

# Marconi

*companies and their people*



Volume 19 Number 12 July 1969 One Shilling



# Marconi

The Marconi Companies and Their People

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## Contents

- Aerial mountings being built  
at Crompton works 2
- National Field Day '69 5
- Hackbridge news 8
- Industry in Essex 10
- Landing Blind 16
- On the ball 23
- With best wishes 29

*COVER: Champion of the Show: Colloiden Polly 3rd, the champion Shire mare, with her foal at foot, stole the limelight on the first day of the Essex Show. For centuries this type of horse, descended from the war horse, has done the heavy work on the farm. Now mechanization has taken over, and in this Centenary Show agriculture merged with industry. See 'Industry in Essex', page 10*

*LEFT: Heavy work in progress at Crompton Works. This is one of the gantries built for radar heightfinder aerials going overseas. It was assembled by Research and Development riggers Ralph Matchett, Foreman Rigger, left, Fred Thorpe, and Nigel Westhorp. See 'Aerial mountings being built at Crompton works', page 2*

*RIGHT: Concorde was a feature of the Paris Air Show. Concorde is fitted with our automatic direction finder, doppler navigation system, distance measuring equipment and selective calling unit. It flew over Chelmsford on the approach to the Palace for the Queen's birthday fly-past*

## A message from Prince Philip to the British Aerospace Industry

FIGURES speak for themselves. In 1968 members of the Society of British Aerospace Companies sold £300,000,000 worth of their products overseas, half as much again as in 1967. . . .

Naturally, the impressive projects like the Concorde get all the glamour, but aviation today is no longer something rather exceptional, it has become part of modern transport and defence. The emphasis at this time is on more efficient aircraft, more reliable equipment and means of control which allow safe and consistent operation in all conditions. None of this is flashy or sensational, but it all depends upon intelligent and imaginative design and a high standard of production.

In the long run and in spite of the figures, the success of the industry depends upon satisfied customers. I don't suppose every one of them is satisfied all the time, but they don't hide their dissatisfaction. Complaints are seldom heard and the British Industry enjoys, and profits from, an excellent reputation for keeping its customers happy.

Extract from the foreword to the B.A.E. brochure for the Paris Air Show.

