

TOPIC

The **GEC**
newspaper

December 1987

First live link-up with the Antarctic

THE Australian Bicentenary celebrations start on January 1 1988 with a major television extravaganza, billed as the most complex presentation of all time.

The programme, transmitted live around the world and recorded by tv stations in countries with conflicting time-delays, notches up several 'firsts' including the first ever live link-up with the Antarctic — one of the major highlights.

GEC Video Systems, based in Reading, Berkshire, has provided the technical equipment for this unique broadcast.

Going out in the UK on January 1 on Channel 4, the team of presenters, including Paul Hogan and Clive James, will be crossing over several times during the show to the Australian Davis Base to show life in the harsh regime and talk to its isolated crew.

Explore

The whole four hour programme will explore the many facets of Australian life and its 16 million people and will cross dramatically from the intense summer heat of a desert in Northern Australia to the freezing scenes of ice-flows and penguins in the land of the midnight sun.

OTC, the Australian Overseas Telecommunications Commission, purchased two video-conferencing codecs from GEC/Marconi Australia to enable transmission of live pictures and sound via satellite from the icy continent back to waiting tv studios.

Australia's own satellite Aussat could not connect up so far south so it will be using Intelsat and the cheaper digital transmission power offered by videoconferencing rather than the more expensive analogue connections used by television companies.

This is another of the programme's 'firsts' as videoconferencing has never been used by television for broadcasting and proves an interesting development of the

Continued on page 4.

GEC Submarine Communications, has supplied its first submarine optical fibre cable to British Telecom. The contract is worth £1.3 million.

GEC Submarine Communications, set up in 1986, is a partnership between Telephone Cables, Dagenham, and the Power Cables Division of AEI Cables, Gravesend, to develop optical fibre submarine communication cables.

British Telecom Marine's cables ship, m.v. Flexservice 3, laid the sea cable from Port Mora in Scotland to Donaghadee, County Down, Northern Ireland.

The sea cable was manufactured in one continuous 46km length and is protected by a double layer of armoured steel wire giving it design life of 25 years.

The optical fibres within it are protected from the effects of moisture, hydro-

GEC's first submarine optical fibre cable for BT



BT's Flexservice 3 ship laying the Scotland to Northern Ireland cable.

gen and radiation by a seamless metal sheath.

The new cable should give virtually fault-free communications with mainland Britain and beyond, because it is one of the first in the world to operate over a long range without the need for under-sea boosters.

Praised

British Telecom's Northern Ireland chief executive, Alfie Kane, praised the speed with which the contract had been implemented. The cable was manufactured and installed by GEC Submarine Communications in less than six months, slashing previous timescales by almost 18 months.

Mr Kane described the new cable link as "a major milestone in the development of a new computerised telecommunications infrastructure that will make a major contribution to business life in Northern Ireland."

Ruston in aero engine project

RUSTON Gas Turbines, Lincoln, has reached an agreement with General Electric of the US to participate in the development and manufacture of a new family of aero engines.

The GE38 engine is a highly fuel efficient, advanced engine producing 6,000 s.h.p. for both commercial and military

applications. It is derived from the GE27 modern technology demonstrator engine built by General Electric for the US Army.

Production is due to start in 1989 and is expected to continue well into the next century. Over the next few years, Ruston will be investing some £20 million in sales and product development work in the United States and the UK. It is anticipated that Ruston's sales from this project will build up to at least £25 million annually.

Ruston is to manufacture a range of key components for the GE38 turboprop, turboshaft and turbofan engines. This will be done in a new, advanced technology manufacturing unit which Ruston has planned both for this work and for its own new gas turbines.

Other participants in the GE38 programme, include Garrett, Textron, Lycoming and Bendix, all of the US and leading names in the world aero engine industry.

Ruston is a world leader in gas turbine design and

manufacture with a range of industrial and aero derivative engines operating in 67 countries and has over 40 years experience in turbo-machinery technology.

This latest stage in the expansion of Ruston's business activity and its relationship with General Electric demonstrates its determination to strengthen its well established position in gas turbines. Ruston and General Electric are already collaborating in the sales and manufacture of industrial and marine series gas turbines as a result of earlier agreements.

In a joint statement, Kelvin Bray, managing director of Ruston Gas Turbines and Robert Turnbull, vice president of GE Aircraft Engines, Military Projects and Programs Operations said: "This latest agreement allows GEC and GE to build on the business relationship between the two companies and extend it into aero engine technology. We believe it could be the forerunner of other similar ventures."

Christopher Buck, technical director of Ruston, who has played a leading part in the GE38 negotiations over the past few months, and who will be responsible for Ruston's GE38 activities, said: "Participation with General Electric of America in this venture will broaden and increase the size of our business and our technology base."

GEC's interim results

'Skills will carry us forward'

Chairman

GEC's results for the six months ended September 30th, 1987, showed profits before tax of £284 million (1986, £275 million).

Otherwise satisfactory trading profits have been adversely affected by retrenchment costs in some activities where current and foreseeable demand indicates overcapacity, and the necessity to provide for cost overruns on a few major projects.

The units particularly affected by these factors include Industrial Controls, Electrical Projects, Mechanical Handling, Traffic Automation (in the Automation and Control Group), Telephone Division, GEC Computers, Norsk Marconi and

Continued on page 3.

Christmas Greetings to you all



NATIONAL TRAINING AWARDS

Outstanding retraining programme gains Patron's Award for Avery

GEC-Avery, Warley, recently received a training award under the new scheme sponsored by the Manpower Services Commission (MSC).

The National Training Awards attracted more than 1,200 entries from which 60 winners were selected. These were announced at a ceremony hosted by the chairman of the MSC, Sir James Munn, and the Rt Hon Norman Fowler, Secretary of State for Employment.

At this ceremony, the patron of the National Training Awards, Sir John Harvey-Jones, also announced a special "Patron's Award" which was presented to three outstanding companies — one of which was Avery.

Avery received its award for a three year long retraining scheme involving 75 per cent of the workforce.

Over the last eight or nine years, radical changes in technology have meant that Avery has had to transform its product range from 95 per cent mechanical scales to 95 per cent



Sir John Harvey-Jones (left) presenting the Patron's Award to Tony Kirkman, Avery's deputy managing director.

sophisticated electronic weighing machines and systems.

To meet the demands of this new technology, nearly 2,000 people from all departments were retrained, including manufacturing, computing, design, development and service employees as well as overseas distributors and individual customers.

This retraining scheme has helped Avery to improve the quality of its products and service and to dramatically increase sales both in the UK and overseas. It has also enabled the company to enter new business areas such as EPOS, and servicing non-weighing equipment.

Avery's award, was featured recently on tv by the Channel 4 Business Programme.

Sizewell letter of intent

GEC Power Instrumentation and Control, a new company formed by GEC and CGEE ALSTHOM, Paris, was recently awarded a letter of intent from the Central Electricity Generating



Seated: Philippe Boisseau (left) and Douglas Gadd, signing the agreement to form GEC Power Instrumentation and Control. Also pictured are representatives from both CGEE ALSTHOM and GEC Measurements.

Board for the design of the central control system for the Sizewell 'B' nuclear power station.

This integrated system for centralised operation of the station will incorporate the main and auxiliary control rooms, the station automatic control system, the central data processing system and the communications and interface networks needed to link the central control to plant and local controls.

The agreement to form the new company, which is majority owned by GEC, was made in June between Douglas Gadd, managing director of the GEC Power Distribution Group and Philippe Boisseau, chairman and chief executive of CGEE ALSTHOM. Both companies are pleased with its early success.

Operating

GEC Power Instrumentation and Control, operating from the GEC Measurements' works in Leicester, will design and supply control and instrumentation systems for new and existing power stations in the UK and its export markets.

Measurements wins £4m contract in Bangladesh

GEC Measurements, Leicester, recently secured a £4 million contract for a turnkey supervisory control and data acquisition (SCADA) system in Bangladesh.

The system, the first of its kind in Bangladesh, forms part of the Greater Chittagong power distribution project being undertaken by the Bangladesh Power Development Board.

It will monitor and control the electrical power distribution in the port city of Chittagong in southern Bangladesh.

Finance for the project is being provided by the Asian Development Bank

and local sources.

The project is the first that GEC Measurements has obtained from Asian Development Bank funding, and it won it against competition from France, Switzerland and Japan.

Under the contract, GEC Measurements in collaboration with GEC of Bangladesh, will be responsible for all civil works, communications and switchgear modifications.

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News in brief

MARCONI Test Systems, a business unit of Marconi Instruments, Scotland, recently announced a major Middle East order for TREE, (test and repair of electronic equipment).

The new automated system, with support, valued at over £1.5 million is a major breakthrough in a developing area.

The key feature of TREE is its ability to produce test programmes and

fixtures when schematic diagrams are not available.

The system also provides facilities to automate many processes and management functions which are major cost and timescale considerations in the repair environment.

This system gives skilled repair operators and managers the tools to cope with the most advanced technologies.

GEC Traction, Manchester, recently received an order to refurbish six diesel electric locomotives of the Tanzania Railway Corporation (TRC). The locomotives were originally supplied by English Electric, in the mid 1960s.

Under the contract the locomotives' electrical

machines will be returned to the GEC Traction factory at Preston for overhaul.

GEC Traction has already carried out successful life-extension refurbishment programmes for locomotives in Sudan and for similar locomotives to these in Kenya.

MARCONI Communication Systems, Chelmsford, recently gained a contract to supply nearly £1 million of high power, high frequency (hf) transmitting equipment.

The order placed by the French PTT (Post, Telephone and Telegraph), covers the supply of 30kW and 10kW hf radio transmitters.

The transmitters will be installed at Toulouse and are due to become operational early in 1988. Once commissioned, they will form part of the already extensive maritime communications service operated by the French PTT, providing public and private communication with vessels around the world.

RUSTON Diesels, Newton-le-Willows, is to supply two Ruston 12RKCZ engines for a new cableship being constructed by Swann Hunter (Shipbuilders) Ltd for Cable and Wireless (Marine) Ltd.

The engines have been ordered by GEC Electrical

Projects Rugby, who are responsible for the diesel electric installation.

Each engine is rated at 2105 kW (brake) at 750 rev/min and will drive a GEC Unipak generator, to provide power for the diesel electric propulsion system.

GEC fosters excellence



A GIFT of £1.25 million from GEC has enabled a new floor to be added to the Engineering Building at University College, London.

The new floor houses a new laboratory for opto electronics.

At the opening ceremony there was a display demonstrating collaboration in research and teaching between University College and GEC companies.

Derek Roberts, joint deputy managing director (technical) of GEC, described the endowment by the company as "enlightened self interest."

Angela Rumbold, Minister of State for Education and Science, who performed the opening ceremony, said such sponsorship by industry was the way the Government wanted to see "the fostering of excellence."

Pictured is Polina Bavel demonstrating opto electronic equipment incorporating optical resonators to the Minister of State.

GEC's results for the first six months

Continued from page 1

Moteurs Baudouin. Spend on private venture research and development remains high and amounts to £7 million more than in the six months to 30th September, 1986.

In the six months to 30th September, 1987, £430 million was spent on acquisitions, and the resulting trading profits consolidated in the six months' figures amount to £6 million.

Application of the exchange rates prevailing at 30th September, 1986 would have produced sales and pre-tax profits £60 million and £6 million higher, respectively.

The directors have declared an interim dividend on the Ordinary Shares of 1.80p (1986, 1.50p) per share payable on 31st March, 1988 to shareholders on the register at the close of business on 11th February, 1988. The cost of the interim dividend is £48 million (1986, £40 million).

Total order book outstanding at 30th September was £6,295 million (1986 £6,188 million); exports from the United Kingdom were £534 million (1986, £627 million); and net cash and short term investments amounted to £1,297 million (1986, £1,603 million).

Chairman's letter

In a letter sent to all GEC shareholders, Lord Prior, chairman said:

"At the annual general meeting, I referred to a developing positive trend in profits. I can now report that earnings per share for the first six months of the current financial year are nearly 5 per cent higher than those for the same period of last year; this compares favourably with the results reported recently by some of our competitors at home and overseas.

Striving

"Of course, we are striving to improve further on this level of achievement, particularly in those areas where performance fails to live up to expectations. In these cases, active steps are being taken to improve matters, but the outturn for the majority of our units is in line with their plans.

"Although £430 million has in recent months been disbursed on acquisitions, the company remains on the look-out for further opportunities which will help keep us on a growth track at a time when, for some of our businesses, market conditions may well be difficult.

"In the current financial

year, we have announced a major joint venture in telecommunications with Plessey plc, a move which will strengthen the British telecommunications industry and its capacity to export. We expect this business to start operations early in 1988.

Finalised

"The joint venture arrangements between Philips of The Netherlands and our medical equipment subsidiary, Picker International, are well on the way to being finalised, and I am pleased to tell you that the partners made their first integrated presentation to customers at the Radiological Society of North America exhibition in Chicago.

"The company is leading the British consortium for the Channel Tunnel high speed train, which is to be built in conjunction with Alsthom of France. In addition, through Ruston Gas Turbines, we are participating with General Electric of the United

States and other leading American companies in the development and manufacture of a new family of highly efficient aero engines. This will bring additional work to our factories and broaden both our product and technology base in this field.

"Two particularly important major contracts won recently were the first development stage of the new anti-jamming radio for the United States Navy, in conjunction with Rockwell International; and, at home, in partnership with Alsthom of France, the instrumentation and control systems for the new Sizewell nuclear power station.

"Despite the difficulties and setbacks which nowadays seem to be an integral part of industrial and commercial life, I remain confident that the company's resources and skills will carry us forward to the realisation of our ambition for profitable expansion during the years ahead."

"An important defence supplier"

AT GEC Avionics, Rochester, Britain's chief of defence procurement, Peter Levene, recently opened an advanced manufacturing plant for holographic optics.

Known as the Falcon Building, it has been specifically designed and built to manufacture optical elements based on holography. Holographic elements are now being used by GEC in the latest electronic cockpit displays for American fighter aircraft.

GEC Avionics is currently carrying out a \$72m production order, received last year, to equip General Dynamics F-16 Fighting

Falcon aircraft with holographic head up displays. These present clear displays of information to the pilot over a wide field of view and are an invaluable aid to safe night flying. This US order is the world's first for volume production of this type of equipment.

Mr Levene praised GEC Avionics' successful work on holographic displays and instruments. He said: "The development work done here has turned scientific curiosity into a commercial success, and put holograms to work in a field where they have revolutionised existing techniques.

"GEC Avionics has shown its skill as exporters as well as innovators. They

remain nonetheless an important defence supplier at home and I hope that the MoD can look forward to the company's continuing commercial and technical success in winning our business in the future."

\$10m ATE order

GEC Avionics, Rochester, recently received a \$10 million order for automatic test equipment (ATE), for use by the United States Air Force and Navy.



Peter Levene (centre), with Ron Howard (behind), managing director of GEC Avionics, and Fred Mackley (right), divisional manager, being shown the company's latest computer aided design facilities.

