

CHELMSFORD

NEWS AND VIEWS

Marconi
Radar Systems

Issue No 21

April 1987

NEW DIRECTOR APPOINTED

BRIAN LOADER has been appointed director of naval business.

Brian joined what was AEI in Leicester as a student apprentice and following graduation in the early 1960s was involved in trials engineering work for the Bloodhound weapon system. This took him overseas as resident manager for Bloodhound Projects both in Singapore and Switzerland during the late 1960s and early 1970s.

In the mid-70s he moved into radar sales and held several commercial appointments before becoming operations manager at Leicester. He received further promotion in 1981 when he was moved to Chelmsford as manager of naval division.

The appointment as director of naval business reflects the success with which he has managed the naval division over recent years. Brian will continue to carry out his responsibilities as manager, naval division reporting to the managing director.



MIDDLE EAST SUCCESS

Prestigious orders won from Jordan and Oman

MARCONI continues to lead the world in the supply of radar systems, this time with two impressive orders from the Sultanate of Oman and the Royal Jordanian Air Force.

In 1975 Marconi Radar was awarded the contract to supply three S600 air defence radar systems to the Sultanate of Oman's Air Force. Also included in the package was the installation of a sector operations centre to support Oman's integrated air defence system (IADS).

A three-year extension of the original contract has now been announced to support and maintain Oman's IADS. This gives a grand total of 15 years successful collaboration between Marconi Radar and the Sultanate of Oman.

This extension coincides with the recent announcement by the Marconi Radar sales team of a continuation of a prestigious order originally placed by the Royal Jordanian Air Force back in September 1986.

The contract to supply three mobile S711 radars included an option allowing the Royal Jordanian Air Force to purchase a further two S711s to upgrade its existing air defence system.

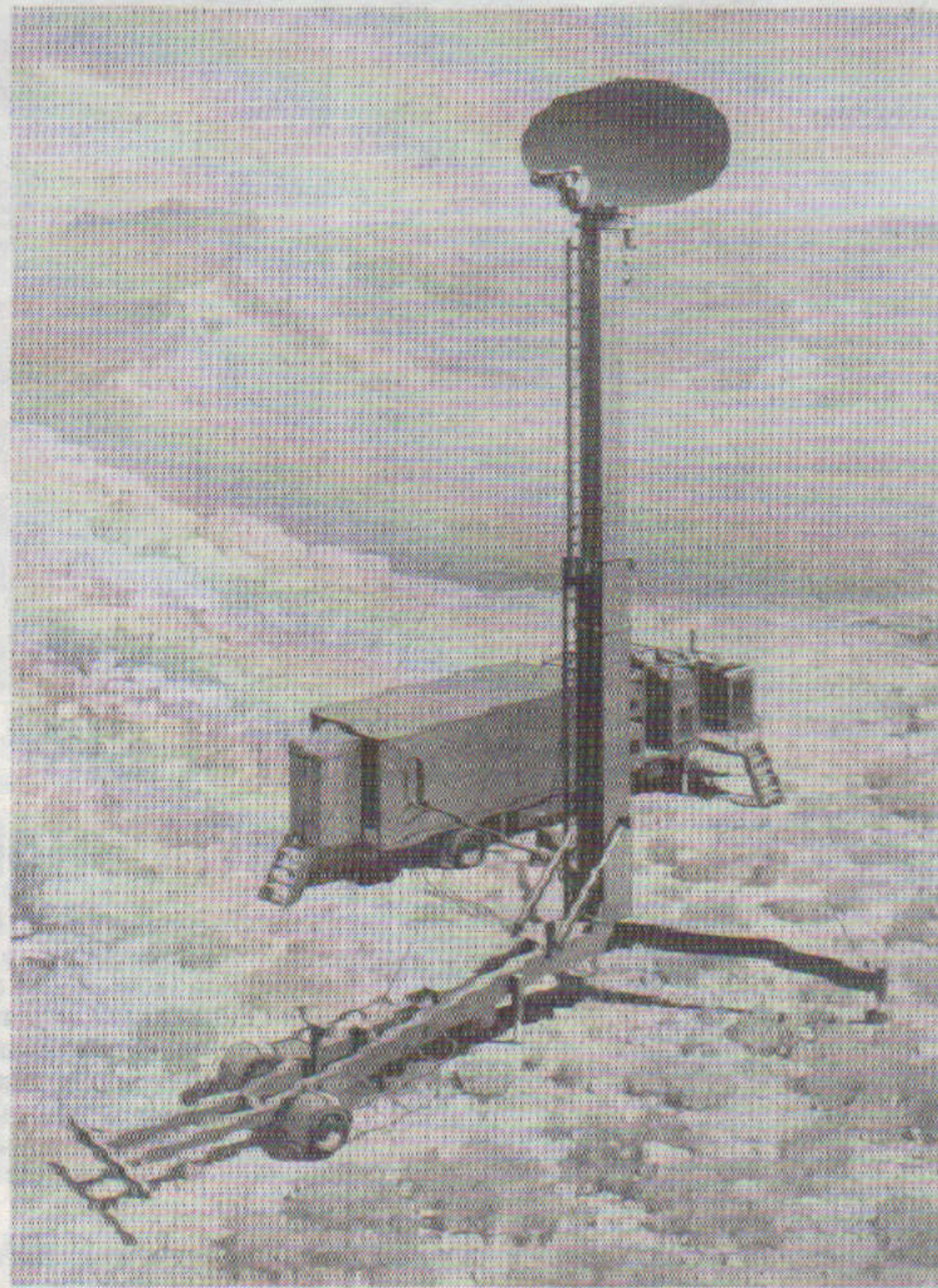
In a recent decision, the Jordanians chose to exercise that option bringing the total in orders under the British loan to over £20 million.

Bob Holloway, Marconi's area sales manager in the Middle East and Africa, said: "The Royal Jordanian Air Force's strict criteria were more than satisfied with the design and efficiency of the S711 system, as well as the attitude and the past performance of the company."

"It is a substantial gain," said Bob, "as Jordan has probably one of the most professional air forces in the Middle East, and is itself studied as the model for neighbouring states. Its prestige gives great credibility to both Marconi Radar and our systems products."

The installation team of six in Jordan was led by John Azzaro who has remained onsite to oversee the completion of the project.

"John's team has performed exceptionally well over the past year," continued Bob. "This order consolidates our presence — which has been maintained in the past decade by our resident manager Adrian Kirk — in Jordan. The Royal Jordanian Air Force admire the continuity of personnel from Marconi which strengthens mutual trust and ensures a long and happy relationship."



S600 series equipment of the kind supplied to OMAN and now being maintained on Support Division's new contract.



A happy occasion for Leslie Pickard, assistant director sales, pictured at Buckingham Palace recently where, accompanied by his wife Margaret and son David, he was presented with the OBE (for services to export) by HM The Queen.

THE TERRITORIAL ARMY

THE time is 2.00 am. An order is passed over the radio to move to a new location and re-establish communications.

Two hours have been allocated to complete the task. A lot to be done in this time. We need to study the map and select a suitable convoy route. An advance party needs to be sent forward of the main group to reconnoitre and clear the new site. Those off duty need to be woken.

Night moves are always difficult. Soldiers are tired, torch lights compromise our position and cannot be used — noise must be kept to a minimum.

Within an hour we are packed up, vehicles lined up for the move. Sentries are withdrawn and we proceed to our next location. A typical Saturday night phase on one of our weekends with the Territorial Army.

The Territorial Army is a pool of part-time and volunteer trained soldiers who would support the Regular Army in time of hostilities, either in home defence or in direct support of BAOR. Despite the "Dad's Army" image, the TA

By Nigel Thompson. (Systems Engineer — Naval Division — Lieutenant, Royal Corps of Signals, Territorial Army)

is now a vital part of national defence and makes up a substantial proportion of the Army's mobilisation strength.

In time of war, all TA units would mobilise with their regular counterparts to designated locations and carry out specific tasks.

Most Army units have an associated TA contingent. The whole spectrum of Army activities, ie. Infantry, Artillery, Armour, Signals, Transport, Engineers, Air Corps and many others are represented by the TA.

An individual's commitment to the TA varies depending upon the type of unit, but generally requires completion of a two-week camp and at least six weekends a year. Recruiting and training is based on regular army standards and all recruits undergo a period of basic training to a level of proficiency in field-craft, tactics, and use of small arms prior to undergoing



specialist training.

The career structure and promotion courses are also similar to the regular Army. A recruit can therefore expect to progress to NCO level and beyond, having gained the

necessary qualifications and experience. The highest rank appointment in the TA is currently brigadier.

