recently gained a second place award in the North West Region Power for Efficiency & Productivity award scheme.

This is a national scheme supported by all the electricity boards, whose aim is to encourage industry to re-evaluate process and production methods in order to conserve energy.



Andrew examining his computer punch tape used to programme a CNC lathe.

about the prominence such subjects as engineering are given at schools. Both felt that not enough emphasis was placed on these important areas. For example, although there were many applicants for Andrew's job, few were of sufficient standard for the position. John Harris spoke of

EEV's attempts to make the transition from school into industry easier for young people, he said: "There is a large gap between schools and industry and youngsters have to bridge that gap in a matter of months and of course we do as much as we can to make things less difficult."

**Copy date  
November  
12**



# Pet proud photo competition



**DETAILS of an international pets photo competition were announced in April's edition of Topic.**

All GEC units were invited to participate by appointing an organiser and holding a site photographic competition, based on the theme of pets.

It is still not too late to

enter! Any unit which would like to participate should find an organiser and fill in the form, returning it to *Topic*, GEC plc, 1 Stanhope Gate, London, W1A 1EH by Friday 30th October at the latest.

The best three photos from each site competition must be sent to *Topic* by Friday 6th November.

The fantastic prizes on



The Creda Micro-plus microwave cooker.

offer are: First prize, a Creda Micro-plus microwave cooker.

The versatile Micro-plus will warm, defrost, cook, reheat, roast, simmer or simply keep food hot.

The Micro-plus has an all-inclusive three year guarantee and comes with a comprehensive colour illustrated cookbook full of helpful hints, recipes and time charts.

The second prize was generously donated by David Cave Photography

of Dudley, West Midlands.

It is a Polaroid 635 point and shoot camera with fixed focus and automatic flash which develops pictures in front of your eyes.

Our third prize is a super Redring Miniboil jug kettle.

The kettle which can hold upto a litre of water comes in an attractive white and grey design.

Details of prize winners will be published in the December edition of *Topic*.

## LETTERS TO THE EDITOR

### TAGUCHI SHORT COURSE

A TWO day short course on "Experimental Design and Off-Line Quality Control (Taguchi method)", will be held at the Hirst Research Centre, Wembley, on Monday 26th and Tuesday 27th October '87.

The course will cover practical statistical techniques appropriate for engineers, R and D scientists and technologists. The aim is to impart a practical knowledge of experimental design appropriate for the application of off-line quality control techniques. This will include the "Taguchi method" which is rapidly increasing in popularity throughout UK industry; successful Taguchi applications designed

and analysed at HRC will be demonstrated.

The course will involve lectures followed by tutorials and will in particular cover: introduction to regression, analysis of variance and off-line quality control, and design and analysis of experiments by the Taguchi method.

#### Information

For further information, please contact: Dr. N. Logothetis, Statistical Advisory and Research Service, GEC Research, Hirst Research Centre, East Lane, Wembley, Middlesex HA9 7PP. Tel: (01) 908 9213.

### "A bedful of foreigners"

THE MASC Theatre Group will present "A Bedful of Foreigners" by Dave Freeman on Monday 23 November, Tuesday 24 November and Wednesday 25 November at the Marconi Athletic and Social Club, Beehive Lane, Chelmsford. Curtain up at 8 pm.

Please contact the box office: Chelmsford 269422, for further details.

### Gone fishing

FOUR GEC employees interested in angling recently spent a day shark fishing off the coast of the Isle of Wight. The day proved to be successful with a catch of five fish weighing in between 40 to 120lbs and about six and a half feet long.

If anyone is interested

in any branch of sea fishing and would like to accompany the group on future outings please contact: John Boxall or Les Allen of the Hirst Research Centre, Wembley, John Fisher of Picker International, Wembley, or Kevin Edmonds of Osram-GEC, Wembley.

## £215,000 needed for heart unit

**BRIAN** Connor, an embolism loan controller, at Marconi Underwater Systems, Neston, and his wife Margaret have set up a "Hearts For Kids" appeal.

#### Transplant

To date they have raised £160,000 towards their target of £215,000 to build a heart transplant unit at the Great Ormond Street Hospital for sick children.

Brian and Margaret's own granddaughter is suffering from heart disease and will one day need a heart transplant.

The latest fund raising venture was a sponsored walk from Ellesmere Port to London. The six walkers who covered the 220 miles managed to raise an incredible £5,000. Another amazing achievement for the charity, was when a team climbed the 12 EEC peaks in just 24 days, setting a world record.

The appeal has even become known internationally, with bases in both the Falklands Islands and Cyprus.

When the children's transplant unit is built it will be the only one in the country which is entirely for children. More than half the workforce at Neston is donating £1 per month direct from their salaries towards a monthly raffle organised by Brian and Margaret Connors — but they need as much support as they can get.

Donations may be sent to Hearts for Kids, c/o Brian Connor, Marconi Underwater Systems Limited, Chester High Road, Neston, South Wirral, L64 3UE.

Organisers name .....

Company .....

Location .....

We wish to take part in the photo competition. Please return form by 30 October 1987.

## £600 RETIREMENT GIFT FOR HOSPICE

ROY Kenwright, after 40 years service, recently retired from his position as personnel manager at GEC Telecommunications, Coventry.

A young wartime Spitfire pilot and later a squadron leader with the DFC, Roy got a BA at Oxford after the war becoming a graduate trainee and then a personnel officer at Siemens Bros.

A degree in economics was gained through evening studies.

After a spell as personel

manager at Elliott Automation, Roy worked for AEI, Woolwich, and transferred to Coventry following the takeover by GEC in 1967.

At a retirement party Roy was presented with a clock/barometer by Len Grice, personnel director. It was typical of Roy's caring attitude that he requested that the main collection by friends and colleagues, over £600, was given to Myton Hamlet Hospice, where Roy puts in many hours of voluntary work.