	1987 £m	1986 £m	1987 £m	1986 £m
	Profit before Tax		Turnover	
Electronic Systems & Components	87	77	930	923
Telecommunications & Business Systems	30	32	347	366
Automation & Control	15	22	230	209
Medical Equipment	6	9	179	194
Power Generation	22	23	261	314
Electrical Equipment	25	19	349	339
Consumer Products	24	16	249	179
Distribution & Trading	6	6	101	104
Other Activities	(5)	(3)	39	49
	<u>210</u>	<u>201</u>	<u>2,685</u>	<u>2,677</u>
Income receivable, less interest payable, from loans, deposits and investments	67	69		
	<u>277</u>	<u>270</u>	<u>2,685</u>	<u>2,677</u>
Intra-Group sales			158	166
	<u>277</u>	<u>270</u>	<u>2,527</u>	<u>2,511</u>
Associated Companies	7	5		
	<u>284</u>	<u>275</u>		
	Profit by Territory of Origin		Turnover by Territory of Destination	
United Kingdom	146	145	1,458	1,338
Rest of Europe	28	24	332	315
The Americas	26	25	439	441
Australasia	6	4	124	105
Asia	3	2	252	387
Africa	1	1	80	91
	<u>210</u>	<u>201</u>	<u>2,685</u>	<u>2,677</u>

The advanced equipment will be used in repair depôts throughout the US to service a new range of aircraft computers, also made by GEC Avionics.

The ATE, to be designed and manufactured by the company's Automatic Test Equipment Division, will meet the latest, officially-published USAF guidelines for automatic testing. The USAF concept, known as MATE (modular automatic test equipment) will achieve cost savings

through standardisation. GEC Avionics is to fulfill the contract with a modular design, the operation of which is based on its commercially-successful ORION ATE.

Versions of ORION, are used in GEC Avionics' own production facility, to test the same range of airborne computers, known as SCADC (standard central air data computers), designed for re-equipping 39 different types of USAF and USN aircraft.

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£24 million Avionics' contracts aid navigation

GEC Avionics, Rochester, has developed an airborne computer which can reproduce colour maps in the cockpit and it has been selected for the RAF's latest Harrier, the GR.7.

The solid state digital colour map unit (DCMU) can store an area the size of Europe in one avionics box.

The order which is worth over £7 million, was placed

by the Ministry of Defence (PE) and is the world's first for such a solid state mapping system.

The new navigational aid has been developed over several years using experience gained in flight testing in the UK and the US.

The unit derives its data from conventional paper maps which are digitised from separate feature

planes. These can be modified to delete unnecessary information and can also be colour modified to suit ambient lighting conditions, compatibility with night vision goggles being a major consideration.

The map displayed to the pilot moves in relation to aircraft position and at the touch of a button can zoom the map to show either more detail or a larger area.

The system has considerable export potential and GEC Avionics is already demonstrating the DCMU worldwide.

GEC Avionics has also been selected to supply a new ring laser gyroscope navigation system, which will help pinpoint targets accurately for the Royal Artillery.

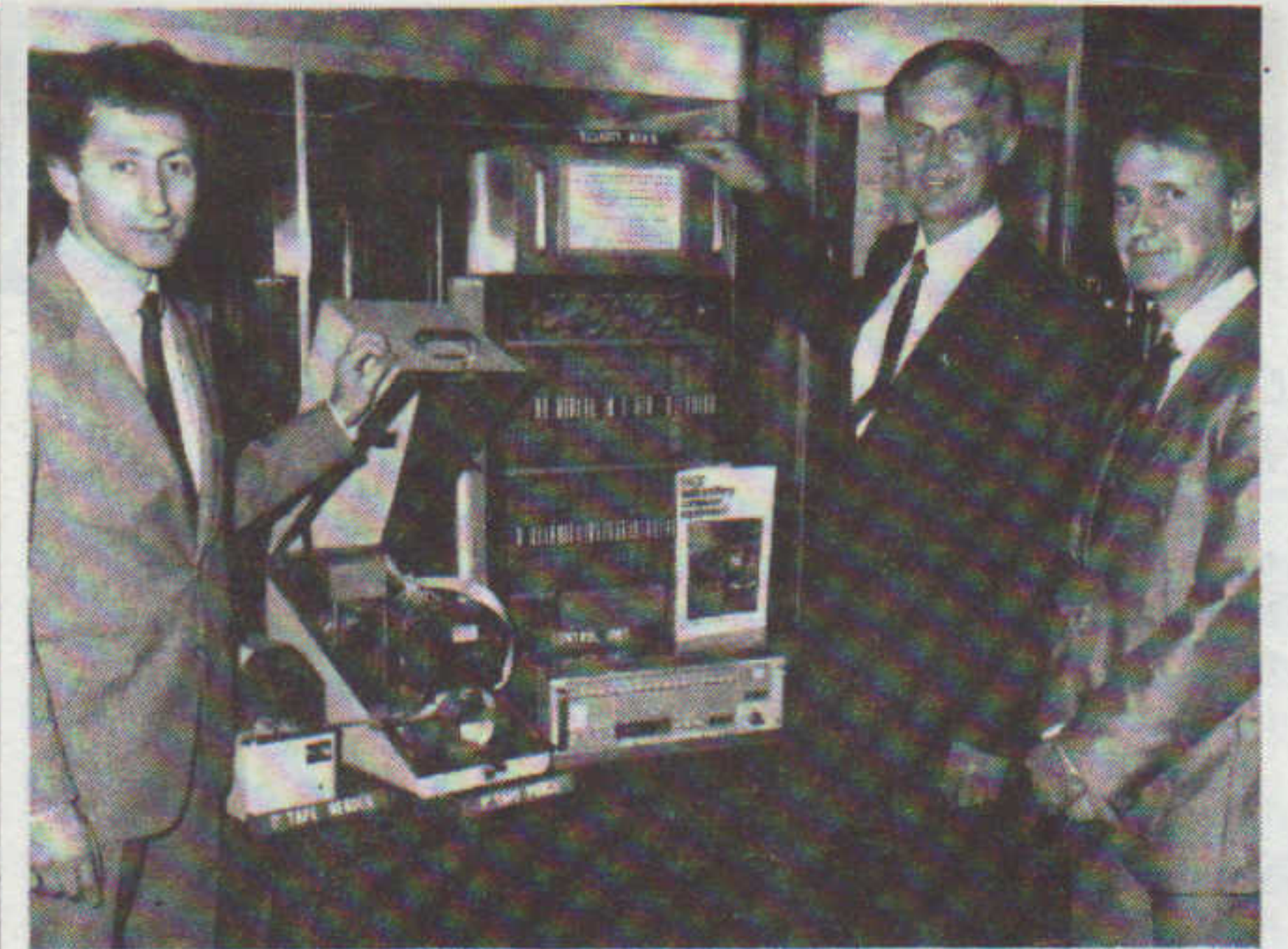
The azimuth position and elevation system

(APES) will be supplied to GKN Defence, Wolverhampton, for integration in the Army's Warrior observation post vehicle. The order, worth over £17 million, is the first to be placed for a British Army equipment based on ring laser gyros.

GEC Avionics has established an exclusive licensing agreement with Honeywell Inc. to incorporate the US company's mature ring laser technology into a range of products, including this British Army system.

APES is based on the Honeywell H726 dynamic reference unit and in conjunction with a GEC Avionics control and display unit, and a laser rangefinder, processes input signals to give the necessary vehicle position information to enable targets to be located accurately.

As APES will have none of the moving parts used in conventional gyroscopes, it can ensure reliable information despite the harsh shock and vibration conditions encountered by tracked vehicles.



Paul Rayner (centre) presenting the early military computer to the Science Museum. It is being received by the keeper of engineering, Dr John Becklake (right) and the curator of computing, Doron Swade (left).

Historical computers

GEC Computers' managing director, Paul Rayner, recently handed over two of the company's early military computers to the London Science Museum's computing and data processing collection.

Dr. John Becklake, keeper of engineering, accompanied by Doron Swade, the curator of computing, received the machines on behalf of the museum. The computers fill a gap in the collection in which military computers are under-represented.

Commenting on the

acquisition, Doron Swade said: "These machines are a welcome addition to the museum's computer collection for a number of reasons. Given the size of investment in military computers and the impetus that military requirements have given to technical developments, these machines are of historical and technical significance. The continuity of the manufacturer provides a valuable reference for a time-line study in computer design from its earliest (commercial) electronics origins."

£1 million order for mobile power station

RUSTON Gas Turbines, Lincoln, recently received a £1 million order for a Nomad 5 mobile power station and managed to despatch it within five days to Papua New Guinea.

When it arrived the 3.5MW Nomad was used to provide power for production equipment at the Ok Tedi gold mining company, based in the country's Western Province.

The Nomad 5 runs without external power using gaseous or distillate fuel. It is based on the TB5000 industrial gas turbine, enclosed in a single 55 tonne, 15 metre long articulated trailer, which can be moved from one location to another as and when required and be made operational within 24 hours of arrival on site.

NEWS IN BRIEF

THE Martello S723 3-D radar, designed and manufactured by Marconi Radar Systems, Chelmsford, has recently been accepted into service by the Royal Air Force for deployment at four stations as part of the Improved UK Air Defence Ground Environment.

The Martello S723 gives continuous range, bearing and height (up to 150,000 feet) of small targets to ranges in excess of 250 miles.

Easily transportable, Martello incorporates a number of significant technical innovations which, in 1986, were recognised by The Queen's Award for

Technological Achievement.

Following a collaboration between the Malaysian Department of Civil Aviation, Computer Base (M) of Kuala Lumpur and Marconi Radar, a low cost flight progress strip system was recently announced.

The FPSS system, which uses stored data on FIR (flight information region) routes and flight schedules, provides flight strip printing, calculation of air navigation charges to permit rapid invoicing and traffic movement statistics.

The FPSS also has the benefits of low cost and increased productivity to the operator.

MARCONI Test Systems, a business unit of Marconi Instruments, Scotland, recently delivered four Tempest test systems, worth over £1 million, to the Supreme Headquarters Allied Powers Europe (SHAPE) at Mons, Belgium.

The systems are used to detect compromising electronic signals from equipment, buildings and installations so that leakages can be identified.

Three of the Tempest test systems are transportable and will be used in buildings and installations throughout NATO in Europe. The fourth system will be used for in-house testing and for training at SHAPE's headquarters in Belgium.

TELEPHONE Cables (TCL), Dagenham, has successfully completed installation of the first totally non-metallic, self-supporting cable to be strung along a live power line.

The Translite cable, installed on a 132 kV grid tower system by contractors Clough Smith Ltd, will be used by East Midlands Electricity Board as part of their internal telecommunications network.

Translite's complete independence from the electrical conductors

means that costly interruptions to the power supply during installation and maintenance are avoided.

Developed to meet the stringent safety standards set by the electricity supply industry, TCL's Translite cable contains up to 24 fibres transmitting voice, image, text and data at up to 565 M/bits. A specially designed outer sheath minimises tracking and provides protection against hostile climatic conditions, ensuring a long maintenance-free life for the cable.

Foxhunter success

THE RAF's first Tornado F3 unit, recently completed two successful firings of the Skyflash missile using Marconi Defence Systems' Foxhunter radar.

Foxhunter is Britain's first pulse-doppler radar, designed to detect and track subsonic and supersonic targets at extensive ranges at high and low level.

Both firings were from altitudes of about 10,000 ft against targets at 250 ft

height. The successful shots are important milestones towards this month's introduction of the first operational F3 Squadron into NATO.

Antarctic link-up

Continued from page 1.

medium which has rapidly gained ground as an essential communications facility for the international business community.

OTC has spent more than \$½ million on equipment for the Antarctic link, building special containers for the GEC Codec (digital signal coders/decoders) and camera facilities so everything could be shipped across safely on the ICEBIRD supply boat which left in October.

Transmitted

The digital signals from the codec will be transmitted via Intelsat across to an earth station at Ceduna in Southern Australia, fed to a codec and then de-coded by an OTC converter in Paddington, Sydney, to analogue signals ready for tv reception.

Says Jan Land, project co-ordinator, in Sydney: "The Antarctic link has undoubtedly become the talking point of the whole show as nothing like this has ever been done before. There is going to be great drama here and it will prove fascinating viewing wherever you live in the world."

Lighting for Stolport

THE Airport Division of GEC Electrical Projects, Rugby, has developed unique landing aids for the new London City Airport.

This STOL (short take off and landing) performance airport requires aircraft to approach at two and a half times the normal approach angle, that is a 7½ degrees aircraft path.

GEC Electrical Projects has equipped the airport with runway edge elevated fittings, inset pavement units and approach aids which all utilise the company's latest range of luminaires. These provide unique light beam characteristics, but at the same time utilise low wattage energy saving lamps.

Further lighting systems have been installed on the taxiways to provide aircraft route guidance to the terminal. Circuit cabling has been considerably reduced with the incorporation of new GEC electronic static switches.

First Satchwell BAS sold to Hong Kong

SATCHWELL Control Systems, Slough, recently sold its first BAS (building automation system) to Hong Kong, for a new telephone exchange.

The initial stage of the contract is for a BAS 700 system with seventeen outstations in the main exchange building, where the system will ensure the efficient working of a comprehensive air conditioning and ventilation installation. Other items monitored are water levels in storage tanks, lighting, electricity consumption,

transformer, fire services and security. If the supply fails, stand-by generators can be brought into use automatically by the BAS 700.

Extend

There are plans to extend the monitoring by autonomous outstations in outlying exchanges. Each will administer its own building, but when a setting change has to be made, or data collected for central analysis, the BAS will establish contact with each outstation in turn over a telephone line.

Avery self service

AT PRODUCE counters, many customers prefer to select their own goods to ensure that they get the best quality items. However, this means that an assistant has to be stationed permanently at a scale.

A new electronic customer self service scale from W&T Avery solves this problem and provides a simple, secure and cost-effective method of weighing and pricing a customer's purchases.

The A103 scale features 47 large and pictorially labelled keys which represent individual product lines, an alpha-numeric display and a side-mounted bar code printer.

The customer simply selects a produce and, prompted by instructions on the display, seals the bag, places it on the scale and presses the appropriate product key.

The scale will automatically show the correct price, product description and weight and will issue a self adhesive bar coded label to be attached to the goods.

To ensure a high level of security, the scale will not operate until the bag has been securely sealed.

The scale will also issue management information, including grand and product totals.

A TEAM from GEC Telecommunications, Kirkcaldy, recently won this year's Scottish regional finals of the TECCOM competition run by the Engineering Industry's Training Board.

Apprentices John Glen-cross, Wallace Henderson and Craig Polatajko designed, developed and manufactured a temperature profile recorder for the flow soldering process, a

Apprentices' design wins first place in TECCOM competition

technique used in the electronics industry.

The team's project, which had a materials budget of £500, was also highly commended for its well structured report.

The project will now go forward to represent Scot-

land in the national finals in January.

TECCOM was set up to assist in improving standards of training within the engineering industry, and to improve the image of the engineering industry among people who influence school leavers in their career choice.

At the regional finals the GEC team also won the Institution of Electrical and Electronics incorporated engineers award.

This award is presented to the project which is deemed to have the greatest emphasis on electrical and electronic concepts.

Pictured from left to right John, Wallace and Craig.