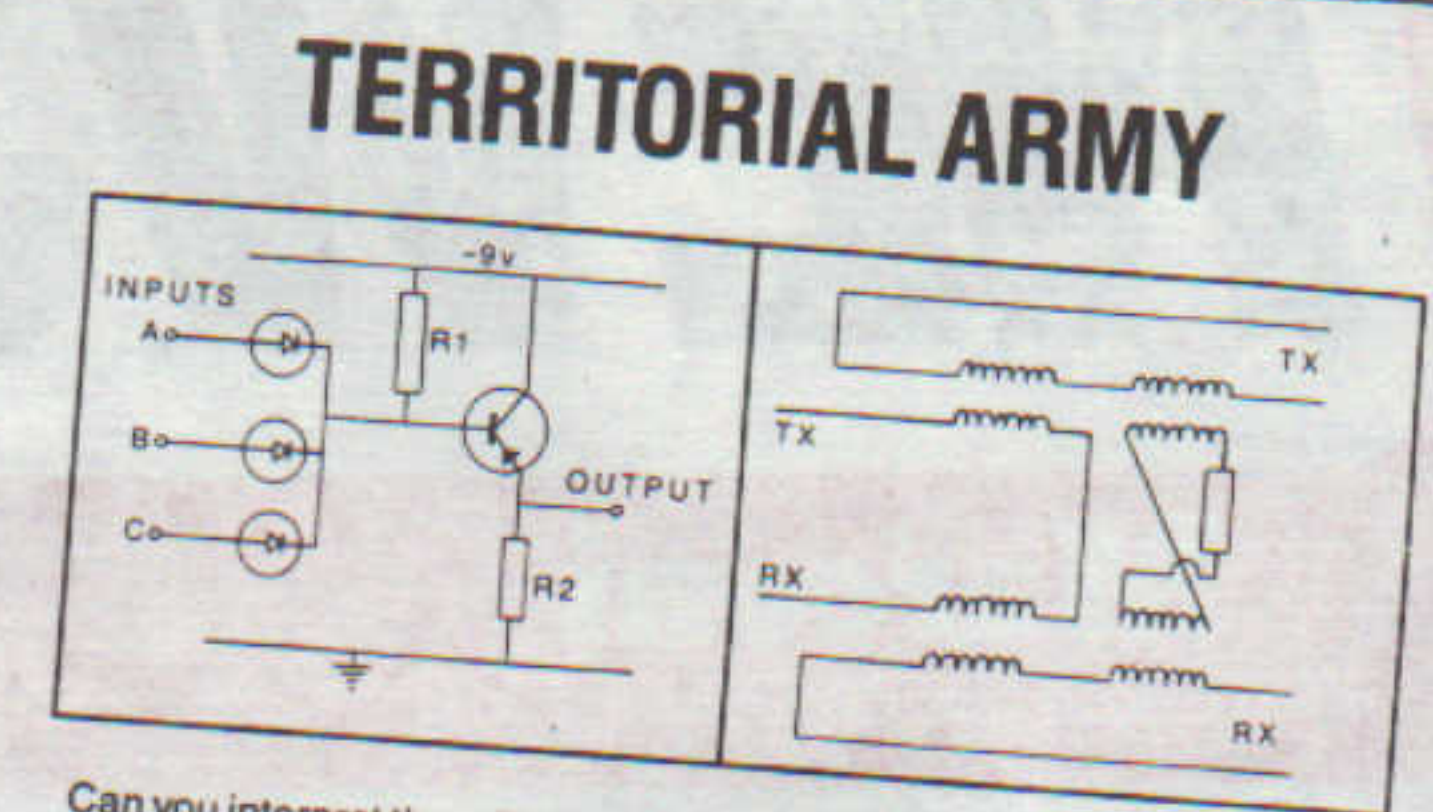
Pay depends upon rank and level of commitment. A tax free bounty is also paid at the end of the training year.

My own unit is 45 (Essex) Signal Squadron which has centres at Colchester and Warley. Our role is to provide field communications in support of BAOR. As such we are involved in all major NATO exercises, including Exercise Lionheart in 1984.

Most of our soldiers are trained as technical specialists such as technicians, radio operators, telegraphists and linesmen. No previous experience is required, though most technicians are employed by the major electronics and telecommunications companies.

I joined the TA in 1979, was commissioned in 1983 and now, a Lieutenant, am responsible for the personnel and equipment which make up a field communications unit.

The task is both challenging and rewarding, an interesting complement to my MRSL job as a systems engineer.



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Colchester, Essex CO2 7SZ
Tel: (0206) 575121
Exts. 2257/2258/2259/2256

PROVIDING COMMUNICATIONS
FOR THE BRITISH ARMY

Security man Bob looks back over half a century

PATROLMEN supervisor Bob Stock retired last month after a grand total of 51 years on the Chelmsford site.

Over half a century here means that he has seen many changes since, as a 14-year-old school leaver, he started work with Crompton Parkinson Engineering in the switchgear department in 1936.

Bob explained: "Before tractors came in, horses were used for shunting goods. 'J' Building was the stables. When I started work, there was still a series of railway lines connected to the main line and all the shunting was done with

tractors. Traces of the old railway lines can still be seen in the ground today. Only a small amount of road transport was used for delivery or despatch in those days."

Europe's biggest test station

When Bob joined Cromptons, G Building was an instrument shop and W was the power house and generator plant. K Building was a pattern shop and blacksmiths. C Building was the main offices, the personnel department, accounts and estimating, and F Building was once the biggest test station in Europe.

Y Building was a glass factory before Cromptons converted it into a canteen and social club. "It was very popular and was used for numerous functions, both works and town sponsored events, including the annual circus which was held on the lawn," said Bob.

During the Second World War he served in the Royal Armoured Corps, the Royal Dragoons and the Military Government in Europe. "When I got home I went back to my old job at Cromptons."

During the war, the old brick chimney, later demolished, was used as an observation post by the Observer Corps who combined site work with fire watching.

Underneath the north car park are a number of air raid shelters. "Several times holes have appeared where the roof of the shelters have caved in," Bob said. More traces of the last war can be found on the site because the buildings were camouflaged to make the area look like a wood.

"The Crompton site was lucky during the bombing in Essex," said Bob. "There was a string of bombs dropped along the back of the works

but no damage was done and luckily no one was hurt.

"Cromptons was like a home from home to me. My family worked on the site: my wife, my two brothers, cousins, as well as several relations on my wife's side.

Appointment and promotion

"I carried on in the same job until the firm closed," he said. After a brief spell of unemployment, he was offered a position with Marconi on the Mobile Security Staff.

One day he was sent over to the Writtle Road Site for a couple of hours on a temporary assignment... and ended up staying 17 years!

"Marconi Radar Systems Ltd was formed and I was appointed assistant patrolmen supervisor," he said. "I was promoted to supervisor in 1979."

He remained in this position up to his retirement.

Bob and his wife Gwendoline have two daughters, one son and seven granddaughters, one of whom works at Marconi. His hobby is gardening and he looks forward to a long and happy retirement.



Writtle Road security office — Bob only popped in

Chinese book review



THE President of the China Aviation Supplies Corporation (CASC), Mr Li Da Xing, is seen talking to J.D. Crispin in Beijing during February.

John Crispin is pointing to Harry Cole's book which was to be given to Mr Li Zhou, the Deputy Director General of the Civil Aviation Administration of China (CAAC). CASC is the purchasing arm of the CAAC and responsible at present for all aviation and associated procurements throughout China.

On the move

THE main topic of interest for this edition is the reshuffle going on in Ron Howick's department of Airspace Control division, now styled Command Information Systems group. Ron has confirmed the posts of Mace products manager and Mardis products manager for Colin Birch and Bill White respectively and Bill remains as Baecheus project manager. Five new posts have been created in this streamlining of the group:

John Pearce as business manager; Phil Prowse as UKADGE products manager; Clive Gildersleeves as

engineering manager; Jim Hollom as productivity manager and Jack Wild as sales and marketing manager.

Shirley Harden reports to John Pearce; Bob Prior and Frank Savill report to Phil Prowse; Colin Shead and Ted Pogram report to Jack Wild; whilst John Rowe, Bill Attwood, John Waithe, Dave Churchill, and Keith Ryder will be responsible to Jim Hollom.

At Baddow a reorganisation of Brian Wardrop's laboratory has resulted in the appointment of Dr Andrew Dean as group leader of the adaptive

system group. Simon Kingsley and Terry Soame as leaders of the analogue and digital groups respectively.

Naval division's project manager, Gerry Jackson and John Benbow, production programme manager, have appointed Jim Mitchell as production project manager to manage the multi-discipline production teams working on project Marspin.

Following the retirement of Bob Stock, reported elsewhere, John Robinson has been appointed as supervisor of the security patrolmen.

First CIS Newsletter

CONGRATULATIONS to the newly-formed CIS group under Ron Howick, and editor Ian Gillis, for the appearance of the first CIS Newsletter. Planned to appear bi-monthly, the Newsletter is informative, amusing and an excellent example of good internal communication.

Ian's editorial in the newsletter notes that 'poor communication' is the prime concern among CIS staff. Perhaps his initiative in tackling this problem will be copied — everywhere?

ABCDEFGHIJKLMNOPQRSTUVWXYZ

COLIN LATHAM
continues his series
on the alphabet
of radar

IN arriving at the letter 'R' I would like to look at the key word itself and to discuss some misconceptions about Britain's part in its development.

In Britain, where the main thrust of the original work took place — and I will come to that later — the technique of locating objects by the reflection of radio waves was first known as RDF, for "Radio Direction Finding" and later, from an official public announcement on 17th June 1941, as "radiolocation". This was a very satisfactory name and many people then engaged upon it felt a sense of disappointment when, in 1943, it was superseded in this country by the American term RADAR.