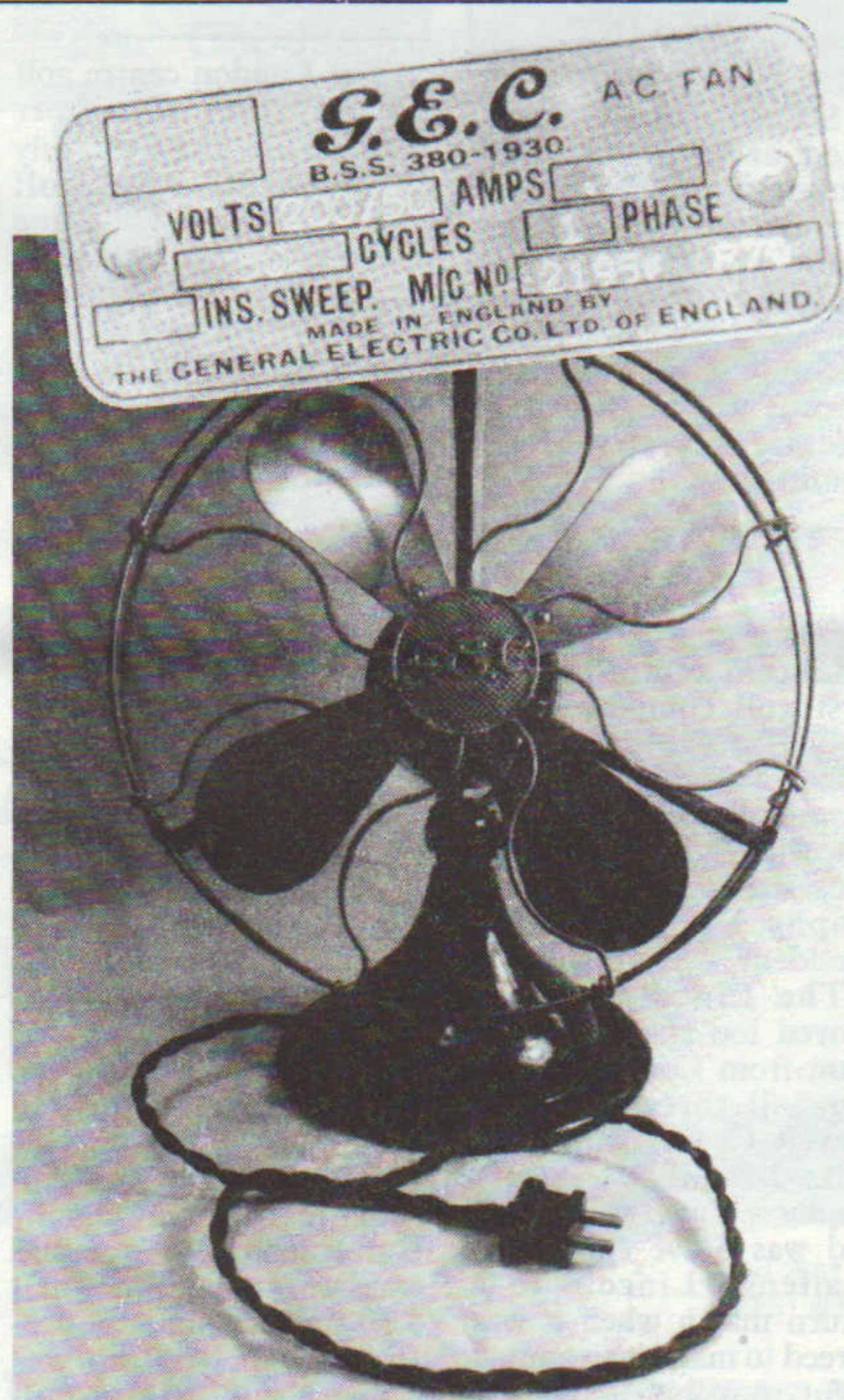
## A familiar fan?

I RECENTLY purchased an old GEC fan from an antique shop in a village called Wingham, near Canterbury. The fan is in good working order and I believe that both the cable and plug are original.

#### Establish

On top of the motor casting there are the letters G. R. which I believe may stand for "George Rex", for King George. The label on the base of the fan should help to establish its age, but I have not been able to do this so far.

If anyone can offer anymore details about this fan please contact: Neil Hewitt, production engineering services manager, EOAS Division, GEC Sensors, Christopher Martin Road, Basildon, Essex SS14 3EL.



The antique GEC fan and base label.

Copy date  
November  
12

## Motor Insurance 25% Staff Discount

Leadenhall Motor Policies at Lloyds arranged by  
**Leadenhall (1969) Services Ltd**

Please write, or telephone your nearest office. We shall be pleased to give you a quotation:

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Cnatham, Kent,  
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LS18 4DF  
Tel: 0532 580870

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Bristol, BS1 1YF  
Tel: 0272 297984



THE 1987 club annual dinner will be held at the De Vere Hotel, Coventry, on Wednesday 4 November. The Rt. Hon. James Prior, president of the club will preside. Sir John Egan, chief executive, Jaguar Cars, will be the principal guest.

Reception 6.30 for 7.30 will give good opportunity to meet friends and colleagues. Dress — lounge suits.

Centre secretaries have circulated details to members. Business associates are welcome as guests. The

## GEC OVERSEAS CLUB

### Rugby wins Australia Cup at inter-centre golf tournament

tables of eight will cater for special party arrangements. The club council looks forward to your full support of this annual function.

#### Representation overseas

There are many overseas territories where there is no club representation. The secretary would like to hear from any member who would be prepared to take on this responsibility.

The real success of the club depends less on council and more on the members whether home or overseas in organising activities to meet the diverse interests of members. A territorial list of members can be readily provided.

#### Club diary

The 1988 club diary will be sent to all members on the current mailing list. Please notify any change of address. Diaries should be despatched before the end of October.

#### President's golf trophy

Score cards submitted for this international competition are as follows: Canada: Dick Clemo 36½ points, Brampton Golf and Country Club; Coventry: John Collins 40½ pts, Stratford upon Avon Golf Club; Lincoln: Roy Green 38 pts, Carholme Golf Club; London: Geoff Evers 36¼ pts, Woodcote Park Golf Club; Manchester: Gareth Davies 41½ pts, Ashton on Mersey Golf Club; Portsmouth: David Bartlett 34 pts; Rugby: Fred Garside 41 pts, Rugby Golf Club; Stafford: Bill Holburn 33 pts, Brocton Hall Golf Club.

We would like to see more submissions from overseas territories for this international trophy. In the future, full handicap (not 7/8) will be used for calculating the stableford score. The maximum number of strokes received will remain at 18.

#### Royal Commonwealth Society

The society is introducing 'Savaway' weekends. The first is arranged for Fri/Sat 23/24 October.

Details available to corporate members of the RCS from the secretary of club council.

#### Inter-centre golf tournament

It was Rugby centre's turn to organise this annual event which was arranged by Geoff Briggs at the Kirby Muxloe Golf Club on Wednesday 16 September.

The results were as follows: Australia Cup: Winners — Rugby centre — 134½ pts — B. C. Coulter

37½ pts, S. T. Mayfield 36 pts, M. J. Poole 31½ pts, R. J. Rigden 29½ pts.

Second were Coventry — 133½ pts; third, Manchester 132½ pts; fourth, Stafford 128½ pts; fifth, Lincoln 126¼ pts; sixth, London 106½ pts; seventh, Portsmouth 83½ pts and eighth, Chelmsford with 63¾ pts.

The Hugo Hirst challenge cup was won by B. C. Coulter with the highest stableford score of 37½ pts., runner-up was S. T. Mayfield with 36 pts.

The A. S. Black trophy lowest gross winner was J. W. F. Collins with 78 pts., runner-up was M. J. Poole with 83 pts.

The E. G. Phillips trophy highest stableford winner was S. Neylon with 36 pts., runner-up was T. Jarvis with 35½ pts.

At the supper, Graham Webb, captain of Kirby Muxloe welcomed the members and presented the trophies.

