

CHELMSFORD

# NEWS AND VIEWS

**Marconi**  
Radar Systems

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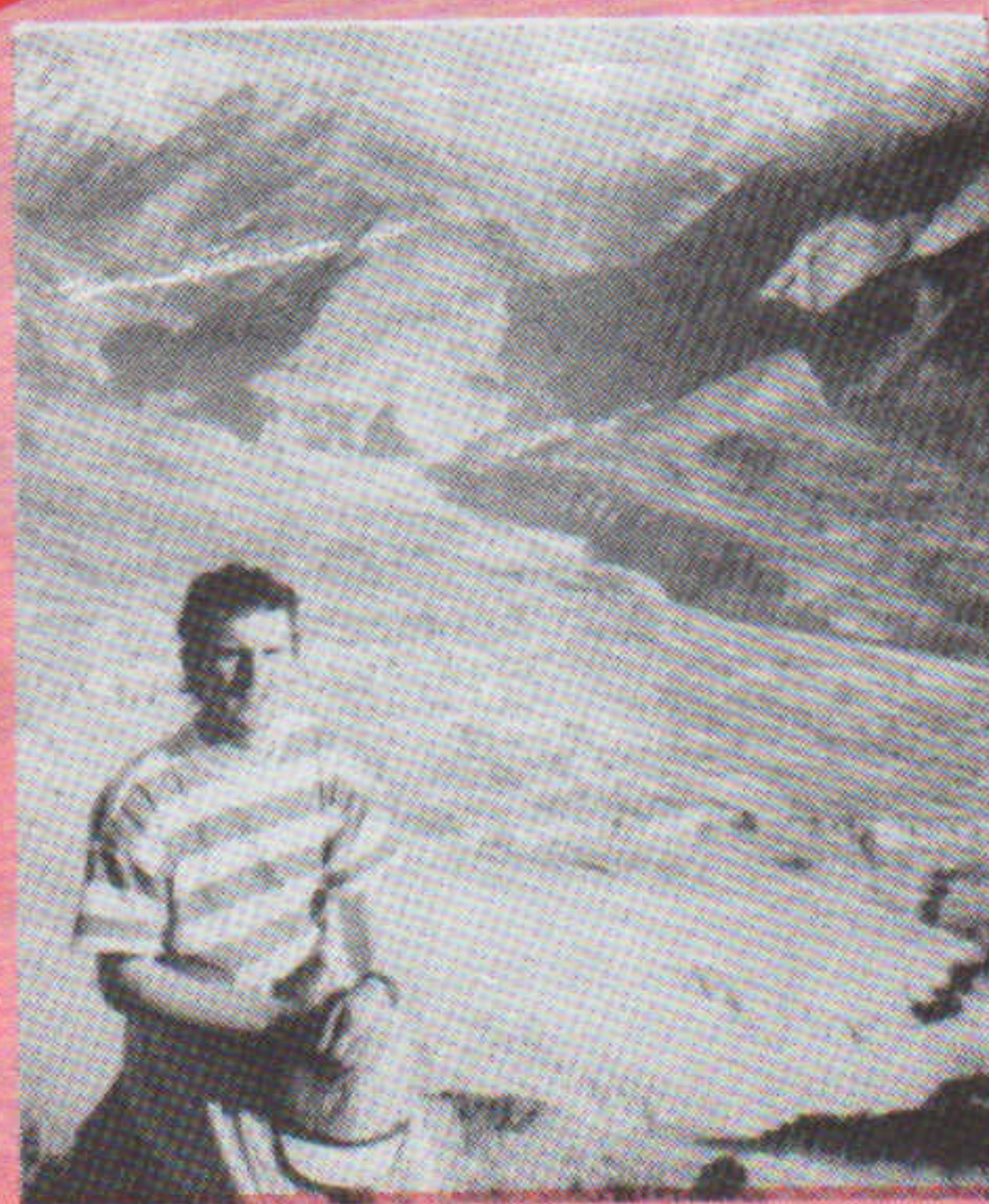
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# FAR EASTERN

## GIANT

### Testament to hard work and team spirit



ABOVE: Some of our away team examining the final documentation. From left: Colin Birch (ISE manager), Adrian Kirk, (resident manager, Malaysia), David Chenery (managing director: sometimes here, sometimes there), Brian Clark (systems manager) and Richard Lindsay (commercial manager). A notable absentee from the picture is Gerry Valentine.

BELOW: Some of the home team thrash out a problem. From left: Mike Plumridge (integrated logistic support), John Kyan (software engineer), Jim Hogan (assistant system manager), Sue McDonald (proposal controller, later transferred to the away team), Alan Browning (project bid manager), David Hope (bid and proposal's manager), Paul Blease (systems engineer), Richard Kidgell (systems engineer), and George Byrne (systems engineer).



SANDWICHED between negotiations for a £15 million order from one of NATO's European partners and a substantial £9 million follow-on order from Korea, comes a huge air defence contract from the Far East.

In September 1988, the United Kingdom signed an historic Memorandum of Understanding, stating the intention that Britain should export an estimated £1 billion-worth of defence equipment and support services to enhance the capabilities of the customer's armed services.

This was followed by the nomination of GEC-Marconi as a prime contractor — a choice that tacitly acknowledged the group's position as Britain's largest and broad-

est-based defence contractor, with activities ranging from warship construction to the most sophisticated defence electronics — a span that embraces every aspect of the customer's possible requirements.

#### Undertaking

Marconi Radar's part in this giant undertaking is the enhancement of the air defence ground environment. The contract is to be completed in three years, with the first system installed and working in approximately two years.

Contracts do not materialise in a vacuum. The work involved started two years ago with visits to the territory, and last March the first steps were taken to produce a final acceptable system design.

#### Presentation

In May, the customer visited Writtle Road for a presentation. Following this, we produced firmly-priced proposals in which we offered a number of options.

In August, the pace hotbed up. A team of technical and commercial experts, spearheaded by Gerry Valentine, left Writtle Road to start negotiations, and a site survey team was sent out to size things up (see article by Roy Lye in *News and Views* No 36). From then until the contract was signed in mid-October, work in the territory and Writtle Road together filled the 24 hours a

day, seven days a week.

Over there, Gerry and his colleagues — commercial manager Richard Lindsay, systems manager Brian Clark, later joined by software manager Colin Birch, and visited from time to time by assistant commercial director Andrew Cowdery and managing director David Chenery — burned the midnight oil, producing technical and commercial documents that were daily re-jigged as the customer modified his requirements. Indeed, so great became the volume of paperwork that Sue McDonald was flown out to deal with the mechanics of organising, typing and collating the documents.

#### Guidance

Meanwhile back at Writtle Road in more temperate climes, the oil was also being burned and the fax machine worked over-time, continuously spewing out requests for information and guidance and sending back the answers unstintingly supplied by bid manager Alan Browning and his team.

The signing of the contract is an outstanding testament to the hard work and team spirit of all involved — and there can be few in the firm who were not. It signals a new phase, not only in Marconi Radar, but also with the customer who, since the early seventies, has had ample proof of Marconi's worth, having taken delivery of S600 convoys, en route surveillance radars and other ATC equipment.

## Peter Way is guest of honour

A FAREWELL dinner with some of his old friends and hosted by the managing director was held at Hampton House to honour Peter Way, the recently retired assistant managing director and marketing director.

Since leaving school in 1944, Peter has been closely associated with Marconi's activities across a wide area, and in a variety of positions. He steadily mounted the promotional ladder from apprenticeship with English Electric (Marconi's one-time parent company) through development engineering, project management, general management and directorship.

We wish him a long and happy retirement after his distinguished career in industry.



# THE MULTI-PICTURE 'COLOUR TELLY'

THE S360 series is Marconi Radar's latest digital, multi-colour display system. It is the modern means of displaying information of all kinds, in selectable colour, and under the control of the viewer.

The viewer can combine different sorts of information on a single display surface in 'windows', and he can change the position, size, and content simply and easily by using a keyboard and a rolling ball for screen pointing.

The S360 can be regarded as a general purpose 'colour telly' that allows the viewer to control and select the picture. It can show radar pictures, maps, lists of information from many outside sources — in fact, anything that can be written or drawn. It can, thus, replace virtually any display system we've had before.

To say 'it's just a colour telly' is to devalue the vast amount of clever work that goes into creating the flexibility of this multi-role display system. As an example, take the needs of an air traffic control system. First there are the ATC planners, who need information on the flight intentions of many pilots — routes, flying heights, times of departure, destination, aircraft type etc.

Other controllers need extracts from their planning work, showing for each individual flight the time and

altitude that the plane should be at different points on its route.

Controllers with differing tasks need to see radar pictures with air route maps, danger areas, beacon locations etc, so that they can check that flights are adhering to the plans, and, if not, make safe changes passed by radio contact with the aircraft. They need other information such as weather data displayed for them, particularly wind speed and direction, visibility and air pressure.

All the information comes from different locations and in disparate forms and types of signal. The S360's main and formidable task is to collect this data and transform it so that it can be called out and played onto displays at different positions in the form the viewer wants.