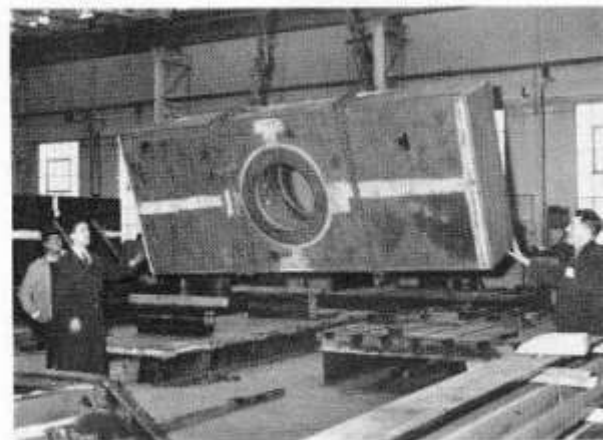
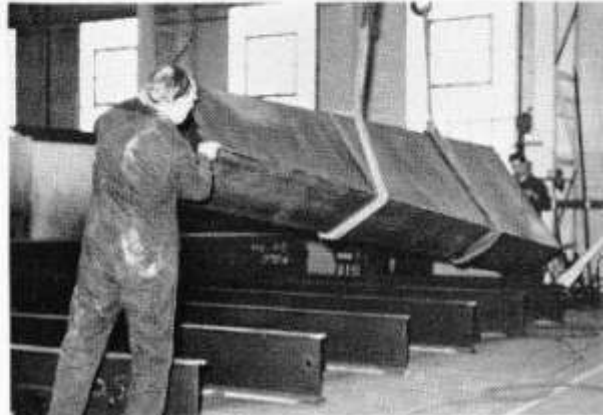
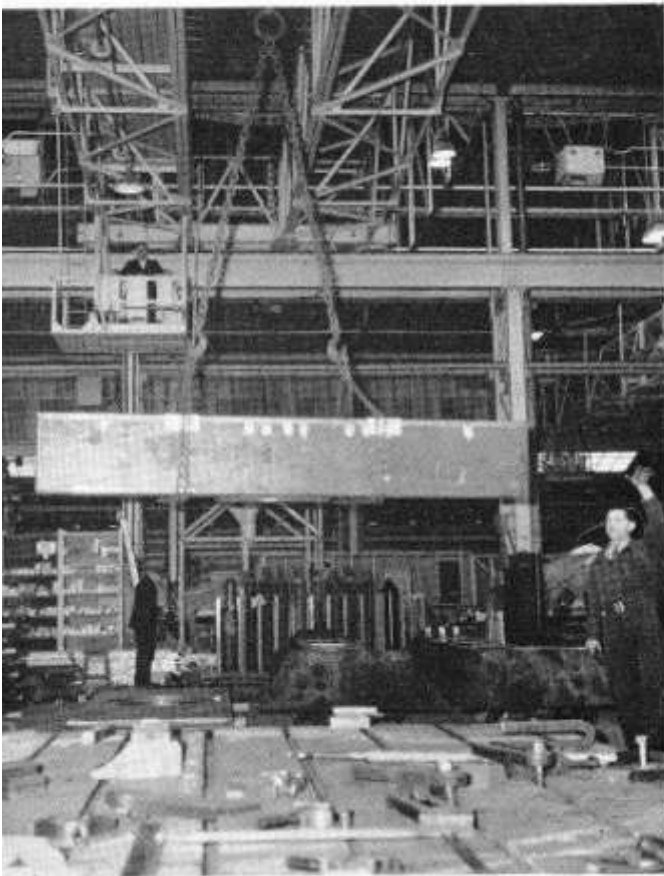


# Aerial mountings being built at Crompton works

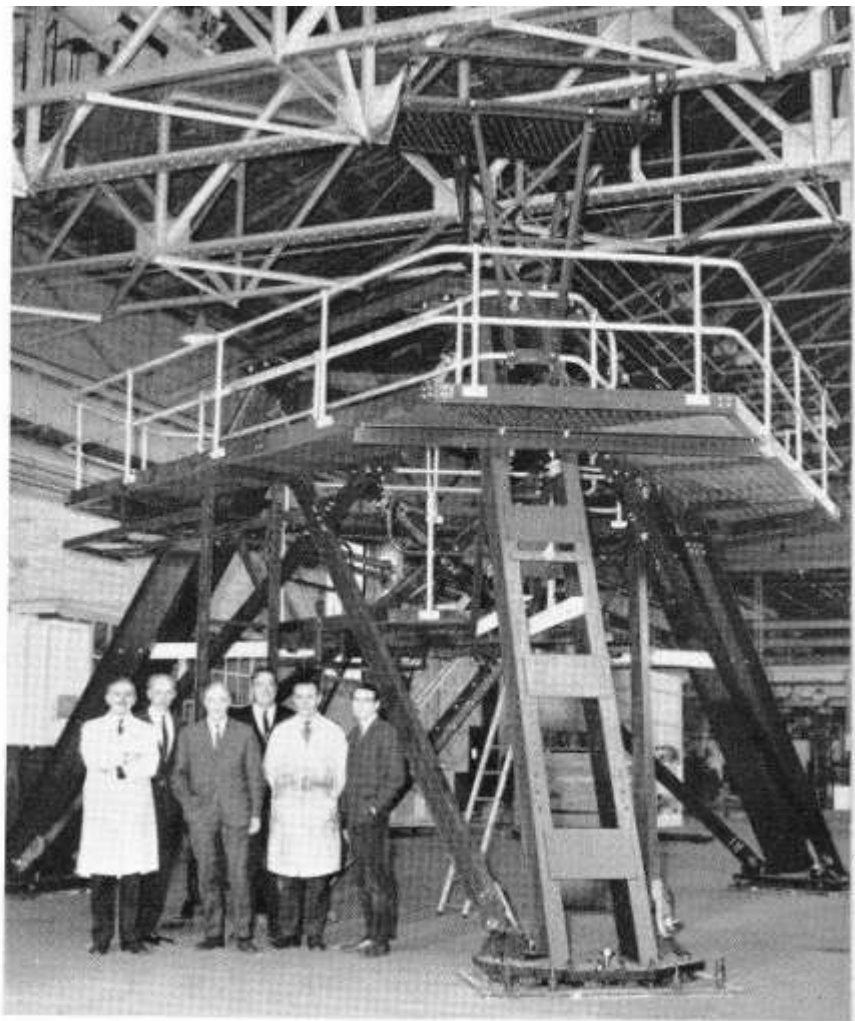
A GREAT deal of the fabrication area at Crompton Works is now being used for the construction of mountings—gantries and U frames—for radar heightfinder aerials. This work is being done here to relieve the heavy load on Gateshead: it demands a tremendous amount of floor space to lay out the pieces for the separate sections and to set up the jigs for welding them. Using the Crompton Works has enabled us to speed up the job and get it done.