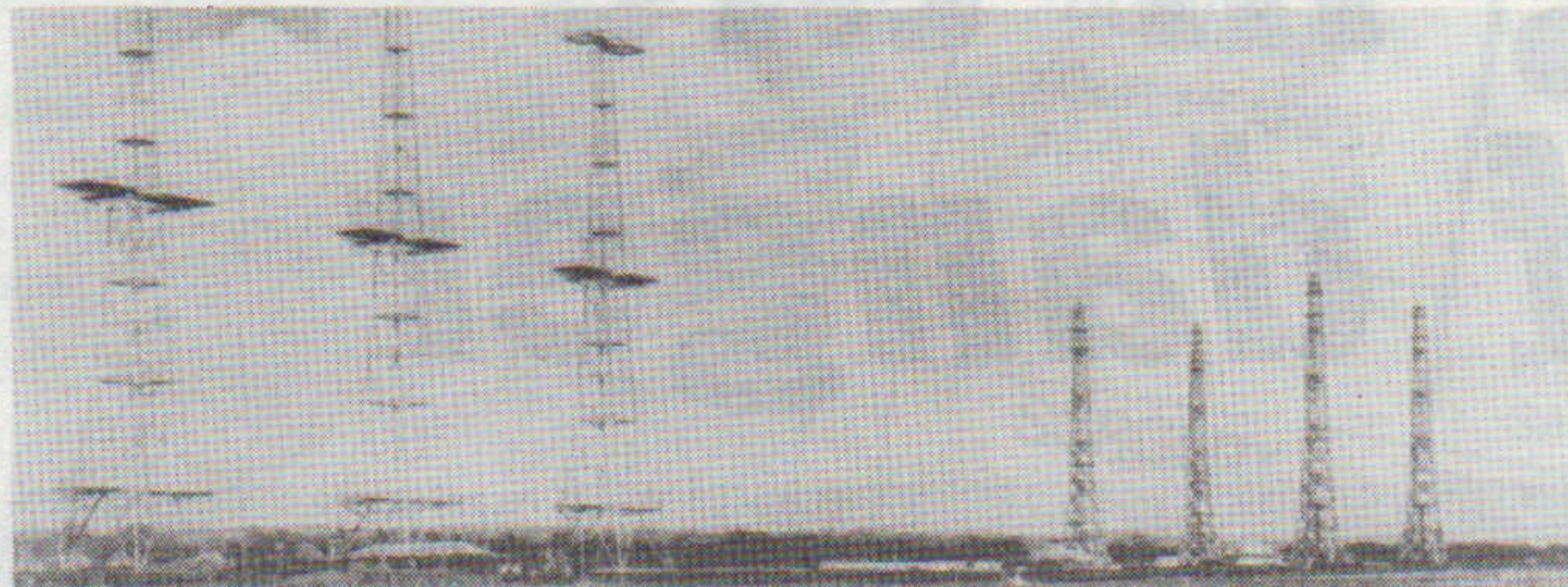
It appeared at first to be an ugly word, although one had to admit the sensible derivation from "Radio Direction And Ranging" as well as its reversible construction which gives a clue to the essential two-way nature of the reflected radio signal. Anyway, like it or not, "radar" has become the universally adopted term and is now used, I believe, in most languages of the world.

Britain's lead

I regret to see that recently there has been a tendency in some columns of the national press to publish articles and letters which diminish Britain's leadership in radar during the last war. It is as if a new generation has just learned, with great surprise, that Germany also was well-advanced in radar techniques in the war, and that the basic principles had been expounded long before that in many other parts of the world.

From these 'revelations' it now appears to be fashionable to allocate the primary credit anywhere but where it truly belongs: namely, to the engineers, scientists and Service personnel of this country. It was they who did the most important thing: they made it really work and, with American help, laid the foundations for the present world-wide industry.

By the mid-thirties radio communication was well established on a global scale. Large industries had been built up in many countries to meet the demands for equipment for domestic entertainment and for the radio services required commercially and for defence. The phenomenon of reflection of radio signals was



An east coast CH (Chain Home) RDF Station. At the outbreak of World War Two, a fully operational chain of these stations, spaced approximately 20 miles apart, stretched from the Orkney Islands down the east coast and along the south coast to Ventnor on the Isle of Wight.

R for . . .

commonly observed: indeed it would have been strange if no one had commented upon it nor speculated on how it might be used to locate distant objects. Marconi himself was one of several who drew attention to the effect, commenting as follows in a lecture to the American Institute of Electrical Engineers in 1922:

"In some of my tests I have noticed the effects of reflection of these waves by metallic objects miles away. It seems to me that it should be possible to design apparatus by means of which a ship could radiate or project a . . . beam of these rays in any desired direction, which rays if coming across a metallic object, such as another steamer or ship, would be reflected back to a receiver . . . on the sending ship, and thereby immediately reveal the presence and bearing of the other ship in fog or thick weather."

Experimental work was carried out in many parts of the world during the twenties and thirties with varying degrees of success and, as is often pointed out, the French liner *Normandie* was equipped with iceberg detecting equipment which relied upon reflected radio signals.

Famous

These were all steps in the direction of radar but nothing like positive three-dimensional identification of objects or established techniques existed in early 1935 when Arnold Wilkins made his famous experiment at Daventry, previously described in these pages.* From that experiment this country embarked, in secret, upon the most forceful development of equipment for detection-at-a-distance by radio, then known as RDF, that had ever been attempted. By stupendous efforts the parameters of wavelength, polarisation, pulse length and repetition frequency, power output and receiver sensitivity

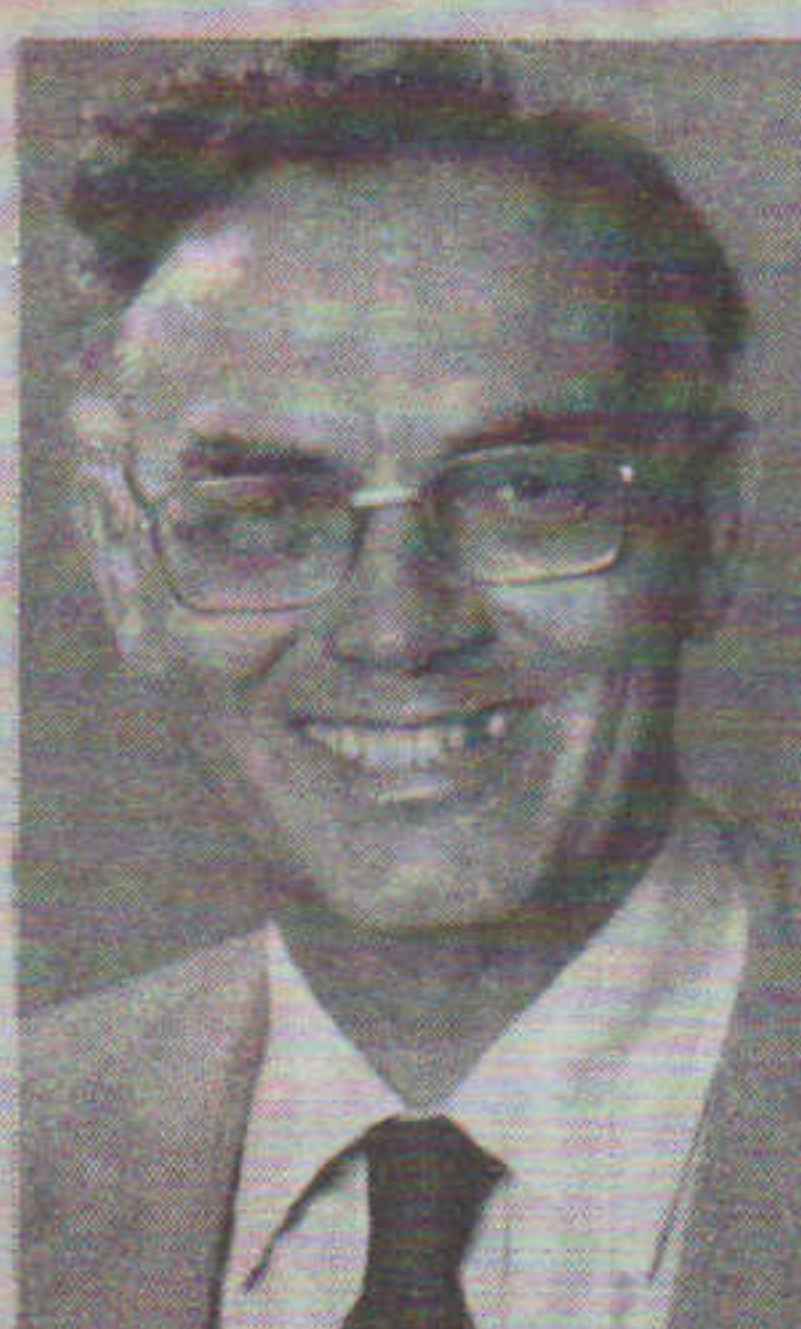
About the author

IN THIS month's issue, Colin has chosen the controversial subject of the "discovery" of radar (RDF) as his theme for his "R for . . ." feature.

Both Colin and I and, I suspect, a few hundred other vintage wartime RDF people, have been incensed by the recent spate of denigration by the media, of the vital part played by Robert Watson-Watt and his small scientific team in bringing radar to fruition.

From a simple feasibility experiment in 1935, this small team forged an early warning (CH and CHL) defence network that was fully operational in time to meet the onslaught of Göring's numerically superior Luftwaffe in 1940. Without doubt this was the tour-de-force that swung the balance in our favour in the Battle of Britain. Do not undervalue this achievement: without this early radar, Britain would not have survived — it was a close run thing!