The system consists of a central data collecting unit, taking inputs from a large number of outstations via specially designed 'interfacing' units that carry out the data transformation. The displays are bought in from outside manufacturers, who make them in such quantities that their price is much lower

## The S360 needs a new name

than it would be if we were to make them ourselves.

### Why have it?

The answer to this question was hinted at earlier and lies in the system's flexibility.

The S360 can be used in practically any display role, yet its picture quality equals that of any of its single-role predecessors. Having a standard range of displays, capable of performing very many roles means variety-reduction and hence cost reduction to the manufacturer and user alike.

### Why not before?

We have seen that the S360 is a 'colour telly'. These have been around for a long time. Why have we not had it before?

Here, the answer rests with the technology of the display system and the way the pictures are produced. In your telly at home, the picture is drawn by electron beams in the picture tube. They are made to travel in a continuous straight line from left to right of the screen, starting at the top left hand corner. As each line is traced out, the next is drawn just below it.

The beam's width permits the picture to be made from 625 closely spaced lines. Such a picture structure is called a raster. It takes about 1/25 of a second to draw each set of

625 lines. As the beam travels across the screen, signals representing the picture are impressed upon them and excite the tiny colour dots, reproducing it for the viewer.

Because the picture is generated so quickly, the viewer is unaware of the method. However, close-distance viewing reveals the line structure and this sets a limit to the readability of small characters.

For this reason, our high quality radar displays and data display units have always used what is called the cursive method of character writing — each character being written as we would normally write, using a continuous, curving line. Unless the 625 lines are increased in number to about 2,000, the raster picture cannot give the same visual quality — the illusion of continuity — as cursive writing.

Only recently has it become possible to produce picture tubes and their driving circuits permitting a 2,000-line structure. Also, for extra clarity and stability, the display system has to be truly digital.

The S360, in common with other modern raster scan displays, doesn't use the 'continuous line' drawing method. Each line is broken into very small picture elements, called pixels. The S360 has over 2,000 pixels per line and over 2,000 lines per screen area. Thus, the full

playing area is made of 2,000 x 2,000 = four million pixels.

Each pixel has an assigned, and, therefore, addressable number. Imagine the screen as a brick wall, each pixel being a colour brick having a unique number. The computer backing the display has this listed. Data for display is organised to be put into windows which can be inserted into the brick wall wherever the viewer wants. The size and shape of the windows can also be controlled, together with background colour. Windows can also be partially overlaid to make full use of screen space.

A single key action calls the overlaid window to the front — you can have your newspaper with the sports reports on page one!

### What does it look like?

The display unit and its keyboard and controls are shown below. Obviously a range of different sized screens can be supplied, either singly or in groups to suit operational needs. A typical air traffic control display is shown on page 8.

### What's in a name?

The title, S360 doesn't exactly turn you on, does it? Can you think of a 'series name'. A prize of £25 goes to the winner if it's usable. Suggestions to the PR department, please. You've got until 29 March.

## BOOK REVIEW

### Reflection on Intelligence

By R. V. Jones

R V Jones (Emeritus Professor of Natural Philosophy at the University of Aberdeen) had a very busy and interesting World War Two, described at length in his 1978 best-seller *Most Secret War*.

He was responsible during the war, for, among other things, developing electronic intelligence into a sophisticated discipline. Among notable successes was his discovery of the means to mislead enemy bombers by bending the German navigation radio beams.

His wartime work was of special interest to Sir Winston Churchill who, disenchanted by the way intelligence services had become fragmented by 1952, invited Prof. Jones back into service as Director of Scientific Intelligence to MoD, Scientific Advisor to GCHQ, and to occupy a place on the Joint Intelligence Committee of the day — a powerful brief for a very experienced man.

DESPITE a well-defined three-part structure, the 'reflections' frequently take us down side tracks to record amusing incidents and characters and to give us various 'wisdoms'.

An example is the explanation for GCHQ's siting at Cheltenham. A Group Captain Claude Daubeny was selected by an august interview board to become head of signals intelligence in 1943. One of his first tasks was to transfer the all-important cryptographers at Bletchley to another site — he chose Cheltenham for his great love was horse racing. When asked by the board if he had any final points he wished to make, he said: 'There must be plenty of time for meetings,' to which they all agreed. 'I didn't tell them', he recounts to Jones, 'that I meant race meetings'!

It was a pleasant surprise to learn that the micro-dot technique was anticipated by Robert Hooks in 1665, also to see Francis Bacon (1605) quoted, regarding the open society and freedom of information... 'In the governors, towards the governed, all things ought, as far as the frailty of man permiteth, to be manifest and revealed'.

Among other 'wisdoms' is the more modern propounded by Prof. Kenneth Galbraith, the Canadian economist, regarding socialist government technique: 'If you can't comfort the afflicted, afflict the comfortable'. There are many more such gems.

Very early in World War Two (November 1939), an important document came into British intelligence hands.

Called, after its point of posting, the OSLO report, it contained vital information from a seemingly high official about German weaponry, radio and radar.

As time passed, most of it proved to be absolutely accurate and, hence, of great value. Its author was unknown and thus the document was for a time suspect. The search for the author's identity continued. Now, for the first time it is revealed in this book. It is a fascinating story in which a past managing director of a General Electric Company figures prominently, and to his great credit.

The two chapters devoted to the OSLO report can be regarded as the mainspring of the book. However, many other topics are dealt with, including moral issues concerning torture, the degree to which ends justify the means to attain them, the importance of seemingly trivial information, relationships between intelligence services and other government departments etc, all of which are well worth attention.

The book is very readable, requiring little technical knowledge on the reader's part. The cynic could say that the book is self-laudatory and a good advertisement for the earlier *Most Secret War*. However, R V Jones' valuable work could hardly be written up adequately by anyone else and so the first-person style is natural. I shall certainly now read *Most Secret War* and commend this latest book to all interested in intelligence work past, present and future.

As well as being instructed and entertained by this book I am grateful to Prof. Jones for introducing me to Crow's Law: 'Never believe what you want to believe until you know all you ought to know'. Although quoted in the context of intelligence, it seems to be to an excellent maxim for us all.

HARRY COLE



The display unit and its keyboard — a range of different sized screens is available.

## DEVELOPMENT ENGINEERING

### Servicing contracts

DEVELOPMENT Engineering interfaces in some way with all other areas of Marconi Radar. Its main function is to design, develop and engineer in a cost effective manner the products needed by the company to service the requirements of current contracts and, through private venture funding, those of the future.

The design requirement inputs come from the systems and future systems departments, and development engineering generates all necessary drawings and documentation to enable the design to be manufactured, tested, and described in handbooks for customer use.

In addition to its primary task, development engineering supports sales, systems and projects in customer technical negotiations and prepares text, drawing and cost estimates for bids.

Radar sensor design uses many engineering techniques, such as analogue and digital hardware, plus appropriate firmware/software, and the mechanical design of everything from a simple bracket to a complex antenna structure as well as the draughting of all items for manufacture. Hence it is appropriate that the organisation of the department reflects these differing techniques by having at their head managers who are technically qualified in particular fields.



Ted Overy, manager development engineering who heads the team



Jim Mason, manager antenna and CDS



John Gammon, manager transmitters/receivers



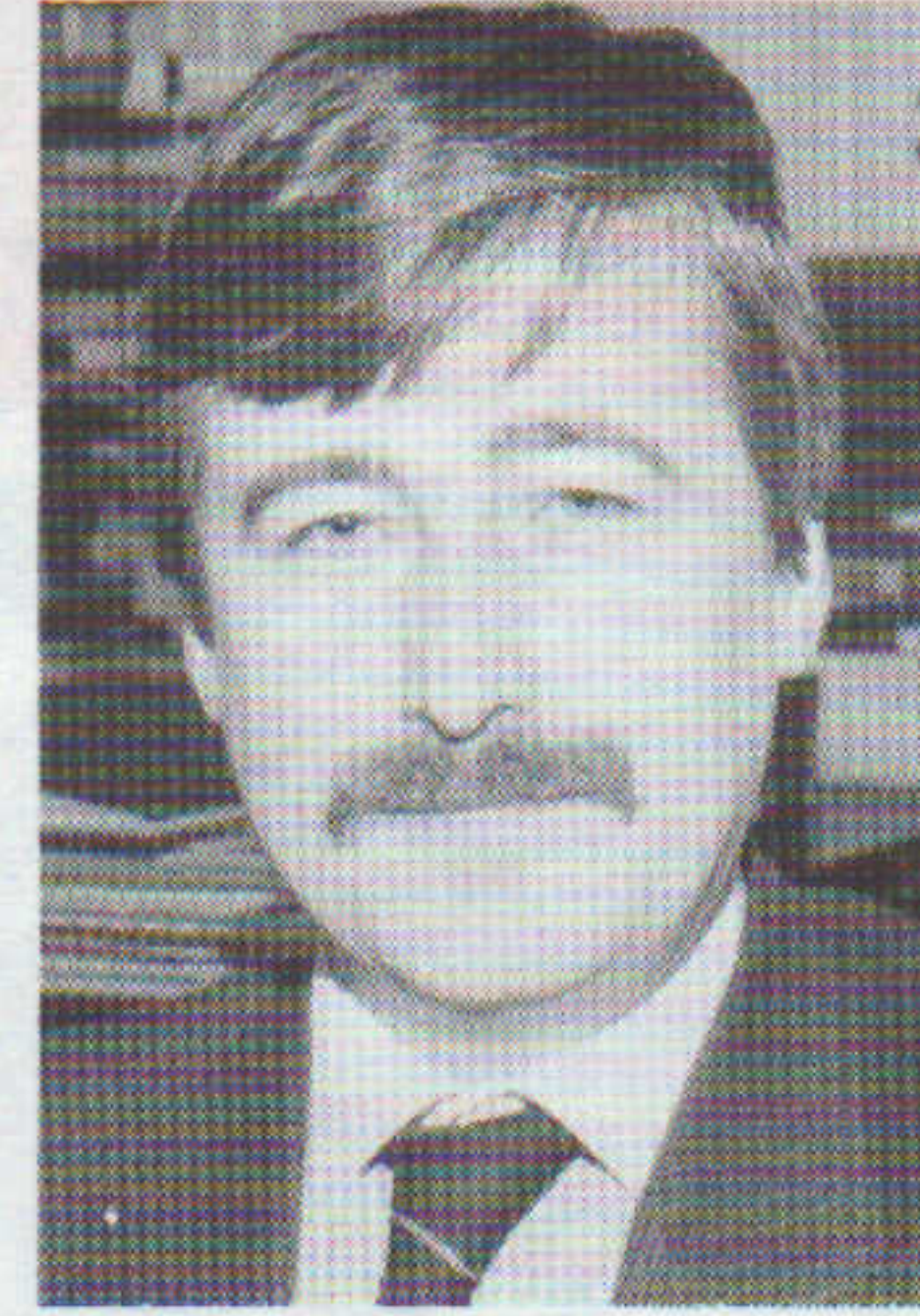
Clive Gildersleeve, manager displays and data handling



