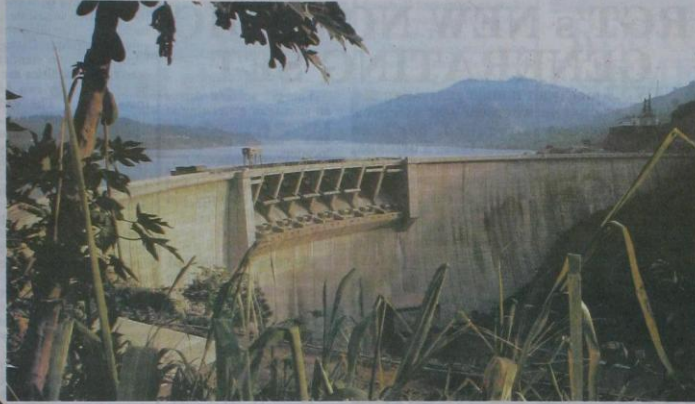


## GEC equipment at Victoria Dam



THE inauguration of the Victoria Dam and hydro-electric scheme near Kandy, Sri Lanka took place at the beginning of April.

The overall Mahaweli river development scheme comprises four dam projects, of which Victoria is the first to generate power, and will irrigate and allow the re-settlement of 45,000 hectares of land.

### Electricity

The power station associated with the 122-metre high dam utilises the waters of the Mahaweli for electricity generation. Commercial power was first produced in August.

The scheme has a nominal capacity of 210

megawatts, representing about 35 per cent of the present total generating capacity of Sri Lanka.

GEC played a major part in the scheme. GEC Large Machines, Rugby supplied approximately £7.5m worth of equipment consisting of generators for the dam and associated plant; Ostram-GEC, Wembley, provided part of a £100,000 lighting scheme required to light the vast working area and GEC Electrical Projects, Rugby, supplied £1.7m worth of equipment, auxiliary transformers, 400 volt switchgear, a standby diesel generator, air conditioning and ventilation services, batteries etc, and was responsible for the system engineering and co-ordinating of manufacturing, supplying, testing, shipping, erection and commissioning of the equipment.

## £80m order for pilotless plane

GEC Avionics, Rochester, has been chosen as prime contractor for the British Army's new Phoenix remotely-piloted surveillance system. A fixed price contract of about £80 million for development and production has been placed.

Phoenix, the army's first fully-equipped pilotless aircraft system for remote targetting and battlefield surveillance, comprises a small air vehicle with advanced avionics and infra-red imaging system, an air/ground data link, a mobile ground station and logistics vehicles for launch and recovery.

As prime contractor, GEC Avionics has involved the expertise of a number of important sub-contractors including two other GEC companies.

The real time surveillance and targetting system, for providing information by day and night, uses a GEC Avionics' infra-red imaging sensor, developed at Basildon. The flight control and navigation systems on the aircraft have been derived from the GEC Avionics's Machan remotely-piloted vehicle programme, conducted with the Royal Aircraft Establishment. The surveillance data and air vehicle commands are transmitted via a data link, using advanced component technology supplied by Marconi Electronic Devices, Lincoln. The computing system in the ground station will be interfaced with BATES battlefield command and control system manufactured by Marconi Command and Control Systems, Surrey. The ground station features GEC Avionics' own newly-developed digital map display unit.

To meet the Army's requirement, Phoenix has to be highly mobile, capable of quick deployment and flexible in operation in extreme environments and in demanding conditions of electronic warfare. A demonstration programme successfully proved GEC systems incorporated in the aircraft.

## GRAND NATIONAL DEBUT FOR STARVISION

# First appearance in UK for giant British tv

RACEGOERS at the 1985 Grand National at Aintree Racecourse had the best ever view of the famous race.

Starvision — the giant screen television display system, made by EEV, Chelmsford — was used for the first time at a major event in Britain.

The British-made system was chosen by the organisers of the Grand National instead of Japanese equipment used at the race during the past few years. Starvision was selected because it provides a unique combination of high quality pictures and the largest screen of any self-contained, mobile giant tv display in the world.

The Starvision screen at Aintree was approximately 20 feet (6 metres) high and 27 feet (8 metres) wide, when erected. Mounted on a road trailer, it has its own on-board hydraulic power system so that it can fold for transportation and then be rapidly erected for use. These operations can be performed in less than half an hour.

### Excellent colour fidelity maintained

Starvision displays colour tv programmes and computer-generated information in all conditions from night-time to full daylight. Brightness is variable and excellent colour fidelity is maintained at all times.

The screen consists of over 70,000 red, green and blue points of light generated by nearly 9,000 electron tubes of a novel type developed by EEV. Lower power consumption, longer life, ease of maintenance, compactness and reduced weight are important advantages of the equipment.

During the coming months, the Starvision mobile screen is expected to become a common sight at important sports fixtures and other major events.



Starvision at the 1985 Grand National.

INSIDE TOPIC: Pg 8/9 GEC in Colchester ● Pg 10 Talking point ● Pg 11 Competition

[www.rochesteravionicarchives.co.uk](http://www.rochesteravionicarchives.co.uk)

## NEWSLINE

# MOD TECHNICAL STUDY AWARDED TO EASAMS

EASAMS, Camberley, has been awarded a £2 million contract by the Ministry of Defence to conduct a twelve-month technical study of vehicle-based Air Defence Command Information Systems (ADCIS) for the British Army.

Easams, as prime contractor and overall systems design authority, will now concentrate on the design and development of system options, demonstrating operational hardware. Amongst a number of companies supporting Easams is Marconi Command and Control Systems. In undertaking this study, Easams is competing with another consortium working under a similar contract.

### Contract

It is intended that one company's package deal offer at the end of the study period will be accepted by the Ministry of Defence and result in a further contract to achieve completion of the project. The latter contract is potentially worth tens of millions of pounds.

ADCIS will provide a fully integrated command information system for air defence units and in so

doing will greatly improve the two-way flow of vital yet rapidly changing information. The effect will be to increase the speed at which the weapons state of readiness is notified to front-line missile defences. ADCIS will operate over the British Army area communications system, now being deployed, and over the Clansman range of combat net radios. It will also interface with NATO communications networks.

## SMALL MACHINES APPROVAL

GEC Small Machines, Warley, has been accepted for registration under the British Standards Institute system of assessed capability. It is the only small electric motors manufacturing unit in the U.K. to be registered as a nationally accepted system of quality approval, enabling purchasers to be satisfied that without further time-consuming evaluation.

## INSTRUMENTS MAKES BIDS FOR LARGER SALES

THE Instruments Division of Marconi Instruments is making an aggressive bid for a 15 per cent share of the \$100-million worldwide mobile radio test market this year with the first of a new family of test sets designed, developed and manufactured at St Albans.

Thirty per cent smaller and lighter than its competitors, the new 2955 radio communications

MARCONI Software, Bushey has recently completed a software project for automatic control of a finishing end tracking system at Scunthorpe rod mill.

The process consists of taking a billet of steel of a specified type and transforming that billet into a coil. To ensure that the identity of the type of steel when it has become a coil is still maintained, the piece of steel is tracked throughout its path by detectors under the control of the computer.

This project enhances the existing system running on a GEC 4080 computer under the operating system which was originally installed by GEC Electrical Project, Rugby.

### Important

In addition to the new software packages an



The new Ruston Nomad mobile generating set.

## RGT's NEW NOMADIC GENERATING SET

A NEW 3.3 megawatt mobile generating set, designed to operate wherever fast electrical power generation is required, has been manufactured by Ruston Gas Turbines, Lincoln.

The new 'Nomad' mobile allows the end user to install and operate the generating set within hours of arrival on site.

The Nomad consists of a fifteen-metre trailer which is sub-divided into four main compartments; a control room, diesel starter enclosure, gas turbine section and an ac generator

compartment. The complete unit is 2.44m (8ft wide) and weighs 57 tonnes (57 tons) making it suitable for on-highway mobility when pulled by a heavy duty unit.

The diesel power is an electrical generator which supplies adequate power to run all pumps, fans and lighting etc. on the unit.

The gas turbine drives an alternator generating at a voltage and frequency to suit each particular location.

The control room is fully air conditioned and incorporates turbine and generator controls.

### First

The Ruston Nomad mobile set is designed to operate efficiently and over very long periods in a wide variety of temperatures and operating conditions. Ruston was one of the first companies in the world to offer independent mobile power generation and is capable of being able to meet virtually any customer requirement.

## MARCONI SYSTEM KEEPS ON TRACKING TO THE END



Pictured is the rod winding into coils prior to the finishing end.

important element of the project was the improvement in the reliability and maintainability of the existing software to enable the computer to cater for the tracking system.

The finishing end system takes the bare coils of steel through inspection and weighing to tallying and dispatch. Overhead carriers are connected to the computer by infra-red transmitters, via receivers at each stopping point in

the procedure.

The coils are identified by their chemical composition, rod diameter, works order details and quality control codes. These data are assembled and embossed on to metal plates by tally stamping machines driven by the computer. The system ensures that data integrity is maintained throughout the whole of the process and the identity of each coil is retained.

## Picker's portable comprehensive ECG

PICKER International, Wembley, has introduced a new portable comprehensive, single channel electrocardiograph (ECG), the Cambridge VS-6. An electrocardiograph is a device for measuring the minute quantities of electricity produced by the heart, which cause the heart to beat.

### Different

The VS-6, designed for straightforward operation, has a touch pad keyboard and can use three different power sources — mains, rechargeable batteries or conventional dry cells, it also has a cut-off device that switches the machine off if there are delays between re-

cordings. Advanced electronics ensures accurate readings with minimum interference. The liquid crystal display panel on the VS-6 gives a clear and immediate reading of all the instrument's functions throughout the ECG, it also has a paper print-out that records the electrical impulse of the patients heartbeat, in linear form.

## General manager appointed

MARCONI Instruments has appointed Dr Saul Lanyado, as general manager of its Donibristle complex in Scotland. His appointment is indicative of the company's determination to strengthen and expand all aspects of the business which presently contributes over £30 million to the total sales of Marconi Instruments. Emphasis will be given to increasing commercial business at home and overseas.

Dr Lanyado took a First Class Honours degree in Electrical Engineering at University College, London, and a Master of Science Degree and PhD in Computer Sciences at Manchester University.

WALSALL Conduits, Birmingham branch will be supplying over £250,000 worth of electrical equipment to electrical contractors for the construction of a new general hospital, in Worcestershire, due for completion in early 1986.

### Conduit

This includes Walsall multi-compartment trunking, Beamline trunking, conduit and conduit fittings, (equipment used for carrying and protecting power cables throughout the hospital). Also being fitted is £120,000 worth of lighting fittings.

## MAJOR CONTRACT FOR WALSALL CONDUITS



Walsall trunking, cable tray and conduit being installed in a corridor ceiling.

**PEOPLE**



**Brilliant student from Vietnam**

**RIGHT** is Professor David Howson, head of electrical and electronics engineering at Bradford University, presenting the university's Chairman's Prize to Quan Tat, a student sponsored by GEC Telecommunications, Coventry, whose marks in his first year exams were the highest his tutors have ever seen. A refugee from Vietnam, Quan spoke no English when he arrived in Britain five years ago.

After spending some time in a settlement camp he mastered English and took his O and A levels at East Warwickshire College of Further Education. He applied for a job at GEC in Coventry and was given a place on a four-year information systems sandwich course at Bradford University. Quan puts his achievements down to hard work. His family who joined him in this country are now settled in Bradford.