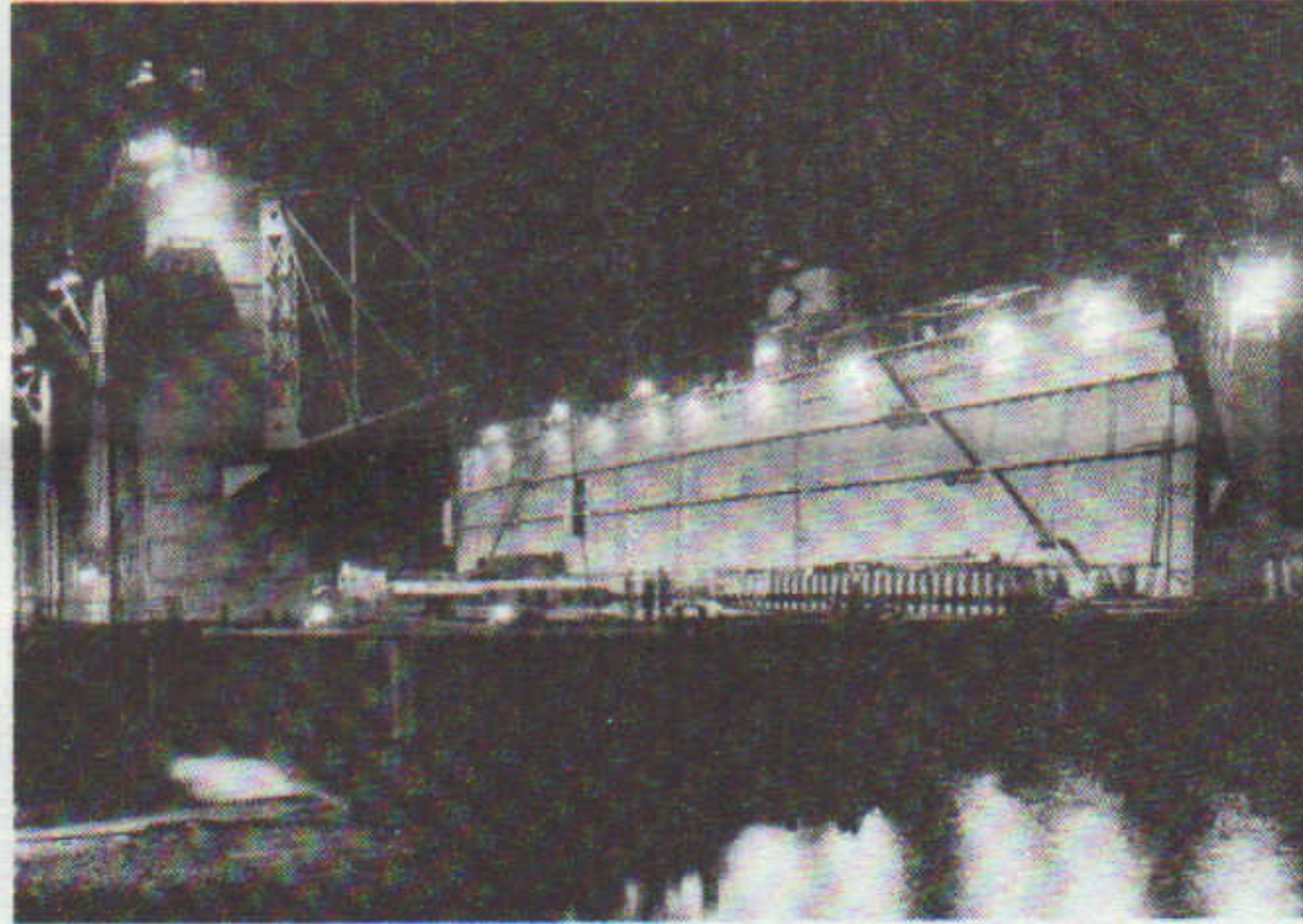
Gareth Davies was this

across Russia to Inner Mongolia then to Peking to work on railway electrification. Then followed East Africa — Panga Falls, Brazil — Rio Tinto Gold Mines, and Buenos Aires — railways.

"In 1942, Bill was appointed to take charge of the work for the Admiralty for floating docks, the largest in the world at that time capable of accommodating the Navy's largest warships. One dock was towed in sections through the Suez Canal from Bombay to Malta.

"After a short period as chief engineer, Manchester, he was appointed chief engineer South Africa in 1950, in charge of equipment and installations for power stations, mining, airports and railways. He became director of engineering and in 1958 chairman of BEAMA."

Bill's wife, Eve, hopes to return to England next Spring and we look forward to her visit.



The floating dock of which Bill took charge.

year's winner of the president's trophy with 41½ pts.

It was announced that these competitions will in future be played off full handicap (not 7/8) but maintaining maximum stroke allowance at 18.

Next year's tournament will be held at Ingestre Golf Club, N. Stafford on Thursday 15 September 1988.

#### ZAMBIA

We are pleased to welcome Ashok Meria to membership of the club. Ashok is a member of the senior staff of GEC Zambia in Ndola.

#### SOUTHAFRICA

Already briefly recorded in the June issue of *Topic* was the death of Cyril Myring, known to all his friends as Bill. His wife, Eve, writes: "His first trip abroad was to Bombay. There he worked on GEC equipment for the electrification on the Great Indian Peninsula Railway. In 1930 he was sent to China travelling on the Trans-Siberian Express

#### COVENTRY

Sixteen stalwarts assembled at the Red Lion, Ilmington, for a ramble through the lanes and footpaths on the borders of Warwickshire, Oxfordshire and Gloucestershire. A steady climb over rough terrain was rewarded by excellent views of the countryside.

#### LINCOLN

Lincoln centre held its first golf competition to find the representative for the president's trophy. Seven players took part. The winner, Roy Green was presented with a centre trophy by the retiring president, Clive Muskus.

The Lincoln golfers proved too strong for the team from Coventry, winning all three matches. Derek Craig presented John Broadhead with a trophy to mark the victory and was brave enough to challenge Lincoln to a return match when it was agreed to make it an annual event, possibly home and away.

Lincoln are open to any

#### OVERSEAS CLUB DIARY

##### CHELMSFORD

16 Oct Annual dinner  
17 Dec Christmas cocktail party

##### COVENTRY

11 Nov Bridge v. Rugby at Grange  
25 Nov Long Alley skittles — Woodlands

##### LINCOLN

15 Dec Cocktail party

##### PORTSMOUTH

6 Nov Annual dinner  
8 Jan '88 Chichester theatre, "Daisy pulls it off".  
21 Jan '88 Burns night supper club

##### RUGBY

11 Nov Bridge v. Coventry at Grange

##### ANNUAL DINNER

4 Nov De Vere Hotel, Coventry

challenges from other centres. Please contact Dr J. Broadhead, EEV: 0522 26352.

#### PORTSMOUTH

The centre held its first supper club evening on 22 July at the Langstone Conservative Club.

The next supper night will be held on Burns night complemented by Haggis and Neaps!

Preparations are nearing completion for the centre's inaugural annual dinner to be held at the Brambles Restaurant, at Waterloo-ville on Friday 6 November. The Rt. Hon. James Prior will be the principal speaker and a number of eminent guests will be present.

We welcome our colleagues from the other centres and those who would like to attend should contact Patrick Spence or David Bartlett on 0705 264466.

#### RUGBY

There will be another 'Woodhouse' dinner on 2 October and a large number of members and wives are expected at this popular function. Details from the secretary — Tony Fletcher.

Once again the annual croquet evening with the Coventry centre was held at Dunchurch College. Forty-four members and their wives attended. The games were played in competitive spirit and honours were even.

#### LONDON

The London centre golf society met for their summer meeting on 30 July at Woodcote Park Golf Club. A very welcome break in the poor weather, provided a most enjoyable afternoon's golf. The winner of the W. J. Bird tankard was Geoff Evers, runner up was Frank O'Neill.

The centre was pleased to welcome and include a number of guests. The guest prize was won by Ian Grant, the runner up was Tony Russell. Ken Druce presented the prizes. Bob Simpson received an engraved cup on behalf of the centre as the 1986 winner of the president's trophy.

#### MANCHESTER

On Sunday 19 July, 18 members and families sailed the canal from Marple to Lyme Park. Unfortunately the weather was unfavourable until 5.30 pm but none the less an enjoyable outing was rounded off with refreshment at the Boar's Head, Higher Poynton.

#### STAFFORD

A cheese and wine party will be arranged at the close of the season. A date will be advised to members.

#### CANADA

Noel Holmes, representing the Canada centre in the UK, wishes to maintain a Canada table at the club annual dinner on 4 November. He would like to hear from club members who have lived, served or have had association with Canada to make contact with him on: 073 781 3476.

#### AUSTRALIA

Ernest Freeth from Perth reports: "We played for the president's trophy at the W. H. golf course at Mount Yokine on 10th August.

As this trophy seems to be so elusive we now have our own perpetual cup which was won by Robin Preston with a score of 31 pts."