Mike Healey, manager mechanical engineering and design office



Alan Cushing, manager customer design support



Richard Kildea, manager signal processing



Rick Thompson, manager signal processing and display

## MARCONI'S EARLY NATO CONNECTION

WHILE not wishing to detract from the excellent informative article *Marconi and the NATO connection*, by Phil Prowse in the last issue of *News & Views*, I wish to advise of a possible error in the first paragraph.

Marconi's first major radar involvement with NATO commenced 1957/1958, when, as radar division of The Marconi Wireless Telegraph Company, (subsequently The Marconi Company), we were the prime contractor, with CSF as our partner, for the supply and installation of the NATO early warning radar system. This system covered 17 sites, from North Norway to Eastern Turkey.

Five of the sites were Norwegian and were fully equipped with S247/S266 (45 ft S&L band surveillance) and S244 (40 ft heightfinder) radars. Four of the five sites had two S244s. All sites were fitted with a full complement of radar and ops room equipment. Two of the sites, Skjerstad and Sorreisa — an initial Norway host-country buy but later NATO-funded — were designated as CRC (control reporting centre), while the other three — Honningsvaag, os and Makeroy — were known as HPRP (high power reporting post).

### Combined

The remaining 12 sites were installed in the HPRP role: two in Denmark (Bornholm and Faeroes), one in Germany (Burglengenfeld), two in Italy (Lame and Mt Iacotenente), three in Greece (Komotini, Zeros and Vitsi), four in Turkey (Bartın, Pazar, Persembe and Mardin). These were combined Marconi/CSF sites, with CSF surveillance heads RV377 powered by CSF S band and Marconi L band electronics; the Marconi S244 heightfinder powered by CSF S band; MTI was supplied by CSF and the operations room equipment by Marconi.

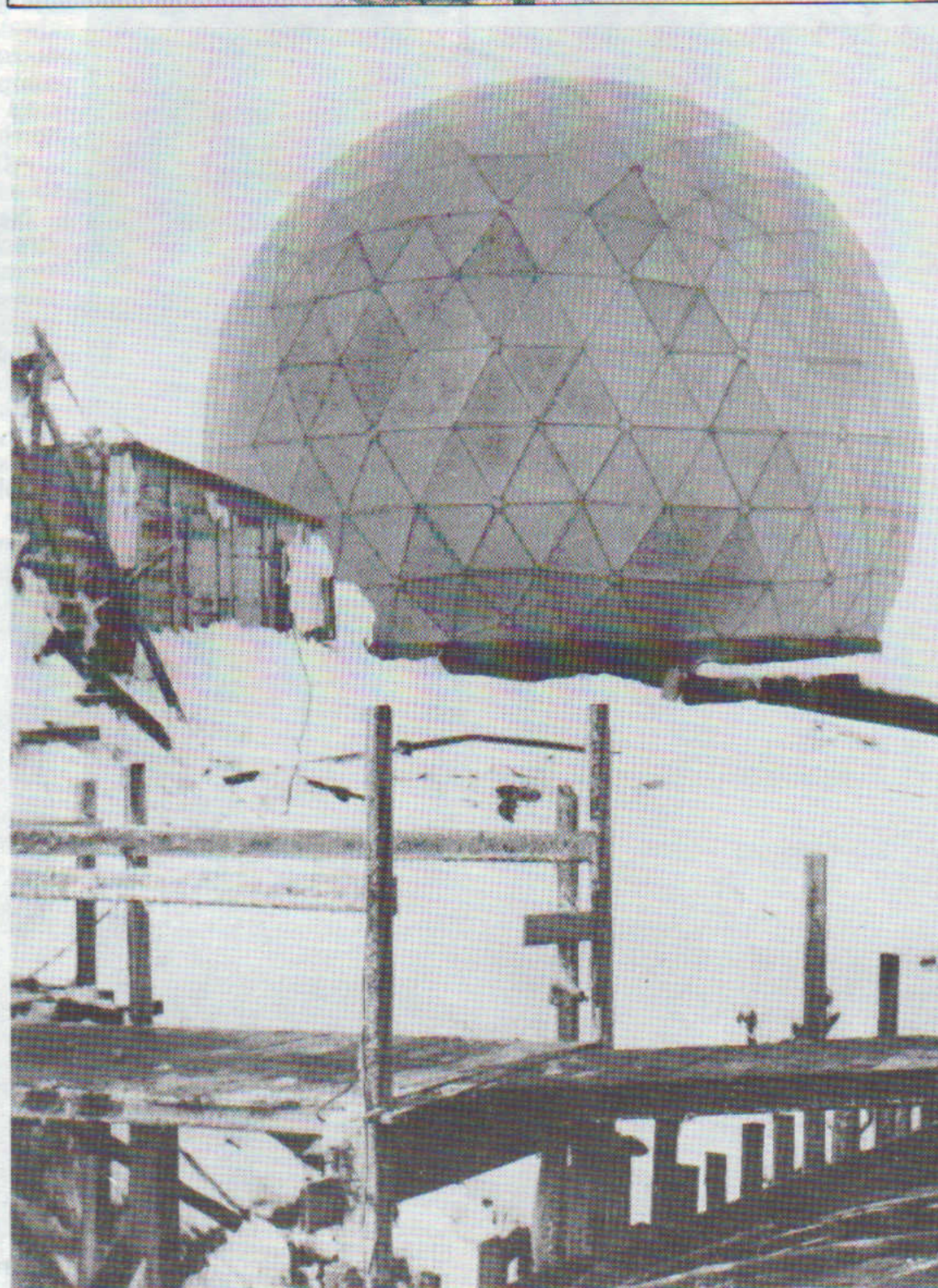
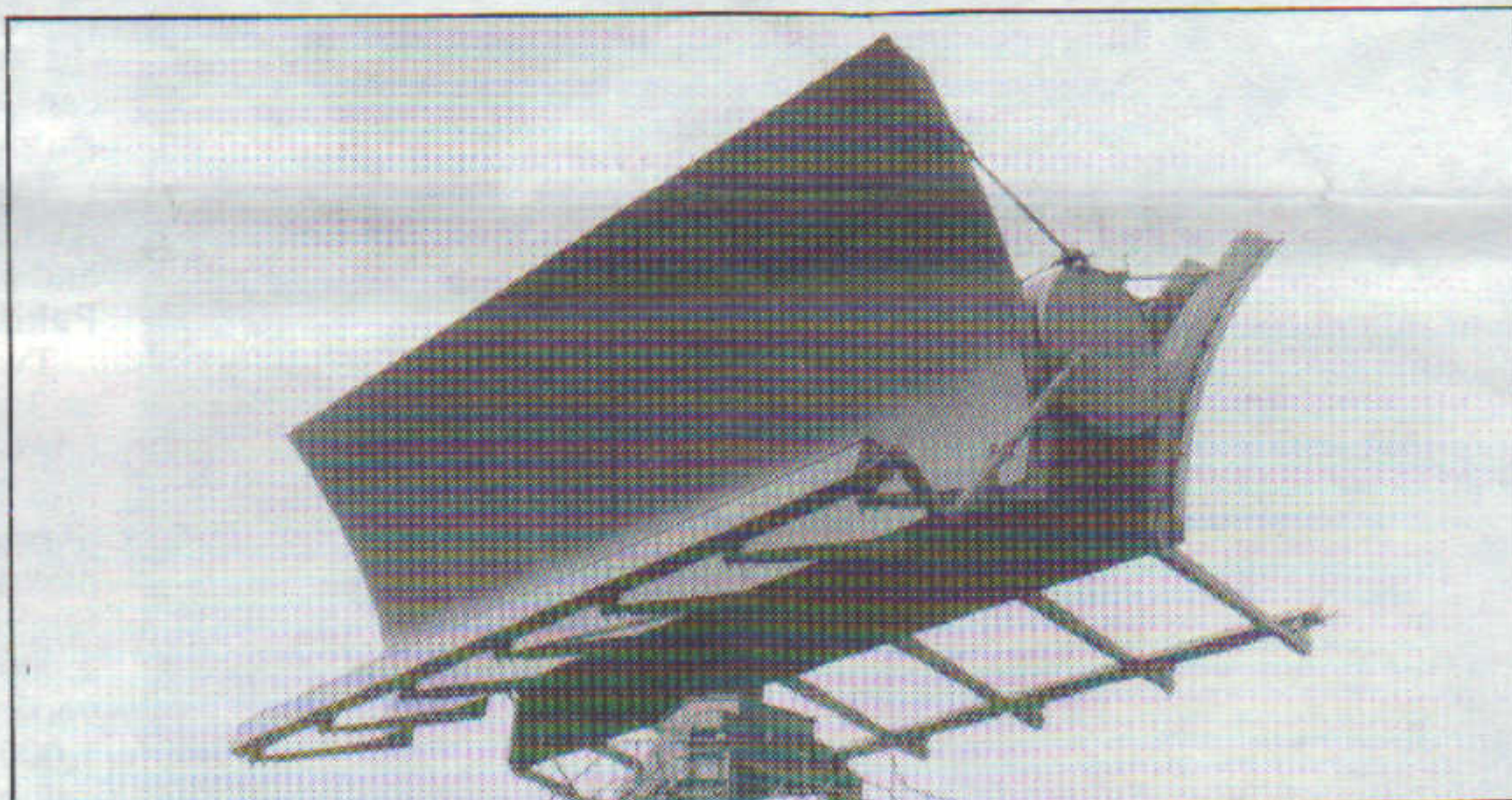
Incidentally, the 100 plus radar displays for these composite southern sites were manufactured to Chelmsford design and drawings by the then recently acquired Marconi Italiana, possibly the first "off-shore" manufacture of our radar equipment.