The Project engineer who is supervising the work in liaison with Frabrication Division is Gillie Lowe from Gateshead. During its opening phase he has spent almost as much time at Chelmsford as he has at Gateshead. Now the first gantry has been com-

pleted and others are being run off at regular intervals. The pictures show the aspects of the job and how all the heavy metal work is swung from one section of the shop to another by travelling crane. The U frame base alone weighs four tons, and its aerial supporting arms are one and a half tons each. The sheets for the base come to size, cut at the mills, and the holes for the neck are machined at Harvey's, so that all the fabrication work is done by welding. The speed of handling and the long seams and joints make the welders' arc time higher on this work than on most. When each unit is finished it is put in an oven and heated to 650°C. to relieve any stress in the metal.



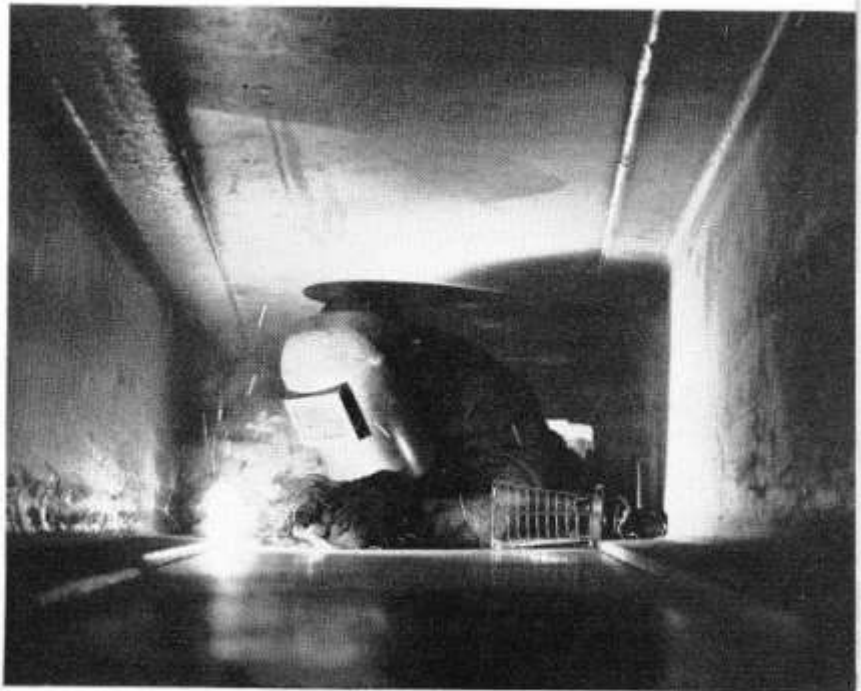
RIGHT: The first gantry for a NADGE heightfinder aerial to be built at the Marconi-Crompton Works. A number of these are in production there now together with U frame aerial supports. Left to right: Bernard Jones of Quality Control, Fabrication Division; Cliff Poulton, Production Engineer; Gillie Lowe, Production Engineer, Gateshead; Alf Valance, Production Engineer; Henry Raven, Foreman, Fabrication Shop, Crompton Works; and Walter Roberts, Project Co-ordinator, Fabrication Division