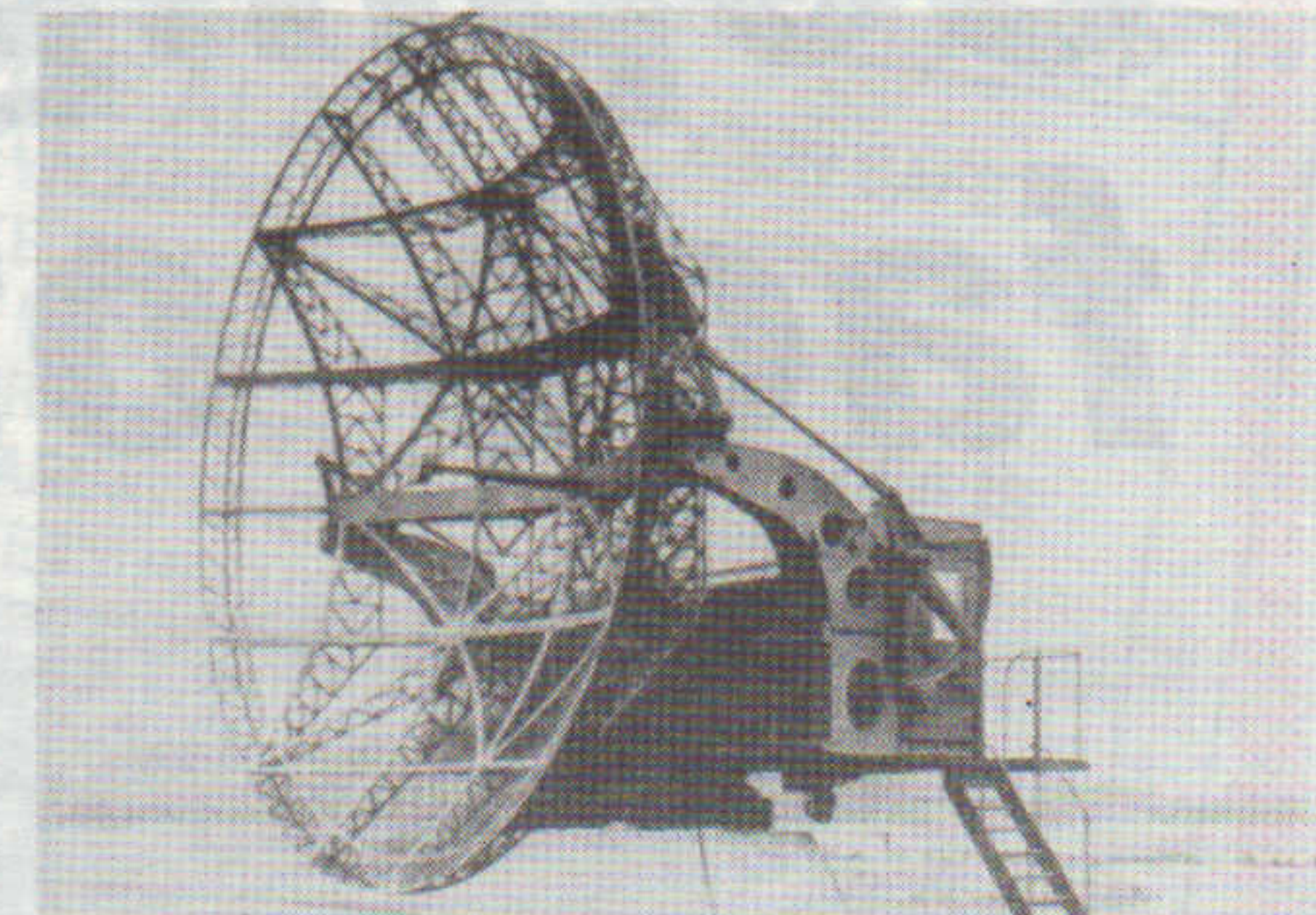
A number of articles, letters and even a book by a



Colin Latham

learned professor, have been published recently claiming that John Logie Baird was the real mastermind behind radar and that his work on television was only a security cover. Incidentally, he was also credited with the development of certain key aspects of ULTRA; he must have been a very busy man — what nonsense!

Colin's 'Radar Alphabet' is a most informative and



The Giant Wurzburg, a 25ft diameter parabolic dish used by Germany for the interception of British aircraft, was one of the principal components of the Germans' complex defence system. It worked at approximately 50cms (600 MHz) and many hundreds were made.

often amusing series; a unique combination. I am sure many of his non-technical readers now feel they know something of the mysterious boxes and jargon that go to make up a modern radar system. I wonder what he has in mind for Z? It has been suggested that the series be published as a monograph.

Those who enjoy his literary style will be interested to know that he is busily writing a part fact, part fiction (faction) novel based on his first hand wartime experiences as a radar mechanic on CH and GCI Stations. It promises to have everything: hot blooded airmen on night duties with WAAF operators; frustrated love affairs and intrigue; set against the background of maintaining, under extreme pressure, a 24 hour, seven days a week watch for the enemy!

The date of publication and the publisher will be announced in 'News & Views'.

Bruce Neale

below them.

With all this in mind we may begin to understand how it was that Reichsmarschall Göring felt bound to comment: "We must admit that in this sphere the British and Americans are far ahead of us. I expected them to be advanced, but I never thought they would get so far ahead. I did hope that even if we were behind we could at least be in the same race."

Grossly unfair

Personally, I am saddened when I read published letters implying that, since Germany had some radar equipment early in the war, or even before, the British claim to leadership can be dismissed as a myth! Such a conclusion is grossly unfair to those who worked so hard and so brilliantly. I believe that the matter is confused by the consideration of who may be said to have "invented" radar. To that question, "Who invented radar?" many could claim the honours, not least Hülsmeyer, a German engineer who obtained a patent in 1904, long before the enabling technology had materialised. As I mentioned earlier, many could claim that the idea occurred to them because the phenomenon of reflection was observed repeatedly in the course of radio work.

Secret transfer

But to the question, "Who first successfully developed radar into an operational defence system?" the answer is unquestionably the British from 1935 onwards. This, I believe, is readily accepted by the Americans too, although they had done promising experimental work before the war and later, after the transfer of the secrets of the British magnetron (letter M in this series), the Americans were to assist us enormously in equipping our services with radar sets for use in the fight against Germany.

If you would like to read more about this subject I would suggest the following: Most Secret War. Professor R.V. Jones

The History of Radar. R.V. Jones. Phys.Bull 36 (1985) One Story of Radar. A.P. Rowe.

Three Steps to Victory. Watson-Watt. The Secret War. Brian Johnson, BBC.

The Bruneval Raid. G. Millar. Instruments of Darkness. Alfred Price.

* The 'Daventry Experiment' Bruce Neale MRSL "News & Views" Feb 1985 (issue 9). Watch out, too, for a new book, "Radar Days", to be published this Spring, by Dr. E.G. Bowen who led the original development of airborne radar (AI) in this country under Watson-Watt.

were all established.

Practical equipment designs were realised in a remarkably short time. Indeed, by September 1938 when Prime Minister Chamberlain flew to Munich to meet Adolf Hitler, his plane was tracked by five RDF stations: Bawdsey, Great Bromley, Canewdon, Dunkirk (Kent) and Dover. A year later, when war broke out, the east coast chain of twenty stations was not only operational day and night but passing range, bearing and height plots via central filter rooms to the integrated air defence system of the RAF!

At the 1985 IEE Seminar in London to mark 50 years of radar it was a scientist from

abroad who rose to say that, whilst several countries had made minor early contributions to the development of radar, it was the British who, outstandingly, had built a large-scale, fully-operational radar-based defence system years ahead of anyone else.

Long range

In the real terms of an effective, long range 3-D early warning system we were undoubtedly ahead: as George Millar puts it in his superb book "The Bruneval Raid": "... if the British had failed in many respects to ready themselves for the fight against Nazi Germany . . . they had done wonders with their early warning system; they had been as thorough and as painstaking as they had been inventive. Invisible walls had been built round the United Kingdom, walls twelve miles high and one hundred and twenty miles thick. H.G. Wells himself could never have imagined such defences . . ."

Yes, the Germans had "Seetakt" and "Freya" and "Würzburgs" and "Lichtenstein" and the "Himmelbett Line" and other things too, and there is no question about the good quality of their equipment.

An impressive list of developments? In isolation, perhaps so. But by comparison with the realisation of the full east coast chain by the outbreak of war and the despatch with which it was extended,



Arnold Wilkins (Skip) at the lectern when he was guest of honour at the apprentice prize giving at the MASC in 1985, the 50th anniversary year of the Daventry Experiment. Arnold was Watson-Watt's right-hand man who made all the vital calculations to prove that aircraft could be detected by electromagnetic waves and led to the 'Daventry Experiment'.

geographically and in wide frequency diversity until literally hundreds of stations existed, working round the clock, it pales into insignificance. We must remember also IFF (Indication Friend or Foe) and the many pulsed beacons, the Army gun-laying and searchlight control sets, the GEE, G-H and OBOE precision bombing/navigation systems, the many airborne, naval and ground-based centimetric sets based on the British cavity magnetron and, perhaps most novel of all, the airborne H2S which enabled aircrew to "see" otherwise invisible ground



Strange Bedfellows! Left to right: Generalfeldmarschall Albert Kesselring, Commander of German's Air Fleet 2 (Battle of Britain); Sir Robert Watson-Watt; General Wolfgang Martini, Director General of Air Signals responsible for German Radar. This meeting was held after the war to discuss mutual radar problems encountered in World War 2.