NEWS IN BRIEF

SATCHWELL Control Systems, Slough, recently received one of its largest orders for a building automation system.

It is for BP Oil's new headquarters being built at Hemel Hempstead, Hertfordshire.

For £800,000 Satchwell is supplying, installing and commissioning one of its BAS 700 Series 3 building automation systems

together with 60 outstations, additional printers, two portable field consoles for local interrogation, 33 motor control panels, colour graphics screen and 1,360 electrically and pneumatically operated motorised control valves.

In all, 3,500 points of the heating and air conditioning system will be monitored and/or controlled.

MARCONI Communication Systems, Chelmsford, has received an order from the United Kingdom Atomic Energy Authority Culham Laboratory, for the second phase of a project connected with particle beam acceleration.

In the first phase, Marconi provided a design specification for a one megawatt radio frequency source which was completed earlier this year. Culham Laboratory has now contracted the company to design the equipment, bringing the total value of the task, to date, to almost £750,000.

A third phase will be to construct, install and commission the equipment.

LAST July saw the launch of 'HMS Norfolk', the first in the class of new Type 23 Royal Navy frigates, at Yarrow in Scotstoun.

Three further vessels, HMS Argyll, Lancaster and Marlborough have been ordered by the Ministry of Defence and are now under construction.

The fan content, both axial and centrifugal, was

awarded to Woods of Colchester by APV Hall International of Glasgow, who design and install the various marine air conditioning systems in these special warships.

Amongst the applications on-board are engine room supply; machinery space ventilation; smoke clearance and air filtration units.

CINCINATTI Electronics, US, recently opened its new high-tech facility in Mason, Ohio.

The ultra-modern structure will house Cincinatti Electronics' growing aerospace division. Approximately half the 93,000 square feet of floorspace is dedicated to eight sophisticated laboratories designed for advanced-technology research and development work.

The new building took two years to complete and cost \$10 million.

CREDA, Blythe Bridge, recently won a top Japanese design award for its slimline electric storage heaters.

The heaters beat off worldwide opposition to gain the Good Design Award, presented by the Japanese Ministry of International Trade and Industry. This is an annual award introduced in 1957. Imported products have

Japanese design award

been allowed to compete for the award only recently.

The Good Design Award is for any consumer durable, not just electrical products. Judges from the ministry base their assessment on styling and

appearance, user benefits, safety, performance, economy in use and the total concept of the product.

The award was presented in Tokyo to Nozomu Waki, managing director of Mitsui Sapporo, Creda's agent in Japan and the world's largest trading company.

Creda started marketing the heater in Japan earlier this year but already sales are growing,

particularly in northern Japan where winters are severe.

Brian Powell, managing director of Creda said: "This is a major breakthrough in a tough market. Japan is a new market with great potential and this award puts the Japanese stamp of approval on our products. The award is especially notable as it has been made to a product that is still almost unknown in the Far East".

GEC Avionics' world production record

AT A recent ceremony at GEC Avionics' Airport works, Rochester, the 1,000th unit in a new range of aircraft computers was handed over to the US Air Force. The computers have been in production for only one year.

The 1000th standard central air data computer (SCADC) was accepted on behalf of the United States Air Force by Colonel Raymond A Shulstad, deputy commander for aeronautical equipment, Aeronautical Systems Division, Air Force Systems Command, Wright-Patterson Air Force Base (pictured left). It was presented by Ron Howard, managing director of GEC Avionics.

Nearly 4,000 of the computers are being built against fixed-price orders now totalling some \$135 million, GEC Avionics having won all three of the production orders so far placed for SCADC.

The company's Instrument Systems Division, Rochester, is currently delivering the units at a rate of 120 per month. This is a record for such equipment.



GEC link ups in Australia and Italy

GEC Australia's teleconferencing equipment will help the Victorian Government save an estimated \$20 million a year when its VISTEL telecommunications network is fully established.

The network began operations recently with a new video service linking Melbourne with Ballarat. It allowed the Planning Appeals Board to hear a case in Ballarat whilst sitting in Melbourne.

Advantages

The Victorian treasurer, Rob Jolly, who opened the new facility said the appeal by video conference had a number of advantages.

He said on-site inspection by the Appeals Board and a subsequent hearing would involve travel and overnight accommodation worth \$400, plus considerable travel time while other cases could be heard in Melbourne.

The new system ensured improved Government services to country areas and improved public access and participation. It can also be used to hear evidence and cross examine witnesses,

provide specialised training programmes to staff in country locations, allow doctors to diagnose patients in remote centres and for public hearings, Government conferences and business meetings.

Users of the VISTEL network will include the Victoria police, the Education Department and the Health Department.

Marconi Italiana's video-conferencing equipment was used by the Ministry of Defence (MoD) in Italy in the wake of the recent flooding.

When torrential rain caused a state of emergency in Valtellina the MoD approached Marconi for three GEC video codecs and a multipoint control unit, linking its Rome headquarters simultaneously with troops in Milan and the stricken area around Sondario.

MoD staff were given up-to-the-minute information on the emergency and were able to direct troops to the areas of need.

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Nairobi Trade Fair

GEC aids Kenya's future development

GEC recently demonstrated its extensive involvement and some of its potential expertise for Kenya at the Nairobi Trade Fair, the largest and most prestigious fair in East Africa.

The exhibition attracted some 300,000 visitors. The President of Kenya, Daniel Arap Moi, with his guest of honour President Kenneth Kaunda of Zambia, officially opened the fair. Peter Bottomley, Parliamentary Under Secretary of State, Department of Transport, also attended the exhibition and visited the GEC stand.

Since independence, Kenya has received almost £500 million in official aid from Britain. In response to a Kenyan Government request some years ago donors were asked to direct aid to particular areas of the country and to specific economic sectors. British bilateral aid now concentrates on agriculture, education, energy, manpower development, transport and communications.

It is in many of these areas that GEC companies have become increasingly involved.

Transportation

Railways are a vital component in Kenya's transportation system. The Class 87 locomotives built by English Electric between 1960-67 have hauled goods and passengers across millions of kilometres. English Electric diesel engines (now Ruston Diesels), have been in service on some of Africa's most demanding tracks.

Navy

Kenya Ports Authority's tugs at Mombasa harbour are powered by Ruston Diesels. Paxman Diesels

power some of the Kenyan Navy's fast patrol boats.

Marconi Radar has supplied systems to the Kenyan Navy and its mobile surveillance radars are used by the Kenyan '82 Airforce.

When completed, the dams at the Kiambere hydro-electric power project on the Tana river will

create a reservoir 17 kilometres long. Water will flow via the powerhouse to generate 140MW. GEC Switchgear's open terminal SF6 circuit breakers are supplied for the 220kV and 36kV substations. GEC Transformers are in the process of supplying 132kV transformers to the Kenya Power and Lighting Co.

It is the intention of Kenya Posts and Telecommunication Corporation to bring telephone services to each and every Kenyan. GEC Telecommunications has provided 75 exchanges



Kevin Hughes, GEC Group Exports, presenting Sam Gichuru, managing director of Kenya Power and Lighting with GEC Measurements' book on relay protection.

and has contracts for 34 M/bits radios and two M/bits digital line systems to interconnect its UXD5 rural telecommunications system, which is being used in several townships.

GEC Meters, recently acquired an order for 1,500 Transva polyphase kVA maximum demand meters from the Kenya Power and Lighting Co.

GEC's participation in

the Nairobi Trade Fair further emphasises the depth of GEC's involvement in Kenya and outlines its potential for aiding the further development of the country.

Osram's packaging investment brings exciting new lighting

OSRAM-GEC, Wembley, has recently invested in excess of a million pounds in updating its production techniques and introducing new equipment, creating "new look" packaging and instigating an energetic advertising campaign.

Since the early 1900s, Osram has been a leader in its field and even in the early days of its existence, the company was progressive in its approach to both the retailer and the consumer. Osram was the first company ever to run national newspaper and poster advertising for a light bulb.

Nowadays, Osram produces over 70 million household bulbs every year, covering a wide range of products which cater for the needs of a demanding market, where lighting now plays an integral part in interior design.

Because of this important new attitude towards lighting, Osram's idea was to introduce packaging setting its products apart from those of its competitors, and providing a distinctive market identity.

Progression

Osram's marketing manager, Alan Parry, said: "Our new designs are a logical progression aimed at making product identification far simpler for purchasers."

Before Osram could create new packaging, it had to completely rethink its production processes. The production team had to solve the problem of creating an efficient system which could cope effectively with the new demands of modern packaging techniques.

Utilising its overall resources, the production team made extensive changes in order to introduce the most up-to-date equipment and to achieve



New packing machines and roller conveyor belts.

maximum efficiency.

With the aid of helpful suggestions from the shop floor, the team gutted the packaging area and increased the floor space by 20 per cent and with a clear concept of layout, brought in new labelling and bundling machines, carton machines and an £80,000 blister packing machine.

New powered roller con-

veyor belts were introduced, transfer of staff increased personnel in the area by 50 per cent and an advanced system of computer management came into operation, improving customer response levels.

Osram was able to move away from the traditional form of sleeve and end packaging, introducing

colour coded cartons, cut out boxes for specialist bulbs and blister packs for twin candles, colour bulbs, reflectors, pygmy bulbs, for small domestic fittings, and Fireglow bulbs for domestic fire appliances. The strong, self-standing blister packs are an important innovation in lighting packaging, ideal for customer selection of bulb types where there is a wide choice of cap, finish and colour.

Advanced

Osram Extralite and Filtalite cartons are colour coded by wattage: orange for 150w, blue for 100w, green for 60w, mauve for 40w and feature advanced graphics, clearly indicating the type of bulb (clear, pearl or mushroom). User advice is prominently displayed on the cartons.

Extralite and Filtalite bulbs have also been given a more distinct appearance. Extralite packaging now has a strong, dark background colour while the



Filtalite — with its softer light — has a toned down shade of the same colour.

High-quality

Decorative bulbs, such as reflectors, globes and candles are presented in high-quality silver cartons, most with a cut-out on one side, enabling instant product identification and blister packs add to the high quality packaging for specialist products.

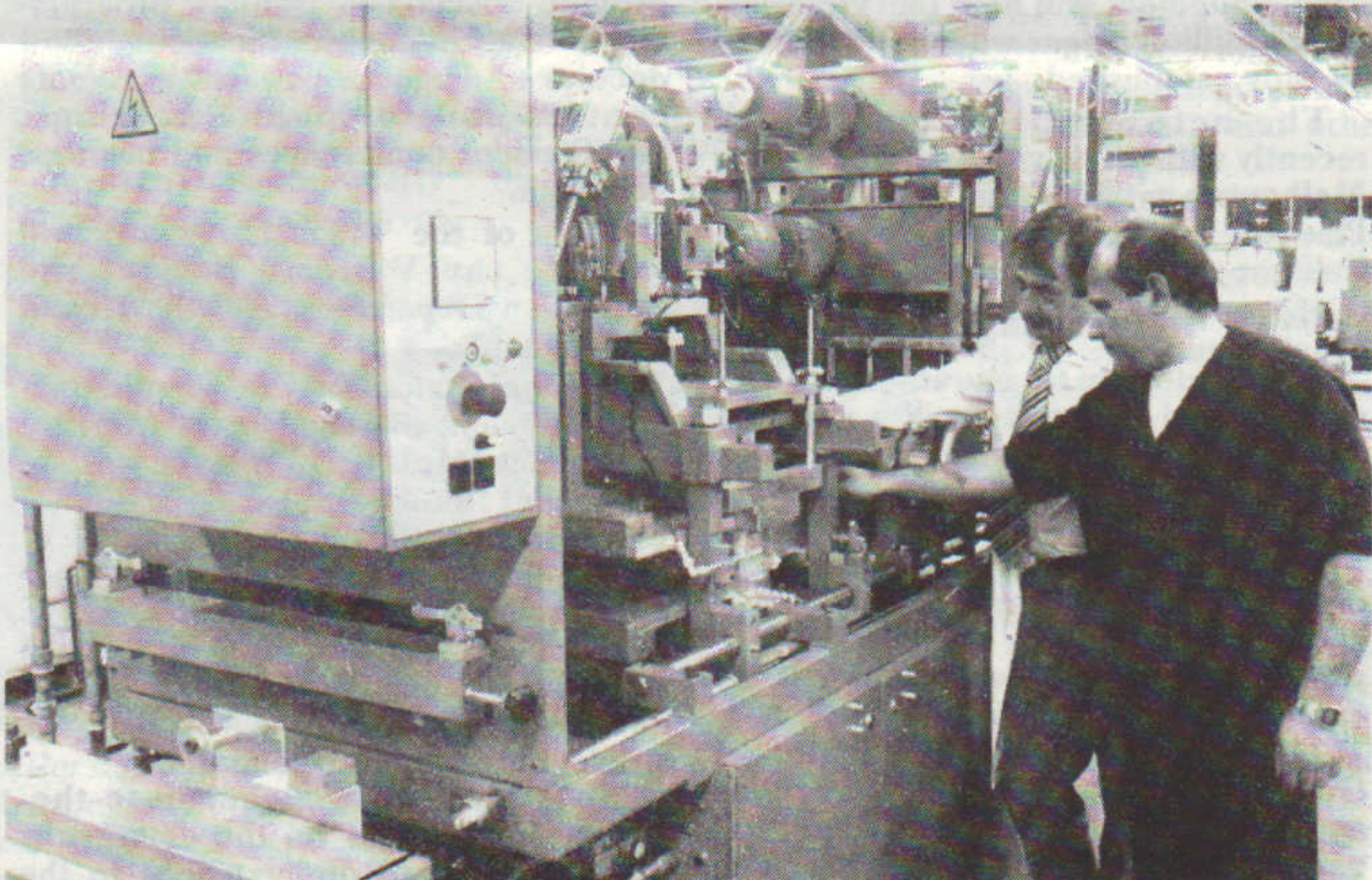
The new packaging is reinforced by substantial display stands, which Osram believes will benefit retailers at the point of sale.

Osram is convinced that this new packaging will enhance the company's reputation as a market leader. Its new advertising campaign is also aimed at keeping Osram ahead of its competitors, by making the consumer more aware of its products and therefore more selective in his purchase.

Osram's new advertising campaign includes highlighting its products in the trade press and also in inserts in such magazines as *TV Times* and *Ideal Home*. A 12 page full colour consumer brochure, which offers a comprehensive guide to transforming the home through the use of clever and inventive lighting has also been produced.

Details

For further details of the consumer brochure, please contact: Lynn Hartley, product manager — marketing, Osram-GEC, P.O. Box 17, East Lane, Wembley, Middlesex HA9 7PG.



The £80,000 new blister packing machine.

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Caribbean adventure

Marconi designer's golden opportunity

STEVEN Powell, a PCB designer in the computer aided design department of Marconi Communication Systems, Chelmsford, recently returned from a month-long visit to the Caribbean — probably the most testing four weeks of his life.

In 1986, Steven applied to take part in the Duke of Edinburgh International Gold Award holders training course. After an arduous test and interviews Steven was chosen as one of two Eastern region representatives. In total 16 UK representatives went to the Caribbean along with 82 other young people from 22 countries around the Commonwealth.