### Additional design

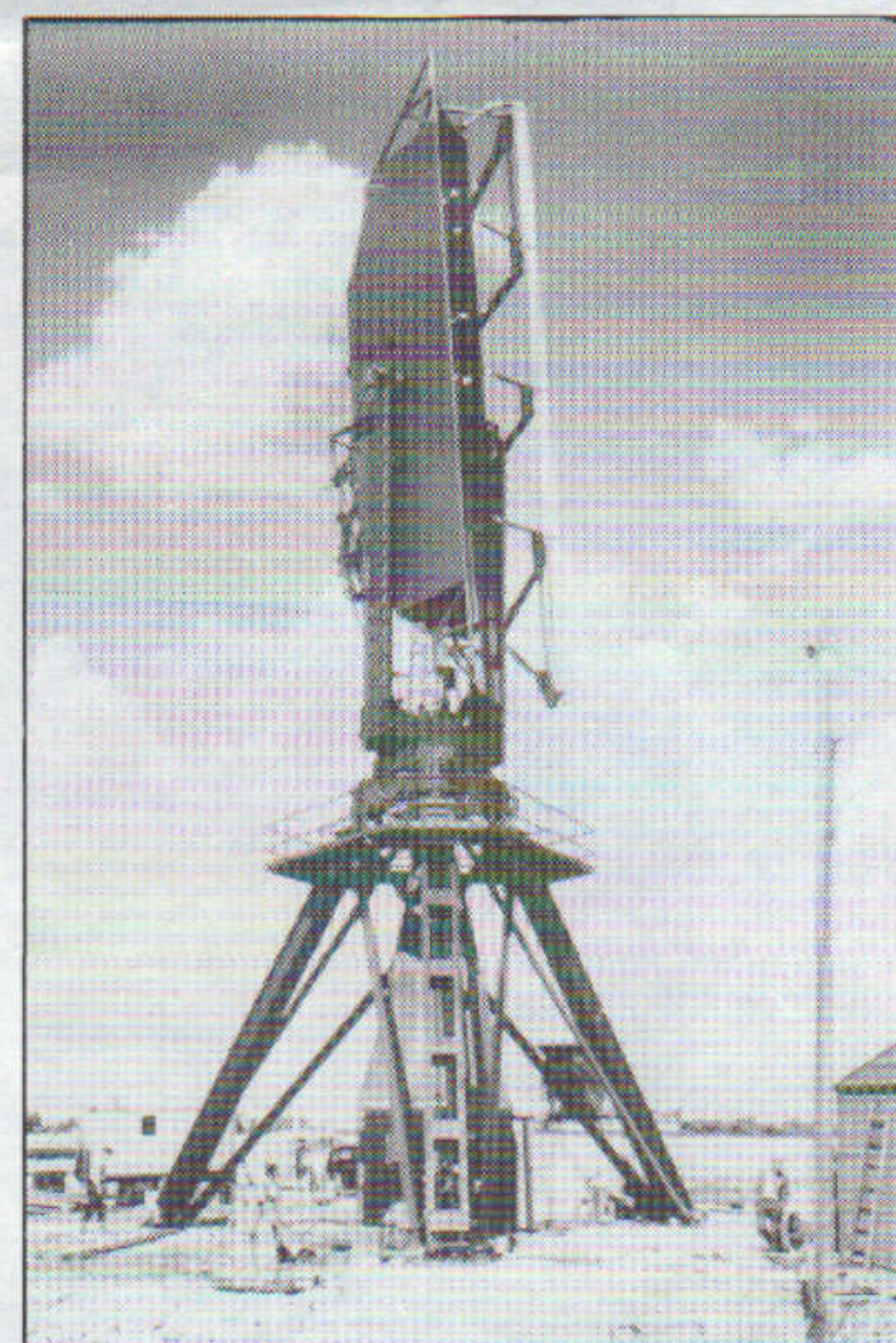
All except two sites were handed over and flight tested by the end of 1964. Mardin followed in Feb 1965, while Vitsi was delayed until summer 1967 due to a host-country civil engineering change, requiring additional design and manufacture of remoting equipment. One of the major items of the NADGE project was related to early warning improvements, which added to, and updated, the majority of these stations, so that they could be fully integrated into NADGE, as well as improving performance. The 14 additional S269 heightfinder radars supplied under the NADGE project were a re-engineered version of the twenty-one S244 heightfinder radars supplied under the NATO early warning programme.

The effectiveness of this early involvement is reflected in the fact that much of this original equipment is in operational service some three decades later, and we are supporting it by the supply of spares and repairs to sub-units.

GEORGE LESTER



BOTTOM: Radome in Norway containing one of NATO's back-to-back surveillance radars. BELOW: a heightfinder radar of the kind used in NATO's early warning system. LEFT: A back-to-back radar of the kind supplied to Norway.



4  
A HIMALAYAN EXPERIENCE NEVER TO FORGET

# YAKS, GOATS AND CURRY

**O**n 29 October, after a full year of intense planning, fundraising and weekends away, we were finally there at Islamabad airport, ready to brave Northern Pakistan.

Arriving at 5am it was still dark and, after packing all our bags onto three landcruiser vehicles, we set off for Abbottabad, our low level acclimatisation base for three days. It took us about an hour to realise which side of the road the Pakistanis drive on — normally the left but usually right down the centre.

The first day was spent buying local clothes, the ubiquitous shalwars. They were cheap, comfortable, easily washable and helped us to integrate a little into the community. We'd hardly brought any clothes with us — we just didn't have room after bringing in 330lb of first aid and medical equipment, as well as steel-toecapped boots and hard hats for working in, and gifts for the local children.

We found the whole place a bit disconcerting at first, and the young Afghan refugees begging on the streets really tugged at our heartstrings. How can you get used to hungry, dirty, shoeless children when you have pockets full of money?

The local people were so inquisitive but really friendly. Wherever we went they would stop us and ask where we were from, how long we were in Pakistan, what we were doing and so on.

Two days later we were up at 3am preparing for the 15-hour drive along the miraculous ribbon of road, the Karakorum Highway — often nicknamed the Kamikaze Highway. There were often 2,000ft of mountain vertically above us, and sometimes a 1,000ft drop to the river Indus below. We got perilously close to the edge, and always with the same driver — whom our doctor later diagnosed as having a heart complaint. The views, though, along that road got better and better as we travelled north until it went dark.

After arriving, we had a quick meal and then crashed out in our tents.

Next morning, the first thing that struck me was the intense cold. It was freezing in a tent at an altitude of 8,000 feet in November. The next thing that struck me were the awesome views that faced me as I opened the tent. There was a 360° panorama of huge mountains, many of them snow-capped, and to the southwest, only 15 miles away, though it looked much less, was Rakaposhi — the Smoking Mountain, 25,000ft high and

listed in the Guinness Book as the world's steepest mountain.

It made a great change from the houses opposite when I was in London.