Coping in the face of danger



WITH recent media coverage focussed on the Zeebrugge ferry disaster and the fatal explosions at the BP oil refinery in Grangemouth, awareness of health and safety in the workplace has been brought to the attention of a concerned public.

In many sectors of British industry today the attitude of "it could never happen here" has led to complacency and eventual human error which has been the cause of so many catastrophes and huge losses of life. Nevertheless even those who

EMERG

display common sense and awareness can never fully anticipate those accidents which inevitably occur even in the safest surroundings.

The solution to the problem lies in adequate preparation for the unexpected, and this is the policy carried out by the health and safety services on the Marconi Radar site.

Ken Gamblin is the company health and safety services manager. "My role is essentially administrative," said Ken, "as health and safety at Marconi affects us all and must be coordinated into an effective policy of total involvement."

With his assistant, Dave Welsman, Ken oversees recruitment of the 40 on-site first aiders and the 200 fire wardens. "We are always prepared for any emergency such as fire, chemical leakage and spillage, bomb alerts and, of course, personal safety?"

Although there are strict codes of conduct applied to health and safety, Ken prefers to rely on the skills and experience of the various departmental members whose job it is to liaise with the health and safety services, keeping them informed of any developments relating to emergency precautions.



"Concerted involvement is the key to the success of our policy," said Ken. "We are well equipped to deal with any problems but must depend upon the goodwill and endeavour of all the fire wardens and the first-aiders, many of whom work on an unpaid voluntary basis. The complexity of the site and the flexibility of workforce rotas does cause us a few headaches where evacuation is concerned, but I have complete faith in our fully trained and experienced staff!"

All new personnel complete an induction period in awareness procedures in health and safety, and this is reflected in the excellent safety record in the plant, and the fact that 90% of the fires have been dealt with internally. Smoke detectors and sprinkler systems operate in the more sensitive areas of the site.

But what about a major incident? "The procedure is very clear," continued Ken. "Security is alerted by dialing 222 on the internal telephones, who in turn contact the emergency services on a direct line. Three or four appliances will be at the plant within minutes regardless of whether it is a false alarm or not."

"During this time all the fire wardens are alerted and they ensure the swift evacuation of the affected building and our own fire and ambulance services are deployed to contain the emergency!"

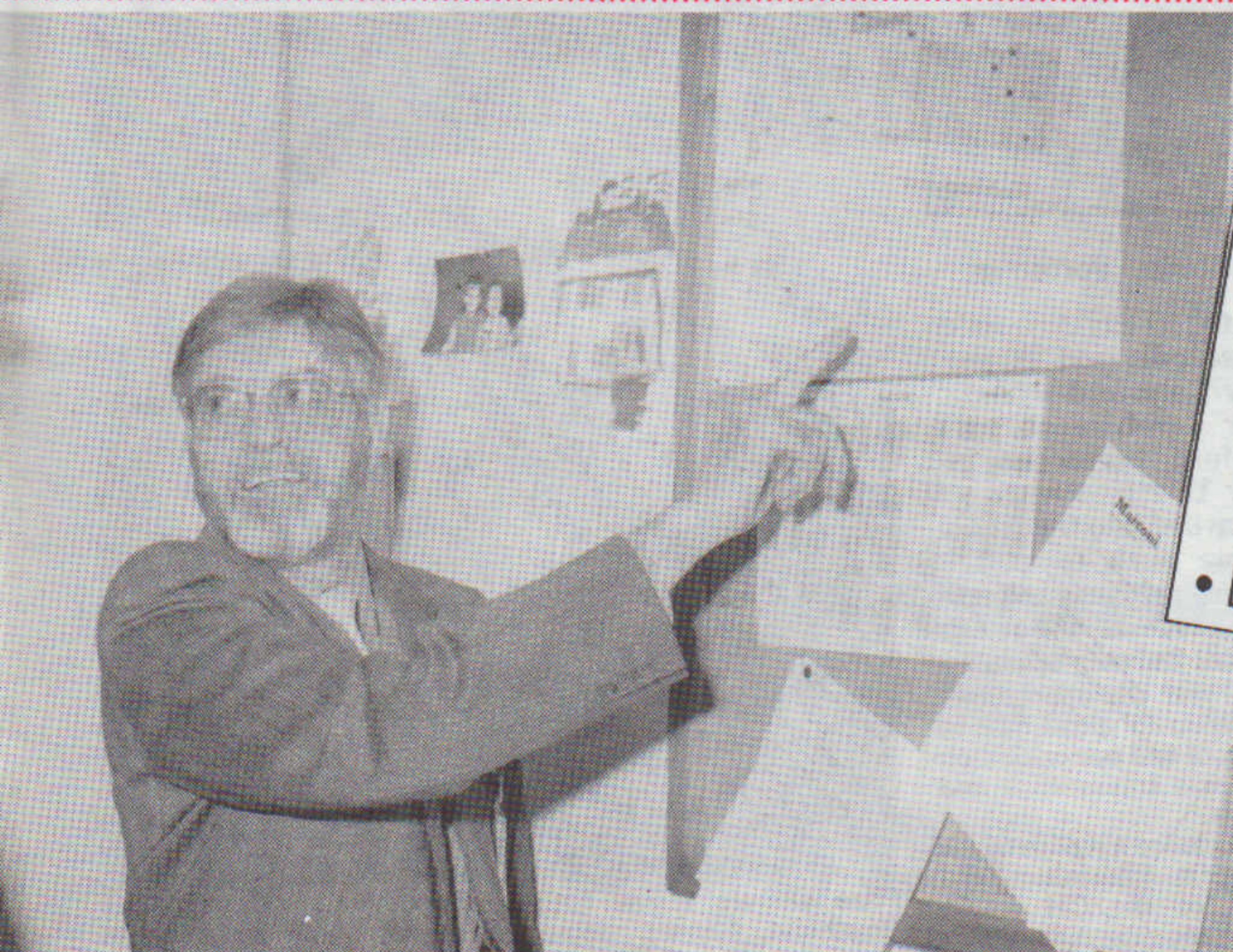


Marconi's chief fire officer for 11 years is Clem Monk. His team of eight man the site's distinctive fire tender. He said: "Our previous fire control facilities were an old barrow which had to be manually wheeled out of the car park and by the time we reached the fire it was out of control."

"It was totally inadequate," continued Clem, "so we purchased a mini-bus and converted it into a workable tender." The fire service now has its own breathing ap-

BELOW: Company fire officer Clem Monk (on the right in the lighter helmet) with his fire crew; from left to right: Phil Reeve, Bob Crick, Graham Cowell, Harry Bichard, Graham Rogers, Jim Wallace and Alan Martin.





FIRST AID IN THE EVENT OF ACCIDENT YOUR NEAREST FIRST AIDER IS	FIRE WARDEN ON HEARING THE FIRE ALARM EVACUATE AND TAKE INSTRUCTION FROM THE FIRE WARDEN WEARING GREEN SAFETY HELMET	SAFETY REP. YOUR SAFETY REPRESENTATIVE FOR THIS AREA IS
SURGERY PHONE 2855	FIRE OR EMERGENCY PHONE 2222	

Masterminding the company's emergency plans are safety manager Ken Gamblin (right) and his assistant Dave Welsman.

The medical team, from left to right Sister Mary Skeate, Sister-in-charge Florence Newland and Sister Barbara Laybourn taking the blood pressure of patient Bill Brewster.

MARCONI RADAR SYSTEMS LIMITED, WRITTLE ROAD.

PHONE 2222	FIRE	PHONE 2222
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IF YOU DISCOVER A FIRE:
1. OPERATE THE FIRE ALARM BY BREAKING THE GLASS.
2. PHONE 2222 AND STATE THE POSITION OF FIRE.

WHEN YOU HEAR THE FIRE ALARM:
LEAVE THE BUILDING.

ATTEMPT TO DEAL WITH THE FIRE:
ONLY IF YOU CAN DO SO SAFELY AND -
ALWAYS AFTER RAISING THE ALARM.

PHONE 2855	SURGERY	PHONE 2855
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THIS NOTICE MUST NOT BE DEFACED OR COVERED UP.

EMERGENCY



paratus and pumping equipment which draws upon the 250,000 gallons of water from the reservoir through the 25 hydrants around the site. The plant engineers are in the process of updating the system to make it more effective.

Clem's team trains once a month, familiarising themselves with every inch of the plant, because in heavy snow or fog, hydrants may be covered and the team need to know where the nearest outlet is located or where gas mains are. "We are able to contain a major incident until the emergency services arrive," said Clem reassuringly. "In fact in all the years of operation the county fire brigade have only removed their hoses twice to tackle a blaze, which is some indication of our response time."

Providing the initial medical backup is the responsibility of senior analyst programmer, Peter Weathersby. Peter is divisional superintendent in the St. John Ambulance Brigade, and his team of six operates a support role divided between Marconi and external public events.



The St. John's Range Rover ambulance occupies a permanent position on the Writtle road site and has all the facilities of a normal ambulance with oxygen tanks, stretchers and emergency drugs.

"It is possible for the ambulance to take up to three casualties at one time," said Peter. "For minor incidents we operate a car service ferrying people to and from hospital which takes the pressure off the emergency services."