**HQ services manager**

**PETER** Lewis, manager, Head Office Services at Stanhope Gate, London has taken early retirement.



**FANCY-DRESS CHARITY FUN**

**LIZ** Taylor (centre), organiser of the Henry Fry Centre in Coventry, is pictured accepting a cheque for £150 from (l to r) Jon Woodcock, Marion Patrick, Myles Hannon and Joanne Bagshaw, student and technician engineer trainees at GEC Telecommunications.

The money was raised by a sponsored fancy-dress pub-crawl around 14 of the city's hostels. It went towards the purchase of a conference table for the Centre which is used by groups for the hard of hearing and other voluntary organisations in Coventry. The remaining £35 of the collection was used to buy presents for mentally-handicapped children at a local hospital.

**TOPIC COPY DATE MAY 9**

**CHARITY FIVE-A SIDE**

**RECENTLY** eight male and two female teams from departments within A G Hackney & Co, Stoke-on-Trent, took part in a sponsored five-a-side football tournament at the Northwood sports centre, Stoke-on-Trent.

The winning male team 'The Chosen Few' and the winning female team, 'Pacers,' were presented with trophies by the managing director, Norman Wright at a presentation evening. The captains of the two winning teams jointly presented a cheque for £250 to the senior transplant surgeon, Mike French of the North Staffs Royal Infirmary Renal Unit.



**RESTORED TO FORMER GLORY**

Headed by Alan Smalley, five employees of Marconi Command and Control Systems, Leicester, from the Millwright Division have restored the 15th century bells and bell tower of St. Giles parish church, Barlestone to their former glory.

After 14 months of hard work, dedication and centuries of silence, the bells which date back to 1401 were rung out, for the first time recently.

Pictured left to right (front row), are Dave Hill and Eric Poulter. Left to right (back row), Dave Marples, Bill Thurman and Alan Smalley.

**Lord Trevelyan**

**LORD** Trevelyan, KG, GCMG, CIE, OBE, died on February 8 at the age of 79.

Humphrey Trevelyan had a remarkable career and held a succession of important diplomatic appointments, notably as British Ambassador in Egypt the time of the Suez crisis in 1956, and later as British Ambassador in Moscow.

In 1967 he was invited by Mr Wilson's Government to take over the Governorship of Aden during the last few months before independence.

On retirement he took on several directorships, including English Electric and later, GEC.



**ERNIE'S MOUTH-WATERING SEND-OFF**

**EXPORT** manager, Ernie Gailer retired recently after 50 years service, at Hatpoint, Peterborough.

Ernie joined the company as a lift boy and has worked his way up to the position of export manager.

Colleagues gave Ernie a mouth watering send-off when they presented him with a delicious cake and many other gifts including an orthopaedic chair. He was also presented with a camera and some wine glasses from international customers.

Ernie is pictured centre with his wife and colleagues.

**Degree for Jo**



**AMONG** the graduates at the Open University graduate press conference recently was Jo Davies, a systems engineer with Easams, Camberley.

Jo had intended leaving school to take up teaching, but instead decided to seek a career in engineering.

Sponsored by Easams, Jo graduated with a degree in science and technology.

**Crystal man retires**

**HAROLD** Longton, quality assurance manager with Salford Electrical Instruments, Lancashire retired recently after 46 years service.

Harold joined the company in 1939, specialising in the field of quartz crystals. When he became known as a "crystal man". He was later promoted to quality manager.

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## NEWSLINE

### MDS ADVANCED SATELLITE COMMUNICATIONS TRANSMITTERS

MARCONI Defence Systems, (MDS) Stanmore, has been awarded a £260,000 contract by the European Space Agency (ESA) to manufacture seven highly advanced satellite communications transmitters operating over the frequency band 1530 to 1555MHz.

The order will be met by MDS's Satellite Communications Division in Watford. The transmitter design not only improves the overall transponder reliability but also the use of multi-beam antennas to provide the flexible satcoms links needed for the fast-growing commercial maritime/mobile market. Traffic carried over such links is increasing at the rate of 60 per cent per annum, and the demand for commercial shipborne, airborne and land-based terminals is growing by 40 per cent per annum.

#### Integrate

Marconi will complete delivery of flight standard transmitters by the end of 1985. ESA will then integrate these key elements within an experimental phased array payload.

### GEC robot system for EETPU

A GEC robot system has been installed in the training centre of the Electrical Electronic Telecommunications and Plumbing Union (EETPU), at Cudham Hall, Kent.

Designed and installed by the Robot Systems Division of GEC Electrical Projects, Rugby, the complete package of robots, shuttle table (equipment which moves parts on a table between the two robots), and controllers has been put together specifically for training purposes.

The heart of the system is a GEM 80 programmable controller which provides overall control and synchronisation of the two robots, a PRW 10 process robot and a Little Giant pick and place robot, with the shuttle table.

#### Applications

The PRW 10 robot is used mainly in welding applications, but can also be used in assembly, component transfer, gluing or de-burring processes. The Little Giant is used in material transfer applications with a carrying capacity of 30 kg.

#### Teaching

The system will provide the hardware to teach students the skills of programming, operation and maintenance of modern day robotics. Through an operator interface and simulator panel the GEM 80 also provides the facility for teaching typical state of the art software applications used in process automation systems.



A cellular antenna undergoing vibration testing at MDCS.

### ANTENNAE FOR CELLULAR RADIO

THE Antenna Systems Division of Marconi Communication Systems, Chelmsford, has been awarded an order from L. M. Ericsson for nearly 500 antennae. Won against international competition, the contract covers the supply of both directional and omnidirectional units which will be used in the network being installed by Racal Vodafone.

The Marconi antennae — type R8920 (omnidirectional) and R8925 (directional)

were developed from scratch in less than twelve months.

Marconi's antenna sales manager, Keith Ball is hopeful of overseas sales and reports strong interest from would-be cellular service operators in the Far East and Oceania.

Marconi Communication Systems is one of the world's leading design and production houses for communications and broadcast antennae.

to detect, track and engage potential targets, day and night, and in all weather and battlefield conditions, without betraying their own position. Applications include Chiefain and Challenger tanks, tracked Rapier ground-to-air missile systems, fixed-wing aircraft and naval systems.

With growing world demand for military thermal imagers, the success of the UK's TICM II for all armed services, can already be judged by their adoption within eleven totally different configurations of imager, purchased by seventeen different customers, in eleven countries.

### MOD ORDER FOR AVIONICS

GEC Avionics, Electro-Optical Surveillance Division, Basildon, has received a multi-million pound contract from the Ministry of Defence (Procurement Executive) for further production of the UK's Class II thermal imaging common modules (TICM II).

TICM II enables users

### Radars keep track

AN INITIAL £400,000 contract for the installation of a vessel traffic system (VTS) at Harwich has been awarded to Marconi Radar Systems, Chelmsford by the Harwich Harbour Board.

The contract is for three new radars: one to replace the board's existing radar; the other two to be remotely located and linked to the harbour operations centre by landline data link. In addition, the contract includes the provision of high definition scan displays and sophisticated data handling facilities.

The VTS will be used for the surveillance of traffic movements of some 24,000 ships annually within the harbour area.

The system incorporates three tv bright colour displays — viewable in daylight conditions — and will provide all the facilities of a standard radar display.

### Briefings

MARCONI Electronic Devices, Integrated Circuits (IC) Division has just taken on an additional 35 new graduates.

Twenty-seven graduates are based in Lincoln and eight are working in the Wembley Design Centre.



MARCONI Communication Systems, Chelmsford, and Comark Communications Inc. of Southwick MA, US have achieved over 77 per cent efficiency with a klystron beam vacuum tube at WITTE-TV, Channel 28, Ohio, US.

This figure represents a major step forward in efficiency improvements for the UHF broadcaster and places klystron energy performance on a par with VHF tetrode technology. The broadcaster's energy costs can now be significantly reduced.



GEC Computers, Borehamwood will be among the exhibitors at Communications '85 to be held from 23-25 April at Earls Court, London. Among the range of equipment on display will be data communications systems and videotex systems.

### GEC-Xpelair aids Antarctic expedition

GEC-XPELAIR, Birmingham was enlisted to help the 'In the footsteps of Scott' Antarctic Expedition which set off from St Catherine's dock, London recently.

#### Assistance

Two members, Robert Swan and Roger Mear will be retracing Captain Robert Scott's footsteps of 1912 in making the 883 mile trek to the South Pole, without any outside assistance from depots,

dogs and air support.

GEC-Xpelair has supplied 15 'Coolair' fans which are to be used in mess rooms to keep the crew of the expedition ship cool on their journey via South Africa and Australia to Lyttelton in New Zealand, from where the expedition sets off for the polar icecap. They will also provide relief from the heat while the ship is based in Sydney for nine months before returning to the Antarctic in 1986 to pick up the expeditioners.

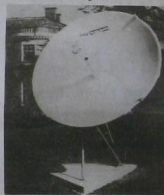
### A first for McMichael

A COMPLETE range of television receive-only (TVRO) satellite earth terminals has been introduced by GEC McMichael, Slough.

Providing broadcast quality reception of television programmes from geostationary satellites, these cost-effective terminals comprise essentially of a dish antenna and mount, a low-noise converter and a satellite

receiver. The receiver allows any one of 50 preset channels to be selected.

Systems based on these components have already been supplied to a number of European post telephone and telephone administrations for both transportable and fixed installations. GEC McMichael is the first European manufacturer of TVRO equipment to install such systems.



The TVRO

### Buccaneer update

MARCONI Defence Systems, (MDS) Stanmore, is to undertake an extensive update programme on the passive electronic warfare system currently fitted to the Buccaneer S2B low-level strike aircraft in service with the Royal Air Force.

The order, worth several million pounds, has been placed by the Weybridge Division of British Aerospace's aircraft group and involves re-design and modification to the Buccaneer's existing crystal video radar warning receiver, including a comprehensive threat display. The complete system, known as Guardian Series 200, is able to determine all known radar threats and operate in the increasingly dense electromagnetic environment which surrounds aerial conflict.

Design and development is being undertaken by MDS's Electronic Warfare Division at Stanmore and manufacture of

equipment at its production plant, located at Hilsea in Portsmouth. Delivery of equipment is expected to commence later this year.

### £200,000 for Claymore

MARCONI Secure Radio Systems, Portsmouth, recently won a further export order for elements of its Claymore radio relay system. The contract, placed by a Middle Eastern country, is a repeat order and is valued at over £200,000.

Claymore is a lightweight, portable and simple to operate radio relay system and its built-in test function makes it easy to maintain. It is compact, highly durable, very reliable and is a highly secure, military communications system, ideal for any modern army.

**NEWSLINE/PEOPLE**

**Buckingham Palace reception for winners**

**THE Queen and the Duke of Edinburgh recently held a reception at Buckingham Palace for the 1984 winners of the Queen's Awards for Export and Technology.**

It was reported in the June 1984 issue of *Topic* that Marconi Space & Defence Systems, Frimley (now Marconi Command & Control Systems) and Ruston Diesels, Newton-le-Willows, had each won awards for export achievement and the Gas Tube Division and Magnatron Division of EEV, Chelmsford had each won awards for technological achievement.