FAR LEFT: The Fabrication Shop at Crompton Works with a U frame aerial support base being lowered on to a welding jig by the travelling crane

LEFT TOP: A 20 ft. U frame arm being made. The sheets have been 'tacked' together and the shell is being put into position for the internal seams to be welded and the stiffeners inserted. Handling the arm here are Don Page and Tom Tyson

BOTTOM LEFT: A completed U frame base being moved to a special jig in which the arms are welded to it. Seven miles of 1.2 mm. welding wire are used on each of these structures. Left to right: Danny Lumsden, John Page and Tom Tyson



RIGHT: The shape of things to come? This is Ted Wales welding the seams inside one of the U frame arms. He works his way right down the length of the arm to the narrow opening while his colleague pays out the life-line and ultimately hauls him back. An extractor fan draws away the fumes.



TOP LEFT: The arm of a U frame set up in the jig with the base. Danny Lumsden is ready to weld the joint



TOP RIGHT: Len Bazley and Ted Wales setting up the welder. The welding wire, or metal filler, is fed automatically to the

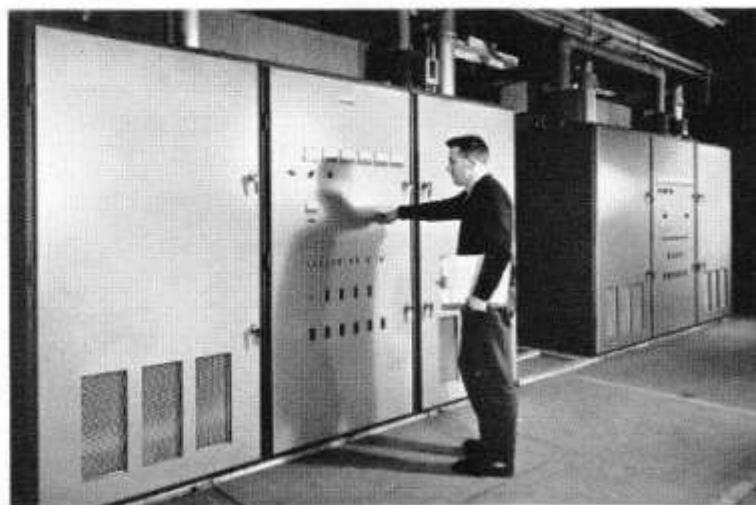


gun where it melts into the joint. Ted served thirty-two years at Crompton's  
ABOVE LEFT: There are two travelling cranes which span the shop floor. Tom Tyson drives one of them and, ABOVE, RIGHT: Geoff Roberts drives the other

### Marconi transmitters for B.B.C. London colour programmes

Two *u.h.f.* television transmitting systems are being installed by Marconi to put B.B.C.1 on the air in colour and also to improve the reception of B.B.C.2.

Two of the 40 kW. television transmitters with their associated sound transmitters are seen here on test at Chelmsford. The back cover shows the combining unit set up in High Power Test at New Street before being sent to the B.B.C.'s station at Crystal Palace. The two pairs of transmitters will be capable of feeding 80 kW. on each programme to a single aerial and will provide both B.B.C.1 and B.B.C.2 colour signals for London



# National Field Day '69

ONCE AGAIN members of the Chelmsford Amateur Radio Society spent a hot but peaceful week-end in the wilds of Danbury Park, near Chelmsford, when they took part in the Radio Society of Great Britain's National Field Day.