On one occasion on the

first part of the trip, Steven took part in the festivities of the Cropover Carnival and on another he sailed around part of Barbados on a 10ft catamaran. Steven also visited Harisons' Caves, an amazing cave system of stalagmites and stalactites, which are often over 100ft high. In one area the stalagmites have been convincingly lit to resemble the sky line of Manhattan.

The second phase of the



Steven (front far left) and some of his group stopping for a rest on St. Vincent.

Greenland — the arctic wilderness



Simon Whipple in Greenland.

A FOUR man team led by Simon Whipple, a systems engineer in the Systems Engineering Division of Easams, Camberley, recently spent three weeks exploring in north east Greenland.

The trip, which was partly sponsored by Easams, was in three parts, it consisted of exploring the Roscoe Bjerger range of mountains, visiting a remote Eskimo settlement and a 60 mile cross-country hike.

The team arrived in Greenland at Constable Point airfield. After crossing the Hurry Fjord, with the help of an Eskimo, the group set out to climb Mount Tvillingerne. At 1400m, it is the highest peak in the area.

Due to an abnormally high snowfall last year, the climb was difficult and dangerous. After two attempts to reach the summit, the party set off across glaciers, rivers and mountains on the 30 mile walk to Scoresbysund village.

The village was only discovered in the latter part of the nineteenth century and is presently battling through the transition from a Stone Age to a modern community.

The settlement has a reputation for violence and in 1986, 12 violent deaths occurred in the village which has a population of only 400.

Despite the violent lifestyle of the Eskimos and their supposed animosity towards Europeans, the Easams party found the natives to be generally friendly.

On two occasions the Eskimos treated the party to a meal of freshly caught salmon. On another occasion, the group were given a local delicacy of

walrus stew, which Simon Whipple said tasted like "rotten beef" and that it was "a never to be repeated experience."

The Easams group felt both "privileged and saddened" to see this community before it was too late. It is one of only two settlements in east Greenland and it is one of the remotest villages in the world.

The Eskimo way of life is changing rapidly. The opposition of Greenpeace has meant that traditional forms of income, which result from polar bear and seal hunting, have been wiped out. The community now relies on Denmark to support it.

If oil is exploited in the area, the influx of thousands of oil personnel will swamp the Eskimos and destroy the traditional structure of the ancient community.

From Scoresbysund, the group walked to Lillefjord on the east coast. By this stage of the expedition it was late August and the group began to notice the transition from the arctic summer to winter. An arctic fox was seen changing from its brown summer coat to its white winter camouflage. There were night frosts and snow began to fall in the nearby Stauning Alps.

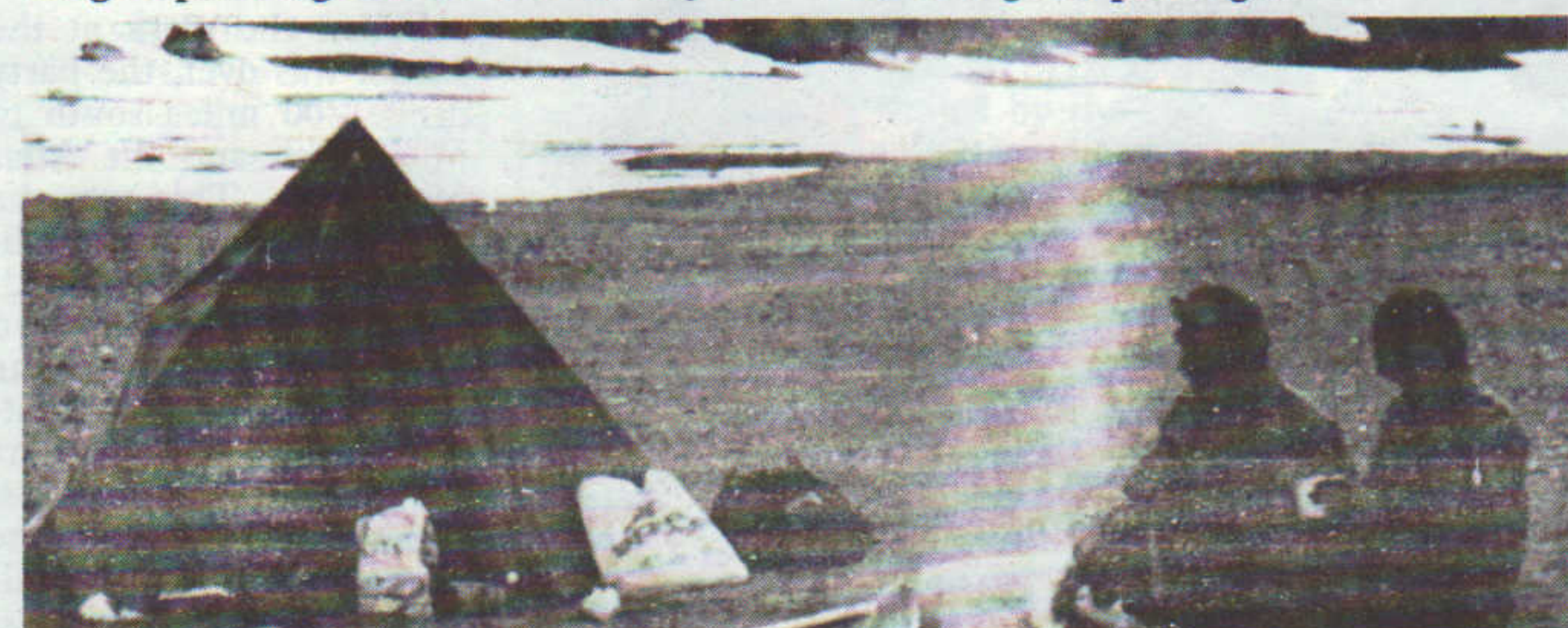
The 60-mile hike back to Constable Point was the most hazardous part of the expedition, as dozens of rivers had to be crossed.

The major obstacle was crossing the mouth of the Ryders Elv river at the north end of Hurry Fjord, which was almost three miles wide.

The crossing was timed for early morning when the tide was out. Roped together the group towed each other across against the fast current suffering the icy water, which was sometimes chest deep. Occasional patches of quick sand made walking very difficult, especially when carrying 50 pound rucksacks.

After returning to Constable Point, the group were given a final treat when they were flown, in ten minutes, over the route which had taken them three weeks to walk.

Simon Whipple said of Greenland: "It is a huge and beautiful country. The icebergs are magnificent, the flowers delightful, the people friendly and views stupendous. To visit such a place is indeed a great privilege."



Camping in the open near Lillefjord.

trip took place on St Vincent and Steven's group had to travel on a banana boat from Barbados to their new destination. As a TV-AM film crew joined the group for this phase, conditions on the boat were cramped and a heavy storm did not ease the situation.

Prince Edward, who is involved with the Duke of Edinburgh Award scheme, also joined Steven's group on this phase of their trip.

In temperatures of 90 degrees fahrenheit, with the help of a compass, the group made their way around the circumference of the island, staying at disused schools and plantation houses and living on

a diet of corned beef and baked beans.

At the northern end of the island the group came across a volcano called La Soufriere. The group battled their way through the jungle to the summit of the volcano, which is over 3,000ft high, and then descended to the other side where they encountered a river. They waded through the waist-high water in order to pick up their track again.

The third phase took place in the Grenadines. Steven and his group were loaned two 70ft sailing schooners and sailed through the Grenadine islands stopping off at each

one en-route. Most of the islands were only inhabited by coconut trees.

This phase of the trip proved to be quite a struggle as none of the islands had any fresh water, so the group had to ration the water that they had brought with them. All shaving and washing had to be done in the sea!

Many of the group went snorkling in the afternoons. Steven was particularly amazed at the beautiful coral reefs and unusually coloured fish. He said, "It was just like swimming in a tropical fish tank at an aquarium."

Survival was certainly the keynote of the trip and Steven feels that the lessons that he learnt will be invaluable to the people he instructs in the award scheme at home.



Prince Michael of Kent (left) discussing the York one-piece telephone with Robbie Robertson (right), managing director of GEC Telecommunications International.

GEC in Geneva

EVERY four years, Geneva is the venue for a major international telecommunications exhibition.

This year GEC was well represented in the British section with two stands.

The main company stand displayed a wide range of products.

In particular, Lyric 2000, an advanced digital business communications system, was announced and emphasis was also given to the extensive integrated voice and data capability of the PABX range.

GEC Video Systems showed the new editions of its comprehensive range of videoconferencing equipment and GEC Network Systems featured its expertise in transmission systems from subscriber connec-

tions to international networks and network management.

The second stand was in collaboration with Plessey and demonstrated the latest advances in System X technology.

A satellite link to London connected the System X exchange on the stand into the UK telephone network and the whole of British Telecom ISDN network.

One demonstration allowed visitors to dial up, and control from Geneva, remote video cameras in Coventry, London and Liverpool.

GEC Telecommunications was proud that this was the only fully operational ISDN network demonstrated at the exhibition.

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A hand built coracle, which was sailed across a lake.

GEC expedition brings joy to Moroccan children

In October twenty-six young men and women from twenty-three GEC companies took part in the first GEC expedition. Their five week trip to North Africa was the culmination of 10 months hard planning and preparation by the group.

Their main aim was to conduct a number of service projects at a school for physically handicapped children in Khemisset, Morocco. The school, run by the Save the Children Fund in conjunction with the Moroccan Government, provides education and treatment for one hundred and fifty children of all ages, most of whom have crippling disabilities. The projects included building an adventure playground and installing a solar heating system to provide hot water.

The expedition was initiated by Derek Webb, head of development training services at The College of Management,

and clerical trainees, craft, technicians and student apprentices. The event, covered a two and a half day duration involving exercises which tested the teams' mental

Every aspect of the expedition had to be planned by the group members. From fund raising to transport, catering to publicity and the work projects themselves.

Under the leadership of Ian Duff a craft apprentice from GEC Turbine Generators, Larne, the group were divided into various areas of responsibility. Projects planning, fund-raising, publicity, logistics and general administration. The



Members of the group helping some of the children to read during a weekend recreation period.

her salary to cover travel and subsistence costs. The rest of the money was raised through both individual and group sponsorship.

Many of the GEC companies involved also provided sponsorship in the form of equipment, minibuses, time off work, and a pound for every pound raised. By September a total of £19,000 had been raised.

The main project at the school was the design and construction of an adventure playground for the children. This consisted of a main castle with lots of play areas which provided a much needed recreation for

the children and also offered them exercise and therapy.

The solar heating system was made from black plastic pipe and corrugated tin sheets. This design was very simple but very effective. Until now the school has relied upon wood burning stoves to provide what little hot water it had, the school now has one hundred and fifty gallons per day of piping hot water at the turn of a tap.

In addition to these, many other work projects were undertaken during the stay. Re-roofing some existing buildings, redecorating some old rooms,



Two members of the group renovating the tuck shop roof.

Dunchurch and assisted by Endeavour Training. However, since the initial selection the group has been entirely responsible for its venture.

It was in November 1986 that forty young men and women attended an arduous selection weekend. The group was subjected to both indoor and outdoor challenges to test initiative, character and compatibility.

From that weekend a disparate group of people

preparation included an advance party of three members visiting Morocco in July to establish contact with the school and to finalise the projects.

The group set themselves a budget of £15,000 for the whole expedition, this included for travel and subsistence, project materials, tools and other expenses for an expedition doctor and medical supplies.

Each group member donated two weeks of his or



Children playing on a wobble board in the newly constructed adventure playground.

NATIONAL YOUTH

Sixty GEC

battle for

The fifth National Young Employees Competition at Bwlth Wells, Wales. Over six hundred young people aged 16 and 22 participated, representing over 500 GEC companies. The event was the climax of three months preparation for the competition.

The teams comprised of four members some all male, mixed — two male, two female and all girls, covering a wide range of young people including Youth Training Scheme



Tyrolean traversing

re-wiring work, installing an internal telephone system around the school and the provision of a tuck shop.

Special tools and equipment were taken by the group, however most of the raw materials could be bought in the local town. As the work proceeded, more and more sand, cement, wood, nails and paint were bought much to the delight of the local store keepers who had never had so much trade in a month.

Work started at 6.30 am, before breakfast. By lunchtime the temperature confined the group to relaxing in the shade or around the childrens' swimming pool and waiting until about 4.00 pm, when work went on until darkness fell at approximately 6.30 pm.

The off duty time was also used to assist the children with painting, drawing,



The group during a strategy meeting.

playing or just chatting in the only common language of French.

Earlier in the year, the expedition was one of only four to be nominated for the BBC Mick Burke Award for 1987. The group was loaned film and sound equipment by the BBC in order to produce a film documentary about its exploits. Time must now be spent on editing the film before it is put forward for assessment. The best of the four films will be shown as part of the 1988 'World About Us' series.

When the work at the school was over, the party drove 200 miles south to Marrakech and the Atlas Mountains. This was the second phase of the expedition and under the guidance of an experienced mountaineer and some local guides, four exhilarating days were spent walking in the mountains, and ultimately reaching the summit of Jebel Toubkal, at 14,000 feet, the highest mountain in North Africa.

YOUNG EMPLOYEES COMPETITION

GEC companies for first place

on recently took place among people between the sixty GEC companies. Preparation for this demand-

agility, problem solving, teamwork and communication capabilities.

The event also included a night time activity in the Welsh hills which tested map reading, compass reading and orienteering skills.

Each team also had to design and make a banner which clearly indicated their company's name and prizes were given for flair, innovation and art work.

As in previous years the computer scoring system indicated that after four events, involving a maximum of four thousand points, only a few hundred points separated the top twelve teams which were selected to contest the final.

The final proved to be a challenging, stimulating, and exciting exercise with the eager participants being urged on by a large audience.



Left: The top female team: Marconi Radar Systems, Chelmsford, l-r: (top row) Kim Evans, Lord Prior, Sue Borse (bottom row) Kelsey Duchesne, Paula Bygraves, team manager and Laura Faithful.

Right: Abseiling.



Below: The overall winners: Marconi Research, Great Baddow, l-r: Paul Theobald, Francis Boundy, Hazel Moore, Lord Prior, Simon Guest, Graham Craddock and Brian Lynch, team manager.

A new team emerged as deserving winners and became holders of the Sir Richard Clayton trophy. They were Marconi Research Centre from Great Baddow, closely followed by Ruston Gas Turbines, Lincoln, and EEV, Chelmsford.

Winners of the mixed team final were Marconi

Underwater Systems, Watford, second and third were GEC Industrial Controls, Rugby and GEC Hirst Research, Wembley.

The top all girls team was, as last year, Marconi Radar Systems, Chelmsford, followed by GEC Telecommunications, Coventry, and Marconi Underwater Systems, Watford.

The winner of the banner competition was Yarrow Shipbuilders, Scot-



meeting.

The young men and women involved have had a rich and rewarding experience. It was their planning and determination that made the project successful. But the work is not over yet. The group is currently engaged in setting up a series of presentations around the country in order to share some of their experiences with those who have helped along the way.

The fund money left over from the projects will be sent to the school through the Save the Child-

ren Fund to sponsor a child through their schooling at Khemisset, Morocco, and then hopefully on to university. A fitting end to a superb expedition.