**Represented**

EEV was represented at the ceremony by Mike Mandl, director and general manager; Clive Muskus, divisional manager Lincoln unit; Don Smith, manager, Linac magnetron section; Chris Neale, manager, gas tube production; Harry Savage, thyatron tester and shop steward and Valerie Lowe, Linac magnetron cold setter. Ruston Diesels, was represented by Jack Moore MBE, commercial director; Craig Pilkington, test bed superintendent and William Hilton, tool room worker. Marconi Command & Control was represented by Reg Beckley, general manager at Frimley, Rod Linford, product manager, Broad Oak Works, Portsmouth and Frank Glover, product manager, Marconi Secure Radio Systems, Hillend.

The Duke of Gloucester, the Duke of Kent and Norman Tebbit, secretary of State for Trade and Industry were present at the ceremony.

**GEC Telecommunications, Coventry, has announced an order from China for private telephone switching systems.**

Orders have been received from the China National Posts and Telecommunications Industries Corporation in Hangzhou for CDSS1 digital PABXs and electronic microprocessor-controlled key systems.

The orders include 250 and 500-line versions of the CDSS1 advanced digital business communication system; GEC16 micro-pabx with microprocessor control of one exchange line and six extensions; GEC520 programmable electronic keyssystem with up to 5 exchange lines and twenty extensions.

CDSS1 is manufactured at the Private Systems

**Order for Voice of America**

MARCONI Communication Systems, Chelmsford has won a contract worth about \$2,000,000, via its US office Marconi Electronics Inc. The order is to supply the US external radio service, Voice of America, with a short-wave broadcasting transmitter to be installed at Greenville, North Carolina, US.

The modern, high efficiency 500kw will be built by Marconi in Chelmsford and installed by their engineers.

**Private telephone systems for China**

Division's Ford Street complex in Coventry and the GEC16 and 520 systems at Telephone Division, Aycliffe, Co. Durham.

These orders, worth well over £1 million, are

seen by GEC as an invaluable introduction to the enormous Chinese market. China has announced plans to spend £25bn to update its telecommunications networks.

Richard Reynolds, man-

aging director of GEC Telecommunications said he was delighted with the news and excited at the prospects that lay ahead. "After many months of negotiation, visits by executives, and demonstrations at specialist telecoms exhibitions in Guangdong and Beijing, we now have our first orders, always the most difficult to get in any new market as important as China."

Delivery is scheduled for April/May 1985.



**JOHN'S TRIP TO JAPAN**

**JOHN Lorriman, controller of training at GEC Telecommunications, Coventry has won a Winston Churchill Travelling Fellowship.**

It will enable him to make a £4,000 trip to Japan in the summer to study training and recruitment methods in the electronics industry.

John plans to confine his sightseeing to Japanese factories. "Electronics is a growth industry", he said "and recruitment is going to have to be even greater in the years to come. I want to see how the Japanese are achieving this".

The scheme was set up by the Winston Churchill Memorial Trust to enable people from all walks of life to visit other countries and bring back knowledge and experience. This year there were 2,250 applicants and 91 fellowships have been awarded.

**English Electric wins \$16 million contract**

THE English Electric Corporation has won a \$16 million contract from the New York City Transit Authority for four rectifier substations. It is the largest order GEC has received for transit rectifier substations in the United States.

EEC, as the main contractor, will be responsible for overall co-ordination of the equipment and provide total contract management.

Rectifiers will be supplied by GEC Transmission and Distribution Projects, Stafford, and the dc breakers will be manufactured in the United States to meet "Buy American" requirements. TDPL will be responsible for the co-ordination of the rectifier and transformer and, under a licensing agreement, provide the design and technical services required to manufacture the breakers.

Major subcontractor, will provide the cable, conduit and installation. Additional equipment will be supplied by other US companies.

The total contract time is approximately three years.

Main competitors for this contract were Brown Boveri, Westinghouse and General Electric (USA). This contract is one of many in NYCTA's 20-year modernisation plan. English Electric is currently preparing a bid for seven more substations valued at approximately \$35 million.

Federal Chandros, the

**NEWLY FORMED**

MARCONI Electronic Devices, Lincoln and Ruston Gas Turbines, Lincoln are among representatives on the newly formed Lincoln Enterprise Forum. The body, set up to encourage job prospects, helps people wishing to set up in business themselves, hoping to reduce local unemployment.

**Exclusive label for Avery**

THE health/kitchen scale produced by W&T Avery, Smethwick has been selected by the Design Council to carry the Design Centre label.

This label is widely recognised at home and abroad as the mark of a well designed British product and only products chosen by the Design Council are entitled to carry it.

The selection panels comprise of specialists in design, manufacture, marketing and retailing. The judges look for products that are well made, suited to their function, easy to use, simple to maintain, good looking and value for money.

Selection for the Design Centre offers the Health/Kitchen scale many opportunities for publicity and promotion and the label can be used on the product or in advertising. The scale may be put on display at the Design Centres in London, Glasgow and Cardiff, and will be sold in the Design Centre shop in London.

**Outstations for Scotland**

GEC Measurements, Leicester Division has received an order, worth more than £50,000, from the North of Scotland Hydro Electric Board for 32 type T1000 microprocessor based intelligent outstations for use as set point controllers for hydro turbine generators.

Intelligent outstations are remote terminal units used to monitor the conditions within the plant, such as temperature and pressure. The intelligence of the unit comes from its

ability to make decisions on whether to speed up or slow down processes within the plant. The unit is also connected by telephone wires to a control centre and is able to communicate with an operator within the plant.

The outstations are from the latest range of advanced telecontrol equipment developed by GEC Measurements for application in many industries including electricity, water, oil and gas.

**UK TRADE MISSION IMPROVES RELATIONS**

RECENTLY James Prior, chairman of GEC joined a UK delegation on a trade mission to China. On his return Mr Prior made a statement about his visit.

"GEC has had important discussions with a number of departments. These talks have been beneficial and have uncovered a number of additional opportunities as well as helping to expedite deals

already in negotiation. In particular, joint venture agreements between GEC Telecommunications, GEC Machines, Marconi and GEC Power Generation and Transmission were fully discussed and I am hopeful will lead soon to firm commitments.

"China emphasised that their next five year plan will call for high technology at highly competitive prices and GEC welcome this approach as it is consistent with its position as a world leader in so

many infrastructure projects at the heart of the Chinese plan.

"Having seen GEC's performance in Hong Kong in power generation, telecommunications and the rapid transit railway, we received welcome assurances that orders would be placed with us.

"Competition is intense, but action to follow up these talks and the much improved relationship between our two countries has already begun."

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## CAREERS

### 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.

#### MARCONI COMMUNICATION SYSTEMS, CHELMSFORD SYSTEMS ENGINEERS

A new division of Marconi Communications based in Chelmsford has opportunities for engineers to work on a major turn-key project from feasibility studies, systems design to implementation.

You should preferably be qualified to degree level and have experience in one of the following areas: local exchanges, digital telephony systems, circuit switching, fibre optics, HF radio and antenna systems, tactical communications, microwave communications, logistics support or supervisory systems.

Some of the positions call for overseas travel.

Please apply to: T Canham, Divisional Manager, Marconi Communications Systems Ltd, New Street, Chelmsford, Essex.

#### MARCONI RESEARCH CENTRE, CHELMSFORD VLSI DESIGN ENGINEERS

As a further step towards the realisation of GEC future systems products in VLSI, a new IC design activity is being established at the Marconi Research Centre.

Excellent, challenging opportunities now exist for graduate engineers with experience in one or more of the following: digital systems design, analogue circuit design, semi-custom IC design, advanced CMOS and bipolar technologies, full custom IC design, CAD hardware and software, test engineering.

Please apply to: N J Baldwin, Marconi Research Centre, West Hanningfield Road, Great Baddow, Chelmsford, Essex.

#### MARCONI RESEARCH CENTRE, CHELMSFORD MANAGER, GEC TECHNOLOGY POOL

A manager is required to run the GEC Technology Pools (Microelectronics, Software and CAE), with administrative assistance from a small team and occasional technical consultancy from GEC personnel. This is an important post to GEC and demands enthusiasm and energy from someone with a technical background. A fair amount of travelling will be involved. A manager with a knowledge of GEC companies will be at an advantage. There are no age limits.

The manager will be responsible to the technical directorate of GEC for the Pool activities.

Please apply to: A W Goddard, Marconi Research Centre, West Hanningfield Road, Great Baddow, Chelmsford, Essex.

#### MARCONI INTERNATIONAL MARINE COMPANY, CHELMSFORD SENIOR ENGINEER - PROJECT MANAGEMENT

We require a senior engineer who will be directly responsible for all aspects of the implementation of communications projects for the offshore oil industry.

Duties will include:

- ensuring that all work is performed in accordance with the company's quality systems
  - liaison between company, customers and sub-contractors
  - attendance at progress meetings and preparation of reports
  - providing an interface for all commercial and technical matters.
- Applicants should be a graduate or equivalent with more than ten years' relevant experience within industry, including technical and managerial experience.

Please apply to: John Ellis, Marconi International Marine Co Ltd, Elettra House, Westway, Chelmsford, Essex, CM1 3BH.

**A.B. DICK's headquarters in Chicago, US, was recently visited by GEC chairman, James Prior and his wife.**

With A.B. Dick's chairman, David Powell, Mr Prior toured the manufacturing areas where he saw the successful line of offset printing presses, small mimeograph duplicators, and selenium-tellurium drums being assembled. He also visited the company's subsidiary, Videojet Systems International, at Elk Grove Village, Illinois.

#### Demonstrated

There, Mr Prior watched the assembly and testing of the firm's ink jet marking and on-line bindery addressing systems. Also demonstrated were the Videojet ETC laser printer, a newly introduced large-character code called Maxum, and several prototypes of products under development. Mr Prior's visit also

## CHAIRMAN IN UNITED STATES



Mr Prior being shown equipment during his visit.

included presentations from the heads of the A.B. Dick divisions.

The A.B. Dick's Reprographics Division manufactures and markets a complete line of sheet-fed offset duplicating systems. Other A.B. Dick reprographics products include computerized copy duplicators, high-speed collators/folders, stitchers, platemakers, spirit dupli-

cators, and a full line of supplies for the graphic arts. Emphasis is being placed on improving graphics and colour in the offset line. Reprographics Division also markets a full line of plain paper photocopiers, from tabletop copiers to high volume machines. The division recently introduced a zoom lens reduction/enlargement copying system.

#### Offers

The Office Products Division (OPD) sells a desktop microcomputer. The 16-bit Knowledge Worker version adapts to the working style of each user and offers word processing, personal and executive computing, telecommunications, electronic mail and data management.

A.B. Dick and Videojet employ more than 5,000 employees in the US, Canada, and abroad. 1984 marked the firm's 100th year in operation.



## New vacuum ring main in Saudi

AT THE recent Middle East Electricity exhibition in Jeddah, GEC Distribution Switchgear launched its vacuum ring main unit. Pictured (left) is Engineer Mahmood Taiba, governor of Saudi Arabia's General Electricity Corporation, discussing the new equipment with George Hodkin (second left), Graham Hollingsworth (far right), both from GEC Distribution Switchgear, Stafford and Jim Glendinning (second right), a corporate representative.

Other equipment on display was high voltage switchgear, transformers, installation equipment, transmission and distribution projects, a vacuum contactor, diesels and lighting projects.

## Nine month deadline for Arabsat

MARCONI Communication Systems, Chelmsford, has received an order from Cable and Wireless to act as prime contractor for the provision of a containerised earth station in the Yemen Arab Republic working within the Arabsat satellite system. The contract which has a value of over £2.5m, includes civil works, and multiplex equipment.