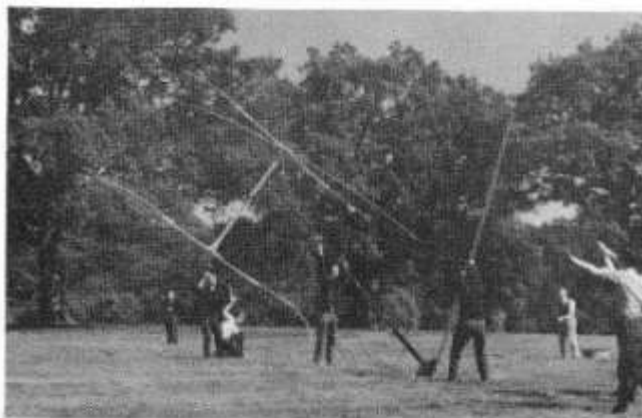
The members, many of whom being Marconi people and apprentices, pitched their tents on the soft meadowland pastures beneath the elms and oaks and, with the dipoles gently swaying in the breeze and the generator setting the rhythmical beat, they were on the air non-stop for twenty-four hours. Running ten watts to a 'home brew' single-element quad aerial 30 ft. high they contacted four VKs (Aussies), which really put them on the map.

In all they notched up 249 contacts breaking all previous Society records for a single-station entry, and now anxiously await the results.



TOP RIGHT: Over 240 stations were contacted during the week-end, including four Australians, using a modified KW2000A transceiver with a 2E26 in the P/A. Operating here is Arthur Butcher, G3KPI, left, and logging is Tom Carter, G3VCF

CENTRE: Disaster struck when the 17 ft. square quad aerial came crashing to the ground, but members quickly salvaged some of the bits and built a modified one in the form of a single element



BOTTOM: 'Anyone know anything about generators?' was the plea during most of N.F.D. Luckily Willie McClintock, G3VPK of Applied Physics Group, Baddow, had lent his portable one as a stand-by so no power was lost. Here Paddy Maris, Witham, left, and Don Beattie, Billericay, calm the beast which broke down, before attempting to pull the string again



## Beehive Lane First-Aiders

RECENTLY the Company held another First Aid Course at New Street, consisting of eight Tuesday morning lectures of three hours each. Personnel from all the different departments were selected to attend and the course culminated in an exam for the St. John Initial First Aid Certificate. Successful candidates from Beehive Lane were Mrs. Joan Fearnley, Mrs. Rosemarie Miller, Mrs. Maureen Cotton and Malcom Millan—a 100 per cent result from Beehive Lane.

Another course will be held in September, in the evenings. Details will be published later.



## Moving into Crompton's

ABOUT one hundred and fifty staff of Radar Division have now settled comfortably into their new headquarters at Marconi-Crompton Works.

The head office and the marketing department moved into Building D during a week-end in June which was the first major divisional move to the site since it was acquired by Marconi in June last year.

Furniture and paperwork were transported in six lorries from Marconi House, New Street, to Cromptons throughout the week-end by members of the Plant Engineer's Department, and all was ready for the staff when they arrived on the Monday. By mid-morning it was 'business as usual'.

The move releases office space on the first floor of Marconi House, New Street, which will be taken over by Radio Communications Division. Members of the Division now at St. Mary's House, Glebe Road, Wells Street, and County Motor Works will all move to offices there.



*TOP LEFT: Radar Division's head office and marketing department headquarters, Building D at Marconi-Crompton Works, Writtle Road, Chelmsford*

*LEFT: Thirty members of the Plant Engineer's Department worked throughout the week-end moving furniture, paperwork and filing cabinets, and here are some of them unloading one of the six lorries they used*

*BELOW LEFT: The ladies started to settle into their new premises by unpacking their paperwork and typewriters on the Monday*

*BELOW: When members of staff arrived on Monday morning all their desks and furniture were in place, thanks to the members of Plant Engineer's Department, New Street*







## At the London Components Show

The International London Components Show was an important shop-window for Marconi Companies. Marconi-Elliott displayed new microelectronic circuits from new techniques, Eddystone featured a new receiver, the EC958, and Specialized Components the latest tracker ball controller and quartz crystal oscillators.