Building on this year's success, Derek Webb is already making preliminary arrangements for a similar expedition in 1989.

If anyone is interested in applying for the next expedition, contact: Derek Webb, development training adviser at Dunchurch College, Rugby, Warwickshire CV22 6PL.



Above: The top mixed team: Marconi Underwater Systems, Watford, l-r: (top row) Adrian Evans, Lord Prior, Richard Yarman, (bottom row) Lisa Clark, David Atkinson, team manager and Niki Neville-Smith.

Left: Transporting a piece of wood over a wall with the help of a tyre.

Below: EEV participants carrying out the word building exercise.



Decorating the tuck shop walls.

soun, and second was GEC Turbine Generators, Rugby.

The prizes were presented by the chairman of GEC, Lord Prior, who was accompanied by his wife, Lady Prior.

Derek Webb, national development training adviser, GEC Management College, Dunchurch, is considering increasing the age limit from 22-25 for entrants to the 1988 competition. He would welcome views on this idea from GEC units.



Marconi helps YTS trainee win university place



Sean Fagan.

MARCONI Defence Systems, Stanmore, has a notable YTS success story in Sean Fagan, a technical engineer in the Electronic Warfare Division. Sean joined Marconi on its one year commercial YTS programme in 1984.

During his time on YTS Sean studied for a BTEC general certificate at Watford College. He also benefitted from Marconi's special one week residential course in Wales and a short computer course.

Sean was offered permanent employment in the technical department during his first year of training. He became a technical clerk in manufacturing and rapidly found that work in an electronics

environment was what he enjoyed most. As a result, he commenced a day release BTEC ONC course in electronics engineering at Watford, which he completed this year with four distinctions and a merit.

Sean has since been promoted to technician engineer and has applied for a place on a BSc course in electrical and electronic engineering at Brunel University. Although the ONC is the minimum academic qualification required for entry on a degree course, the university was impressed with Sean's history and offered him the place.

Marconi Defence Systems will be sponsoring Sean for the duration of the four year sandwich course.

ATO award

Following an intensive

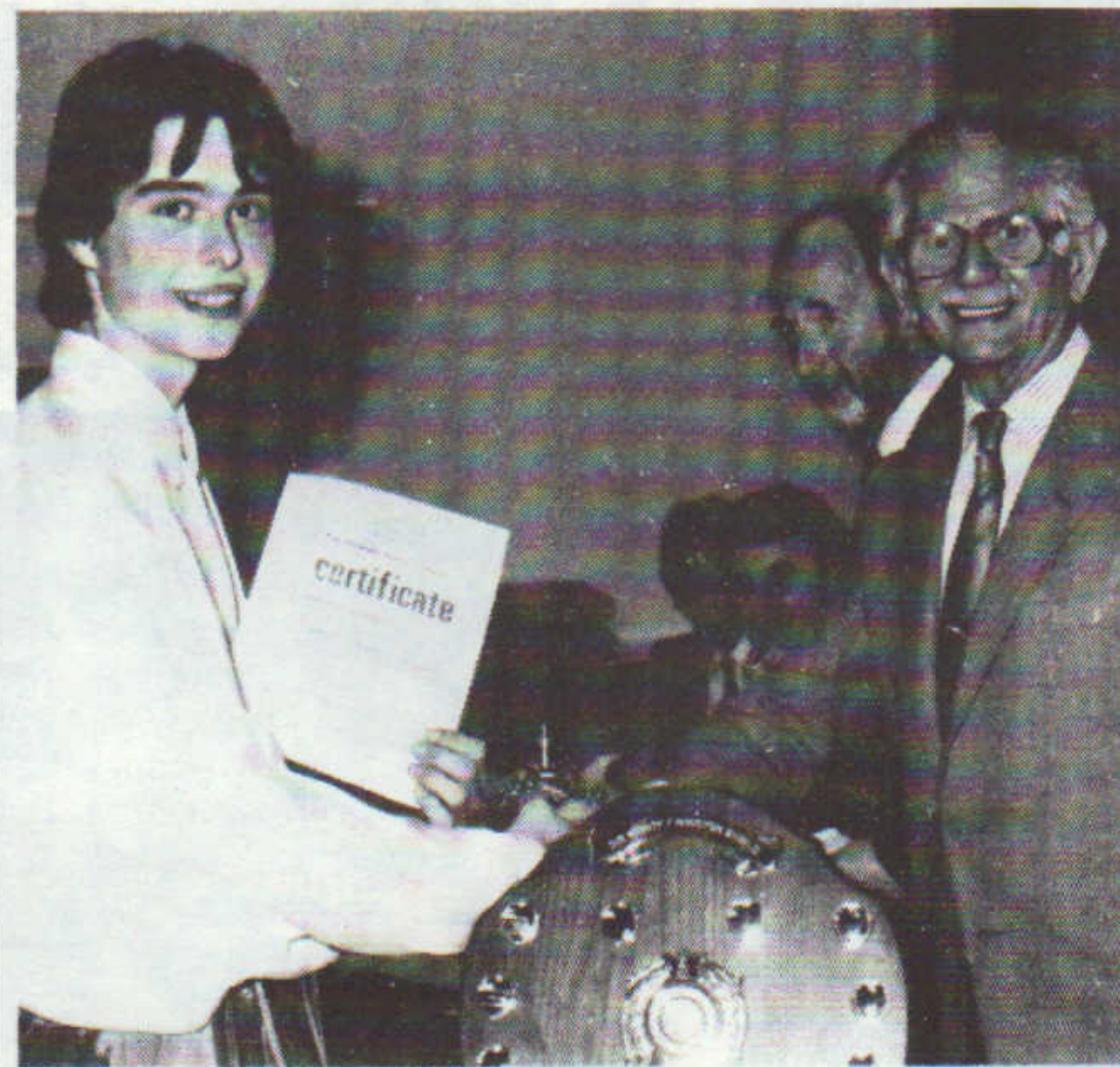
period of monitoring standards and facilities, the Manpower Services Commission has awarded the status of Approved Training Organisation to Marconi Defence Systems, Stanmore.

Marconi has run successful YTS schemes since

1983 but with the advent of two year YTS last year, the MSC established a new range of requirements for good quality training.

The award reflects the high standards of recruitment, training and work experience offered by Marconi to its YTS trainees.

Finniston prize



STEPHEN Cunningham, a first year EITB craft apprentice at GEC Optical Fibres, Leyton, was recently awarded the Sir Monty Finniston trophy for outstanding achievement. The award was presented to Stephen at the Waltham Forest Technical College where he has been studying for the past year.

At the presentation Sir Monty remarked that Stephen has completed the greatest work output achieved by any student since the award has been in existence and that this was also coupled with a high quality of workmanship.

Pictured is Stephen, left, receiving his trophy from Sir Monty Finniston.

Ruston success in open learning

RUSTON Gas Turbines recently hosted an open learning exhibition at the Ruston Marconi Sports Club near Lincoln.

The exhibition, which attracted business people from throughout the country was organised by the Manpower Services Commission in collaboration with Ruston and was opened by Lincoln MP, Kenneth Carlisle.

He said: "Open learning can update old skills and bring new ones. We must all keep an open mind to open learning because training now protects our jobs tomorrow."

The Ruston open learning stand was considered by visitors as one of the best, displaying a range of company products, model turbines, examples of traditional company training and an introduction to open learning. It also displayed material from the Open University and Maris-Net, the computer system which lists open learning courses.

The Ruston open learning team of Brian Glendinning and Frank Francis and training instructors Amanda de lay Hey and Joanne Chalmers, demonstrated how open learning courses can be selected from computer listings and how course modules are arranged and edited to match an applicant's requirements.

The open learning service of GEC's College of Management, Dunchurch,

also exhibited. It specialises in the use of open learning for industrial training, and the production of open learning courses, offering consultancy services to other open learning centres within GEC.

Wind turbine project completed

GEC Energy Systems, Whetstone, has made a major contribution to the design and construction of the large 3MW wind turbine generator sited at Burgar Hill in the Orkneys. It was formally put into operation recently, by the Rt Hon Cecil Parkinson, Secretary of State for Energy.

GEC Energy systems is a member company of the Wind Energy Group (WEG) along with Taylor Woodrow Construction and British Aerospace. The 3MW machine is the second of two machines on Orkney designed and built by WEG.

Project responsibility has been divided among the partners, with GEC Energy Systems responsible for the design and supply of the nacelle (the box at the top of the supporting tower), the transmission and power electrics. The rotor was supplied by British Aerospace and overall project management and the tower supply undertaken by Taylor Woodrow.

A central project team of engineers,



The 3 MW 60m diameter wind turbine generator.

draughtsmen and technicians at Whetstone has been working on the design, manufacture and testing of equipment for the machine. Sub-contracts have been let to other GEC companies including GEC Turbine Generators, GEC Marine and Industrial Gears, GEC Engineering (Accrington), GEC Large Machines and GEC Industrial Controls.

The wind turbine is the biggest and most powerful to be built in the UK and is

the largest demonstration project in alternative energy technology in the country.

The smaller 20m twin-bladed 250kW machine on the same site was synchronised to the grid in 1983. Since then it has operated for over 12,000 hours and generated more than one million kW hours in completing an experimental demonstration and test programme. The machine continues to be operated by the North of Scotland Hydro Electricity Board, to feed power into its grid system.

The 3MW machine is much larger. The two-bladed rotor is mounted on a hub height of 45m — taller than Nelson's column — and weighs 64 tonnes. The blades are 60m from tip to tip and the weight of the nacelle with rotor and main gearbox is 145 tonnes.

Funding for the £12 million project was mainly by the Department of Energy and the North of Scotland Hydro Electricity Board, which will also be responsible for operation of the wind turbine.

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 the country.

GEC SMALL MACHINES WARLEY

Personnel/training officer

GEC Small Machines is situated close to the Birmingham/north Worcestershire boundary. The company manufactures a wide range of industrial electric motors and there are plans for substantial future growth.

We require a person to fill the above position who has several years experience in personnel and training who wishes to widen their present experience preparatory to taking the full responsibility in a personnel/training management position in two or three years time.

A graduate also having IPM qualifications may well be the right person but proven ability, experience and attitude is obviously more important than academic qualifications.

Please apply to: P Monck, GEC Small Machines, Rowley Regis, Warley, West Midlands, B65 0QT.

GEC SWITCHGEAR (Stafford based)

GEC Switchgear specialises in the design, development, manufacture and marketing of a full range of switchgear and associated products. The company has two main locations at Manchester and Stafford and employs over 1,800 people within its five operating divisions. Recent reorganisation has resulted in a need to make two senior appointments within the personnel and training function at Stafford.

Personnel manager

Reporting to the personnel director, who is based at Manchester, the personnel manager will have specific responsibility for managing all personnel matters for the three Stafford based divisions.

The person to be appointed must be capable of assuming delegated responsibility in the personnel director's absence.

This post demands a proactive and high profile management style and it is unlikely that candidates under 30 would have gained sufficient experience for this role. It is envisaged that applicants be of degree calibre and possess a relevant professional qualification and those with further development potential will be of particular interest.

Training manager

Main responsibilities will be to manage and co-ordinate the training and development activities throughout the five divisions comprising GEC Switchgear.

Organisationally based at Stafford responsibilities will include detailed management of the training plan for the three local based divisions.

The person to be appointed must be an evident training professional who has a proven record in the development of technical and managerial specialists.

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

MARCONI DEFENCE SYSTEMS STANMORE

Section leader Design evaluation department

The EMC (electro-magnetic compatibility) section of Marconi Defence Systems provides a testing and consultancy service on EMC and allied topics.

We are seeking a section leader to control and direct the activities of this section, which provides both experimental and formal testing services to the Stanmore divisions and a consultancy service to assist projects in achieving product designs which meet EMC requirements.

Familiarity with the defence and space EMC requirements of various UK and overseas procurement bodies is essential.

Applicants should be mature with a degree in physics or electric engineering and several years experience as an EMC engineer, preferably in the defence electronics field. Please apply to: K. J. Aplin, Marconi Defence Systems, The Grove, Stanmore HA7 4LY.

A lifeline from Marconi

MARCONI Instruments, Fife, and the Marconi Instruments Charitable Enterprises Committee (MICE) recently donated two Piper lifeline emergency alarm telephone systems to the housebound in West Fife.

their home with the help of a pendant which they wear.

At the press of a button, the housebound can call for help immediately from friends or from a commu-

nications centre.

The control centres are staffed by trained personnel who can reassure the caller, while triggering the appropriate emergency

response.

As well as being simple to use in an emergency, the system provides a normal telephone service with a host of special features.



Saul Lanyado (front far left), general manager, Marconi Instruments, presenting the lifeline machines to Peter Mabon (front far right), Fife Silver Jubilee Committee. Help the Aged, whilst members of the Marconi Instruments Charitable Enterprises Committee look on.

Donate

Marconi Instruments agreed to donate the cost of the telephone system after being approached by the Fife Silver Jubilee Committee of Help the Aged.

The telephone alarm systems will enable the recipients to ring out or answer a call from any room in



Chief fire officer honoured

PETER High, the chief officer of Redring Electric's fire brigade was recently awarded a silver medal and two bars in recognition of 33 years service as a member of The British Fire Services Association.

The presentation was made by chief officer Christopher Durrant, the association president, at the recent national annual training week at Caister-on-Sea, Norfolk.

Peter leads a team of trained Redring employees, who are on hand to provide an initial response in any case of fire in the works.

The Redring fire brigade is also on hand to assist the fire service at major local or regional disasters.

Pictured is Peter (centre) with his fire team and some of the cups and trophies won in competitions during the year.

RETIREMENTS

A unique and rewarding career

DR. Bernard O'Kane, a former chairman of GEC Avionics, Rochester, (then Marconi Avionics) from 1971-1982 and most recently a consultant to GEC Avionics, has retired recently after a long association with GEC.

Dr. O'Kane, joined the Research Laboratories of GEC in 1935 and transferred, on loan, to the Telecommunications (now the Royal Signals and Radar Research Establishment, Malvern, from 1941-1945.

He became chief engineer of International Air-radio Ltd., before joining the

Marconi Company in 1952, as chief air radio engineer.

He managed the Aeronautical Division (1959-1965) and was general manager (Electronics) of the Marconi Company until 1969, when he was appointed managing director of Marconi-Elliott Avionic Systems, becoming

chairman in 1971.

He was one of the founder members of the European Organisation for Civil Aviation and Electronics (EUROCAE), its first chairman (1936-66), president, (1966-1968) and honorary president in 1968.

President

He was president of the Electronics Engineering Association (EEA) from 1971 to 1973, a member of the Aeronautical Research Council (ARC) from 1968 to 1971, he is currently a council member of the EEA and is one of the UK members of the AECMA Equipment Sectoral Group.

Dr. O'Kane was awarded the CBE in the 1974 New Year's List. When awarded the British Gold Medal of the Aeronautical Society in 1977, he was the first ever recipient from the avionics industry.

23 years at the top

BARBARA Hayr, secretary to Lord Nelson, chairman of English Electric and Derek Roberts, joint managing director (technical) GEC, retired recently after 23 years service.