The system comprises a post antenna, low noise amplifiers, ground communication equipment, and supervisory system. The antenna is provided by Marconi Radar Systems, Gateshead.

The earth station will work to the Arabsat satellite in C band and provides a variety of services including community tv.

The antenna is a C band version of the successful torque post design first used on the Ku Band station installed by Marconi Communication Sys-

tems for BTI and Cable and Wireless in London's dockland, the seventh to be supplied by Marconi over the past two years.

The systems is to be

manufactured and installed by September 26, 1985 — the Yemen Arab Republic's National Day, which is within nine months of date of order.

## Major project for Marconi

MARCONI Communication Systems, Chelmsford has been awarded a contract to undertake a major re-engineering project on the BBC tv transmitter station at Crystal Palace, London.

The stations transmitters are to be converted to beam-modulated operation to boost their efficiency and reduce station running costs.

Marconi is also to supply new drives, with new vision and sound combiners and other peripheral equipment for the station.

## 40,000 TELEPHONES FOR BAHRAIN

GEC Telecommunications, Coventry, has won an order for 43,000 special IXT pushbutton telephones against international competition.

After an initial order for

13,000 telephones, a second order for 30,000 telephones was received by successfully meeting a contractual condition to deliver 5,000 telephones in eight days.

The orders have been placed by the Bahrain Telecommunications Company (Batelco). All the telephones have keypads inscribed in Arabic and are specially adapted for Batelco requirements.

## £2M FOLLOW-ON CONTRACT

THE ROYAL Navy is to continue to equip its submarines with Seafox hf communication systems in a £2m follow-on contract with Marconi Communication Systems, Chelmsford.

The order, for 12 further systems will provide medium to long range communication to submarine headquarters. The equipment will be fitted on

current boats, and also to the new 2400 class now being built.

Based on the Marconi Seafox communication system for light naval forces it will be fully compatible with the Royal Navy's main integrated communications system developed by Marconi and in use by many overseas navies.

Some of this equipment has already been supplied to the New Zealand Navy and is currently on order by the Chinese and Indonesian Navies.

## Fog detectors for M25 in Surrey

FOLLOWING the recent M25 (Surrey) pile-up, in which nine people died in thick fog, Marconi Command and Control, Leicester is to install, for evaluation, its MET-3 fog detector system.

#### Light

The MET-3 detectors consist of a framework holding one light-sensitive head and a reflector that face each other; a beam of light is transmitted from the light-sensitive head to the reflector and then reflected

away. Any loss of light due to rain, fog or smoke is measured and the data fed to a central computer that analyses the information and then informs a police control centre about conditions.

Marconi currently has visibility detectors at many airports including Heathrow and Gatwick.

The same type of system is used in the tunnels on the M25 north of London. The tunnel detectors are linked to a control system that can adjust the lighting in any part of the tunnel.

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## Young people form group to promote activities

IN MID-1984 a small group of young employees within Marconi Command and Control Systems, Frimley, decided to form a new association for young employees under the age of 25.

The objectives of the Young Employees Association are to bring the young people and management together in a social and working capacity to help improve lines of communication and working relationships throughout the company. It also gives young employees the chance to help the local community and charities.

### Charity

Since the Y.E.A. started last year, functions have been organised, which vary from disco's to a children's party. The Y.E.A. ran the raffle at the company dance and raised £200 which will be donated to a Frimley charity. More adventurous events

are being arranged. Late in 1985 the Y.E.A. will be entering teams for the Beaujolais Nouveau race, the winning team being the first to return to Frimley and present the managing director with a bottle. It is hoped that a lot of money will be raised for charity through local sponsors.

### Communication

The association is at present running a scuba diving course and a skiing trip early next year. Adventure weekends and Outward Bound courses at places such as Calshott on the South Coast are being organised, and, of course, there will be an entry in GEC's National Young Employee's Competition.



L to r: D T Howell, managing director and J C Clare, divisional manager, with Eric and Cyril.

## 100 years total

TWO employees of GEC Mechanical Handling, Erith, Eric Grice and Cyril Norwood, have both recently completed 50 years' service.

Cyril joined the company (at that time Fraser & Chalmers) as an apprentice in the Mining Department and progressed to service and commissioning, travelling

extensively around the world. He is now responsible for various products within the mining group.

Eric Grice started work as the office boy in the boiler shop. He then worked in various departments including progress, costing, spares and sales. For the past eleven years, he has worked in the Mechanical Process Division's, Contracts Department.

## TREFOREST KNITTERS



RECENTLY items of clothing were hand knitted by a group of GEC Telecommunications personnel at the Treforest factory.

South Wales. The clothing was destined for Ethiopia.

Below is a poem written by the ladies, inspired by what they had achieved.

*We started our own production line  
Making small garments in our spare time.  
Experienced knitters attacked it with zest  
By turning out lots of these cute little vests.  
Families and friends, non-knitters too,  
Swelled the production to eighty two  
The effort was worth it, — you will agree  
With very best wishes, from GEC*

TWO physicists at the Hirst Research Centre, Wembley have won prestigious awards.

Dr Mike Pepper of HRC's Long Range Research Laboratory was awarded the 1985 Guthrie medal and prize by the Institute of Physics for his pioneering experimental work on the physics of two-dimensional systems. This is the Institute's senior award, named after its founder, Professor Frederick Guthrie. The award is worth £500.

### Prize

Dr Pepper has also been awarded the European Physical Society's 1985 Hewlett Packard Prize

## MEDALS FOR WEMBLEY PHYSICISTS



Dr Mike Pepper.



Colin Wood.

jointly with a Danish physicist, for his contribution to the physics of

low dimensional systems. The Institute of Physics has also awarded its Pater-

## PEOPLE

son medal and prize to Dr Colin Wood, manager of the HRC Compound Semiconductor Research Laboratory at HRC for pioneering work in the application of molecular beam epitaxy to the design and fabrication of novel devices and structures.

### Award

This award, introduced in 1981, is named after the founder of the GEC Hirst Research Centre, Sir Clifford Paterson. It is made annually for outstanding contribution to new systems, processes or devices which show successful commercial exploitation of physics, and is intended to encourage younger physicists.



Syd (holding his card) and Alan (holding a presentation plaque) with all their friends and colleagues.

## DRAUGHTSMEN CALL IT A DAY

TWO employees of Marconi Command and Control Systems, Leicester, retired

recently after more than 85 years service between them.

## SCIENCE VICTORS

MARCONI Secure Radio Systems, Hillend, Marconi Instruments, Donibristle and The Marconi Company, Stanmore were among the sponsors of the Scottish Young Scientists of the Year Competition, held recently at Stirling University.

School children throughout Scotland were invited to put their science skills to the test.

Anthony Heading and Robert Hills, both fifth formers from George Watson's College, Edinburgh were the victors, with their experiment in sound insulation.

Alan Widdowson joined BTH, Rugby as an apprentice in 1936, leaving for military service in 1939. He rejoined the company in 1945 as a draughtsman in the electronics drawing office. During the following years he was transferred to Coventry, returned to Rugby 11 years later then in 1958/59 went to Leicester where he spent the next ten years in the automation drawing office.

Syd Martin joined BTH, Rugby in 1946 as a trainee draughtsman, he has worked in various divisions of the company, but for the past five and a half years has worked as chief draughtsman at New Parks, Leicester.

Now that Syd has retired he and his wife are hoping to visit their daughter who lives in Japan.

## Thumbs up for Keith's boots



KEITH Kimberley, section leader at GEC Engineering (Accrington), had a lucky escape recently thanks to his steel-toed boots, when an electric truck reversed over his left foot.

Keith has also been accepted into the Golden Shoe Club, a non-profit making organisation financed by most of the leading manufacturers of safety footwear, in the hope of greatly reducing the number of foot accidents that occur in industry each year.

Keith is pictured wearing the shoes which saved his left foot from being crushed.

## Don wins award

DON Gibson, procurement and distribution manager at GEC Tele-

communications Kirkcaldy factory, has won an award on completion of his Engineering Industry Training Board fellowship in management and training development.

The award was recently presented in London by the Hon. Peter Morrison MP, Minister of State for Employment.

Mr. Gibson joined GEC as an order clerk in 1973.

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## GEC IN COLCHESTER

# Woods: From a small hut to a world force



1919. The machine shop at Denmark Street.

**WOODS** of Colchester has grown to world-wide prominence from the humblest of beginnings. It began in 1909 as a small electric motor works employing 13 people.

The founder, Maurice Woods, was an engineer with forward-looking ideas. In particular he took orders for special machines which larger electrical manufacturers would seldom handle. He also produced motor-driven propeller fans, at a time when most fans were belt-driven. By 1912 he was making propeller fans with a diameter up to 48in. — and shipping them overseas.

The business expanded steadily after this, moving to new premises at Denmark Street, South Colchester, after a fire at the Hythe factory in 1919. It was then that GEC came into contact with Woods when it helped to re-establish the business.

In 1947, GEC acquired a 51 per cent interest in Woods coinciding with its first Aerofoil axial flow fans which necessitated the design and tooling of a new range of motors and the development of related adjustable pitch impellers.



Keith Blackman Axcent 1 fans awaiting shipment to various offshore applications.

In 1966 Woods became wholly-owned by GEC.

The Aerofoil fan range today includes 18 diameters from 3.8in. to 75in. It is this product range which has been the corner stone of the company's success over the last 40 years. In the early 1970s the cost of energy underwent a rapid price escalation and 'energy conservation' became a fact of life. In the United States, the problem of fuel supply and demand imbalance was

the largest trade shows for the heating, ventilating and air conditioning industry; the last exhibition in January 1985 proved to be the most successful ever.

Fifty-five per cent of Woods' output is sold to over 100 countries. One of the latest contracts won by the company was for the supply of 200 longitudinal tunnel ventilation fans with a value in excess of £500,000 for the Lecco/Colico road project in Italy. This order was obtained by Woods Italiana, Milan. Italy is a major export market for Woods, another being America. Woods has marketing subsidiaries in Finland and Norway.

The range of fans produced, their versatility and high engineering quality, have established Woods in a strong position among the world's fan manufacturers.

Recently Keith Black-



Fans being loaded for the Lecco/Colico road project, Milan, Italy.

man, manufacturers of centrifugal fans for both ventilation and industrial processes work, transferred its manufacturing activities to Woods of Colchester from its Arbroath factory.

Since doing so, the two companies have combined their commercial engineering and production activities and improved the ser-

vice and speed of response to customers. The product range includes; axial and centrifugal fans, air handling units, roof input and extract units, plus acoustic equipment.

Woods has spotted a gap in the market between axial and centrifugal fans. Recently, after three years of research and development, the Axcent 2 mixed flow fans was launched in this sector.

From the small hut at the Hythe, Colchester, Woods has expanded into an area of 17.25 acres with a 900 strong workforce.

Training for staff and works personnel is a priority consideration at Woods and many courses are organised.

A training school is based at Colchester where training is given to the sales engineers of overseas subsidiaries, distributors, and branches, along with Woods' own engineers.

Woods Service Department operates at home and throughout the world on many varied operations.

Woods and Keith Blackman have many fans on-board the QE2 which in the past two years, have been updated. Due to tight scheduling, both Woods and KB Service Departments often met the ship when she docked at Southampton to allow passengers to disembark, giving only 48 hours in which to carry out strategic work.

To complete adjustment of air flows to suit conditions on board the ship, Ian Williams of Woods, who received the BEM in the Queen's Honours list two years ago, and Joe Clough of Keith Blackman made a working trip on-board the QE2 on a seven day cruise to the Canary Islands, working a 12-hour day throughout the trip.