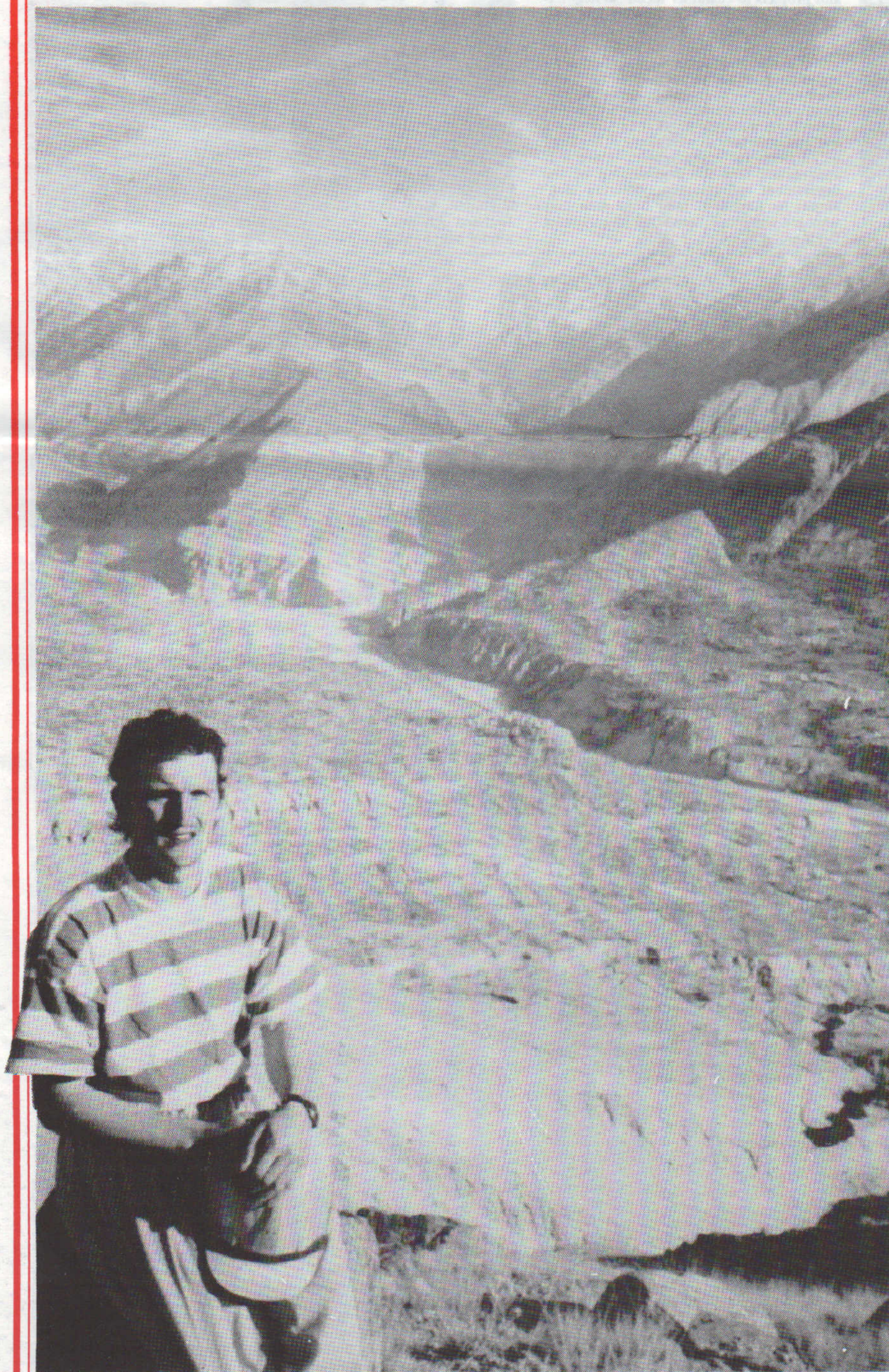
For the next three weeks we were spent on the two projects, one of the objectives of the trip.

The first was to help build an irrigation channel along the mountain. It was 6ft wide and had to be strong enough to carry rushing waters from glaciers along the valley.

We spent about four months working on the channel and 2.5 million pounds of local labour, and during the time completed about 450 yokes eventually help to irrigate acres of farmland.

A local family in

... ex



Jim pictured against a backdrop of the Hunza river and Karakorum mountains.



A group of Hunzacs.

# S... Too!



The GEC team joins the local gang in the construction of an irrigation channel.



Aliabad.



A villager treats Jim for crushed toes and a broken leg in one of the First Aid training sessions.

## Expedition to Pakistan proved very rewarding

Book of Records as maintain.

from seeing the wake up in the

weeks most days projects that were the expedition.

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hours each day and moved about earth and Hima- our stay we ards. It would te another 400

A week into the project, we must have finally mastered the building of the wall which was the lower lip of the channel, because the local village men with whom we were working let it stay, instead of shouting 'Bas' — meaning 'enough' — kicking it down and starting again themselves.

Mostly we got on really well with the locals, sharing food with them, and mimicking each other. We did have one disagreement about the course of the channel though. Eventually we followed their proposed route, but later found it would have been better had we used ours — the engineer wasn't present on the day of the argument.

The other project was to teach first-aid to the local community. This was great fun. Of course with a four-day first-aid-at-work course behind me, I was an expert! I think I learnt more from my four days teaching the subject than I did on my own course.

### Practical

We had devised a syllabus which we hoped would be relevant to these mountain people who lived two hours by car (of which there were very few) from the nearest decent hospital. The course was 99 per cent practical with no lectures — this wouldn't have been very effective with the language difficulties we were facing. We had brought with us two resuscitation dolls, and sets of plastic replica wounds. The local men recognised most of the wounds, so it's a fair assumption that there are more dog bites, stabbings, gunshot wounds, frostbite and gouged-out eyes in Hunza than in Chelmsford.

The women's first aid courses were even more popular than the men's. They were supposed to have 12-15 students for each class, but on each occasion over 40 turned up, and even then we had to lock all the doors to stop gate-crashers.

A few excursions were also thrown in, the first being to the Khunjerab pass at the Chinese border which is at 16,000ft

above sea level. It's so cold there that the border guards are 50 miles further down the road. I'm not quite sure why, but all the yaks on the plain that surrounded the border were just on the Chinese side. How did they know?

Another excursion was to a no-holds barred polo match at Gilgit between army and police teams. The players seemed to take as much pride in hitting their opponents as they did the ball, and I saw at least three players with bloody heads by the end of the game. It was all a marvellous spectacle though.

One last trip by the more active members in the group was a trek to the base of Rakaposhi. It started in warm sunshine but we were soon climbing in the cool shade, and before reaching the ridge that was our target, we were walking through 2ft of snow.

At the top, the views were more stunning than could be believed. Below us was a huge moonscape of a glacier, highlighted by dazzling colours on bright sunlight reflected off the stalagmite-like rocks below. It was all well worth the five-hour climb.

It wasn't all fun and games though. The food, although plentiful and nutritious, was very bland. We ate curried vegetables and/or curried meat as well as dhal (lentils) and boiled potatoes. It rarely varied but was always fresh. More than once our evening meal had been walking around the campsite that morning — usually goat meat, which tastes remarkably like steak.

Those on the expedition who didn't like drinking tea really suffered. Coffee wasn't available, and milk wasn't safe. No alcohol was available in this Muslim country and the water was so chlorinated it was stronger than your average swimming pool.

The area also wasn't too conducive to good health. Although we were too high for malaria, the food and water took their toll. Eighteen of our party of 20 were ill with diarrhoea and/or vomiting at some



The China/Pakistan border post, 16,000ft up on the Khunjerab Pass.

point, and three people had to be fed by intravenous drip for dehydration after passing out.

Probably the least popular part of any day was the period just before the evening meal when one person from each tent, who was that day's tent spokesman, had to represent his/her tent in the daily meeting — a forum to air views, discuss that day's events and make group decisions. Still, it has to be done, and all things considered, was done quite well.

At the end of our three weeks' stay in the Hunza valley, we gave an entertainment evening to the local village men (women are rarely seen out of doors in this strong Muslim culture) including

singing and dancing, and at the end, Noor Mohammed, the village headman, gave a very emotional speech in his broken English. He greatly thanked us for our help, while in return, we gave thanks to his people for the extreme hospitality they had shown us. It was only then that we realised how much of an impact we had made on the villages, and they on us.

Looking back on the expedition and its year of planning, I have thoroughly enjoyed every minute of it, and feel I have benefited from the experience in a number of ways. I just hope that somebody from Marconi Radar will get the opportunity to take part in the 1990 expedition to Nepal.