Following a long career in the secretariat for the High Commission for Rhodesia and Nyasaland, three years of which was spent in Rhodesia on the Kariba Dam project, Barbara joined English Electric in February 1964 as secretary to the late Sir Archibald Hope.

In 1972, on Sir Archi-

50 years service

DOUG Salmon recently retired after 50 years service with Woods of Colchester.

Doug joined Woods in 1936 and most recently worked as a production operator.

He was presented with a cheque from colleagues and management by Woods' managing director, David Priest.

Friends world-wide honour Harry

HARRY Codd, sales and marketing director of GEC-General Signal, Borehamwood, has recently retired.

Harry started with Elliott Automation and has since worked for various GEC companies including GEC Traction and GEC Transportation Projects before joining GEC-General Signal three years ago.

Harry's career has been mainly concerned with railway and urban transportation engineering projects. He has lectured at



Harry Codd

many universities on these subjects and he still holds an honorary lectureship at Birmingham University.

At a recent reception to mark Harry's retirement, Lord Prior, chairman of GEC, presented him with a pair of gold cufflinks and an album which contained commemorative photographs and letters from Harry's friends and colleagues worldwide.

A special gift

Bill McMillan, public relations manager at Yarrow Shipbuilders, Scotstoun, recently retired after 50 years service with the company.

Bill joined Yarrow in 1937 as an apprentice ship draughtsman. He held various positions in the company before being appointed public relations manager in 1977.

On retiring Bill and his wife, Helen, chose an oil painting as a gift, which was purchased with money collected from friends and colleagues.

Bill will be best remembered at Yarrow for his sense of humour and gift for making both colleagues and visitors feel special.

Positive improvement from Quality Circles

MARCONI Instruments, St. Albans, has successfully completed its first year of Quality Circles, with positive improvements resulting in many areas of the company.

A Quality Circle is a scheme based on the simple concept that everybody

becomes an expert in their own field of work.

Problems

Under the guidance of trained leaders, discussion groups within each department identify and solve problems. This includes

the way work is organised, the materials used and working conditions. Interactive communications between the quality circles groups and management ensure that proposals can be turned into actions.

Efficient

At present 14 circles consisting of 5 or 6 volunteers meet each week. As a result of the discussions a six month trial is being conducted into the use of new types of soldering irons and a more efficient stores and library system has been introduced into the company's Service Division.

APPOINTMENTS

Two new directors

TWO board appointments were recently announced by Walsall Conduits, West Bromwich.

Avionics director

TIMOTHY Venables recently joined the board of GEC Avionics, Rochester, as finance director, having previously been financial director, group board, of Oeconics Group plc.

Timothy takes up the position vacated by David Rickard, one of four directors from GEC Avionics

Mike Vale has been appointed marketing director. He joined the company in 1977 and has held several senior management appointments.

Ron Doe, who joined Walsall Conduits in 1954 becomes a director and continues in his role as zone manager, Midlands.

who have been appointed to the board of the recently-formed GEC-Marconi Group.

From 1979 to 1984 Timothy was financial director and deputy to the managing director of MEL, a division of Philips Electronic and Associated Industries Ltd.

GEC OVERSEAS CLUB

All contributions to this column should be sent to PETER R. WATSON
GEC, 1 Stanhope Gate, London, W1A 1EH

GEC praised by Jaguar Car chief at the annual dinner

Three hundred and twenty-eight members and guests assembled for the club's annual dinner held at the De Vere Hotel, Coventry, on Wednesday 4th November.

The president, Lord Prior, welcomed all

present. He said many valuable acquisitions had been made by GEC in the UK and the United States.

He particularly welcomed the Chinese delegation from Guangdong and recognised the work of Bob Davidson, managing director of GEC Turbine Generators and his team.

Lord Prior paid tribute to Lord Nelson, now retired from the GEC Board, for his many years of devoted service and for the contribution he has made to the company and the club at home and overseas.

Lord Prior welcomed Sir John Egan, chief executive, Jaguar Cars.

Sir John was critical of the state of British industry in the early 1970s and praised the firm core of discipline which made it possible for GEC to function well. Sir John proposed the toast to the GEC overseas club.

Bob Davidson replied to the toast. He thanked Sir John and all the members and guests who had taken time to be present, and congratulated Sir John on what he had achieved for British industry.

In 1986 Jaguar was clearly Britain's leading exporter at £59,000 per employee. GEC Turbine Generator's was £45,000 per employee while the rest, at best, were £20,000. The secrets of success were identical: Sound engineering, economical manufacture, high quality, operational results, a trained work force and customer service.

He referred to the Overseas Club, whose 4,500 members represent a useful quorum of close friendship. He thanked those who have worked so hard for the club. He hoped that the club would flourish into the future. He too, paid tribute to Lord Nelson.

Eddie Sims, chairman of club council concluded the proceedings by thanking Bob Davidson for standing in at short notice. He warmly welcomed eight apprentices (one from each UK centre) and wished them well in their future careers.

Messages of goodwill were read, which were received from overseas



Lord Nelson in conversation with Sir John Egan.

centres in Hong Kong and Canada.

He thanked the members of council and the Coventry centre for the excellent organisation.

CLUB DIARY

Please notify the secretary of the club council if you have not safely received your 1988 club diary. Please notify any change of address.

CLUB TIES

A stock of ties has been purchased. They portray a single 'Mayflower' motif in navy, wine and green. Please contact your local centre secretary.

CHELMSFORD

The Chelmsford centre held its annual dinner on Friday October 16 in the 'Barn' at EEV.

Unfortunately the date of the function followed immediately the horrendous storms, which swept the South East. As a result several members were unable to attend.

Over 40 members and guests managed to get through and thoroughly enjoyed an excellent meal followed by an entertaining speech by Hugh Menown, director of technology pulsed power at EEV.

A particularly welcome attendee was Ken Ginn, a past chairman of the centre who has made a good recovery from his recent illness.

LINCOLN

Visit to Holland: A party of 34 members and wives

left Lincoln at 6.15 am on the morning of October 9, for a weekend in Holland.

MANCHESTER

The date of the 1988 annual dinner of the Manchester centre is Tuesday April 19 at the Cresta Court Hotel, Altrincham.

NEW ZEALAND

GEC (New Zealand), Telecom Division, were the hosts at a cocktail party given to invited Telecom



The eight apprentices, one from each centre: Chelmsford, Coventry, Lincoln, London, Manchester, Portsmouth, Rugby and Stafford.

NZ personnel who were GEC fellows or FBI/CBI scholarship holders at Coventry. This was the first function and was enjoyed by all those present. It is hoped to make it an annual event.

A speech of welcome was given by John Butterfield, assistant managing director.

A short reply on behalf of the guests was given by David Trapp, the most recent fellow, in which he expressed appreciation of the opportunity offered by the fellowships.

A message of goodwill

director was amongst the hosts.

PORTSMOUTH

The inaugural dinner of the Portsmouth centre was held at the Brambles, Waterlooville, on Friday November 6.

After an excellent meal, the chairman of the centre, John Rowlinson, welcomed Lord and Lady Prior and the deputy mayor of Portsmouth and other guests.

Lord Prior said the stability of the country depends on manufacturing industry and in this area GEC is highly important. Exports reached £1,291m last year and 160,000 people were employed.

He could not stress the importance of training too strongly. He said that it is absolutely vital and that it is up to the government to fill the shortages of skilled persons, by instituting crash courses in maths and physics.

Lord Prior stated that it was far too easy to make a lot of money in the City but

without manufacturers there would be little prosperity, since they provide the wealth that others can enjoy.

Pat Spence, in reply, thanked Lord Prior for his support and for his views. He gave a resume of the many activities of the centre which had received magnificent support.

A bouquet was presented to Lady Prior and the lady deputy mayor. Dancing continued until midnight. One hundred members, wives and guests attended.

A group from the centre are going to Chichester theatre on January 8, to see the play 'Daisy Pulls It Off'.

A supper night will be held in the Conservative Club, Havant, to mark 'Burns night' at the end of January.

RUGBY

A ladies evening was held at the Woodhouse on October 2. An excellent meal and a pleasant evening was enjoyed. A short speech of welcome was given by Colin Simons.

Eighty members, wives and guests attended. The council secretary, Peter Watson, and David Twigger of Coventry, with their wives, were guests.

The next main event will be the Rugby formal dinner at the Benn Hall, Rugby, on Wednesday February 17, 1988.

SINGAPORE/MALAYSIA

If there is sufficient interest, George, (Danny) Needham will arrange a Singapore/Malaysia table at the 1988 dinner, to be held in London, for past and present members who have served in those territories.

Please write to, or telephone, George at 125 Leys Lane, Frome Somerset, BA11 2JS. Tel: 0373-63955.

OVERSEAS CLUB DIARY

MANCHESTER

19 Apr '88. Annual dinner, Cresta Court Hotel, Altrincham.

PORTSMOUTH

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

RUGBY

17 Feb '88 Dinner at Benn Hall.

OVERSEAS CLUB

SECRETARIES

Council:

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1 Stanhope Gate
London W1A 1EH
Tel: 0203 452152
Telex: 31361 GEC TEL G

Chelmsford:

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

Coventry:

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

Lincoln:

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

London:

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

Portsmouth:

P. M. G. Spence
Marconi Underwater Systems Ltd.
Elettra Avenue, Waterlooville
Hampshire PO7 7XS
Tel: 0705 264466
Telex: 869233

Manchester:

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

Rugby:

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

Stafford:

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

Hong Kong:

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

Canada:

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

Centre rep:

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



Members of the Guangdong Nuclear Power Joint Venture Company, l-r: T. J. Toma, familiarisation engineer, GEC Turbine Generators, Trafford Park, K. P. Zheng, X. S. Fu, Lord Prior, P. C. Chu, R. J. Davidson, managing director, GEC Turbine Generators, Miss Y. Chew, A. C. Todd, technical operation training manager, GEC Turbine Generators and W. Q. Hu. (X. S. Xu, the sixth member of GNP-JVC was also present at the dinner).

Young employees help to save a life



Pictured is Eddie Bates (far right), retired chief ambulance officer from Surrey Heath, receiving the Lifepak and (from l:r) Peter Baker, training officer, Marconi Command and Control, Camberley, Tom Baker, Andy Bickell and Jackie Fitzmaurice of the Marconi Young Employees Association.

THE Marconi Young Employees Association recently saved a man's life.

Over the past year the association has held various fund-raising events in order to buy a £5,000 Lifepak heart machine for the Surrey Heath ambulance service.

Stabilised

After the Lifepak machine was presented to Camberley ambulance station, it helped to stabilise Owen Ward's heart when he suffered a massive heart attack whilst shopping locally.

A charity dinner was then held to raise the final

£1000 needed to complete payments for the Lifepak. Owen was the guest of honour and saw the suc-

cessful evening "as a small way of saying thanks to everyone who helped to save my life."

GEC wins first-ever Japanese funded contract

THE Projects Division of GEC Telecommunications, Coventry, has received the first-ever Japanese-funded project to be won by a British company.

The State Railways of Thailand (SRT) has awarded GEC Telecommunications a turnkey contract worth almost £3 million for a train despatching telephone system for the whole of its national railway network.

Many national railways are predominantly single track systems and a dedicated telephone network for despatching trains from point to point is an important part of their operation.

Funded by OECF (Overseas Economic Cooperation Fund of Japan), the SRT contract was won against Japanese and American competitors which included Mitsubishi, Mitsui and Aydin Monitor Systems.

Over 3,700km of track will be covered by the new system which involves the

design, supply, installation, and commissioning of telephone equipment in 11 despatcher control centres and over 600 way-side stations.

Voice recording facilities, back up power supplies, diesel generators and solar power equipment are included to ensure the security of the system.

The project also involves the provision of a new training centre to be equipped with workshops and simulator facilities for training railway staff to operate and maintain the new system.

The SRT project follows recent successful contracts in Zimbabwe and Taiwan and a current contract in Bangladesh.

GEC is gaining an increasing share of a rapidly growing world market for railway telecommunications systems. The company's impressive record of prestigious railway contracts is now a major factor in securing new orders.

A marvellous £5,000 order

JOHN Gardham, a sales executive at GEC Reliance, Bracknell, recently stunned colleagues when he popped into a local garage for a Mars bar and returned with a £5,000 order for a Keylink telephone system.

Whilst in conversation with the manageress, John noticed a PMBX system had been installed and without hesitation he expounded the virtues of GEC Reliance's small PABX system which has five exchange lines and can carry up to 20 extensions. Within minutes a contract for a Keylink system had been signed and no-one can doubt that John's unusual tactic certainly paid off.



John with his Mars bar.

Author's US trip

GLENN O'Dell, a principal engineer, Automatic Test Equipment Division, Marconi Instruments, Donibristle, Scotland, recently won an all expenses-paid trip to California for his literary contributions to a leading electronics journal.

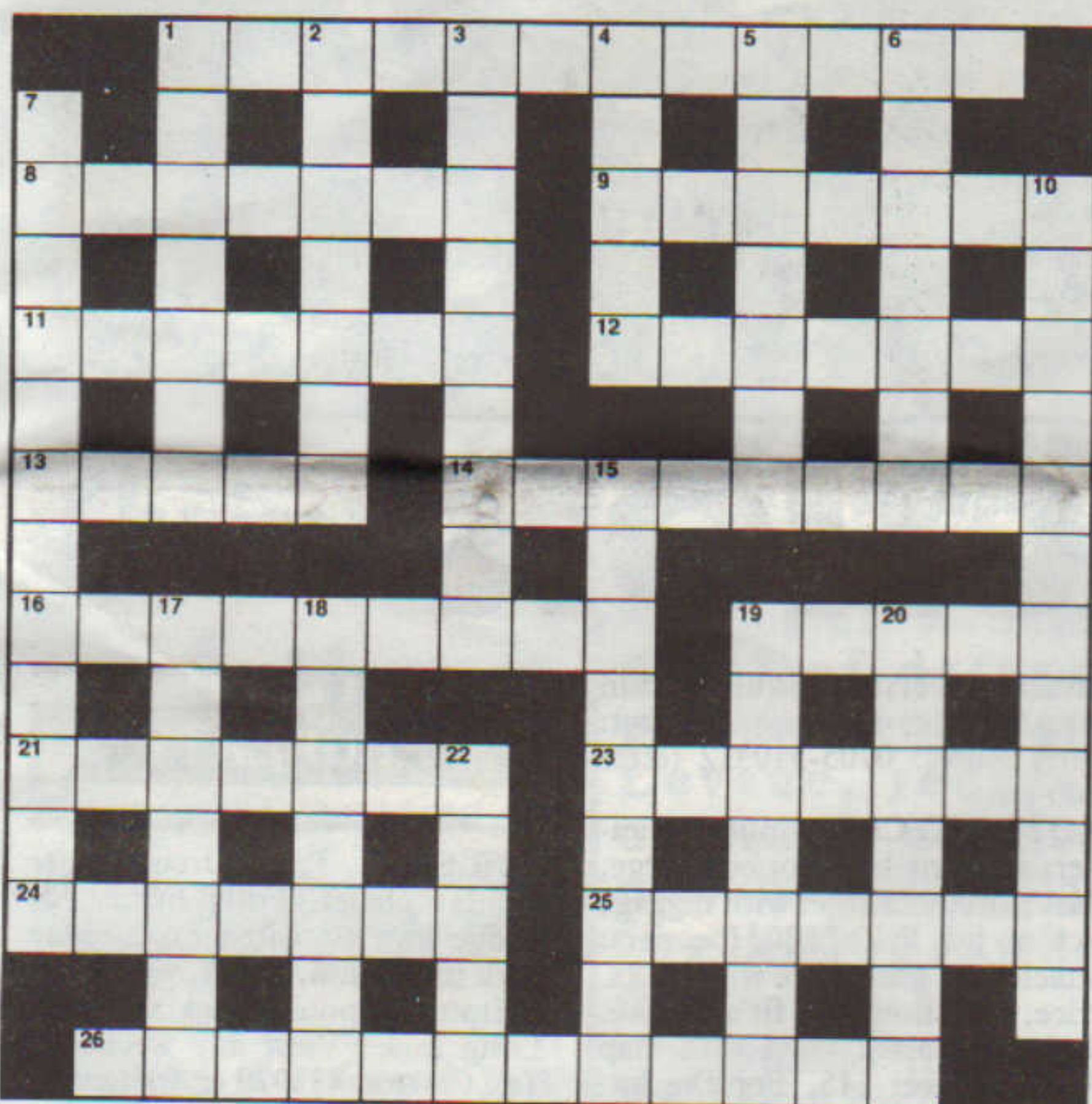
Meritorious

A year-long search for the most "meritorious" author was conducted by *Electronic Engineering*

magazine together with National Semiconductor, the scheme's sponsors.