## COMPUTERS STRENGTH

Woods has also been a forerunner in the use of computers and today this is part of the company's strength.

Automation of order processing has been installed at the head office in Colchester with the development of a program for processing orders from customers requiring products from the standard range.

The various criteria, such as type, size, speed and electrical details are entered into a computer terminal, located in the Commercial Department

and the computer selects the appropriate product. Automatic checks are applied for customer standing and stock availability. If either of these checks fail, the order is referred to visual display units in the Accounts Department or Production Control, where action is taken — no paper is produced at this stage.

Paperwork is only produced if the automatic checks are passed — this takes place within a few minutes of the order being entered, and enables despatch within 24 hours.

This month, Woods started to install micro-computers linking its regional offices; London, Birmingham, Manchester and Glasgow, back to the main computer at Colchester.

The primary function of these micros will be to select suitable fans for a given requirement and to print instantly a quotation for the customer.

It is also proposed to provide word processing and financial spreadsheet facilities. Enquiries will also be made to the main computer at Colchester about stock availability.

## OFF-DUTY PASTIMES

As a major local employer, Woods has people with a variety of off-duty pastimes in its 900 strong workforce.

Recently, a group of volunteers, mostly in the picture below, met to tell



us about their leisure interests.

Peter Chisnall, acoustic design engineer (first left) who, together with David Mills, computer programmer (not pictured), Alan Collings, (third left) and Tony Malone (fourth right), both machinists, formed a team to enter the Royal London sports quiz, held in Colchester. For the past three years, Woods has won the trophy.

In 1983 the team reached the fourth round of the Sunday People national sports quiz.

Second left is Stewart Loftus, assistant works engineer. Stewart has been a Rugby Union football referee for 15 years and belongs to the Suffolk and North Essex Society of Referees. He recently



Colchester Castle built around 109

## BRITAIN

COLCHESTER likes to be known as Britain's oldest recorded town, its history dates back to 50 BC. In 5 BC, the Celtic King Cunobelin (known to Shakespeare, thanks to Shakespeare, to make Colchester his Royal Town and long stretches of his fortress remain today.

Emperor Claudius established a Roman colony and built his temple there in AD 44. Seventeen years later, in

decided to give up active refereeing and now assesses the new junior referees, keeping up with the laws and rule changes of the game.

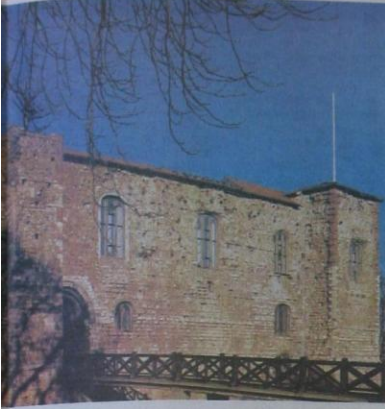
Staying with sport, pictured fourth left is class one football referee, Martin Fells of the Order Editing Department. Class one means that Martin's county has guaranteed his competence. Martin referees Essex senior league matches and is linesman for the south east counties league matches which involves football league youth teams. He started refereeing at 16 and graduated to class one in 1984.

Bernie Fairhead, Airpac draughtsman (fifth left), with Paul Bray, inspector (second right) and Barry Gibbons, machinist (sixth



**WOODS AND PAXMAN**

# Paxmans: Investing in new products



## 'S OLDEST TOWN?

AD 61, the famous Queen Boadicea and her followers thoroughly devastated both town and resident Romans. Like other East Anglian settlements, Colchester suffered from marauding parties of Saxons and Norsemen until about AD 920 when the town was freed from the Danes and fortified by Edward the Elder who repaired the Roman wall. These walls are still a dominating feature in Colchester and can be walked along for about

two miles — within these walls the modern main streets overlay the Roman roads. The town's first Royal Charter was conferred by Richard I in 1189 and in 1635 a further Charter was granted by Charles I giving it a Mayor. Colchester, as well as being an interesting historical town, is a thriving industrial town with many successful industries in the area, including GEC's Woods of Colchester and Paxman Diesels.



left) are bell ringers belonging to Essex Association of Change Ringers. Bernie is 'master' of the Essex Association and Paul 'deputy master' of the North East District. They will be taking part in an exhibition of change ringing in October at Colchester Castle. The public will be able to see and hear the art of change ringing, also learn about bell maintenance and the history of bell ringing.

## EMBROIDERING WITH PAINTS

Irene Thwaites, of the Accounts Department, became interested in her hobby whilst visiting a trade fair in Colchester. It is

embroidering with paint, which is done on linen/canvas or velvet. Irene has also worked on glass and wood, working either straight from the paint tube or with a brush.

Colin Humphreys, marketing manager (sixth right) and Dennis Sparling, Airpac manager (third right) are members of the all-male Colchester Barbers Shop Harmony Club. All the songs are sung totally unaccompanied and are split into four part harmony — bass, tenor, lead and falsetto. Dennis, who has been with the club for eight years, sings falsetto and Colin sings lead. The club is a member of the British Association of Barber Shoppers, which has around 35 groups with approximately 2,000 singing members. They take part in public concerts and all proceeds go to charity.

John Brown, model shop foreman, (seventh right) breeds and shows budgerigars. John and his son took up this hobby about four years ago and are members of the North Essex Budgetary Society. John, is on the committee of the society and is assistant show manager. At the moment, John has 58 budgies, 9 of which have been bred this season. He won best breeder in the beginners section of the Ipswich Championship show in 1983.

DAVEY, Paxman and Davey started business in 1865 in the town centre, to produce agricultural machinery, portable steam engines and locomotive boilers. The first order was for a corn drier sold for £38 10s. In 1876, Paxman moved to a new factory site.

Today, Paxman Diesels with an annual turnover in excess of £40 million, still operates from Hythe Hill the same site, which occupies over 28 acres. Paxman is the largest company in the area, with over 1,260 people employed at Hythe Hill.

Paxman joined the English Electric Diesel Group in 1966 which subsequently became part of GEC.

## NAPIER DELTIC

A result of the association with English Electric was that the manufacture and sale of the famous

First right is Derek Smith, a keen artist, who became interested in glass engraving about eight years ago whilst visiting a hobbies exhibition at Earls Court. He was given a glass engraving kit as a gift and now engraves mostly on to glass tankards and tumblers, very often as gifts for friends and colleagues. These tankards and glasses are also useful to Derek, because his other hobby is home-brewing.

Colin Windsor (fifth right) will this year be one of the many thousands of people competing in the London Marathon in April. This will be the first full marathon which Colin has taken part in, but he has run in several half-marathons, including the Woods half-marathon in 1983.



Tony Davies has been with Keith Blackman for four years. In November of last year he won the Woods/KB employees half-marathon.



Every department at Paxman Diesels contributed to the US Coastguard contract in some way. Representatives of a few departments are pictured here with one of the sets prior to its despatch. They are, left to right back row: Mike Drinkwater (sales), Dick Sillitoe (customer special requirements), Brian Bloomfield (estimating) and Tony Brown (stock control). Front row: Lynn Griffiths (technical training), Barney Girvan (applications engineering), John Boulton (contracts), Martin Pryke (machine shop), John Edwards (tester) and Graham Potter (base engine build).

Napier Deltic engines was transferred to Colchester in 1969. These engines are now being manufactured at the Paxman plant, principally for naval and marine propulsion applications, in powers up to 4,000 horsepower.

Penetration of the diesel engine markets throughout the world continues with new applications where there are requirements for durable and reliable engines with high power to weight ratios.

## MAJOR ACHIEVEMENT

A major achievement last year was the nomination of Paxman by the Royal Navy as diesel engine supplier for the new type 23 frigates. The order is for 32 12-cylinder Valenta engines worth in the region of £10 million. Deliveries are taking place over the next four years.

Recently it also secured an extension to a \$15 million order obtained last year to supply 15 US patrol boats, each with two Paxman Valenta 16-cylinder diesel engines; the extension is for a further 13 16-cylinder Valenta engines at a value of \$4.8 million. Deliveries of the engines are to be completed by February, 1986.

## DEVELOPMENT INCREASE

In order to broaden the product range, the company is investing considerable sums of money in research and development. Two areas are firstly, up-

rating performance of the existing Valenta range and secondly, the design and development of 12 and 16-cylinder versions of a new small Paxman engine. Development is to be increased substantially this year.



One of Paxman's small engines.

Computers are becoming very important in the efficiency of businesses so Paxman has installed computer terminals at various locations throughout the site. This is in an effort to reduce costs and hence allow Paxman engines to compete more effectively in the market place. Spare parts and after-sales-services facilities offered by the company include complete overhaul of engines at Paxman's works.

There is a customer training centre located at the Britannia works, also in Colchester, where courses are designed to meet customers' needs to train engineers, both in general maintenance and troubleshooting.

Apprentice, youth training schemes and adult training courses for Paxman employees are based at the Hythe offices and the Colchester Institute of Higher Education is used for some aspects of the employees' training.

Paxman Process Plant Division continues to broaden its product range to supplement rotary vacuum filters which are manufactured at the Colchester works for a wide variety of process industries, including coal, mineral and metalliferous mining, oil, chemical, pharmaceutical and some special applications in the food industries.

## PRODUCT MARKET

A fully automatic filter press, a multi-roll press, a vacuum hard filter and high speed decanter centrifuges are being marketed in the UK and Eire and certain overseas territories.

Exports of dewatering filters are being pursued with successes in the US and Pakistan and a recent contract for filters for the Turkish Petroleum Refineries Corporation.

## REGULATEURS EUROPA

Regulateurs Europa, a subsidiary of Paxman Diesels, has manufacturing plants in Colchester and Roden, Netherlands. The Colchester head office and works is the centre for the design, development and manufacture of engine governors (a device which limits the maximum speed at which an engine runs) and control systems. The Roden plant also manufactures engine governors and has the responsibility of supplying continental customers within the EEC.

## TALKING POINT

WHAT does anorexia nervosa mean to you? Most people's reaction to this question would be that it is a slimming disease. Its true meaning is "nervous loss of appetite."

Anorexia nervosa is a chronic psychiatric disorder of low weight and abnormal eating behaviour. The anorexics first intention is to lose weight, but gradually food becomes an obsession and infects the sufferers every thought. So a previously happy, healthy person becomes an irritable, depressed, near-skeletal being, feeling unloved, unwanted and unneeded.

### Sufferers

Although anorexia is thought to be localised to adolescent girls, seven per cent of sufferers are male and cases of sufferers aged from six to sixty have been reported.

The causes are not directly known, but a social class factor connection is strongly suggested as the incidence rate is higher in the upper socio-economic brackets and also in the independent sector of education where academic and social achievement are encouraged. In these situations the sufferer may often fear failure.

# THE LONG ROAD TO RECOVERY



The anorexic's greatest fear...

Another suggested cause is the idea that an anorexic feels isolated and friendless, and dares not let others get too close in case her 'real self' is discovered. This makes the sufferers road to recovery very lengthy, as attempts by

family and friends are more often than not, rebuffed.

In the initial stages of the illness the sufferer will try to control weight by reducing food intake and expending as much energy as possible; for example, taking up sports and being

generally more active than normal. Although the anorexic will become increasingly weak and emaciated, the obsession to become thin is so strong and thought so distorted that the food intake is aimed to an even lower level. This is where the

difference between slimming and anorexia can be seen; an anorexic has a phobia of food for fear of putting on weight, whereas a slimmer more often than not, feels the lack of food strongly and will go back to normal eating as soon as the required weight loss has been achieved.