TOP LEFT: At the show: The Managing Director, Marconi-Elliott Microelectronics, T. Mayer, centre, with Dr. S. S.

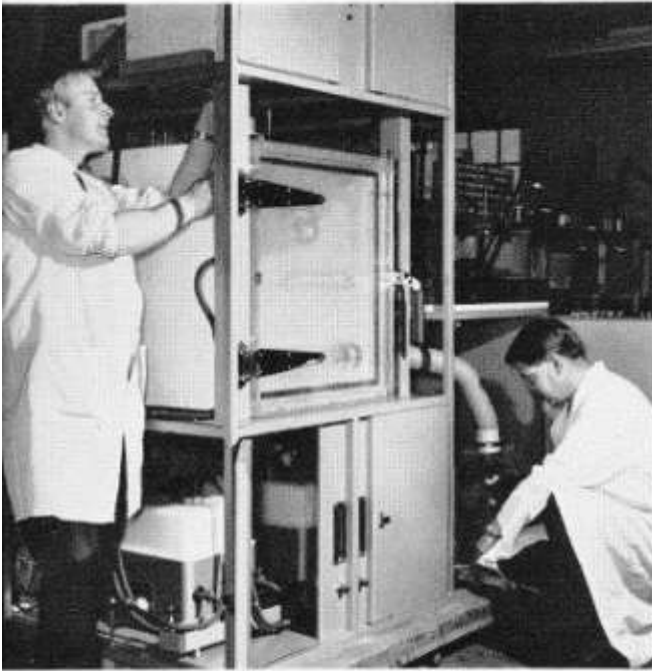
Forte and R. P. Raikes. TOP RIGHT: The Managing Director, Eddystone Radio, R. M. Carroll, second from left, and his Sales Manager, K. Wilkins, right. ABOVE LEFT: D. Gill, Specialized Components, centre, with P. J. Loweth, Mrs. D. Dunne, Mrs. I. Atterbury and G. A. Sheardown. ABOVE RIGHT: An added attraction to the stand: three pretty receptionists, Mrs. Pam Smiley, Eddystone, Mrs. Olive Livesey, Marconi-Elliott, and Mrs. Jean Mackney, Publicity

## International players

BOB PAGE, right, St. Mary's House, who played football for England in a recent amateur match against Italy at Monte Catine. The score was a 0-0 draw. Now, as one of the players selected for a three-week tour preparatory to next season's Amateur European Cup, he will soon be on his way to the Caribbean

NORMAN GROVES, Writtle, is in the news again. Last year he won the English Bowling Association single-handed championship, also the Essex and the Eastern Counties, and now has been chosen to play for England in the home international matches against Ireland, Scotland and Wales at Mortlake on 2, 3, 4 July, which will have been played by the time this magazine is in print. One of twenty selected out of forty-eight who played in the trial, he and two others are the only three new international players. Congratulations Norman.





## The proof of the pudding . . .

TOUGH environmental tests, prior to and during production, ensure that the highest quality and reliability is always maintained in Company products. In the Manufacturing Section of Test Equipment Group, New Street, many of the complex test jigs for these rigorous tests are made, and here Graham Bright and John Allerton are putting the finishing touches to an industrial atmosphere simulation chamber. Working under their supervisor George Greenhalgh, they were responsible for the design and development from an international commission specification of this machine which, by means of built-in heaters, water pumps and a refrigerator, can simulate varying humidities and conditions within a chamber. The simulator is now complete and will be installed in Environmental Test, New Street.