The competition was designed to provide a platform for engineers whose expertise can be effectively applied to the next generation of products. Semiconductor technology was the subject for discussion. The problem of noise in the digital world was discussed in Glenn O'Dell's winning article, highlighting not only the problems but giving practical suggestions for the solution.

DECEMBER CROSSWORD



ACROSS

1. Money for services rendered. Fancy our men earn it? (12)
2. A touch of acrimony before nobleman makes statement (7)
3. Excellent piece of advice to Bill returning to health centre (7)
4. Extortionist is a former stage-player (7)
5. Pedlar hounds servant (7)
6. Faint-hearted Diana goes with German — a complete turnaround (5)
7. Appearance of some heartless doctor with surgeon's blade (9)
8. A flower and a kiss overwhelmed stars (9)
9. Many Scots long for the sound of heavy bells (5)
10. Rex, being short of capital, worked as a model it's revealed (7)
11. Joy makes one of the family lose his head (7)
12. Couple get spell in gaol for double-cross (3-4)
13. One possessing a particular advantage is in drink, we're told (7)
14. Mental brightness of the CIA? (12)
15. dred and fifty — that's one in a thousand (7)
16. Being in the saddle, doctor rode to 'ounds (7)
17. Brown turns up at old city and sits around with nudists (9)
18. Engineers go one better in a summing-up (5)
19. Totally heartless type starts laughing. That's characteristic! (7)
20. Turk to return to island (7)
21. Long-delayed story found wedged between holy books shows potential aptitude (6,6)
22. Upper-class estate owners put down by government leader over lobby (6,6)
23. Have to make a phone call about mid-September gathering (9)
24. It's a great blow to phony mixed-up characters (7)
25. About to absorb telepathy — it could mean a reprieve (7)
26. Rows about a lot of men outside become rough (7)
27. Dicky, Rae and I produce "A Greek Goddess" (7)
28. Most did well to remain (5)

DOWN

1. Win back about a hun-

ENTRY FORM

Name.....

Address.....

Company.....

Prize.....

* Stone, Buff, Tulip, Red and Gunmetal

* Telephone colours — delete unwanted colours

DEADLINE: January 14, 1988

Entries should be sent to Topic, GEC, 1 Stanhope Gate, London W1 1EH. They must arrive here by January 14. Please mark your envelope December Crossword.

The first two all-correct entries drawn at random from the October crossword submissions came from T. Milne, GEC Industrial Controls, Kidsgrove and D. Wright from GEC Traction, Manchester.

Due to a printing error in the October grid, seven down had only four spaces instead of six. As a result, Topic, has accepted both kind and kindle as the answer to this clue.

Prizes

The two items we have chosen as prizes for this competition are either kitchen scales or a telephone.

October solutions

ACROSS

8. Gin Rummy; 9. Impair; 10. Here; 11. Sharp words; 12. Weighs; 14. Tungsten; 15. Sleeper; 17. Iceland; 20. Clean-cut; 22. Bisect; 23. Red Admiral; 24. Duty; 25. Babble; 26. Abandons.

DOWN

1. Like Hell; 2. Tree; 3. Amuses; 4. Dynasty; 5. Hispanic; 6. Epsom Salts; 7. Kindle; 13. Greta Garbo; 16. Encumber; 18. Nicotine; 19. Eternal; 21. Leeway; 22. Ballad; 24. Dado.

IPS success brings Le Bas award

KELVIN Porter, assistant purchasing manager at Marconi Command and Control Systems, Blackbird Road, Leicester, recently gained the highest overall mark in the professional stage of the Institute of Purchasing and Supply course (IPS). He was in competition with several thousand people.

Kelvin, who has worked for Marconi Command and Control for 18 years, began his career as a commercial apprentice at New Parks and he has since worked at both the Blackbird Road and New Parks sites.

He took two years to complete the IPS course at Leicester Polytechnic. The final part of the course included a

research study. Kelvin produced a report on the implementation of a computer system within a purchasing organisation, this was based on the experience he gained as project manager, when a GEC Mecca computer system was installed at New Parks.

In recognition of his achievement, Kelvin was invited to a formal lunch which was held on the last day of the IPS conference in Bournemouth where he was presented with a Le Bas award by the IPS president.

At a separate presentation, Kelvin received a cheque from Paul Robinson, managing director of Marconi Command and Control Systems.



Kelvin (left) being presented with a certificate and cheque by Alan Robertson, president of the IPS.

A challenging year for Gary

1987-88 is unlikely to be a year that Marconi Underwater Systems' (MUSL) apprentice Gary Murphy, will ever forget. In addition to securing a place at Brunel University, Gary has been accepted by Operation Raleigh which will take him to Panama in April 1988.

Having particularly enjoyed his HNC studies on day release at Slough

College, Gary was keen to continue, and saw a degree as the way to increase the scope of his career. MUSL's Croxley Mill unit will sponsor him at university.

When Gary finishes his first session at Brunel, he will fly to Panama where, in addition to surveying jungle flora and fauna, he will help in various health and community projects.

GEC supports Enterprise '87

GEC-Marconi, GEC Turbine Generators and GEC Telecommunications recently took part in Enterprise '87 in Oxford, along with 30 other companies.

The two day exhibition

was held in order to demonstrate the range of alternative careers available in industry.

All under-graduates and post-graduates in Oxford colleges were invited to attend and over 3,000 visited the exhibition.

The lively interest shown in the activities of all the companies represented suggests that industry will figure more prominently as an option for this year's graduates than it has for those of previous years.

John Banham, director general of the CBI opened the exhibition and he is pictured on the GEC stand discussing the "GADFLY" robot with Geoff Thornton (right) of Marconi Research.



Labourer/poet's dream comes true

JOHN Calvert a labourer at GEC Engineering (Accrington) recently had a dream come true. John, who writes as a hobby, has won a competition organised by Aquila/Iolaire

publishers. The prize was the publication of some of his poetry and the small book is entitled "The Hospital and the New Year."

Several of John's poems have been featured on local

radio and in local newspapers as well as in magazines. He has also received several awards and certificates.

John considers that this book "is an important first step as a writer" and also feels that his success makes the point "that even a labourer can achieve as much as anyone else."

CLASSIFIED COLLECTION

HOLIDAYS

ASK about our pantomime breaks and other bargain holidays. Brendon Guest House, 26 Walpole Road, Bournemouth BH1 4HD. Tel: 0202-35940. Good food, comfort and rest.

LANZAROTE. Luxury villa, sleeps two-four. Very pleasant complex: swimming pool, tennis courts, close beach, shops and excellent restaurants. Tel: 0992-467852.

COWES, Isle of Wight. Two sea-front holiday apartments, part of Edwardian manor. Sleeps six and nine respectively. GEC employees special rates. Tel: 0983-68762.

BOURNEMOUTH, Richmond House Hotel, Five course dinner. Cosy bar lodge. 10 per cent discount for GEC staff. 108-110 Parkwood Road, Bournemouth. Tel: 0202-421977. Book before February '88, 1987 prices maintained. Tel: 0625-528489.

TENERIFE, Los Cristianos. Luxury Andalucian style apartment. Two bedrooms; two bathrooms. Complex has two pools, bars, restaurant and reception. Sea views and seven minutes to Playa De Las Americas. Studio and one bedroom flat also available. Flights/car arranged. Tel: 0705-240709.

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

ST TROPEZ. Six berth mobile home or four berth caravan on private beach club site. 200 yards to sandy beach. All facilities and shopping on site. Ideal family holiday. Tel: 0206-864535.

LUXURY mobile home for hire. All mod cons. Four star site. South of France. Price: £80-£185 per week. For details tel: 0646-600711.

CORNWALL, West Looe. The Gulls, licensed family run hotel. Overlooking main beach. Panoramic river and sea views. Sun lounges, tv lounge, dining room and bar. B&B from £42 per week, evening meal optional. Reductions for children, senior citizens, low season. Tel: 050-36-2531.

SOUTH Devon, near Buckfast Abbey. Delightful converted barn to let. Two twin bedrooms. Beautifully equipped: ctv, linen provided, shop/p.o. nearby and quiet. Superb walking, fishing, golfing, trekking and swimming. Early season bargains. Particulars: Rettmer-Williams Greystones, Grange Rd, Buckfast, Buckfastleigh, Devon TQ11 0EH. Tel: 0364-42883/42288.

SPAIN, Calpe. Costa Blanca. Villa with three double bedrooms, swimming pool and good location. Convenient for amenities and beaches. For details tel: 0494 782867.

SEDGEFORD—north Norfolk. Holiday cottage to let. Well equip-

ped, modern kitchen, ctv, sleeps six. Available in May-Sept. For details Tel: 01-902 0712.

FOR SALE

WINDOW frames. Completely reversible sash for easy cleaning. Softwood vacuum treated to NHBC requirements. Weather performance exceeds BS6375. Safety restrictor. Weather stripped. Suitable single/double glazing. 3.9ft (1200mm) high by 2.9ft (900mm) width. Price £90.00 each. Tel: 0705-833690 (evenings).

BOARD game. "Don't like losing?" Well why not play a new family game called "Give us a job." It is a game of equal opportunity for two to eight players, ages seven to adult. Price: £15 plus p&p. Tel: 0245-323130 for further details.

SURF Ski palm reflex 95. Good condition, £150 ono. Second skin

streamer wetsuit. Smooth skin worn once — £80 ono. Contact: Chris Rudd: 0705-510312 (after 7.00 pm).

MOTORCYCLE topbox, panniers and tank bag. Topbox: large, glass fibre, lockable, with luggage rack on lid. Price: £30. Panniers: detachable, glass fibre with locks. Price: £35. Both will fit any bike. Tank bag: black vinyl with map pocket. Price: £15. For the lot. Price: £70. Contact: 0268-43557.

RUCKSACK, Vango, 55 litre, waist strap, separate bottom compartment, side pocket. Drawcord type inner storm flap. As new condition £25. Contact: 0268-43557.

ATARI 400 computer. 48K with 1050 disc drive, 410 tape recorder, joysticks. Over 100 games, some utilities on tape, disc and cartridge. Good condition, original boxes, instruction manual and users handbook. Ideal Christmas present. £150. Tel: 01-902-1324 after 5.30 pm.

HARDTOP for TR6. Price: £70. Telescope, Bausch and Lomb discoverer. 15-60 700M. Price: £130. Gold bangle, 21 CT, 2 3/4 dia. x 3/8 wide. Modern design. Price: £250. Tel: Lincoln 754743.

PROPERTY

FOR SALE. Two bedroom cedar holiday chalet. Fully furnished, fridge and tv. Sited on holiday park in Clacton, Essex, which has swimming pool, shop and bar. Long lease. View any weekend. Tel: Clacton 433970 or write to C Boytow, 26 Victory Road, Clacton, Essex CO15 3DX.

EL CAPISTRANO Nerja, Malaga. Freehold timeshare for sale. Weeks 12 and 13 (late March/early April). Large detached, fully equipped villa. Two bedrooms (sleeps six) and two bathrooms. Large sun terrace, two balconies with views to sea and mountains. Price: £5,500 ono. Tel: 0526 42550.

MISCELLANEOUS

REQUEST GEC Rifle and Pistol Clubs to contact Ray Conisbee, Yarrow Shipbuilders, COMSEC, South Street, Glasgow.

MOTOR sport research project enthusiast wishes to purchase or borrow books, magazines, programmes, press releases and photographs from the 1950s/60s. In particular anything on Aintree, Goodwood and Oulton Park. Contact: Mr Heath, 145 Norris Road, Sale, Cheshire N33 3JR. Tel: 061-969-9135.

ENTHUSIAST urgently requires unwanted valve communications receivers such as BC 348, R1155N/L, HR0 5T, AR88, B40D etc. Details please to A.C. Stubbings, 12 Otter Avenue, Saxilby, Lincoln LN1 2HU. Tel: 0522-702601 (after 6pm).

WANTED. Boat engine 5-10 HP. Must be in good working order. Tel: Stafford (Weston) 0889-270071 (Evenings or weekends).

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

CARS/MOTORCYCLES

WANTED. Ford Escort camping van or Fiat caravanette. Mechanical condition need not be first class. Tel: 0438-362554.

SIMSON Enduro 50cc, C reg, excellent condition, 2,300 miles only, one owner, MOT and tax due August 1988. Helmet and cover included in the price. £300 ono. Tel: Chelmsford 72372.

ROVER 2200 SC, 1974, excellent condition, current MOT. The working man's Rolls Royce! £450 ono. Would part exchange for caravan. Tel: 0733-252701.

WANTED BSA Bantam 125cc or Norton model 50, runner preferred. Any condition for rebuild project by enthusiast. Details to: T. Williams. Tel: 0656-721140.

Please write your classified advertisement in the grid below in clear block capitals (one word in each box up to a maximum of 40 words) and send it to: Jacqui Crane, Topic, The General Electric Company plc, 1 Stanhope Gate, London, W1A 1EH by January 14. Insertion is not guaranteed, but every effort will be made to include your advertisement as soon as possible. GEC employees, their families and people who have retired from the company may advertise free of charge. For others the current cost is 30p per word. Please make all cheques payable to The General Electric Company plc.