#### OVERSEAS CLUB

##### SECRETARIES

###### Council:

P. R. Watson  
1 Stanhope Gate  
London W1A 1EH  
Tel: 0203 452152  
Telex: 31361 GEC TEL G

###### Chelmsford:

A. D. Christelow  
EEV  
Chelmsford CM1 2QU  
Tel: 0245 261777  
Telex: 99103 EEV CMD G

###### Coventry:

D. J. Twigger  
GEC Telecommunications Ltd.  
Coventry Point  
Coventry CV1 1PJ  
Tel: 0203 54988  
Telex: 31361 GEC TEL G

###### Lincoln:

A. E. Garside  
Marconi Electronics  
Devices Ltd.  
Doddington Road  
Lincoln LN6 3LF  
Tel: 0522 688121  
Telex: 56380 MEDL G

###### London:

R. Abbey  
GEC Transportation  
Projects Ltd.  
132 Long Acre  
London WC2E 9AH  
Tel: 01-240 9538  
Telex: 21403 GEC LA

###### Portsmouth:

P. M. G. Spence  
Marconi Underwater  
Systems Ltd.  
Elitza Avenue, Waterloo-ville  
Hampshire PO7 7XS  
Tel: 0705 264466  
Telex: 869233

###### Manchester:

T. J. Toma  
GEC Turbine  
Generators Ltd.  
P.O. Box 131, Trafford Park  
Manchester M60 1AE  
Tel: 061 872 2431  
Telex: 667152 GEC MCR G

###### Rugby:

A. P. Fletcher  
GEC Large Machines  
Mill Road, Rugby CV21 1BD  
Tel: 0788 2121  
Telex: 31671 GEC MCR G

###### Stafford:

F. Brown  
GEC Transmission &  
Distribution Projects Ltd.  
Lichfield Road  
Stafford ST17 4LN  
Tel: 0785 57111  
Telex: 36203 GEC PTD G

###### Hong Kong:

A. R. Murray  
GEC of Hong Kong Ltd.  
Tel: 5-8938282  
Telex: 73098 GHONG HX

###### Canada:

P. S. Tambe  
GEC Canada Ltd.  
Tel: 416 624 8300  
Telex: 06 961280 GEC CAN  
MSG A

###### Centre rep:

N. Holmes  
2 Heathwood, High Street  
Tadworth  
Surrey KT20 5RB  
Tel: 073 781 3476



# DARING DIVE FOR GEC FIVE

RECENTLY, five GEC people took the plunge for charity when they each undertook a 2,000 foot parachute jump.

Ena Ashmore, a secretary in the export sales department, GEC-Xpelair, Birmingham, volunteered to take part in a parachute jump and was sponsored by friends and colleagues.

The jump was organised by BRMB, Birmingham's local radio station, and was held at the Midland Parachute Centre, Long Marston.

After one and a half days of intensive training, Ena took to the air and jumped the 2,000 feet. It took her

five minutes to reach the ground and by doing so, she raised £150.

### Intensive

Four members of the Special Techniques Division of the Hirst Research Centre, Wembley, underwent an intensive training course at the Skydiving Centre, Cranfield Airfield, Bedfordshire, in order to raise money for charity.

Janet Pickles and Hazel Cooper, clean room assistants, Belinda Davies, a research assistant and Dominic Hayes, a student,

presently based at Hirst Research, raised a total of £450 for their chosen charities: Cancer Research, Action for Epilepsy and the Save the Children Fund (via GEC Morocco Project).

### Continue

All four enjoyed the parachute jump so much, that they now hope to continue the sport and progress to freefall skydiving.



Left to right: Belinda Davies, Dominic Hayes, Janet Pickles, (seated) and Hazel Cooper.



Ena receives a helping hand prior to her parachute jump.

## Accident record reaps rewards



GEC Telecommunications, Coventry, recently won an Occupational Safety Award from The Royal Society for the Prevention of Accidents (RoSPA).

At the special ceremony in London's Guildhall, a bronze award was presented by Lord Brougham and Vaux, RoSPA's president, to Alan Johnson, manager, customer relations engineering, Telephone Switching Group, who is a member of the company's Safety Policy Committee.

RoSPA's awards are made in recognition of an outstanding contribution to occupational accident prevention and control. Winning the award is an achievement that demonstrates an impressive commitment by both employees and management in avoiding accidents at work. This is the second consecutive year that GEC Telecommunications has won a RoSPA award.

Pictured is Lord Brougham and Vaux (right) presenting the award to Alan Johnson.

# OCTOBER CROSSWORD

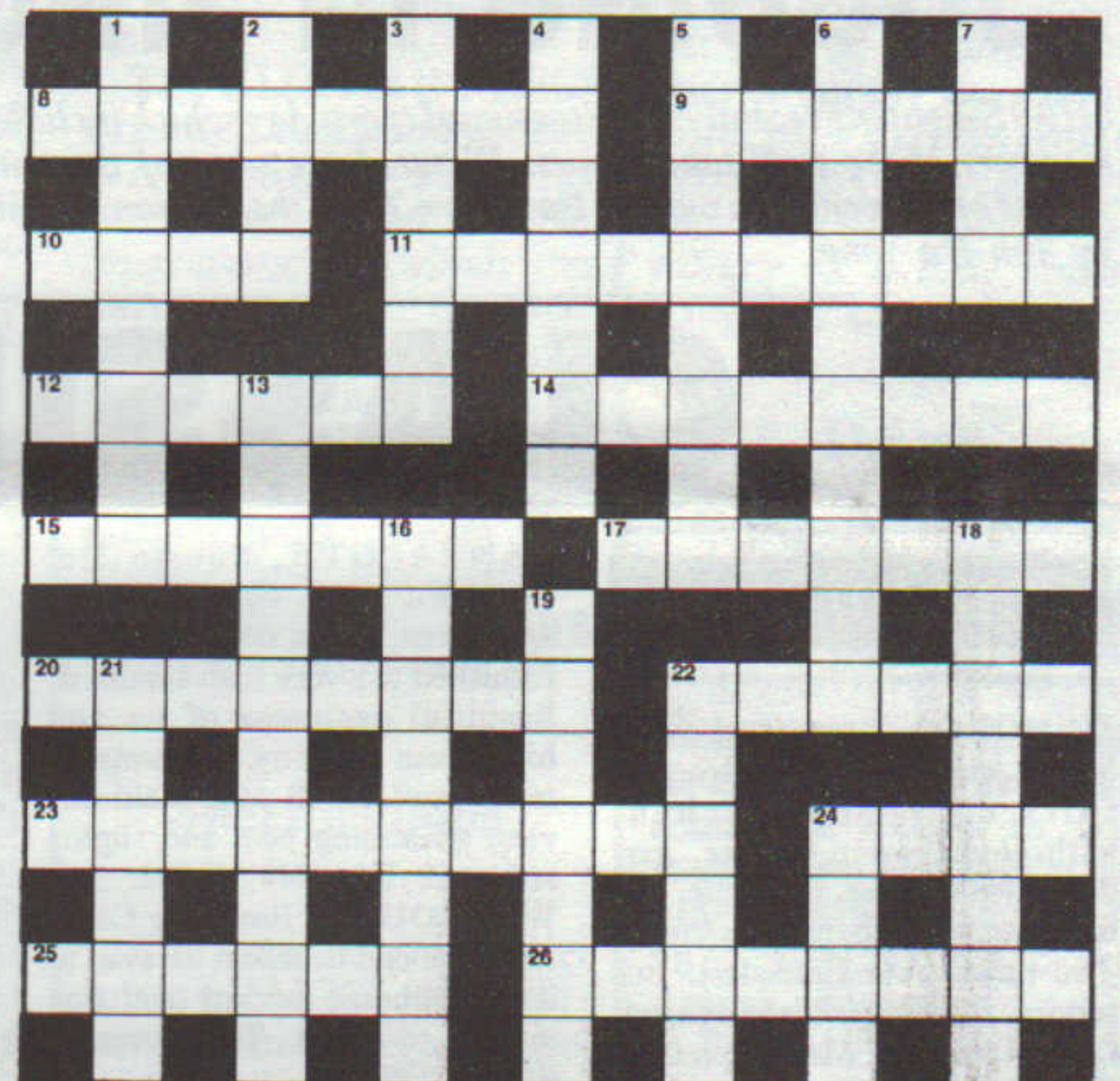
### Clues:

#### ACROSS

8. A couple of drinks lead to extremely merry card game (3,5)
9. Diminish in strength like a politician with affected manner (6)
10. In this place a man may join the army (4)
11. Angry comments caused by pointed remarks? (5,5)
12. Carefully considers what sounds like characteristic conduct (6)
14. Model cocks gun, a small automatic type made of wolfram (8)
15. Kipper found on the railway track (7)
17. S. African antelope, one caught first in N. Atlantic island
20. Starts chopping fat-free joint, making it neat (5,3)
22. Bit dry inside — cut it in two (6)
23. Russian officer of interest to a lepidopterist (3,7)
24. Almost due to start early closing in one's business (4)
25. Prattle from infant clapping empty bowl (6)
26. Leaves a tape on music centre (8)

#### DOWN

1. Very fast and devilish hot (4,4)
2. Hazel, possibly, leaves producer (4)
3. Article on goddesses makes people laugh (6)
4. Extremely deadly, threatening line of hereditary rulers (7)
5. The man's contagious fear indicates he's of Spanish origin (8)
6. Purge The Derby Home for Old Sailors (5,5)
7. Family getting led astray begin to be excited (6)
13. Old film star in great form? Nothing to brag about (5,5)
16. Hamper is partly encrusted with brown pigment (8)
18. One bed in nine contains a poisonous alkaloid (8)
19. Aren't the Spanish extraordinary, going on endlessly (7)
21. This can be made up when time's been lost by small reactionary layabout (6)
22. Everyone's taken in by wicked narrative poem (6)
24. Father put on half the skirting (4)



### ENTRY FORM

Name.....

Address.....

Company.....

Prize.....

\* Stone, Buff, Tulip, Red and Gunmetal

\* Telephone colours — delete unwanted colours

DEADLINE: November 19, 1987

## AUGUST SOLUTIONS

#### ACROSS

1. Holding; 5. Tallied; 9. Acrid; 10. About face; 11. The Far East; 12. Stag; 14. Cotoneaster; 18, 21. The promised land; 22. Aspidistra; 25. Acid drops; 26. Twist; 27. Elevate; 28. Nursery.

#### DOWN

1. Hearty; 2. Larder; 3. Indian corn; 4. Grace; 5. Thousands; 6. Loth; 7. In a state; 8. Dredgers; 13. Ward sister; 15. Tombstone; 16. Stillage; 17. Mean time; 19. Strike; 20. Paltry; 23. Ibsen; 24. Idea.

Entries should be sent to Topic, GEC, 1 Stanhope Gate, London W1 1EH. They must arrive here by November 19. Please mark your envelope October Crossword.

## August winners

### Prizes

The three items we have chosen as prizes for this competition are either kitchen scales, a telephone or soldering iron.

THE first two all-correct entries drawn at random from the August crossword submissions came from N. Houghton, GEC Engineering (Accrington), and C. Walster, Osram-GEC, Wembley.



# Master class success for Glen

TOM Forde, stores foreman at the Spon Street works of GEC Telecommunications, Coventry, is very proud of his son Glen.

Four years ago Glen was one of a select number of numerically-minded youngsters who were hand-picked from Warwickshire schools for a masterclass maths course at Warwick University. The project was



Glen right with his father Tom.

sponsored by GEC Telecommunications in its first year and was such a success that it has been held each

year since then.

For Glen the project was a personal triumph to such an extent that this year Pro-

fessor Zeeman, who remembers him as the participant with probably the greatest mathematical potential out of some 200 students so far, invited him back to Warwick as a tutor for the 1987 Mathematics Masterclass.

Glen was a great success, not only in solving the problems himself, but also in explaining the problems and their solutions to the participants with a natural ease. As they said at the university, there cannot be many 17 year-olds who would have the confidence to do this.

### Accolade

Glen received a further accolade when he was nominated to go to Holland to attend the 1987 International Camp for young Mathematicians and GEC Telecoms agreed to sponsor him.

The camp, which was held at Arnhem, was limited to 32 youngsters aged 15 to 20 and lasted for two weeks. Its aim was to provide an environment where young people with a special interest in mathematics could meet to exchange ideas, work on projects and attend lectures by residential tutors and guest speakers from universities.

For Glen this was the opportunity of a lifetime and he obviously has a fine career ahead of him.

# 103 MILES OF PEDAL POWER



THREE employees of GEC Mechanical Handling, Melksham, recently completed the Audi 100 bike ride in aid of Action Research for the crippled child.

Adrian Appleton, a mechanical fitter, fitting shop, Kevin Molloy an electrical fitter, fitting shop, and Vic Hackett a product auditor, Q.A. department, managed to raise £200 in sponsorship for the charity which provides funds for research into the prevention and cure of all crippling diseases. The event covered 103 miles from Bath to Hampton Court. GEC Mechanical Handling contributed by paying the three cyclists' entry fees.

Pictured left to right are Adrian, Kevin and Vic.



# JOGGING IN SINGAPORE

GEC Singapore recently held its annual sports day which included a five mile jog with over 40 members of the staff taking part. Pictured are some of the participants after the finish.

The open event was won by Foo Boon Teck, the veteran by Ismail Kambari and the Ladies by Toh Pu Yong.

# CLASSIFIED COLLECTION

### HOLIDAYS

**MENORCA.** Detached villa. Sleeps eight, three bedrooms, fully equipped kitchen, bathroom/shower, garage, gardens, two terraces, barbecue. Ten minutes walk to beaches/coves. Two miles from Ciudadela. Bus service. Flights/car hire arranged. Cheap rates. Tel: Mrs Edson 0634 67183.

**MAJORCA,** Cala Mayor. Two bedroom apartment, sleeps six. Available October onwards. Flight and apartment for four persons sharing £185 for 15 days. For further details tel: A. Orchard 01-953 8287.

**LIMASSOL:** Holidaying in Cyprus? Contact St. George's car hire. New cars for hire, furnished holiday apartments. Special rates for GEC staff. Contact: P.O. Box 1201, Limassol or tel: (061) 9984203.

**MORECAMBE,** fully licensed private hotel on seaford. Close to all amenities. Ten bedrooms; lounge; bar; dining room; excellently equipped modern kitchen. For details tel: Morecambe 0524 418527.

**ST TROPEZ.** Six berth mobile home or four berth caravan on private beach club site. 200 yards to safe sandy beach and all facilities on site. Ideal family holiday. Phone 0206 864535.

**TENERIFE,** Los Cristianos. Luxury Andalucian style apartment. Two bedrooms; two bathrooms and sleeps six. Complex has two pools, shops, bars, restaurant and reception. Sea views and seven minutes to Playa De Las Americas. Flights/car hire arranged. Tel: 0705 240709.

**ALVOR** village centre (Algarve). Fully equipped one bedroom apartment overlooking the sea. Sleeps four. £120 per fortnight, October to May. Tel: 01 243 1508 or write to Mr Almeida, Bloco B2-1-E, Nova Oeiras, Portugal, 2780.

**LANZAROTE,** Puerto Del Carmen (old town). New apartment, sleeps two/four and is furnished to a very high standard. Beautiful panorama of sea and hills from balcony. Reasonable terms available all year. Maid service, swimming pool and flights arranged. Tel: 0243 376792.