JIM SOLAN

# MASC Photographic Competition

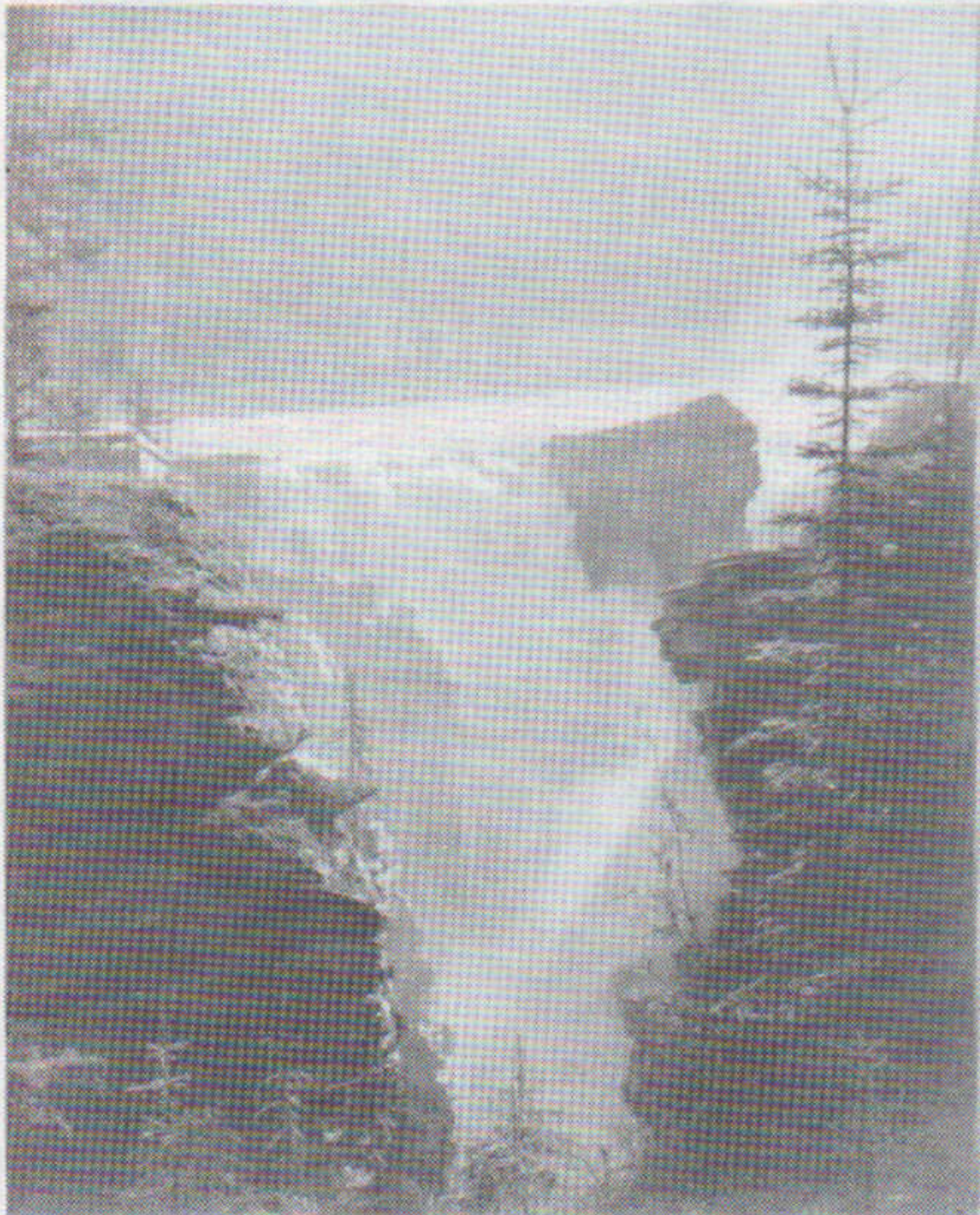
THE culmination of the MASC Camera Club year takes place on the first Tuesday in December, when the six members who have collected the highest number of points from the monthly competition, held throughout the year, are invited to submit a portfolio of three pictures. From these, an independent judge, selects the Photographer of the Year.

Running alongside this competition is the Portrait Competition, open to all club members and sponsored by Marconi Radar.

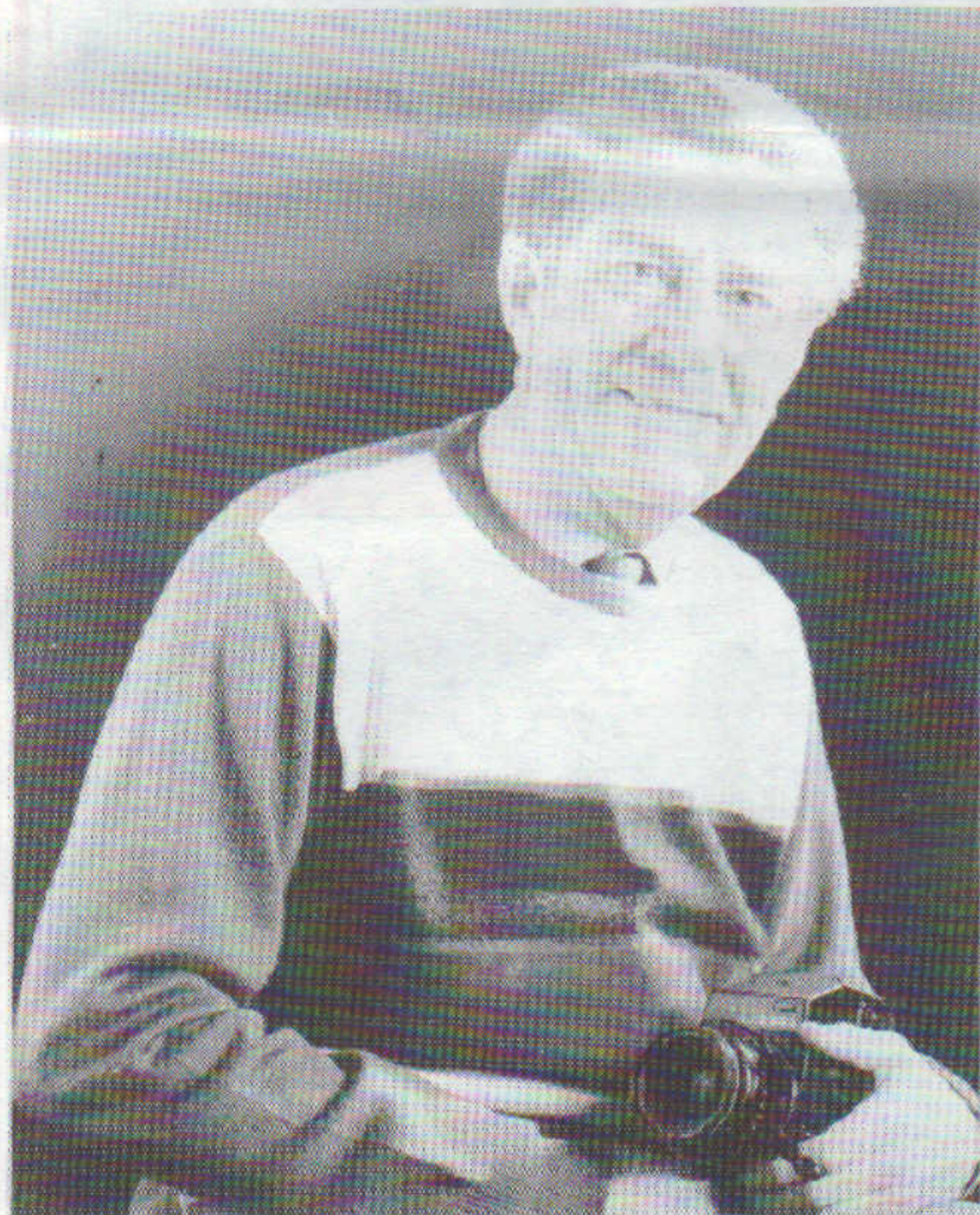
In 1989, Marconi Radar amateur photographers walked off with both these major awards, and to quash any doubts about the impartiality of the judge, who was Marconi Radar's publicity

manager, John Parr, let us say right away that all the entries were submitted without any form of identification.

Speaking afterwards of the competitions, John said: 'I am always surprised and delighted at the variety, the overall quality and the quantity of the entries.'



The Canadian Rockies provided the subject of Don's colour picture. Printed from a colour negative, it was taken during his tour of the Western National Park.



The monochrome picture is a self-portrait. It presented Don with a challenge in that the pose had to appear relaxed, and the lighting and focus correct. (This is one of 30 shots taken during one session in the club studio).

## Photographer of the Year

DON Claydon of Field Services became the Photographer of the Year. In selecting the winner, John not only assessed each photograph's technical quality and artistic merit but he also looked for the versatility of the photographer as exemplified in the portfolio.