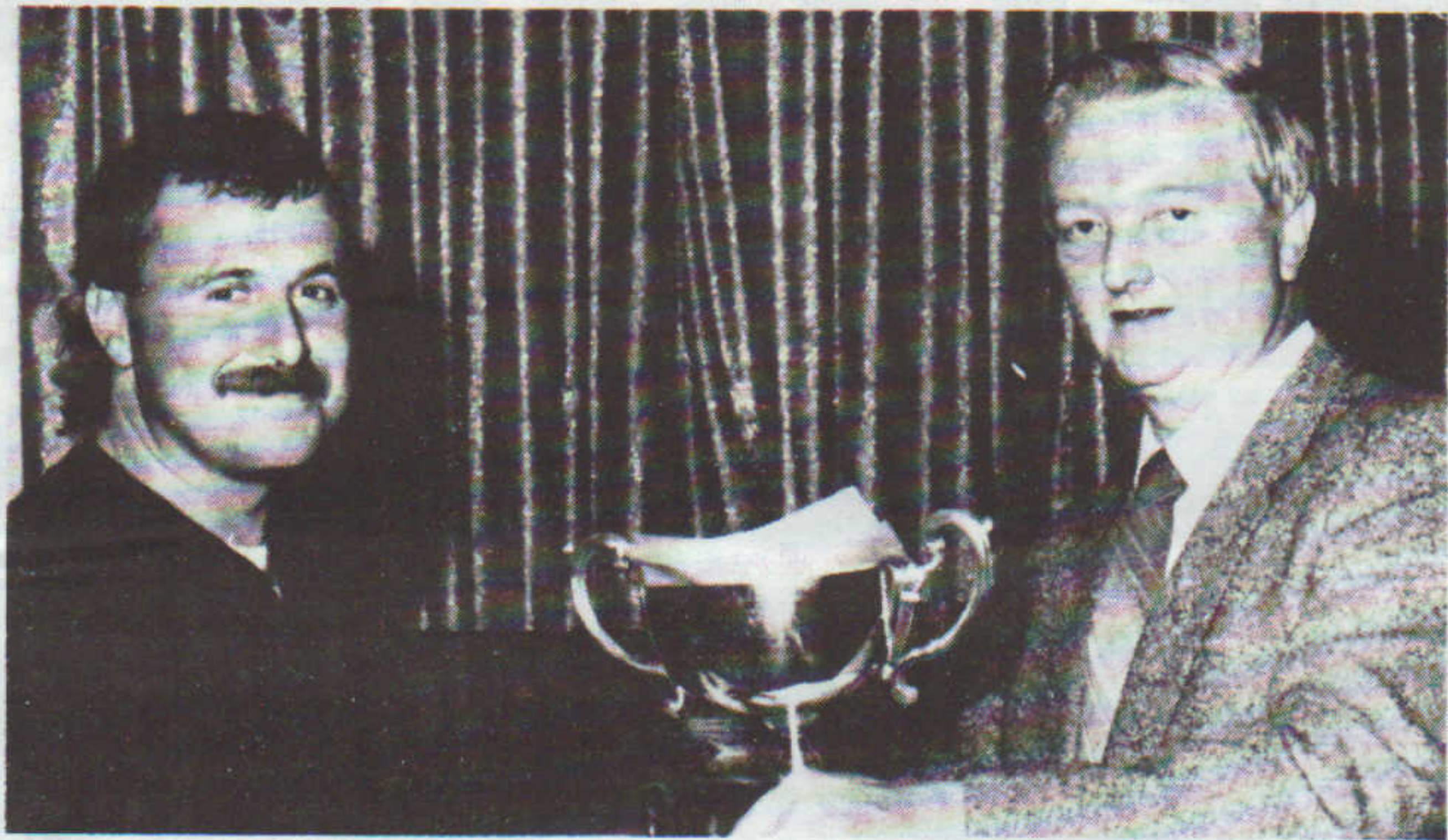
At present, only one insertion per ad.

Name.....
 Address.....
Tel:.....
 GEC Location

Sports news

National Angling Competition

THE record book was recently completely rewritten on the River Witham, at Kirkstead near Lincoln when over 300 anglers representing 22 GEC factories took part in the 1987 GEC Employees National Angling Championship.



Individual winner, John Ball (left) receiving his trophy from Bill Howells.

Reigning champions Measurements 'A', Stafford (262 points) once again demonstrated their all round strength in retaining the team title and completing a record hat-trick of wins. Local favourites Ruston Gas Turbines 'X', Lincoln, (251 points) were runners-up, with Turbine Generators 'A', Rugby (221 points), third.

As expected bream was the decisive factor in the individual stakes giving a very close result.

ford with 22lbs and Dave Dicken, Switchgear 'A', Higher Openshaw, with 18lbs 12oz.

Appreciation

On behalf of all participants the Higher Openshaw organising committee would like to express appreciation to GEC for its sponsorship, Bill Howells, works manager, GEC Measurements for presenting the prizes and Ruston Gas Turbines, Lincoln, for the use of its social club and after match refreshments.

The 1988 competition will be held on the Grand Union Canal, in September. All enquiries for new entries to Peter Tipton, publicity, GEC Switchgear (Distribution Division), Higher Openshaw, Manchester M11 1FL.

Challenges

In winning the individual stakes with a record weight of 22lbs 14oz, John Ball, Glass Bulbs, Chesterfield, successfully held off strong challenges from second place Eric Ward, Measurements 'A', Staf-

1987 results

TEAMS

- | | | |
|----|-------------------------------|------------|
| 1. | Measurement 'A', Stafford | 262 points |
| 2. | RGT 'X', Lincoln | 251 points |
| 3. | Turbine Generators 'A' Rugby | 221 points |
| 4. | Energy Systems 'A', Leicester | 215 points |
| 5. | Glass Bulbs, Chesterfield | 204 points |

INDIVIDUALS

- | | | |
|----|---|-------------------|
| 1. | J Ball, Glass Bulbs, Chesterfield | 22lbs 14oz |
| 2. | E Ward, Measurements 'A', Stafford | 22lbs |
| 3. | D Dicken, Switchgear 'A', Higher Openshaw | 18lbs 12oz |
| 4. | A Linnel, RGT 'B', Lincoln | 15lbs 12oz 08drms |

SECTION WINNERS

- | | | |
|----|--|-------------------|
| A. | D Clapham, RGT, Lincoln | 4lbs |
| B. | K Cave, Machines, Rugby | 12lbs 14oz 08drms |
| C. | W Skidmore, Trafford Park | 6lbs 14oz 04drms |
| D. | T Mills, RGT, Lincoln | 3lbs 1oz |
| E. | B McKeown, RGT, Lincoln | 6lbs 7oz |
| F. | P Gallagher, Energy Systems, Leicester | 7lbs 3oz |
| G. | M Plant, Glass Bulbs, Chesterfield | 2lbs 1oz 08drms |
| H. | P Murphy, Marconi, Portsmouth | 1lb 6oz 08drms |
| J. | J Sharman, Hotpoint, Peterborough | 2lb 5oz |



Harold Davis, who won fourth prize in the 'H' section, waiting in expectation of a good catch.

HOLIDAY ON ICE 1988

A completely new presentation of Holiday on Ice is being staged at the Wembley Arena in London from 20th January to 28th February 1988.

There are special rates for *Topic* readers, family and friends for evening performances on Wednesday, Thursday and Friday at 7.45 pm and on Thursdays at 3 pm throughout the run except February 24, 25 and 26, subject to availability.

The concessionary ticket price is £6.50 seats for £4.00 per adult and £6.50 tickets for £3.25 per child and pensioners. (Children's tickets: ages three to fifteen).

Holiday on Ice 1988 is ideal family entertainment, featuring Invasion from Mars, Disco Fever, A Highland Fling, Snow White and the Seven Dwarfs, Finale "Fantastique" and an international cast of world championship skaters, and speciality artists.

To make a booking, please complete the application form below and return it together with a sae and your remittance to:

Post Department, Wembley Stadium Ltd. Wembley HA9 0DW

HOLIDAY ON ICE 1988 GEC TOPIC OFFER

Please reserve (No. of seats) at £4.00
..... at £3.25

Time..... date..... day

Name

Address:.....BLOCK LETTERS
.....PLEASE

..... Tel. No..... (Day time)

Please note for all bookings except those made by personal callers there is an additional administration fee of 50p per transaction.

Please make the remittance payable to Wembley Stadium Ltd.

Please state the amount enclosed: £



The school girls: (l to r) Ed Spiers, Bob Pennington and Andy Milne.

The Micro Scope mile

THE fourth annual Shim memorial mile for Micro Scope staff in Maidenhead was recently run in aid of the St John's Ambulance organisation.

Simon Mather, produc-

tion engineer, was the fastest man with the record-breaking time of four minutes 40 seconds for the nine mile course. Christine Gibson, consultant, was the fastest lady with a time of six minutes 15 seconds.

The run was thoroughly enjoyed by all those who took part, including the three "schoolgirls", pictured above, who also tackled the muddy, uphill course.

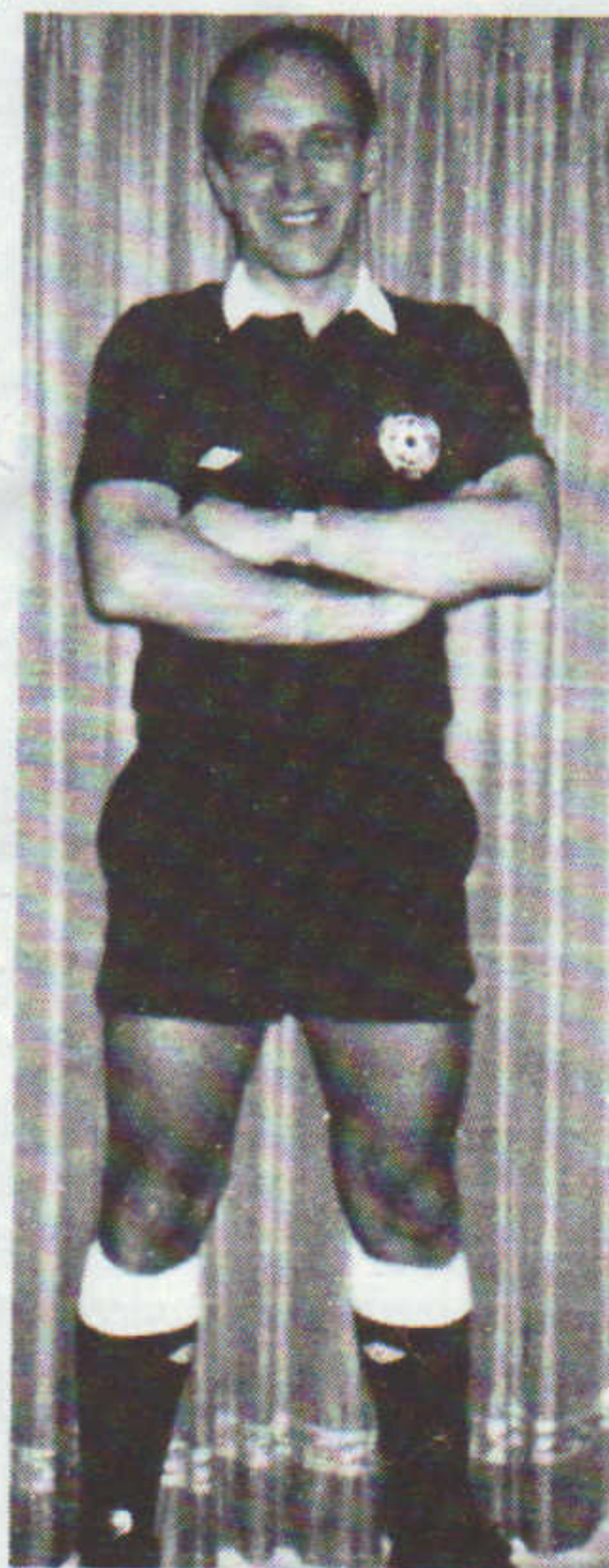
Its the big match for John

JOHN Carter, a technician at Marconi Instruments, Automation Division, Ferndown, Dorset, recently became one of the top ninety referees in the country.

After being a Football League linesman for eleven seasons, John will now referee in the new Barclays League throughout the country.

John has appeared on tv in the Big Match and Match of the Day programmes.

He has also run the line in the Football League Centenary Classic — The Football League XI versus The Rest of the World, played at Wembley. The match was televised live to over 40 countries and watched by approximately three billion people.



John in his uniform and ready for action.

Copy date Jan 8

PET PROUD PHOTO COMPETITION RESULTS



The Duchess of Kent opens new scanner unit

THE Duchess of Kent recently opened a magnetic resonance, imaging and spectroscopy (MRIS) unit, at Addenbrooke's Hospital, Cambridge.

The suite houses a Picker magnetic resonance imaging scanner which is the first of its kind in the UK.

Known as the Vista MR 2055 HP, the scanner is more powerful and flexible than previous models and it offers greatly improved resolution for imaging and spectroscopy.

The MRIS unit at Addenbrooke's Hospital is likely to be the only imaging unit of its kind in the region for many years to come. As such, it will benefit all patients in the region as the referral centre for magnetic resonance. About eight patients a day are expected to be examined by the new scanner.

Pictured is the Duchess of Kent meeting Geoff Mandy, managing director of Picker International, Wembley.



Cannon meets Anneka at Gaswarm promotion

CANNON Industries, Bilston, recently exhibited some of its appliances at the Gaswarm Homes Promotion, Haydock Park, near Wigan, Lancashire. These were: the Canterbury oven, the double oven deluxe and the live fire.

The promotion was part of the re-launch of the Gaswarm Homes programme by British Gas North Western, the aim of which is to bring gas to new housing developments. British Gas is interested in being more involved in building design.

Among the main visitors to the exhibition were builders and architects.

Pictured is Bob Yeadon, Cannon's national sales manager, and Margaret Logan, merchandiser, with Anneka Rice, who made a guest appearance at the exhibition.

Published by The General Electric Company, p.l.c., 1 Stanhope Gate, London, W1 for 160,000 employees at home and abroad.

DETAILS of an international pet photo competition appeared in both the April and October editions of *Topic*.

All units were invited to participate in order to illustrate how many talented photographers (and pets) there are within the GEC group.

A photographic expert was appointed to judge the competition and three winners have been selected.

First prize goes to Alan Burgess of GEC Measurements, Stafford, for his photograph entitled 'Nosy neighbour'.

Topic's judge felt that this was an excellent winner, as not only is it a very appealing photograph and a difficult pose to capture, but also it is of a very high technical standard.

Alan Burgess will be receiving the first prize of the Creda Micro-plus microwave cooker.

The second prize of a Polaroid 635 point and shoot camera, generously donated by David Cave photography of Dudley, West Midlands, goes to Sharon Wheatley of the Hirst Research Centre, Wembley.

Topic's judge thought, that Sharon's 'Bunter



'Nosy neighbour' by Alan Burgess.

bunny' was an original composition with a good use of colour in the background and of light.

The final prize goes to Jean Swain who is based at the Borehamwood site of GEC Computers.

Charming

Her photograph entitled 'My team lost again', was considered to be a really charming subject, and of a good photographic standard.

Jean will receive a Red-ring Miniboil jug kettle as her prize.

Congratulations go to the three winners and thanks go to all those who participated in the competition and especially to the site organisers for arranging the preliminary rounds of the competition.



Above: 'My team lost again' by Jean Swain.

Below: 'Bunter Bunny' by Sharon Wheatley.



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