**WEYMOUTH,** Bowleaze Cove. Six berth end bedroom caravan to let. Clubhouse on site and one minute to beach. Tel: Coventry (0203) 413049.

**COSTA DEL SOL,** Torrox near Nerja. Spacious, well equipped studio apartment with excellent views of sea and mountains. Beach 100yds, fully equipped for self catering. Special rates for Winter lets. Unspoilt, relaxed area. Contact: Mrs Day, Wokingham 787562 (after 5pm or weekends).

**CORNWALL,** Bude. Six berth static caravan. End bedroom, toilet, lounge, colour tv, fridge, gas cooker, fire, outdoor barbecue set, mains gas, electric, water, overlooking Sandymouth Bay. Tel: Mr Smith 0604 763609 or SAE., 90 Delapre St., Far-cotton, Northampton NN4 9HA. From £50 per week.

**MID-WALES.** Seaside or countryside. Enjoy our guest house on the promenade at Barmouth. Beautiful sandy beach, harbour, scenery. £8.50pp or self cater in our cedarwood chalet bungalow on secluded farm in picturesque Dovey Valley, £8.00 per day. Discounts. Brochures. Tel: Mrs Chancellor 0341 280603.

**PORTUGAL.** Luxury two bedroom apartment with beautiful views of beach and countryside. Situated in Luz Bay, an old fishing village, with many small bars and friendly restaurants. A regular bus service operates to Lagos and the local villages. Tel: Mr Fowden 01-427 3121.

**SUFFOLK.** Bed and super English breakfast in lovely 16th century former farmhouse. Double or twin rooms with private facilities. Convenient to Bungay, the Otter Trust, Beccles, the Broads, Southwold and Minsmere. Tel: 050 279 240.

**SOUTHSEA.** "Harmony Guest House". Residential license. H and c and tv in all rooms. Comfortable residents' lounge and separate dining room. Close to South parade pier and rock gardens. Children welcome. Special rates for GEC staff. Contact: Stella Western, Harmony Guest House, 11a Malvern Road, Southsea PO5 2LZ. Tel: 0705 821696.

### MISCELLANEOUS

**ENTHUSIAST** seeks unwanted valve communications/receivers, such as R1155, BC348, HRO, AR88 for private collection. Details please to Mr A Stubbings, 12 Otter Avenue, Saxilby, Lincoln LN1 2HU. Tel: 0522 702601 (after 6pm).

**MUSEUM** item? English Electric cooker circa 1950. Type 2009D. Working order. Tel: Leicester 412434.

**WANTED** by private collector and member of the Muzzle Loading Association of Great Britain. Antique guns and powder flasks. Tel: 0203 313108. Swaps considered with fellow collectors.

**FLEET** Air Arm apprentices, Hood Division 1943-1946. Reunion, Post House Hotel, Clayton, Newcastle Under Lyme. Saturday 16 April 1988. Details: Cyril Girling, 18 Oakdene Avenue, Wolstanton, Newcastle Under Lyme, Staffs. ST5 8HQ. Tel: 0782 562904.

**LIVE** music for the Manchester area: Excel sounds has the ideal combination of a quartet and a disco. Just right for the departmental dinner dance. So contact Eddie on: 061 980 2598.

**MILITARY** cap badges. British, good selection. Send for catalogue: Harry Jones, 402 Rectory Road, Falcon Lodge Estate, Sutton Coldfield, West Midlands. Tel: 021-329 2615.

### CARS/MOTORCYCLES

**MG METRO.** B reg, cinnabar red, October 1984, 26,000 miles. One owner. Recently new tyres, taxed FSH, immaculate condition. Tel: B. Reed 0522 702420 (evenings and weekends).

**WANTED** three-wheeler motor car. Pre-war B.S.A., Morgan, Coventry-Victor or similar. Usable condition preferred but not essential. Tel: D. Rouse 0787 60521.

### PROPERTY

**ASHINGTON,** Northumberland. Large corner three bedroom semi-detached house. Double garage, gas central heating, cavity wall insulated, double glazed throughout, triple glazed bathroom with over-bath shower, large lounge, dining room, kitchen, downstairs toilet/utility room, some carpets. Excellent condition. Quick sale £32,000. Tel: Mr B. J. Simm 0670 812893/0455 209 352.

**FOR SALE,** holiday chalet, Clacton, Essex. Two bedrooms, fully furnished, cedar wood chalet. Most contents included in leasehold. Sited five minutes via car seaside playpark, washerteria, baronsite. Long let March-October. Tel: Mr Boynton, Clacton 433970 (evenings/weekends).

**MAJORCA.** Two bedroom, fully furnished apartment with telephone for sale near Port Alcudia. Approx. three years old. Ten minutes from beach and handy for most facilities. Price: £28,000 o.y.n.o. Please phone Mr Bunn 0329 237686 for initial details.

### FOR SALE

**VIDEO** cassettes. BASF E180. Only £3.40 each. Tel: 326 9470 (after 7pm).

**CLEF** electronic piano. Six octaves and fully touch sensitive keyboard, £495. Tel: Stafford (0785) 661391 for demonstration.

**LOWREY** Carnival electronic organ. Two manuals, bass pedals, rhythm section, autochord facility, seat, instruction book and music. Walnut finish to organ and seat. Delivery possible. Price £250. Tel: Mark Robinson 0533 848856.

**FOR SALE,** six berth touring caravan. 1979 excellent condition, including fridge, fire, toilet, two gas bottles, awning. Price £1,300. Tel: Mr Perry, Colwyn Bay 515037.

Please write your classified advertisement in the grid below in clear block capitals (one word in each box up to a maximum of 40 words) and send it to: Jacqui Crane, Topic, The General Electric Company plc, 1 Stanhope Gate, London, W1A 1EH by November 12. Insertion is not guaranteed, but every effort will be made to include your advertisement as soon as possible. GEC employees, their families and people who have retired from the company may advertise free of charge. For others the current cost is 30p per word. Please make all cheques payable to The General Electric Company plc.


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Avtar Khosla (centre) with the Marconi Defence Systems' team: (1 to r) John Wilson, David Fudge, John Marsh and Gary Arman.

## First honorary life president



**DR. GEORGE** Hoddsman, who retired as W&T Avery's legal metrology executive in 1985 has recently been appointed honorary life president of the Comité Européen Des Constructeurs D'Instruments De Pesage (CECIP).

Dr. Hoddsman has

represented the UK National Federation of this international organisation since 1970, and was president from 1977 to 1982. For the last ten years he has been chairman of its Legal Metrology Group which is responsible for monitoring the development of international weighing machine regulations under the EEC and OIML.

### Foundation

This is the first time since its foundation that the CECIP has appointed an honorary president.

## Derek's management system paper wins an institute award

**DEREK** Hitchens, business development director of Easams, Camberley, has been awarded the Institution of Electrical Engineers Management and Design Division Premium for his paper, 'Managing System Creation'.



The paper discusses the creation of a complex and enduring system. The scope of the work covers all aspects from system concept to commissioning and through to system replacement. It also considers the role of systems management, so often a neglected or ill-defined activity.

### Philosophy

Derek was pleased to accept the award, but was quick to point out that he was merely describing the Easams' philosophy and approach to systems problem solving.

GEC ALCOHOL ADVISORY SERVICE  
Mill Road, Rugby CV21 1BD

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# MARATHON ENDURANCE BY 500 STALWARTS

**THE Dunchurch Run** was recently held with over 500 runners descending upon Dunchurch, near Rugby, to participate in the second annual half marathon.