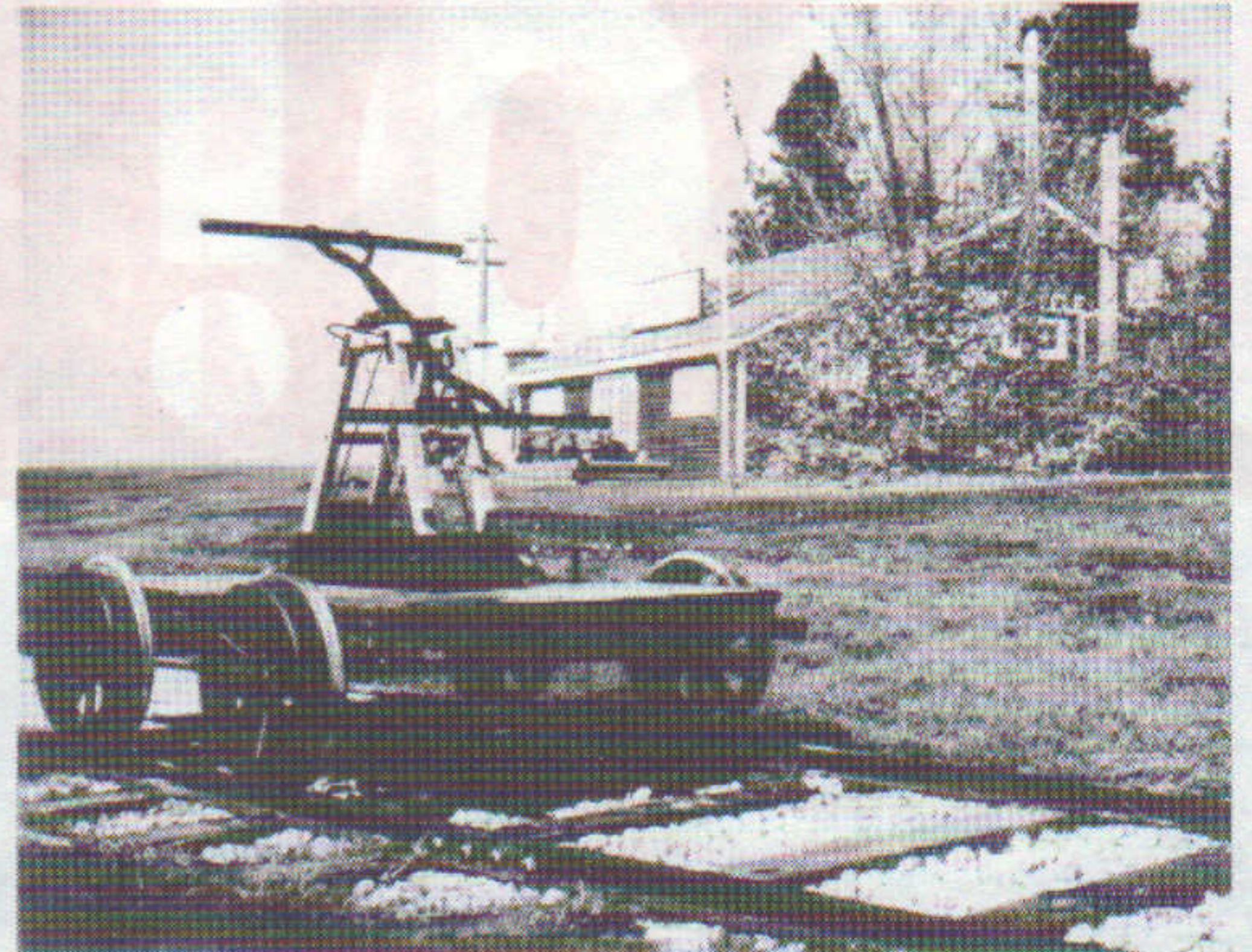
Don demonstrated this quality by submitting work carried out in various media — one monochrome print, one colour print taken from a colour negative, and one colour print taken from a colour transparency. All three photographs were taken on a Bronica medium-format camera similar to the one used as a prop in the portrait.



## The Portrait of the Year

THE winning portrait, 'Cathy', was submitted by Paul Harden, one of our uniformed security officers. It was taken in the camera club studio, using the club's own electronic studio flash units.

Paul used a Yashica FXO camera with Ilford 'multigrade II' paper for the prize-winning print. He carried out all the processing, using the club's equipment and facilities.



An old railway at Forte Steele in Canada was entered as a colour print taken from a transparency. Processing it yet again for the purpose of reproducing it here in black and white has unfortunately resulted in the loss of much of its detail.



'Cathy', the photograph that won Paul Harden the Marconi Radar Portrait cup.



John Parr, left, hands over the Camera Club's coveted trophy to Don Claydon, who has been nominated photographer of the year.



Paul Harden, right, receives from John the Marconi Radar Portraiture

## New members are always welcome

THE Camera Club is open to all members of the MASC. It caters for all levels of photographer — young, old, new and experienced. Its members are not experts but amateurs who enjoy their hobby, and hope sometimes to give pleasure to those who view their work.

It sets up lectures, practical demonstrations, exhibitions and competitions. It has its own studio and darkroom and it will be delighted to see you at its meetings, which are held at the MASC every Tuesday at 7.45pm.

# Join us under canvas this summer

HOW many of you are aware of the existence of the Marconi Camping and Caravanning Club, a small but friendly section of the MASC?

Each summer, the club holds about a dozen or so rallies at venues that are varied as much as possible, while still ensuring that many are within easy reach of Chelmsford.

Last year, several were within five or six miles of Chelmsford and, for those wishing to go further afield, there was a rally at Low House, near Ipswich, and one near Duxford, which was

held on a weekend when the historic aircraft were flying. Rallies have also been held at Hatfield House, where the club camped in the grounds and attended a medieval banquet in the house on the Saturday evening.

The programme for 1990 again includes Low House, also Mole Hall wildlife park, and the Shell sports club ground, where the many sporting facilities can be

used, including a heated outdoor swimming pool.

## Hostelries

The rallies are often close to good hostelries, so a drink is usually within easy walking distance. And there is usually some sort of get-together on the Saturday evening.

All campers, especially families, are welcome, whatever the mode of camping. The fees are minimal, nor-

mally around a fiver for a weekend for the whole family.

An annual dance is held — this year a barn dance — and a pre-season social evening takes place around February/March.

Why not contact the chairman, Roy Lucking, on WRW ext 2259? He will be pleased to answer your questions and give you more details.

## Sport ... why bother? Run and raise charity funds

WHY run when you can walk? Why walk when you can drive a car? The answer is that exercise is essential in promoting general good health.

By taking regular exercise in its many forms we not only strengthen external muscles, but strengthen our internal systems, especially the heart and lungs.

The benefit of regular exercise is almost impossible to exaggerate. Exercise should be enjoyed, not looked on as some sort of painful experience. It improves not only your body, but also your mind and your general

outlook — by combatting the inevitable slowing down of the body, and by reducing stress and strain, we also improve our outlook on life.

If you feel you have no time for exercise, examine your daily routine with a view to finding time. Many activities are available through the various section secretaries at the Marconi Athletic and Social Club in Beehive Lane, Chelmsford.

Have any readers any views, for or against, the taking of exercise? Comments to Ken Laundon, M Building, WRW, please.

## Marathon

THE London Marathon is taking place on 22 April. Good luck to all participants.

We would be glad to publish the names of those taking part, so please let Ken Laundon, M building, know if you've been lucky enough to be nominated.

## Body-building group grows

THE body-building section is fit and well.

The necessary weights and accessories, kept in the tennis pavilion adjacent to the MASC in Beehive Lane, are available to budding he-men and she-women during the day and in the evening.

The section is informal and non-competitive, and section members can build up their bodies and improve their general health at their own pace. Inquiries should be made to Tony Wright at the MASC.

## Tony's big break



## TOP OF THE POTS

TONY Nicholas proudly announces his best ever break of 24.

This momentous occasion for the naval division team captain took place during a second round cup match against radar maintenance on 29 November last year.

The break was witnessed by his astonished team mates, the opposing team, and spectators. He was later heard to say 'it may only be a small break in snooker but it's a very large one for naval division'.

Any other Marconi Radar sporting personalities wishing to announce their 'personal bests' should contact Ken Laundon, M Building.

## Christmas winners



Paul Crafer

WINNER of the £25 Christmas quiz competition is Paul Crafer, customer development support.

Once again the quiz was a close-run event, with only two points separating the winner from the runner-up — Sister Florence Newman, both of whom notched up extremely high scores.

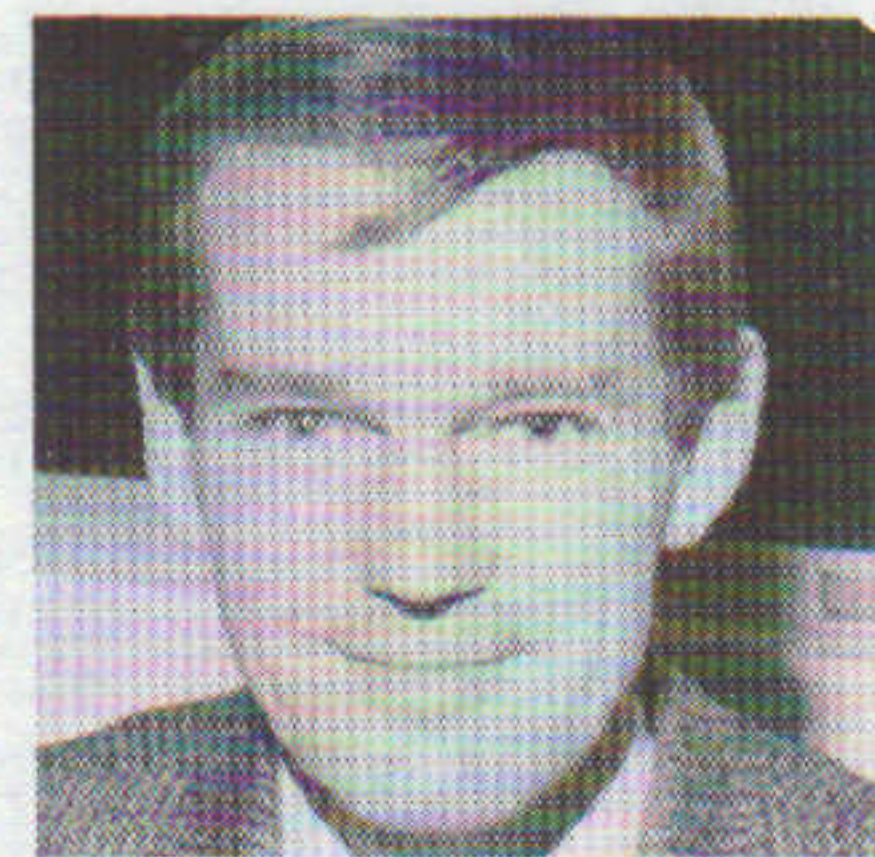
The £10 puzzle was won by Lee Abel, process planning, whose correct solution was first to be drawn out of the hat.