Peter's team recently took first prize in the West Essex Ambulance crew competition. The crew took the Dean trophy after successfully completing a series of tests which included general knowledge and procedure, vehicle manoeuvrability and a simulated rescue.

As a supplement to the six Brigade members there are 40 trained first-aiders on site to handle minor emergencies, working closely with the experienced team of nurses in the site surgery.

Nursing sisters Mary Skeate, Barbara Laybourn and Florence Newland are the final and perhaps the most important link in the health and safety chain at Marconi.

"Although we have the facilities here to deal with emergencies," said Florence, "we like to think that our role is largely preventative; that is anticipating problems before

they arise." The surgery offers a comprehensive list of services from hearing and sight tests, blood pressure check ups, inoculations and a well-woman clinic. A medical officer visits once a week to provide support to the surgery's activities.

"We try to maintain close contact with the Red Cross and the St. John Ambulance brigade, and are constantly liaising with family doctors and GPs. Even so the services available here are all treated with the strictest confidence."

How do the nursing sisters see their role in the health and safety programme at Marconi?



"There has been a change in nursing trends and practices, especially in occupational health," said Mary Skeate. "Where previously we patched up cuts and bruises, we now have the capacity to act as advisors to the health and safety services department."

"We're very approachable and impartial, so that if someone feels that their working conditions are detrimental to their health in some way we can advise the services department on a remedy."

One result of this policy has been the noticeable decline in eye injuries due to the wearing of protective goggles, and a greater awareness of damage to hearing in noisy environments.

"To find the solution, first one must find the problem," continued Barbara



Laybourn. "Only recently did we make a recommendation to adjust a certain piece of machinery because we were dealing with a lot of arm and back muscle strains. Once adjusted we noticed a significant decline in both the strains and the resultant absenteeism."

It is reassuring to discover the professionalism of the health and safety services, which operates at Marconi largely un-

noticed. However, much of the safety and welfare of the site and the people in it is down to the diligence and common sense of us all.

The events of the past six months have brought home the need for an effective policy towards safety in the workplace. Total involvement at all levels is the key to success: prevention instead of containment, awareness instead of complacency.

Marconi Radar ambulance crew members, divisional superintendent Peter Weathersby and divisional officer Steve Traynar, who recently won the Dean award for West Essex St John Ambulance crews.

Back to school



Christopher Bush, first year Cambridge University student, talking to a group of students about the first team transmitter.



Andrew Ford, second year business technician, explaining the attributes of the new Seawolf antenna to a group of fourth year students

By Shirley Porteous

MARCONI has close links with schools and in particular Rainsford school.

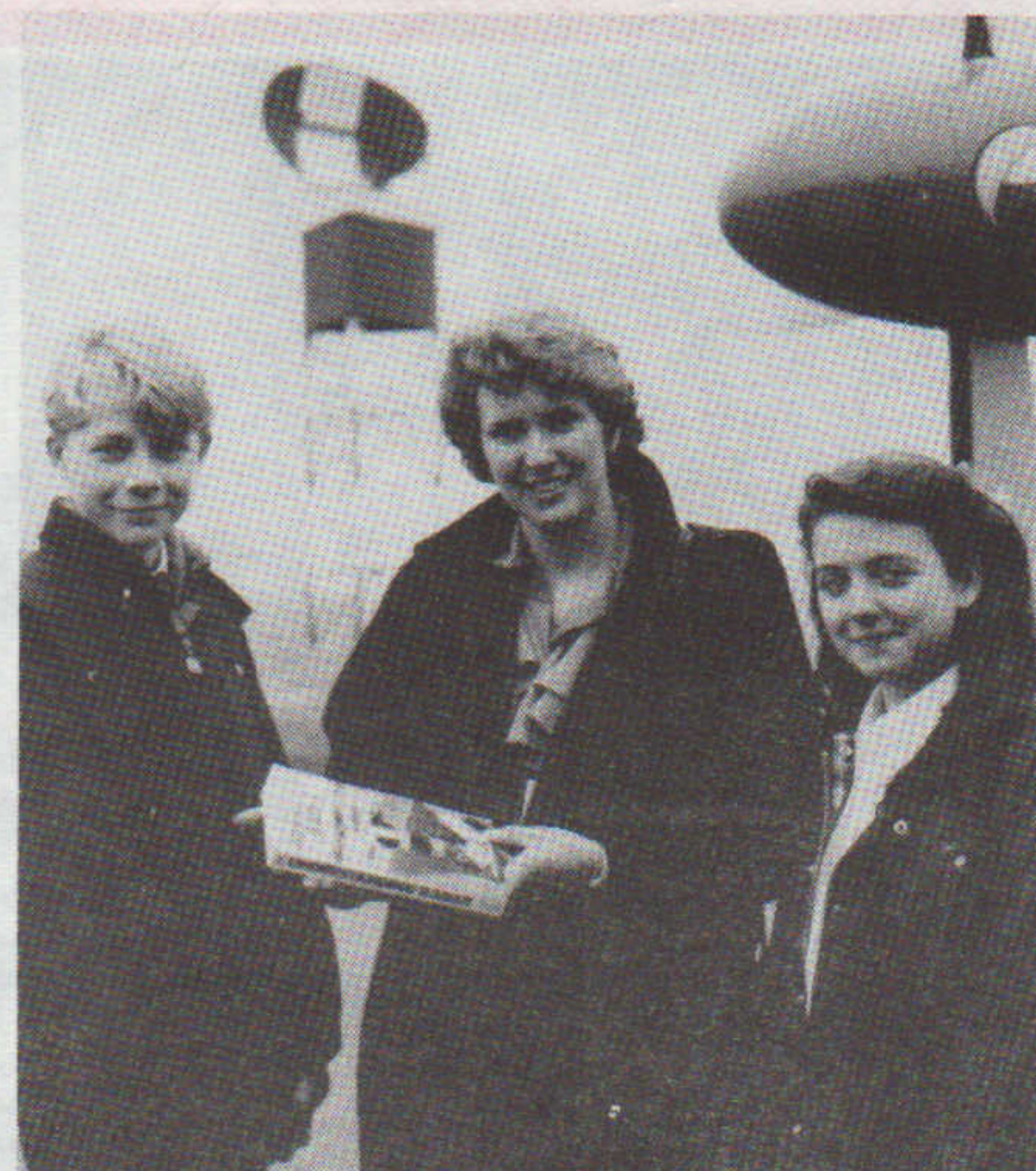
Our involvement with Rainsford began in Industry Year 1986 when we were invited into the school for one week to exhibit company products and talk to the students about our different training schemes.

This year the opportunity arose again to spend time in the school and our exhibition theme was transmitters and receivers.

We included a replica of the first beam transmitter and models of the CH (chain home) transmitter radar towers that were erected around the coast of the British Isles during the early part of World War II. There was also a more up to date demonstration of a low frequency transmitter and receiver, which had been assembled by one of our technician apprentices, John Merry.

The week was supported by several of our apprentices — John Merry, Robert De Ville, Graham Smith, Andrew Ford, Kathryn Handy, Christopher Bush and Annette Schweidler — who were able to discuss with the students their own experiences with Marconi Radar since leaving school.

Accompanied by their physics teacher, a group of sixth form students visited Writtle Road, and were shown round the PCTA area, environmental test, NC machining and PCB techniques. They were particularly impressed with the environmental test where a piece of equipment was shaken to simulate the type of conditions the equipment may have to undergo in a rough sea.



Prize winners, Steven Emberton and Victoria Campden at Southend Airport, being presented with a book on *Understanding Radars* for their school by engineer Janet Stringer.

Another group of students took part in an interview session; they were taken through the interview procedure, advised how to dress; how to sit when being interviewed; what questions to ask.

There were group discussions on the changing world of technology. The students were shown a series of slides on technology in the past and then split into groups and asked to discuss ideas on present and future technology. These were stimulating sessions and some of the ideas which they came up with were very original.

Throughout the week we also ran a competition. Students were asked to design a LOGO depicting the link between Rainsford School and Marconi, and although it was difficult in some cases to recognise the link, there were some extremely good examples of design and craftsmanship. The winners of the competition, Victoria Campden and Steven Emberton, were taken

to Southend Airport, toured the control tower and airport facilities, also given a demonstration by engineer Janet Stringer of the S511 radar sited there.

While all this was happening one of our engineers Andrew Rimmer was advising a group of fourth year students making burglar alarms as part of a project for their TVEI course. Each student was presented with a certificate graded to the standard they had achieved by Reg Beckley, technical director.

During the week approximately 200 students either visited the exhibition or joined in one of the discussion groups. Students were able to come and see us at lunch time to discuss career opportunities.

We welcome the links with local schools and although our activities may not always be as involved as the Rainsford week, we consider the time we spend at a school as making a valuable contribution to the school curriculum.

CAMERA CLUB



ONE of the main attractions at the recent MASC camera club's portrait week, was attractive Julie Frost, a secretary from Field Services. Julie is one of many young ladies who offer to sit for portrait sessions held regularly by the camera club.

The camera club has facilities for all types of studio photography — with a well-appointed darkroom — and holds weekly meetings, when all aspects of photography are practised and discussed.

Julie's comments after her visit were that the experience was very pleasant, not at all like the dentist, and everyone was friendly and relaxed, and mum was more than happy with the photograph!

For further details of all camera club activities contact the secretary George Byrne on 2154.