The event was organised by Development Training Services, Dunchurch and attracted runners and spectators from over 70 GEC companies throughout the UK.

The winner this year was David Fudge from Marconi Defence Systems, Portsmouth, who finished in the fast time of one hour, eleven minutes, eight seconds. In second place was John Marsh, also from Marconi Defence Systems and third was Peter McWade from GEC Engineering (Accrington). The

first lady home was Karen Andrews from GEC Telecommunications, Coventry, in a time of one hour, 38 minutes, 16 seconds.

### Charities

David Fudge was also part of the winning team from Marconi Defence systems, who finished just ahead of Marconi Command & Control, Frimley. The third team home was GEC Measurements, Stafford. Many of the teams ran to raise money for local charities.

The prizes were presented by Avtar Khosla, chairman of GEC India, who spent the day at Dunchurch and enjoyed watching his son, Ashok, finish the race in one hour 39 minutes. He ran on behalf of GEC Turbine Generators, Rugby.



Karen Andrews (right) and Lorreta Denley of the GEC Telecommunications' team receiving their prizes from Avtar Khosla.

In addition to the run there was a Gala Day, which was organised by the team who will soon be off to Morocco on the first GEC Expedition. All proceeds

from the day were contributed to the Morocco Project.

The gala included many stalls and shows, from pony rides to haggis hurling.

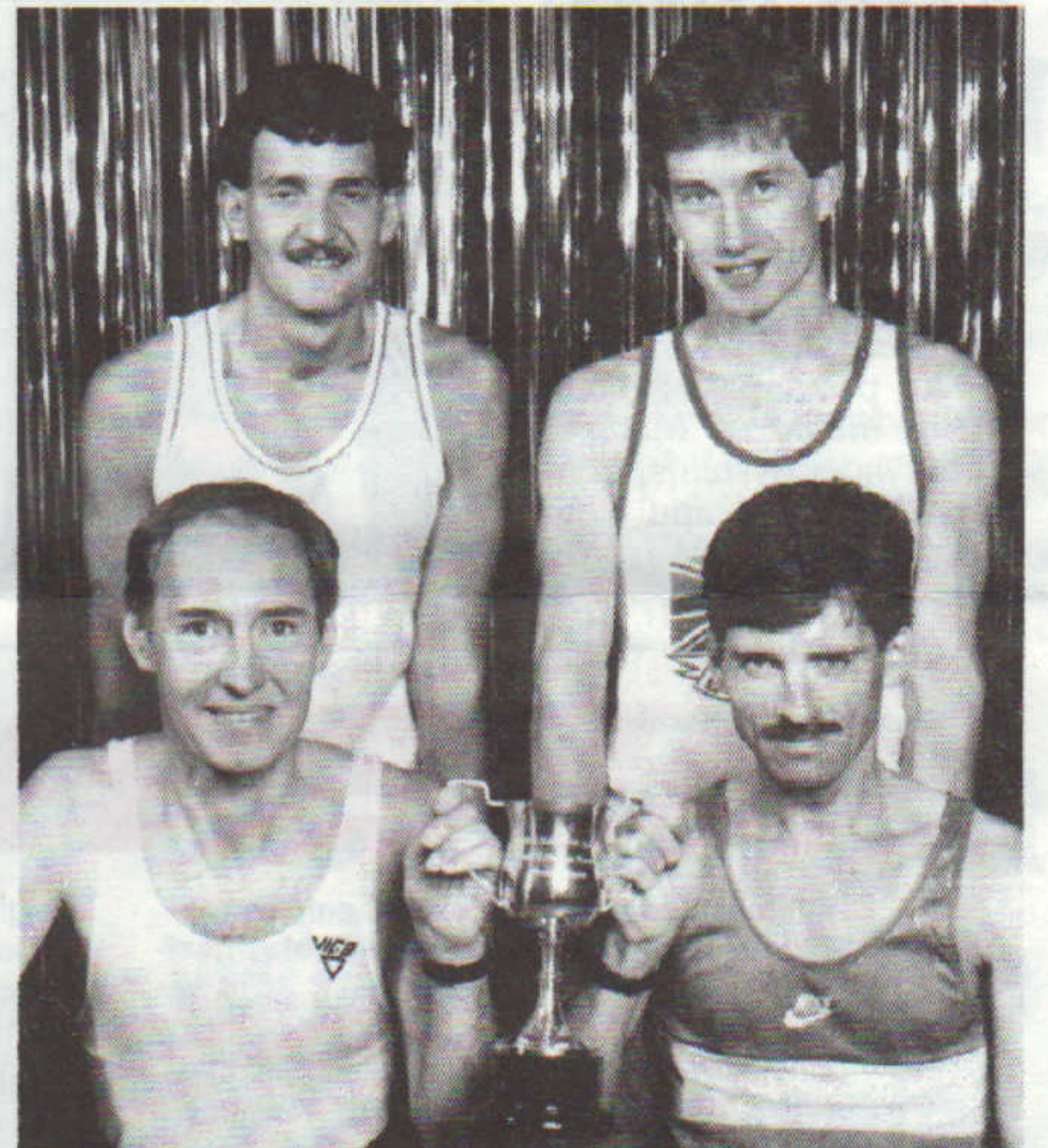
## Avionics success in Neilson race

**THE GEC** Inter-Establishment Basil Neilson race recently took place over 3.2 miles of grass and factory roads at the GEC sports ground, Wembley. The race has been held for a number of years and attracts a good class field.

The actual race was somewhat marred by a cloudburst that flooded parts of the grassy portion of the course, making it slippery and dangerous, and race times very slow. The conditions however did not deter the winning team from the GEC Avionics Club, Basildon.

Each of the four team members run regularly at

lunchtimes. Simon Vines, senior technologist, Electro-Optic Advanced Systems Division, is a member of Havering Athletic Club and is one of the leading cross country runners in Essex. Kirk Cully, senior project test engineer, and Dave Stanley, senior technologist, of the Electro-Optic Advanced Systems Division, are both regular long distance runners for local running clubs. Finally, Vincent Monk, plant layout engineer, plant administration department, is one of the leading over 35 athletes in this part of Southern England.



l-r: Kirk and Simon (top row) and Vincent and Dave.

## Spartans raise £1000

**I-CARE** is a group attempting to raise £300,000 for an Intensive Care Renal Unit at Coventry's Walsgrave Hospital.

Recently, a group of GEC Spartans runners from GEC Telecommunications' social club, with friends from various parts of GEC Telecoms formed themselves into an I-CARE team to run in the Coventry half marathon. The team

included a young man, not from GEC, who has had a kidney transplant, and he finished the course in two hours ten minutes. The rest of the team's times ranged from one hour twenty three minutes to two hours fifty minutes.

### Sponsor

First reports indicate that over £1,000 has been raised by this team in sponsor money.

## M-O Valve victorious

**THE M-O** Valve company's cricket team recently reached the semi-finals of the Hammersmith and District cricket knock-out tournament.

Their opponents for the game were the Bochasanwasi Ausharpupushottam Swaminarayan cricket club

of the Swaminarayan Hindu Mission.

M-O Valve batted first and scored 70 runs out of their allotted 15-8 ball overs, with the other team struggling to improve on that score.

### Sixes

M-O Valve were the victors and Madhu Saigal, a technician in the CRT department, was voted man of the match due to the two sixes he scored in a fine innings of 20.

## MERITORIOUS SERVICE REWARDED



**HEATHER** Hicks, telesales correspondent, commercial sales department, at Redring Electric, Peterborough recently won the Newey and Eyre National Supplier of the month award for August.

Pictured is Heather (centre) with her certificate and faithful supporters Ted and Elsie.