### Winning

Ken Laundon, *Seawolf* projects, John Huscroft, post room, and Dave Albert each pick up £5 for winning the carol, spot the difference, and crossword puzzles respectively.



Lee Abel



Ken Laundon



John Huscroft

### Disappointing

The overall number of entries was disappointing.

We would be glad to have your views on the Christmas competitions.

Are they too difficult? Too easy? Are they the wrong sort of puzzles? Are you just not interested? Comments to the editor, PR department, please.



Dave Albert

## Fight the flab join keep fit

HAD you noticed how fit and agile the women on the WRW site are looking these days?

The reason is that a great number of them are taking part in the current series of keep-fit sessions, held in the canteen after work on Mondays.

At each session there is a warm-up period, followed by a series of balanced keep-fit exercises under the supervision of Shelia Christelow.

On the first Monday, 33 turned up; on the second, the number increased to 43. If the current series (January/February) continues to be so well attended, further series will be organised. Please contact the WRW surgery for details.

On the same theme, similar classes of keep-fit are held in the MASC later during the same evening — men between 6pm and 7.30pm under the supervision of Gerry Wignall, women between 8pm and 9pm under the supervision of Poppy Cass. Full details of both sessions can be obtained from Chris Houillon, WRW, ext 2682.

## TIME FOR ANOTHER WORD POSER

24	13	17	23	10	12		17		4	22	7	17	15	3
			23		13	22	10	14	7	17	15		15	
		14	10	3	15	21		15		13	4	7	3	12
9			5		3		17	4	19		14		12	7
10	16	15	3			23	15	22	10	3		12	22	7
24		22	15	1		8		4		2	10	21		14
19			4			24		25			13			15
23	21	1	22	4	12	15		7	3	17	7	13	7	1
17			7					12			19			7
4			7	3	20		12		7		22	4	5	4
11	4	3	18			14	15	26	10	3		25	10	24
15		1		4			22	4	3		8		22	15
	20	15	12	19	23		8		13	7	15	12	21	
			3		22	15	9	15	3	24	15		23	
26	7	12	23	15	22		25		13	22	4	21	15	22

HAVE a go at winning £15 by solving our latest word poser — with two prizes up for grabs.

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 12 March 1990) to the Editor, *News and Views*, PR Department, Marconi Radar Systems Ltd, Writtle Road.

1	2	3	4	5	6	7	8	9	10	11	12	13
14	15	16	17	18	19	20	21	22	23	24	25	26

NAME .....

PHONE .....

DEPARTMENT .....

# IMPROVE YOUR LOT!

## THE AWARDS

The 12 awards range from £25 to £300.

**Kenneth Sims (sect 182b)** Improvements to the method of wiring the control unit S68-1203.

**Rodney Reeder (sect 110)** Improvements to the secure fixing of the radar modulator unit S68-7425-01.

**Edward Warner (repairs)** Use of highlighting on GA sheets to readily identify items for repair or replacement.

**Bernard Saunders and Trevor Harris (sect 182b)** Improvements to the wiring method for the 805 tracker assembly.

**Gary Cooke (sect 182a)** Improvement to the methods of wiring of power unit S67-4292-03.

**Derek Knight (systems engineer)** Provision of glass recycling bins.

**John Lang (sect 168)** Improvement to positioning of silk screen labelling to cover assembly S68-4496.

**Brian Steele and David Bass (sect 182a)** Improvements to wiring of frame assembly S68-0506.

**Darrel Reed (sect 188)** Introduction of protective plate to modular pod S63-0210B.

**William Hewitt (sect 182a)** Introduction of off-set tool for fitting Oxley connectors in awkward locations.

**Richard Morris (sect T213)** Suggestions for improving cost control.

**Steven Taylor (sect 182b)** Improvements to wiring lists ('N'-sheets).

Will you be next on the list?

THE 'Ideas and Improvements' scheme is one way through which employees can come up with new ideas about the way we do things in the company and share directly in the resulting benefits.

Ideas may be concerned with ways to *improve* design, quality, reliability, office procedure, and output (to name but a few), to *reduce* unnecessary work, fatigue, hazards and time-wasting, or with the *introduction* of new methods, tools, and techniques.

All ideas are carefully evaluated and awards are made related to the possible bene-

## Put your ideas for better working practice on paper

fits that they could bring to the company. Not all suggestions gain an award. On examination, some do not turn out to be cost-effective, while others are not new.

However, do not let this deter you. If you have an idea, fill in one of the scheme's distinctive yellow forms and send it to room WA3 or the personnel department.

Since the beginning of 1989, 60 ideas have been submitted, 12 awards made, and eight ideas are currently under investigation.

## Wanted: pictures of sunsets

HAVE you ever fancied your chances as a photographer? The public relations department needs really super pictures of sunsets to use in advertisements and on brochure covers.

You could earn yourself between £50 and £100 for each colour transparency or print chosen as suitable — they must be colourful, dramatic and technically sound.

All submissions please to John Parr, public relations department.



Alan Hawkes joins in a discussion on health and safety training. (from left), Tom Smith, training manager; Alan Hawkes; Roy Daniels, safety manager, and Sister Florence Newman.

## Marconi Radar has your health at heart

MARCONI Radar is in constant pursuit of ways and means of improving the welfare of its employees. Its most recent endeavour was to join the Look After Your Heart campaign, a nationwide scheme run by the Health Education Authority, dedicated to improving the health of the working population.

To qualify for membership, it was necessary for the company to undertake to adopt at least three of 10 measures specified by the HEA. As we are already implementing six of them, and expressed our intention of introducing the remaining four, we had no difficulty in receiving the official seal of approval.

The measures already in force at Writtle Road are the

use of notice boards for putting across basic messages, the provision of information about healthy living, the setting up of smoke-free areas, the inclusion of 'health' foods in the staff restaurant, the provision of opportunities for staff to take exercise, and of facilities for blood pressure screening.

We have already made progress towards completing the requirement calling for practical policies on smoking, nutrition, exercise, alcohol and stress management. And we have stated our intention to meet the remaining three measures — ie: to pub-

lish advice on all aspects of healthy living in *News and Views*, to introduce programmes for exercise, nutrition, and stress management, and to explore opportunities for wider publicity.

The campaign to which we are giving our support is an on-going one which we hope will gather momentum as people realise the enormous importance of looking after their health, and, in particular, their hearts. We shall be helped in our efforts by the HEA, which will feed us information and monitor our progress.

## Head teacher's experience taken back to junior school

GEC is committed to the latest government initiative regarding liaison between schools and industry. Marconi Radar has responded by offering a comprehensive programme for teachers wishing to undertake an industrial placement. ALAN HAWKES, head of a junior school in Saffron Walden, spent two weeks with the company. Here he reflects on the experience.

'EVEN those without school age children know that the education system is going through a lengthy period of change. Those with children at school will certainly be aware of the upheaval.

'It was these changes that led me to seize eagerly on the opportunity to spend a fortnight with Marconi Radar.

'All schools, including the smallest, are becoming responsible for administering their own budget. In the case of my school, with just over 200 pupils, this means moving from a budget of £4,000 a year to nearly £200,000 a year.

'With these developments in mind, I identified financial planning control, staff development and time management as areas where I might gain ideas.

'A hectic two weeks of meetings and visits to departments was arranged.

'I am grateful to everyone who gave up their time to help me, especially to Tom Smith for organising so many valuable contacts.

'Without exception, everyone I met was ready and willing to listen and help. Several Marconi Radar employees are governors of schools which enabled us to have a useful exchange of information.

### Ideas

'I am taking back a wide range of experiences and ideas. The programme management plan that I saw in a contract review will be used in the establishment of a new school library. The layout of team briefing sheets will be adapted for staff meetings. These are just two examples among many.

'The dedication to high standards that I witnessed throughout Marconi Radar was impressive. I will certainly be commending links such as this to my colleagues. Hopefully in the future, schools will be able to aid industry through better mutual understanding.

'Thank you to all who helped me. Good luck for the future.'



A typical air traffic control display. See story on page 2.

CHELMSFORD

**NEWS AND VIEWS**

Marconi

### Next issue:

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