Widely travelled John calls it a day

On March 6 John Mumford retired from Marconi Radar Systems to take a well earned rest after thirty two years service with the company.

During this time, John has played an important part in many roles, first as resident maintenance engineer on UK air defence sites, followed by systems design and finally being appointed as regional

sales manager (UK Defence).

He has travelled widely throughout the world, including some three years secondment as adviser to the Lockheed Corporation operations in Saudi Arabia.

In the picture (right) he is seen with his wife Anne receiving farewell gifts from his colleagues presented by Mike Crabtree, assistant managing director.



Prail family service reaches 116 years



ONE hundred and sixteen years of continuing family service to Marconi was celebrated on March 20 when Alick Prail, senior designer at Marconi Radar, retired.

What is thought to be a company record by one family all began in 1909 when Alick's father Ernest walked through the gates of the Marconi Wireless Telegraph Company at the age of 14. He completed 51 years' service in 1960 — by which time Alick was already 23 years into his career.

Alick joined in 1937 as an apprentice draughtsman. Within a couple of years war had broken out but those sombre days were made more cheerful for Alick with the arrival on the scene of a young accounts clerk Sylvia, whose responsibilities brought her in-

to contact with Alick's office. Marriage eventually followed, the new Mr and Mrs Prail working together until Sylvia left in 1953 after 12 years' service.

By that time Alick was working at Baddow as first draughtsman. Since then he has worked with the radar company and been involved with many of the projects and contracts that became company 'household' names.

David Chenery, Marconi Radar's managing director, wished Alick well in his retirement noting that, with Alick's service of almost 50 years, his father's at 51, Sylvia's at 12 — and the continuing service of Alick's daughter Janet who joined Support Division as a typist clerk three years ago, the Prail family has already notched up 116 years in the service of the company.

THE MEN BEHIND CHARITY APPEAL

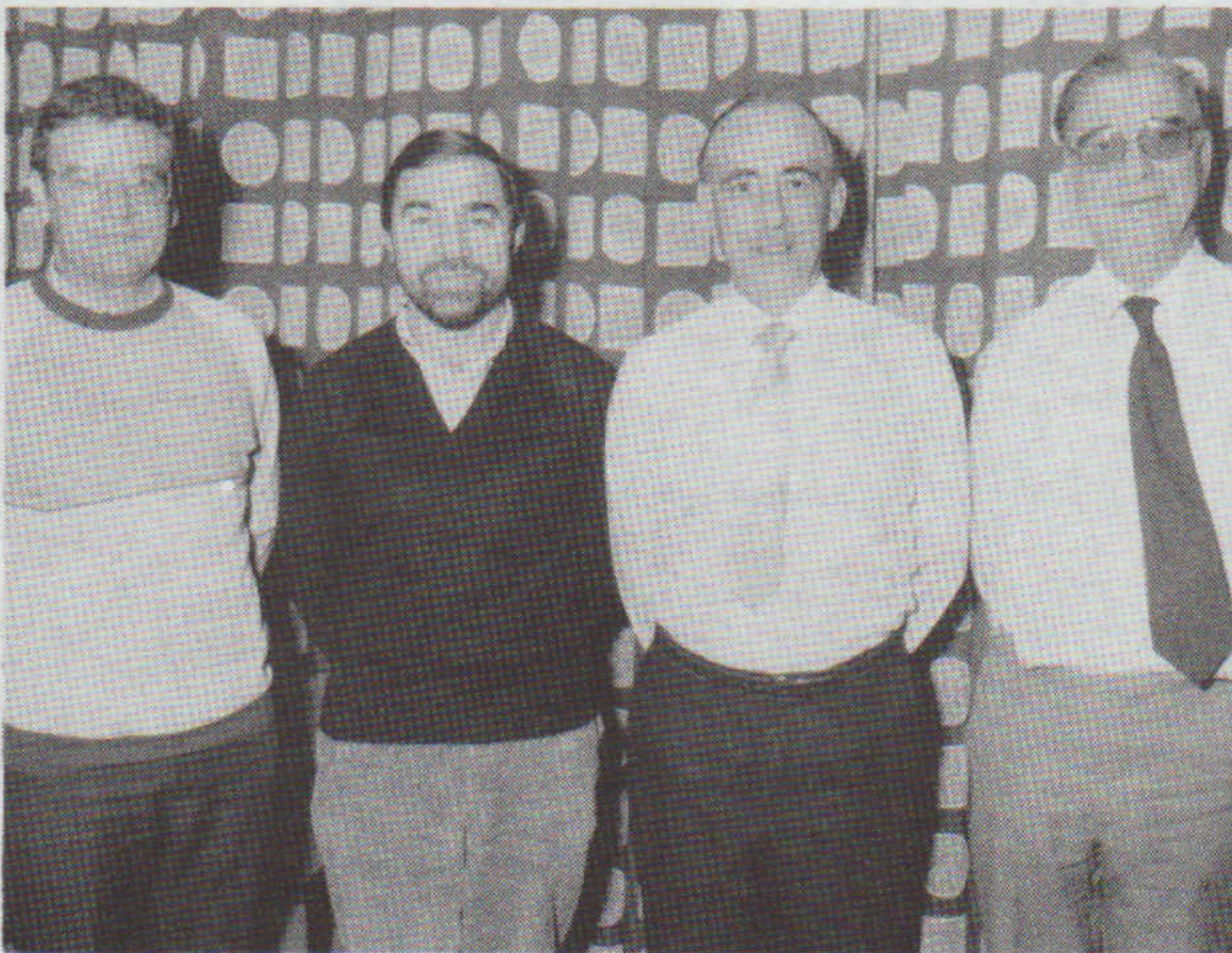
THE Marconi Employees Charities Fund is run and supported by the local Marconi companies, each having representatives on the committee which meets quarterly to consider appeals and distribute the available monies.

Local registered charities are supported on a regular basis along with projects, which are normally appeals for specialist equipment for hospitals, disabled persons etc. which require larger sums of money.

Employees invited

Obviously the committee would like to support some of these projects more fully but is restrained by the monies available and so they invite employees to contribute to the fund or if you already do, review your contribution. Don't forget the companies match your payments £1 for £1. A few pence from you means a lot to others and a lot of good comes from it.

Forms and further information available from your representative.



... and Bob is retiring

● The picture shows our three representatives on the employees charities committee with retiring member Bob Groves (far right). They are, from left to right, Peter Hodges (ext 2335) and Roger Dorking (ext 2750) both in Fabrication; and Ron Hurrell (ext 2940) from Estimating.

Bob who is retiring after 28 years with the company has spent the last 20 years in installation design, being involved in many projects, including Tonic, Nadge and Ukadge.

With a keen interest in the welfare of others Bob (who was featured in the last edition of *News and Views*) was on the staff liaison committee for seven years and with charities committee for the last five years.

MARCONI NETBALL IS TAKING OFF



IT MAKES a nice change to report on a women's sport. Due to the enthusiasm and determination of Jackie Spring in naval division, a netball section of MASC has been formed.

Jackie has formed a committee to which she has been elected as chairperson. Assisting her is Mandy Savage, of naval division's 'G' building as secretary and Sherrie Peagram who, like Jackie, works in 'XA' building, is treasurer.

Training commenced in March this year and Jackie says more people are needed to bring the squad up to full

strength. Training night is Tuesday at MASC commencing at 5.45pm. If you are interested in playing netball and keeping fit, please contact either Jackie on Writtle Road extension 2638 or Mandy on extension 3058.

The hope is that the section will be able to field a strong enough team in a local netball league quite soon. It goes without saying we all wish them a good start to their sporting endeavours and the best of luck in the future.

The first AGM for the section is set for September 1987.

Golf Fixtures

Challenge Trophy: Marconi GSV Exiles at Chemsford GC, Thursday, 14 May. Basildon League Cup: v Cranfield at Warren GC, Friday, 22 May. Basildon League: v Barnstable GC at Chemsford GC, Tuesday, 26 May; v Woodlands III at Basildon GC, Friday, 12 June; v Basildon ST at Channels GC, Tuesday, 30 June; v Lloyds Bank at Maldon GC, Tuesday, 7 July; v British Rail at Basildon GC, Tuesday, 21 July; v All Clean GS at Basildon GC, Tuesday, 25 August.

Society matches: Captains & Presidents Day at Stisted GC, Thursday, 25 June; 1 Autumn Event at Felixstowe GC, Friday, 4 September; 2 Autumn Event at Clacton GC, Friday, 9 October. Friendly: v Maldon GC at Maldon, Tuesday, 16 June.



Anyone for cricket

ANYONE interested in playing weekend cricket locally in pleasant surroundings, with good facilities, please get in touch with me. At Marconi we run two Saturday league sides (TC News): one in Div 1 and the other in Div 5, also one Sunday side playing friendlies. The standard varies, so if you haven't played for a while I'm sure we can fit you in.

Jeff Harrington, Chairman, Marconi Cricket. Tel: 267111-2941

CASTINGS GO ON SHOW TO DESIGN ENGINEERS

MARCONI Defence Systems' precision aluminium investment casting exhibition came to Writtle Road early in April. Some 60 or so types of castings were on show to teams of design engineers from the Radar, Communications and Marine companies as well as EEY and GEC Avionics.

Hosted by David Ings (foundry production manager) from MDS' Broad Oak Works, the examples on display aroused a great deal of interest.