### Treatment

There are various forms of treatment available, but these vary from hospital to hospital. However the first concern for all hospitals must be, in the anorexic's emaciated state, to restore normal body functions and logical thought processes in order to save their lives. This is often achieved in the initial stages by 'over-feeding' to some degree and then re-adjusting the feeding pattern to acclimatise the sufferer to normal eating habits and prepare them for the future in the outside world. Hospitalisation is, therefore, necessary to enable nutrition to be monitored and in some cases remove the sufferer from stressful conditions at home.

Some hospitals also offer family therapy in the hope of solving the problem within the family unit; others prefer individual psychotherapy. Unfortunately both of these alternatives are lengthy procedures.

Help for sufferers and

their families is also available through other means. The most important contribution that families and friends can make is to listen. It is very distressing and frustrating to see someone close commit slow suicide, but a turning point in recovery can only happen when a sufferer wants to get better. It is wrong to force the sufferer into eating situations, as it will only create guilt and panic. A group such as Anorexic Aid can be of help especially if the sufferer can be encouraged to attend a meeting.

### Support

Anorexic Aid is an organisation for sufferers of anorexia and bulimia nervosa (binging and later vomiting), set up as a self-help and support group. Groups are found throughout the UK and run by local contacts, who are invariably ex-sufferers. It gives the anorexic the opportunity of being understood, when most people find the subject incomprehensible.

If you know someone who is suffering from anorexia nervosa or if food and weight dominates their life, please contact (enclosing a sae):

Anorexic Aid,  
The Priory Centre,  
Priory Road,  
High Wycombe,  
Bucks.

## Golfers annual competition

ON THE 3rd June 1985 Edgbaston Golf Club, Birmingham will again be the venue for the annual golf competition, which is run for the benefit of the Electrical and Electronics Benevolent Association and organised by the Mid-

lands Area of the Electrical Industries National Golf Championship.

Winners in various categories go forward to the national finals which, this year, will be held at the Belfry on 7th October.

The competition is open to any golfer wishing to support this worthy cause, entry forms can be obtained from J Gemmell, Honorary Secretary, Midlands Area EINGC, c/o CEBG Headquarters, Haslucks Green Road, Shirley, Solihull, West Midlands, B90 4PD.

## A great diesel engine

DETAILS and photographs of GEC rail traction equipment are included in three books written by R M Tufnell and published recently.

His "The British Railcar — AEC to HST" traces the development of railcars by railways after electric trams in cities, introduced soon after the turn of the century, led many railways to look for cheaper ways to

operate trains. This was in order to compete with the lower fares, faster and more frequent services offered by trams.

"Deltics" is a nostalgic and carefully researched book about this great diesel engine which had its roots in a design for an aeroplane diesel engine and developed by Napier.

### Fastest

Napier was acquired by English Electric in 1942. The class 55 Deltic diesel-electric locomotives earned the reputation of being the fastest form of

motive power on British Rail. A fleet of 22 replaced the high-speed LNER Pacific steam engines, then in service. As well as the high-powered version, there were the "Baby Deltics," 10 general purpose locomotives built with a single nine-cylinder diesel

engine.

"Inter City 125" is the story of British Rail's 95 sets of 125 trains which are the world's fastest and most intense network of high-speed trains. Competition from the private car compelled British Rail to develop this new stock designed to run 300,000 miles per year at a speed of 125 miles per hour. This was achieved on a rail network which is well over 100 years old.

"The British Rail Car — AEC to HST" by R M Tufnell. Published by David & Charles, Brunel House, Newton Abbot, Devon, TQ12 1PU. Price £8.95.

### Deltics

"Deltics" by R M Tufnell. Published by Haynes Publishing Group, Sparkford, Yeovil, Somerset, BA22 7JJ. Price £4.95.

"Inter City 125" by R M Tufnell. Published by Haynes Publishing Group, Sparkford, Yeovil, Somerset, BA22 7JJ. Price £4.95.

and commercial reasons, as the company plays a very active role in the automated office systems market.

GEC Reliance is widening its scope with a range of products in the communications and information processing field.

Another GEC company which recently changed its name is Pump Maintenance, Surrey, which is now called PM Services Limited.



## RIDING HIGH WITH OSRAM

OSRAM-GEC, Wembley recently installed new lighting at the Matthew's Riding School in Gillingham, Kent.

The 250 ft x 90 ft indoor arena, the largest in the country, is one of the few main event riding centres in Britain, staging international show jumping and polo and first class dressage, and visits from continental troupes.

With major riding events taking place it was essential to provide permanent lighting suitable for TV coverage, so, in addition to the 40 Osram Champion fittings with 250W Solarcolour De Luxe lamps which supply the general lighting, a further 20 Stadia floodlights with 2kW MBI lamps have also been installed.

With little natural daylight in the arena, the Solarcolour lamps burn most of the day and well into the evening, seven days a week, giving an even level of warm coloured light for the riding classes.

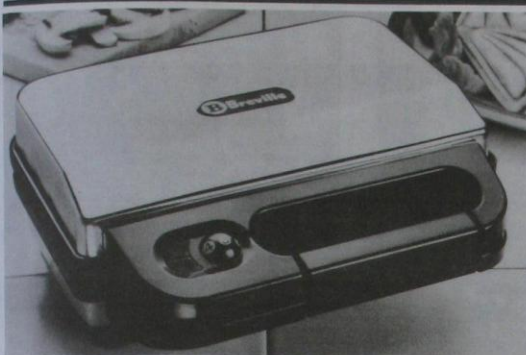
## Company name changes

RECENTLY Reliance Systems, Wellingborough changed its name to GEC Reliance Limited.

The GEC link is an obvious one to display, for both technological

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Claims/Convictions on separate sheet	
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Householders <input type="checkbox"/>	Life <input type="checkbox"/> Mortgage <input type="checkbox"/> GEC

**COMPETITION/NEWSLINE**



HERE'S a chance, *Topic* readers, to win a handy sandwich toaster for when you're stuck for ideas on what to have for a quick snack!

The Breville Super Snack 'n' Toaster is just what you need. It produces instant meals — two rounds of sandwiches in one go with the edges neatly sealed to stop the filling trickling out.

You can use them for quick hearty fillers, as a main meal with perhaps a curried steak filling and for desserts with children's favourites like chocolate and marshmallows, even the dieter needn't miss out

on the fun; place cottage cheese and chives into wholemeal bread pop into the toaster and notice the difference. Goodbye to plain old sandwiches!

**Features**

The new Super Snack 'N' Sandwich Toaster features the patented scissor action that cuts and seals sandwiches, it has a wind away cord and storage facility. A browning control with five different settings, for keeping cooked sandwiches warm for latecomers, or for reheating cooked or frozen sandwiches.

**HOW TO ENTER**

To win a toaster all you have to do is to decide which filling suits which title eg. if you think filling No. 2 is a Breakfast Special then mark A in the box opposite no. 2 and so on until all boxes are filled.

Complete the entry form and send it to: Breville Toaster Competition, *Topic*, The General Electric Company, plc, 1 Stanhope Gate, London W1A 1EH. All entries must arrive by May 9, 1985.

**A CHANCE TO WIN A TASTY TOASTER**

**Filling**

1. Salmon, egg and mayonnaise
2. Ham, mustard and cheese
3. Frankfurters, onions and tomato sauce
4. Cream cheese, black cherries and sugar
5. Ice cream and raspberry jam
6. Egg, bacon and tomato

**Title**

- A Breakfast Special
- B Black Forest Brevilles
- C Devilled Welsh Rarebit
- D Breville Alaska
- E Hot Dog Breville
- F Fisherman's Favourite

**ENTRY FORM**

NAME .....

ADDRESS .....

.....

..... Tel .....

COMPANY .....

.....

**FILLING**

1	<input type="checkbox"/>
2	<input type="checkbox"/>
3	<input type="checkbox"/>
4	<input type="checkbox"/>
5	<input type="checkbox"/>
6	<input type="checkbox"/>

**TITLE**

<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

CLOSING DATE: MAY 9

**£3M ORDER FOR GEC METERS**

GEC Meters, Stafford, has won a substantial contract from East Midlands Electricity Board for the supply of radio tele-switches.

Radio teleswitch is a radio controlled device used by electricity supply authorities to control electrical loads and tariffs. The system allows for flexible control of off-peak electricity loads and consumer tariffs, providing area electricity boards with power to smooth out electricity demand peaks resulting in savings on the overall cost

of providing electricity. The East Midlands Electricity Board contract is valued at approximately £3 million. It will create some thirty additional jobs at Stonefield works and generate additional annual sales of approximately £130,000 for Midlands-based suppliers of components and production equipment.

GEC Meters is the only UK-owned manufacturer of radio teleswitch and has invested some £1.8 million in development and capital equipment to introduce the product and is currently leading the field in the UK in this technology.

**TSAT ON TOW**



THE RECENT television coverage of the world ski championships at Bormio, Italy, was only made possible by the development and use of a GEC McMichael transportable satellite to transmitter terminal (TSAT).

Mounted on a trailer that can be towed by any vehicle, it proved to be the most practical way to capture television pictures and transmit them via a satellite to most countries in the western world. Instant and continuous high quality news coverage was obtained with the minimum of fuss.

**RULES**

1. Entry is open to all GEC employees, retired employees and their immediate family.
2. Only one entry per person.
3. All entries must be marked clearly with 'Breville Toaster Competition' or they will be disqualified.
4. The winner will be notified in writing, as soon as possible after the closing date and competition results will be published in the June issue of *Topic*.
5. Entries must arrive no later than May 9, 1985, when the first correct entry picked out will be the winner.
6. The judges decision in all matters is final.

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## GEC OVERSEAS CLUB

The chairman of Club Council, J. M. Price, welcomed the 350 members and guests to the second annual dinner to be held outside London, at the Benn Hall, Rugby on February 20, 1985.

Mr Price said the Overseas Club was started at Met-Wick in 1925 by Aussie Apprentices and was known as the 'Down Under Club'. He congratulated the Manchester centre which will be celebrating its diamond jubilee this year. Goodwill greetings from Bangladesh, Australia, Canada, Swaziland, Zambia and Zimbabwe were acknowledged by Mr Price. He welcomed the retired members and paid tribute to the untiring effort and enthusiasm of the secretary, Peter Watson. He was pleased that the Rt Hon James Prior M.P. had accepted the presidency of the Club. Thirty organisations were represented at the dinner



The top table at the annual general meeting with (left to right) R. J. Davidson, J. Prior M.P., J. M. Price and A. H. Wright (former chairman of the Overseas Club).

# SUCCESSFUL CLUB DINNER

and a welcome was extended to guests from overseas. A. S. Khosla — India, R. H. Telfer — South Africa and R. P. Ryan — EMICC USA and to R. E. G. Back, managing director of National Networks, British Telecom who had been awarded a CBE in the New Year Honours list. The chairman proposed a toast to the new president and the guests.

Mr Prior thanked the chairman for the opportunity to address a gathering, which, by the numbers present, was not a microcosm, but a macrocosm of British industry at its best. GEC had sales to customers overseas of nearly £3 billion which is more than 50 per cent of its world turnover.