**GEC  
AT  
RNEE**

# Biggest naval exhibition yet



Rear Admiral Ljubivoje Jovic, deputy chief of staff, Yugoslav Navy and Colonel Milovanovic, Yugoslav defence attaché, who visited GEC stands.

GEC was recently well represented at the Royal Navy Equipment Exhibition (RNEE) held at Whale Island, Portsmouth.

The six day event, which was the ninth RNEE exhibition, is the foremost of its kind. GEC with its examples of high technology equipment was the major exhibitor.

The participating companies included: Marconi Underwater Systems, Marconi Command and Control Systems, Marconi Communication Systems,

Marconi Defence Systems, Marconi Instruments, Marconi Radar Systems, Marconi Space Systems, Yarrow Shipbuilders, GEC Avionics, GEC Electrical Projects, GEC Mechanical



Lord Trefgarne

Handling, Easams, Paxman Diesels, Vactite, GEC Marine and Industrial Gears and Woods of Colchester.

The exhibition was attended by more than 20,000 visitors including many from overseas.

Prince Michael of Kent, Lord Trefgarne, Minister of State for Defence Procurement, the Hon. Timothy Sainsbury, Parliamentary Under Secretary of State for Defence Procurement, Roger Freeman, Under Secretary of State for the Armed Forces, and Peter Levene, Head of Defence Procurement, were among visitors to the GEC stands.

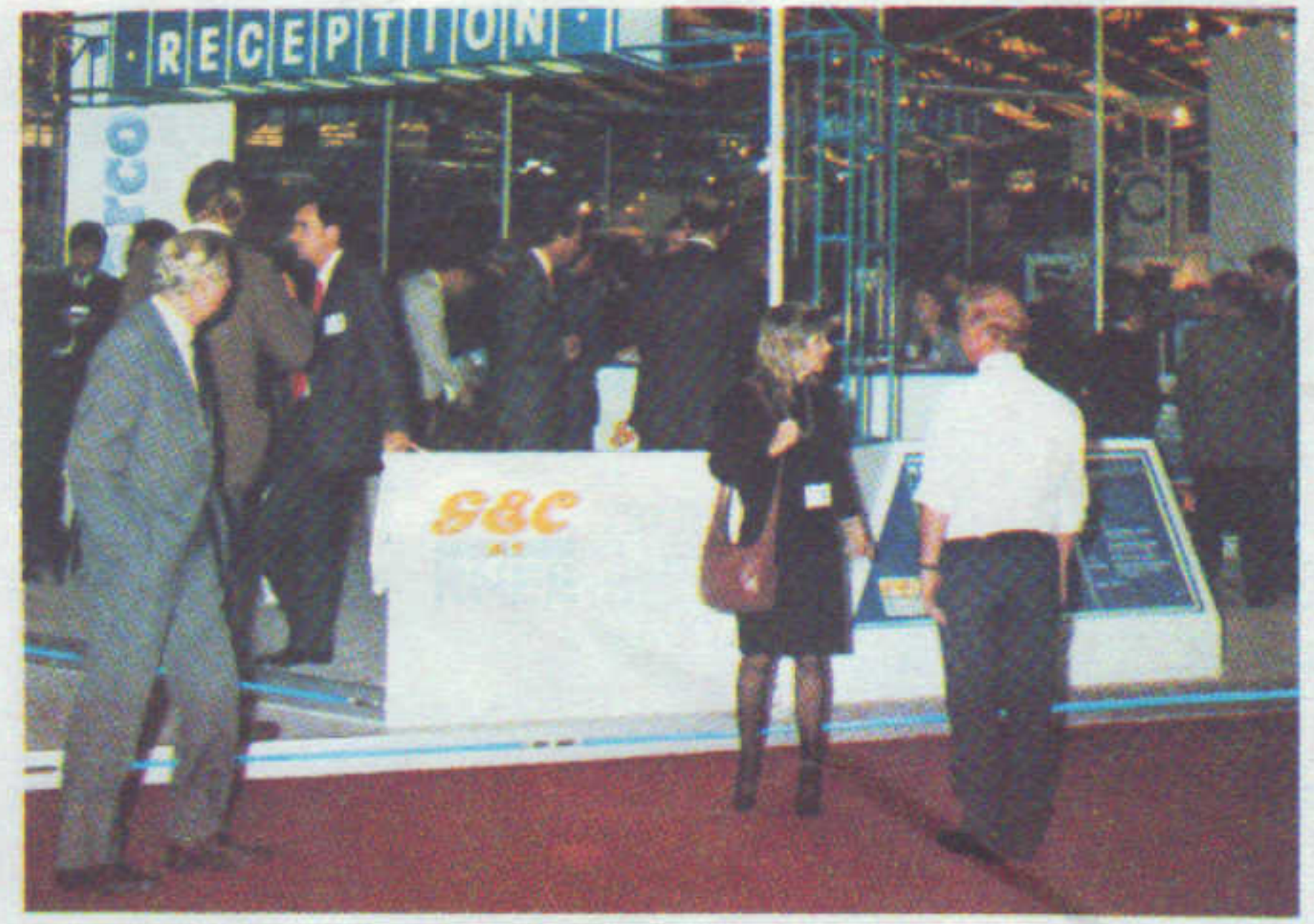
Marconi demonstrated the scope of its activities from the depths of the ocean to outer space.

Some interesting developments were announced at the RNEE. GEC Avionics, Rochester, announced plans for a teaming agreement with Rockwell of the United States, for a ships inertial navigation system, required by several navies.



Peter Levene

Portsmouth, reported a £5 million contract for the provision of a very low frequency (VLF) naval communications system.



The Marconi stand, which was designed and co-ordinated by a team from Marconi Underwater Systems.

The contract was placed by the MoD on behalf of NATO.

The system will automate current laborious manual processing techniques, provide greatly increased capacity and improve the flexibility of

NATO submarine communications.

Marconi Underwater systems (MUSL), Waterlooville, announced its selection by the United States Navy to supply its practice delivery torpedo for evaluation.



MY Amazon a Victorian steam yacht, which was used as a conference facility during the exhibition and as a base for demonstrations of Marconi's diver communications system.

## Contract

The Secure Radio Division of Marconi Defence Systems,

# AVERY KITCHEN SCALES

For a limited period only, GEC employees can take advantage of an unbeatable offer from Avery.

**AVERY ELECTRONIC KITCHEN SCALES** Innovative and highly attractive kitchen scales incorporating a whole host of unique features:—

\*Add and Weigh. Lets you weigh an ingredient and cancel it before adding the next one.

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weight from lb/oz to grams, and vice versa.

\*Kitchen Timer. Provides an audible alarm from ½ min to 99 minutes.

\*High Capacity. Weighs up to 11lb in ¼oz steps, or 5kg in 5g intervals, using your own mixing bowl or the 2½ pint capacity jug provided.

And for those who like to know about the food they eat, our unique **Electronic Health Kitchen Scale**, (selected for the Design

Centre), also incorporates:—

\*Diet Computer. Calculates the calories, carbohydrates, fats or fibre content of a wide range of foods.

**AVERY TRADITIONAL KITCHEN SCALES**

A stylish reproduction model, and fully functional too. Precision made in black, thick gauge cast iron and brass, this scale will weigh accurately up to a capacity of 2lbs or 1kg, and comes complete with your choice of Imperial or metric weights.

**AVERY BRASS BELL WEIGHTS**

Also available is an elegant set of Imperial solid brass bell weights, each individually crafted to 1lb, 8oz, 4oz, 2oz, 1oz and ½oz.

The products are offered to GEC employees for substantially less than the recommended retail value. At these prices, they're a gift!

Prices include postage and packing for the UK. Offer ends 31st January 1988.

**ONLY £30**

**ONLY £25**

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