● Picture shows David Ings (far left) and Alan Gardner (far right), MDS works manager, discussing the merits of the casting with Brian Everett, Stephen Faithfull, Simon Jones, Eric Coe, Brian Thompson and John Cooper all from MRSL's Naval design office.



Friday May 1, 8, 15, 22. 8pm. Friday night is music night with Jim Worton, Norman Chapman, Ian David and Ricky Lee. Free admission.

Friday May 1. 8pm. Pool tournament with cash prizes. Entry forms available in the games room.

Sunday 3 May and every Sunday. 8pm. Family bingo evening in the hall. Refreshments available.

Tuesday 5, 12, 19 May. MASC winter darts league. For details see fixture list.

Thursday 7, 14, 28 May. 7.30pm. Modern dance section.

Friday 8 May. 8pm. Gents 'Stag' show with Mike Jerome, Mike McCabe and three lovely ladies. Members £4. Guests £5.

Saturday 9 May. 7.30pm. Football section disco end-of-season evening. Further details contact Gary Giles, Waterhouse Lane, Ext 4379.

Wednesday 13 May. 2pm. Fellowship Talk. "Jersey during the Occupation" by Mr Renouf.

Friday 15 May. 7.30pm. Football quiz in the Hall with quizmaster Mark Paget. Cash prizes. Entry forms from reception. £5 per team of four.

Friday 22 May. 7.30pm. Pop quiz in the Hall with quizmaster Colin Lamb. Cash prizes. Entry forms from reception. £3 per team of three.

Friday 22 May. 7.30pm. Inter-departmental football league's end-of-season presentation. Details from Ray Pitt on Writtle Road, Ext 2785.

Saturday 30 May. 7pm. Badminton section barn dance. Details from Barbara Kirby on Ch. 465343.

Thursday 4, 11, 18 June. 7.30pm. Modern dance section in the ballroom.

Saturday 6 June. 8pm. MDS end-of-season dance with the Ron Barrie band. Members £2.25. Guests £2.75.

Saturday 6 June. 7.30pm. Cricket section disco. Details from Andrew Oakley. EEV. Ext 3231.

Sunday 7 June and every Sunday. 8pm. Family bingo evening in the hall. Refreshments available.

Tuesday 9 June. 7.30pm. Inter-departmental football AGM in the committee room.

Friday 12 June. 7.30pm. Snooker presentation disco in the Hall. Details from Ray Johannesson on WRW. Ext 2396.

Wednesday 17 June. 2pm. Fellowship. Flora and fauna by Mrs Wooding.

Thursday 18 June. 8pm. Snooker section AGM in the conference lounge.

TRY THIS MONTH'S WORD POSER

HAVE a go at winning £15 by solving our latest word poser.

All you have to do is match up each letter of the alphabet to a number on the grid to complete the puzzle.

We've already given you three letters, so fill them in on the grid and take it from there.

Send in your entries (to arrive by first post on 22 May 1987) to the Editor, *News and Views*, PR Department, Marconi Radar Systems Ltd, Writtle Road, Chelmsford.

1	2	3	4	5	6	7	8	9	10	11	12	13
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NAME

PHONE

DEPARTMENT

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11			22	19	19	24			22			7		
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	10		13			16				11		10		
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	14		19				3				19		10	
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10		15			26	9	22	11	0		10		6	
22	3	20	0	11	9		11		10	11	17	15	18	16



Winner of the anagram competition in *News and Views* number 20 Robert Parmenter with his prize cheque. Robert works in G Building in the signal processing laboratory of aerospace control division.

BANG ON TARGET

A dramatic shot of Seawolf, BAe's anti-missile missile pictured during the very successful firing trials aboard HMS Brave. At the top of the vessel's mast can be seen Marconi Radar's 967 surveillance radar; just aft of the bridge is the 805SW tracker.

© Photo: Courtesy British Aerospace Naval Weapons Division



Over 150 years Marconi service

FRANK McGLYNN, Frank Matthews, Ian Whitlock and Rod Mackley (pictured left to right) toast their retirement at a lunch held on board the *Tattersall Castle* on the River Thames on 27 March, after celebrating over 150 years' combined service with Marconi.

They have all been part of UKADGE Systems Limited (UKSL) for a number of years.

Rod became involved in establishing the consortium office in 1979 to accommodate the team which was preparing the bid for the improved UKADGE project. In late 1980 when Plessey, Marconi Radar and Hughes Aircraft, forming the consortium, were awarded the multi-million pound contract, Rod was appointed administration and security manager — the position he was still enjoying at the time of his retirement.

"I've had great fun and thoroughly enjoyed my time here," said Rod, "but you never expect retirement to happen! I was hoping to see the project through but the completion date has been extended."

Interesting

Rod has had a "long and interesting career". He joined the Marconi Company in 1946 after war service in the Royal Air Force as a Liberator pilot.

His first appointment was with marketing division and after a short period transferred to the newly-formed aeronautical division. The chief engineer was C S Cockerell — now Sir Christopher Cockerell of hovercraft fame. After 17 years with the division he became divisional contracts manager at the new Basildon factory.

He left the company in 1963 to join the family business but the appeal of Marconi was too great and he returned to the radar division at Writtle Road in 1970. He was appointed

establishments manager for Marconi Radar Systems with responsibility for all radar sites in the Chelmsford area.

This was at the time that major developments of Writtle Road commenced, a time that he pinpoints as the 'high' of his career. "We transformed a Victorian site into something habitable," Rod said. Working closely with the plant engineer he was responsible for controlling a capital spend of about a million pounds for each successive year.

Now, though, he will be free to pursue his hobbies — archaeology, sailing, and photography, and there will be no escape from the gardening. Rod lives in Leigh-on-Sea with his wife and "wouldn't dream of leaving". They live near their daughter who is married with a 13-year-old daughter.

Cider house

Ian Whitlock is looking forward to retirement too, although there will be no lazy days for a while. He is moving from Chelmsford to Devon where he and his wife have bought a converted cider pounding house. And he hopes to be able to visit his two daughters (one lives in the South of France) and five grandchildren more regularly.

Ian has been technical executive at Kemble House for four years, which has been "a stimulating and interesting period". He joined Marconi in 1949, working for the first five years in the television research department, particularly on colour television research.

During this time he assisted in the development of experimental colour television cameras and displays and was responsible for the development of colour TV transmission systems in which the colour signals were squeezed into the band hitherto occupied by monochrome TV.

Those years were the high point of his career. The work



culminated in demonstrations to British industry — to the BBC and European Broadcasting Union and in the first transmissions of colour TV from BBC Crystal Palace.

He subsequently moved to the communications research department and communications division. Then to the Radar Division, progressing to technical manager to work on projects such as "Simcats" air defence and air traffic control system for Saudi Arabia.

During this phase he led the team making proposals for the command and control system for the improved UK Air Defence ground environment which came to fruition in 1979 when a successful proposal was made with Hughes Aircraft and Plessey.

Following the contract signature Ian moved to Kemble House as chief engineer and then technical executive. Frank Matthews joined the technical services department of Marconi in 1973 as technical editor, transferring to UKSL in 1981.

He lives in Chelmsford with his wife and his three married sons and three grandchildren. He is hoping to kick off his retirement days with a holiday

in the sun.

But Frank will be kept busy with his hobbies which include carpentry and writing a book. The book, although fiction, is based on his own astounding war-time experiences.

Commandos

When war broke out he joined the Army, going into Commandos. He was sent to the Middle East where Frank became one of the founder members of the SAS. He spent a time in Sicily, Italy, crossed into the Balkans, Yugoslavia, Albania and Greece, where he fought for the partisans.

In Yugoslavia he was wounded and captured but managed to escape and link up with some partisans who got to an airstrip used by the Americans. He was then able to make it back to Italy where he saw Mussolini and his mistress' body.

Leaving the army at the rank of staff sergeant he went into the plastics industry, and eventually graduated to Marconi.

In 1958 he joined English Electrical Valves where he worked on microwave tubes and lasers until 1973 when he joined Marconi again.

Frank McGlynn, configuration and data manager, was seconded to UKSL in 1981. He joined Marconi in 1952 from the Royal Air Force.

Starting out with Field Services he then took an early radar course at Orby, Skegness.

Frank has travelled considerably in Belgium and Holland where he worked on the first fixed coil airport installation at Schiphol.

He was assigned to the air traffic control programme at Copenhagen, worked at Rome Airport and on the Green Ginger programme at the Baddow/Bushy Hill site.

But the period Frank has enjoyed the most was between 1968 to 1973. He was manager for pre-commissioning the test area at Baddow, handling all Myriad computer-based systems and involved with various projects in Nassau, Venezuela and Iran. He was then transferred to technical services before being seconded to UKSL.

Frank lives in Colchester, near his son and daughter who are both married. Now he will be able to pursue his hobbies, which include DIY, to his heart's content.

CHELMSFORD

NEWS AND VIEWS

Marconi

Next issue:

Copy date for inclusion of material in issue number 22 of *News and Views* will be May 28 and the newspaper will be distributed on June 19 1987.

Published by Marconi Radar Systems Ltd., Writtle Road, Chelmsford.

Edited and produced by the PR Department.

Tel: Chelmsford 267111 ext 2761.

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Designed and typeset by AB Consultants Ltd. and printed by Yellow Advertiser Web Offset, Harlow, Essex.