R. J. Davidson replied on behalf of the Overseas Club and proposed the toast to the club. He welcomed all the guests and the apprentices with special reference to the two ladies among them, Wendy Hough (Chelmsford) and Jane MacGregor (South Africa). The club was flourishing and it was a pleasure to be a member of it. He thanked the chairman and Sir Alan Veale for their support of the club.

### Dedication

He referred to the dedication of the people who run the club especially to Arthur Wright who did so much to merge the GEC, AEI, EE, BT-H and M-V associations in a dignified manner in difficult circumstances. The value of the club to the company should never be underrated especially for overseas sales.

Mr Davidson went on to say that GEC had a magnificent shop window in Hong Kong with its contribution to two massive power stations and the mass transit system, and

he urged the chairman and the directors of the company to take maximum advantage of this in mounting an export drive in China.

### LONDON

**Annual general meeting.** The annual general meeting will be held after the Spring Golf meeting, in the clubhouse at Sundridge Park Golf Club. The meeting will commence at 7.00 p.m. and will be followed by dinner, price £5 per head, available to all club members and guests. If you are able to attend the meeting and not the dinner, your presence would still be very welcome.

### Spring Golf Meeting.

The spring golf meeting will be held, commencing 12.00, on April 25, at a cost of £6 per member and £9 per guest for golf only, and £11 per member, and £14 per guest for golf and dinner.

Players will be playing for the Druce cup to the Stableford system. Further details from A. Gregory, c/o secretary, Long Acre.

### Musical Museum.

The visit to the Musical Museum last September was so enjoyed by the members that a further visit is being arranged on either May 14 or 16. The visit will start at 7.00 p.m. and last about 1½ hours, followed by a buffet supper in a local hostelry.

### Exhibition

If you are interested in the development of pianos, pianolas and organs, this is a 'must'. Part of the exhibition is a working Wurliizer.

### Weald and Downland Open Air Museum.

The summer visit this year

will be to the Weald and Downland Open Air Museum, which has a unique collection of agricultural buildings, with working exhibits including a water mill. As in previous years, we will meet about 12.00 for a picnic lunch, followed by a guided tour of the Museum.

For further details of these events, please contact E. E. A. Grace, secretary, Long Acre.

### MANCHESTER

The centre reports with regret the death of Leo Freeman, Matt Adamson and J. C. Kubale.

### LINCOLN

The Lincoln branch is organising the inter-centre golf tournament which will take place at Newark golf club on Monday September 9 1985. The event will follow the normal format and more detailed information will be published in due course. All centres are invited to participate. Centres should contact J. A. Broadhead, EEV, Carholme Road, Lincoln.

### WESTERN AUSTRALIA

Ernest Freeth, overseas representative for W. Australia, writes about one of their members . . . "Peter Dymond joined M-V at Trafford Park as a trade apprentice at the age of 15. He served his National Service in the RAF then returned to Trafford Park to complete his degree. He joined the English Electric Company and travelled to Egypt with the Erection Department. In 1969 he transferred to Merz & McLellan & Partners in Perth W.A., where he is still employed. He

### OVERSEAS CLUB DIARY

#### CHELMSFORD

Apr Annual general meeting  
Apr 25 Golf v London Sundridge Park  
May Cheese and wine  
Oct Annual dinner  
Dec 19 Christmas cocktail party

#### COVENTRY

Apr 23 Annual general meeting  
Apr 24 Visit to Bass Brewery, Burton on Trent  
May 24 Bowls v Rugby  
May 31 Golf v Manchester at Trentham Park  
June 10 Golf v Rugby at Rugby  
June 25 Golf v Rugby  
July 9 Presidents golf trophy  
July 19 Croquet at Dunchurch  
Aug Golf v Stafford  
Aug Cricket v Rugby  
Oct 10 Bridge v Rugby at Willans  
Oct 26 Annual dinner dance  
Nov 8 Darts & Skittles v Rugby  
Nov 14 Bridge v Rugby

#### LONDON

Apr 25 Golf — Druce cup, Sundridge Park.  
Apr 25 Annual general meeting at Sundridge Park  
May 14 or 16 Visit to Musical Museum, Brentford  
June 8 Visit to Weald and Downland Open Air Museum  
July 10 Golf, Arthur Wright Trophy — Sundridge Park  
July 26 Club Lunch, Naval Club  
Oct 18 Club Lunch, Naval Club

#### MANCHESTER

Apr 16 Diamond Jubilee dinner  
May 9 Golf — Annual tournament Ashton-on-Mersey  
May 15 Annual general meeting  
June 14 Golf v Coventry Trentham Park  
June 14 Braaiwleis en Tiedkiedraai  
Oct 11 Dinner dance — Wendover Hotel, Eccles

#### RUGBY

Apr 25 Annual general meeting  
May 10 Golf v Stafford  
May 24 Bowls v Coventry at Coventry  
June 10 Golf v Coventry  
June 14 Dinner with Ladies — Woodhouse  
June 25 Golf v Coventry at Grange  
July 11 Bowls v Stafford at Stafford  
July 15 Golf — Presidents trophy  
July 19 Croquet at Dunchurch  
Aug Cricket v Coventry at Coventry  
Oct 10 Bridge v Coventry  
Oct 18 Ladies Evening — Ashlawn House  
Nov 8 Darts & Skittles v Coventry  
Nov 14 Bridge v Coventry at Grange

#### STAFFORD

Apr 24 Royal Liverpool Philharmonic Orch Civic Hall Wolverhampton  
May 11 Golf v Rugby at Rugby  
July 11 Bowls v Rugby  
July Golf v Coventry

#### COUNCIL

Apr 30 Annual general meeting — Stafford at 5.45 p.m.

### INTER-CENTRE GOLF TOURNAMENT

Sep 9 Newark golf club

joined the AEI Overseas Association whilst in colleague. Cairo.

#### New Members

#### CANADA

We regret to report the death of Alan Huintington who recently took office as the chairman of the Canadian centre. He was a

much revered friend and colleague. We are pleased to welcome new members: J. A. Nicholson (Chelmsford), G. Poole (Lincoln) R. E. Warren (USA) S. Keogh, G. Fergyson, J. F. Blake-mor (Manchester). V. Porritt (W. Australia).

#### OVERSEAS CLUB SECRETARIES

Council:  
P. R. Watson  
1 Stanhope Gate  
London, W1A 1EH  
Tel: 0203 45152  
Telex: 31361 GEC TEL G

Chelmsford:  
A. D. Christelow  
English Electric Valve Co  
Crompton Street  
Chelmsford CM1 3QU  
Tel: 0245 261777  
Telex: 99103 EEV CMD G

Lincoln:  
N. G. Habbey  
Marconi Electronic Devices Ltd  
Catharine Road  
Lincoln LN1 1SG  
Tel: 0522 29997  
Telex: 56163 MEDL G

Coventry:  
P. S. Barker  
GEC Telecommunications  
Copswood, PO Box 51,  
Coventry CV3 1HJ  
Tel: 0203 452152  
Telex: 31361 GEC TEL G

E. E. A. Grace  
GEC Transmission &  
Distribution Projects  
132 Long Acre  
London WC2E 9AH  
Tel: 01 456 344  
Telex: 21403 GEC LAG

Manchester:  
N. Phelps  
GEC Transmissions &  
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PO Box 112, Trafford Park  
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Tel: 061 872 2411  
Telex: 66752 GEC MCR G

Rugby:  
A. P. Fletcher  
GEC Large Machines  
Mill Road, Rugby CV21 1BD  
Tel: 0782 2121  
Telex: 31671 GEC MCR G

Stafford:  
F. Brown  
GEC Power Transmission Div  
Lainfield Road  
Stafford ST17 4LN  
Tel: 0785 5711  
Telex: 36203 GEC PTD G

Canada:  
Centre rep:  
N. Holmes  
2 Heathwood  
High Street  
Tadworth  
Surrey KT9 5AB  
Tel: 073 781 3476

**PEOPLE/CROSSWORD**

**LINCOLN DUO INVENT VIDEO GAME**



DAVID Cooke, an engineer and Steve Marsden, a technician at Marconi Electronic Devices, Lincoln, decided their work was just the job when it came to a new theme for a video game, Technician Ted!

Pictured left to right are David and Steve with their game.

**Idea**

The game is the simulation of a silicon chip factory producing microchips. The idea is to produce a chip from start to finish picking up reward points along the way.

**Four honoured at Hotpoint**

FOUR apprentices were recently honoured at Hotpoint, Peterborough during their annual prize giving presentation.

The Chaim Schreiber Award for best all round apprentice 1983/84 was presented to David

SANDRA Rofé and Andrew Soltysik, 19 year-old student trainees from GEC Telecommunications, Coventry, have won two of six Institute of Electrical Engineers Jubilee Scholarships awarded this year.

The scholarships are worth £500 for each of the three years of an electrical/electronics engineering degree course at university.

**Course**

Sandra has just started a course in electrical and electronic engineering at Imperial College, London while Andrew is in the first year of an electronic engineering course at Sheffield University.

GEC Telecommunications now has four students holding IEE Scholarships. Jonathan Atack, who is in his third year at Oxford, and Tim



**Scholarship success for two**

Lord, in his third year at Cambridge, won scholarships last year.

The scholarships commemorate the 25th anniversary of the Queen's

accession to the throne. They are awarded by the IEE to students of outstanding ability embarking on a recognised UK degree course in electrical/electronic engineering.

Len Grice, personnel director of GEC Telecommunications, is pictured left congratulating Sandra and Andrew.

Jackson. The manufacturing shield for best departmental practical result was won by Martin Brown, the ITW Cup for best academic result was awarded to Paul Barber and the award of best first year apprentice was won by Graeme Osler.

The presentations were made by Chaim Schreiber's widow, Sara, Dennis Taylor of ITW Limited and Sam Clay, Hotpoint's technical director.



**VERA RETIRES WITH A SMILE**

VERA Russell, a chargehand in the cotton department of GEC Optical Fibres, London has retired after 46 years service.

Vera joined Optical Fibres, then London Electric Wire, in 1949, as a run-about girl in the cotton department, she was later promoted to machine operator and for the past 22 years has been a chargehand for the same department.

Pictured is Vera accepting a present from Jack Saunders, her supervisor for the past 10 years from all her friends and colleagues.

**APRIL CROSSWORD**

Entries should be sent to Topic, GEC, 1 Stanhope Gate, London W1A 1EH. They must arrive here by May 9. Please mark your envelope April Crossword.

**PRIZES**

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

**FEBRUARY WINNERS**

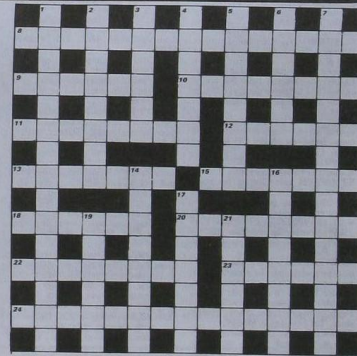
THE first two all-correct entries drawn at random from the February crossword submissions came from G E Clark of GEC Installation Equipment, Liverpool and Mrs B Martin of EEV, Chelmsford.

**ACROSS**

8. LIFT ICE INTO CARE (anag). Currently powered. (15)
9. Can start on top of the bed. (6)
10. A very graceful agile ruminant. (8)
11. Possibly sharpen fifty more splinters of shellfire. (8)
12. It may be an artists dish but he would only want the root. (6)
13. In an alert fashion to an extravagant degree. (7)
15. You might find a trace in a positive action. (7)
18. These jerks are not under control. (6)
20. Refrains from upsetting the sailor's mark. (8)
22. Once a darling. (8)
23. Floats along with the tide. (6)
24. Positively upright. (15)

**DOWN**

1. This will wipe out some of the colour problems. (9,6)
2. A ceremony used in conferring a knighthood. (8)
3. Just a stick of chalk. (6)
4. Able finally to be easy to talk to. (7)
5. Not having to pay and not only north of the border. (8)
6. A broken idol to a saint could be hard to excite. (6)
7. APES COST ALIMONY (anag). Taking lots of care. (15)
14. Periods between meeting and prorogation of parliament. (8)
16. Calamitous event. (8)
17. Pub profit maybe for next to nothing. (7)
19. Their presence at a wedding is reputedly lucky. (6)
21. A silvery-white metallic alkaline element. (6)



**ENTRY FORM**

Name .....

Address.....

.....

Company.....

.....

Prize.....

**DEADLINE: May 9, 1985**

**FEBRUARY SOLUTION**

**ACROSS**

1. Debases; 5. Abandon; 9. Pulse; 10. Abominate; 11. 1. Depicts; 2. Bilateral; 3. Steam; 4. Scarred; 5. Catamaran; 12. Annul; 13. Strewed; 15. Daisies; 17. Adorned; 6. Agitation; 7. Drain; 8. Needles; 14. Dilated; 19. Fanatic; 21. Riser; 23. Shattered; 25. Waterfall; 16. Interferes; 17. Derides; 18. Dismiss; 19. Dramatist; 26. Ocean; 27. Strolls; 28. Relieve.

**DOWN**

1. Depicts; 2. Bilateral; 3. Steam; 4. Scarred; 5. Catamaran; 12. Annul; 13. Strewed; 15. Daisies; 17. Adorned; 6. Agitation; 7. Drain; 8. Needles; 14. Dilated; 19. Fanatic; 21. Riser; 23. Shattered; 25. Waterfall; 16. Interferes; 17. Derides; 18. Dismiss; 19. Dramatist; 26. Ocean; 27. Strolls; 28. Relieve.



**NEWSLINE**

**Skynet communications satellite pack for MSSL**

MARCONI Defence Systems, Stanmore, has delivered an important element of Britain's Skynet 4 military communications satellite, to Marconi Space Systems, Portsmouth.

Developed by the transponder group of the Satellite Communications Division, is the UK's most advanced ultra high frequency package and will provide a single 45GHz channel to the satellite used by the Royal Signals and Radar Establishment to determine conditions encountered at high frequencies. This will pave the way towards military communications systems of the future taking full advantage in wider bandwidth associated with higher frequencies. MDSL is pursuing military and civil space applications employing frequencies extending to 200GHz.

**Launch**

The package will now be integrated with other elements of the Skynet 4 communications payload in readiness for the Space Shuttle launch in 1986.

**Traffic Automation promotes in China**

GEC Automatic Traffic, Borehamwood in conjunction with automation Hong Kong, recently staged a series of traffic

**Peter joins SEI**

Peter Hunter recently joined Salford Electrical Instruments, Lancashire as commercial director, with responsibility for the company's sales and marketing operations.

**GEC's chairman visits Industrial Controls**

JAMES Prior, GEC's chairman recently visited GEC Industrial Controls, Kidsgrove.

Pictured left to right is Clem Jansen, managing director of GEC Electrical Projects, Rugby; Phil Shallcross, a test engineer, James Prior and Don Prowse, managing director of GEC Industrial Controls, Kidsgrove.



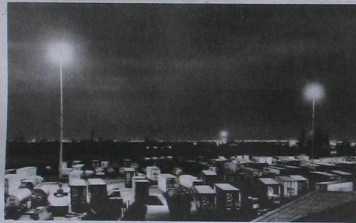
**PM OPENS NEW SCANNER UNIT**

THE PRIME Minister, Margaret Thatcher recently opened the new Magnetic Resonance Unit at the National Heart & Chest Hospital, London. It is the first unit of its kind devoted entirely to cardio-vascular research. Mrs. Thatcher was shown the Picker magnetic resonance body scanner and examples of some of the high resolution images it can produce.

In opening her speech the Prime Minister remarked, "When invited to open this unit, I needed no persuading. Britain has taken a leading part in the developing of MRI technology and it is good to see the manufacture being undertaken by a British company."

Pictured is Mrs. Thatcher watching a MRI scan being performed on the executive director of CORDA (Coronary Heart Disease Research Association charity).

**SAFE WITH OSRAM**



The lighting scheme at Pandoro.

OSRAM-GEC Solarcolour floodlights have been chosen by Pandoro Limited, who operate door to door transport and ferry service across the Irish Channel, to upgrade their lighting and make it more cost effective.

The new scheme uses 63 Eurofloods and includes efficient Solarcolour Plus lamps, which consume a total of only 27.72kW. The lamps are automatically switched on in bad natural light, as well as at dusk, for improved security and safety.

**NEW TRANSCEIVER FROM EDDYSTONE RADIO**

A NEW single sideband transceiver designed for use in the third world and developing countries where telecommunications is either limited or non-existent has been introduced by Eddystone Radio, Birmingham, part of Marconi Communication System, Chelmsford.

Designated the ORION 5000, it is compact with an output of 150 watts over the frequency range 2MHz-16MHz.

Up to 8 channels are available, and operation is on upper or lower sideband, in simplex or semi-duplex mode.

Plug-in printed circuit boards are used, providing ease of maintenance and

maximum security against loss of service. The transceiver can easily be connected to an automobile battery, without the need of a power supply or converter.

The transceiver is suitable for use by police forces, relief organisations, shipping companies, in fact, by any group requiring long-distance communications.

**SEMICONDUCTOR MATERIALS RESEARCH IN EUROPE**

THE EUROPEAN Community is combining its scientific and industrial strengths in a concerted approach in information technology (IT). ESPRIT, the European Strategic Programme for Research and development in IT, is bringing together firms and researchers in a transnational ten-year research and development drive, pointing the way to the integrated information systems of the 1990s. ESPRIT is co-funded by the European Community and the European IT industry.

ESPRIT aims at pre-competitive, transnational research in five key IT areas: advanced microelectronics, software technology, advanced information processing, office systems and computer integrated manufacturing.

Hirst Research Centre, Wembley, recently received ESPRIT contracts to research compound semiconductor materials and integrated circuits in conjunction with other members of the consortium.

**Develop**

The objective of the research programme is to develop advanced aspects of gallium arsenide and gallium indium arsenide materials, transistors, integrated circuits and associated expertise to enable the fabrication of fast, high performance digital circuits.

**Technology support for Ruston Gas Turbines**

RUSTON Gas Turbines, Lincoln, is to supply a Ruston Tornado industrial gas turbine to be installed in a combined heat and power project in a new animal feeds recovery plant by the Scottish Grain Distillers at Port Dundas distillery, Glasgow.

The installation has attracted a grant from the Government Energy Technology Support Unit and features a combined heat and power plant to maximise Scottish Grain's energy savings as well as generating its own electricity. The hot exhaust gases from the Ruston Tornado will be used both to raise steam and for the direct drying of by-products from the distillery at minimum costs.

**Produce**

The Ruston Tornado industrial gas turbine will produce 5.3 megawatts of electricity, sufficient to make the distillery completely self supporting — with a small supply available to the South of Scotland Electricity Board grid.

The total thermal efficiency of the combined heat and power unit is well in excess of 80 per cent.

**Fire protection for GEC Turbines**

WALSALL Conduits, West Bromwich, recently installed a £27,000 Pathfinder fire detection system in the huge 'central aisles' production complex at GEC Turbine Generators, Trafford Park.

The system covers over 750,000 square feet of the complex and includes over 70 horn type sounders, 69 remote 'break glass' alarm actuators and eight flashing beacons. These are linked to two indication boards located at GEC Turbines' security office and fire station and within the main complex itself.

**AUSTRALIA BUYS MARCONI AGAIN**

MARCONI Communication Systems, Chelmsford, has announced another order from Australia for its Hypergroup Codec equipment bringing the total value to well over £1.5 million during the last few months. The latest order is from Telecom Australia and is valued in excess of £500,000.

Colin Burn, Marconi Communication Systems,

Line Division marketing manager stated "This equipment is unique as it enables post and telecom authorities to introduce digital carrier networks without having to remove and replace existing frequency division multiplex based terminal equipment. It is for this reason our company is receiving enquiries for the product from many parts of the world."



## NEWS IN COLOUR



# Recifé railway project runs on time

GEC Transportation Projects, Manchester, has completed the first stage of the electrification of suburban railway services in the Brazilian city of Recife on time and within budget. The opening ceremony was conducted by the Brazilian president in Recife recently.

GEC Transportation Projects received the order for the system in 1981 covering the design and supply of rectifier substations, catenary and signalling equipment. Under a separate contract GEC Traction, Manchester, supplied equipment for 12 sets of the 25 — four

coach trains, the remainder being manufactured locally under licence. The complete project involves some 20 route kilometres of double track. The first stage which has been opened covers eight kilometres from Recife Central to Werneck.



The Hotpoint washer/dryer machine, available in September.

## Hotpoints new products

NEW products were on show at the annual Hotpoint exhibition held in London.

On display was a range of vacuum cleaners consisting of four models — two upright and two cylinder. The top model, the Electronic De Luxe, has a unique feature which does away with the time consuming wet cleaning of carpets. The cleaner will gently 'massage' dry cleaning powder deep into the pile of the carpet to both clean and improve its looks. Other features of this model include, a powerful 450 watt motor

with variable suction control and a neat built-in dust bag full indicator to tell the consumer exactly when they need to change the bag.

Also on show was the Hotpoint washer/dryer machine, which will be available in September this year, has an important feature, a built-in condenser. This means that no vent hose is required and the consumer is left with a steam free kitchen. The new design of the Hotpoint condenser gives quicker, more efficient and more economical drying at a lower temperature than many other condenser dryers so the clothes are treated more kindly.

Hotpoint introduced at the exhibition a new sleek recessed handle which dramatically changes the appearance on all its range of refrigerators adding to their attractiveness. The doors on all models have also been redesigned to give the consumer the facility of left or right hand door opening to suit their own kitchen layout.



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# COURSE IN LEADERSHIP FOR WOMEN



PICTURED above are those who attended the GEC Leadership Course for Women in 1984. Left to right are: Cindy Reeve, public relations manager, GEC Electrical Projects, Rugby; Monika Clark, Airpac engineer, Woods of Colchester; Shirley Bowden, manufacturing manager, Marconi Communication Systems, Chelmsford; Judy Andrews, antenna engineer, Marconi Space Systems, Portsmouth; Anne Boulton, personnel officer, GEC High Voltage Switchgear, Manchester; Pauline O'Leary, quality controller, Vacuum Interrupters, London; Helen Wade, industrial relations officer, W & T Avery, Warley; Rosemary Beattie, section leader of quality control, GEC Optical Fibres, London; Lisa Hunt (née Vinnicombe), senior engineer, EEV, Chelmsford; Nancy Archer (née Brindley), senior draughtswoman, Dorman Clara Edes, service costing supervisor, Express Lifts, Northampton and not pictured, Lynne Steele, Rotonda operations supervisor, PM Services, Surrey.

The next GEC Leadership Course for Women is being held at Dunchurch in June 1985. If you would like to know more about it please contact Jenny Duncan who now works at Hirst Research Centre — 01-904 1262 x 210. To book a place on the course you can contact Dunchurch directly on 0788-810656.

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