## HACKBRIDGE NEWS

### Social club

At the annual general meeting the chairman, Ray Hazell, expressed everyone's thanks to the retiring committee for their efforts during 1968-9 and gave

a special vote of thanks to Reg Appleford, who had been honorary treasurer for seven years and has now retired. It was noted that the most popular events during the past year had been the summer outing to Longleat and the October visit to The Talk of the Town restaurant and cabaret. The chairman said that members had asked for another

*BELOW: Gary Sanderson, a third year student apprentice, showing local schoolgirls a foetal heart detection and transmission unit. Gary is working with Autonomics Group at Baldow on foetal heart detection and other aspects of medical electronics.*

*BELOW RIGHT: Training staff and Marconi apprentices who were in attendance during the Convention*



visit to the latter, and it was hoped to arrange for another in October. Next year the club celebrates its twenty-first birthday, and the committee hope to hold a dinner/dance early in the year. We hope to hear more about these forthcoming attractions later.

The committee for 1969-70 are: Ray Hazell, chairman; Ivy Styles, secretary; Cindy Taylor, treasurer; Bill Waller, auditor; and Nancy Savell, Joan Batten, John Ahrens, Julie Charker, Derek Loudon, John Pollock, Peter Gilmour.

### Motor-cycle ace

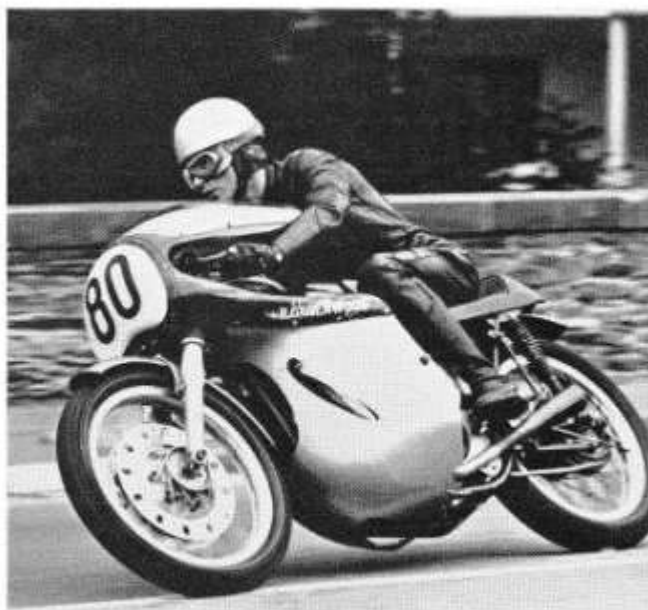
Early this year, motor cycle ace Roger Greenwood of Hackbridge had a 500 c.c. Manx Norton engine built for him by a specialist which resulted in an immediate improvement in his racing. This engine change has brought success after success for Roger in both Clubman and National restricted events, and he says that his results are now a vast improvement on previous years. In May he notched two firsts and a second at Brands Hatch and later in the month a second at Snetterton.

In the future Roger plans to score in higher status meetings, to win enough points in national events so as to obtain an international licence enabling him to qualify for continental events, and to finish in the first twenty of the gruelling Manx Grand Prix in September.

## Careers convention at Y.M.C.A.

OVER 1,000 students from local schools were given an opportunity to explore the vast educational and training facilities open to them in Marconi when they visited the Company's careers convention at the Chelmsford Y.M.C.A.

With the aid of models, films, working demonstrations and samples of Company products, including the award winning Mark VII colour camera, the students, both girls and boys about to leave school, were able to see for themselves what Marconi could offer. Training Officers were ready to answer any queries regarding apprenticeship schemes and The Marconi Apprentice Association's radio club, go-kart club, and music society showed that enjoyable leisure pursuits were constantly at apprentices' finger tips.



*Speeding out of a tight right-hand corner, described as one of the biggest and most tricky, known as Quarter Bridge, is Roger Greenwood during a practice lap for the 1968 Manx Grand Prix*



### Can you beat it?

**BACHELOR:** A man who has been lucky in his flirtations.

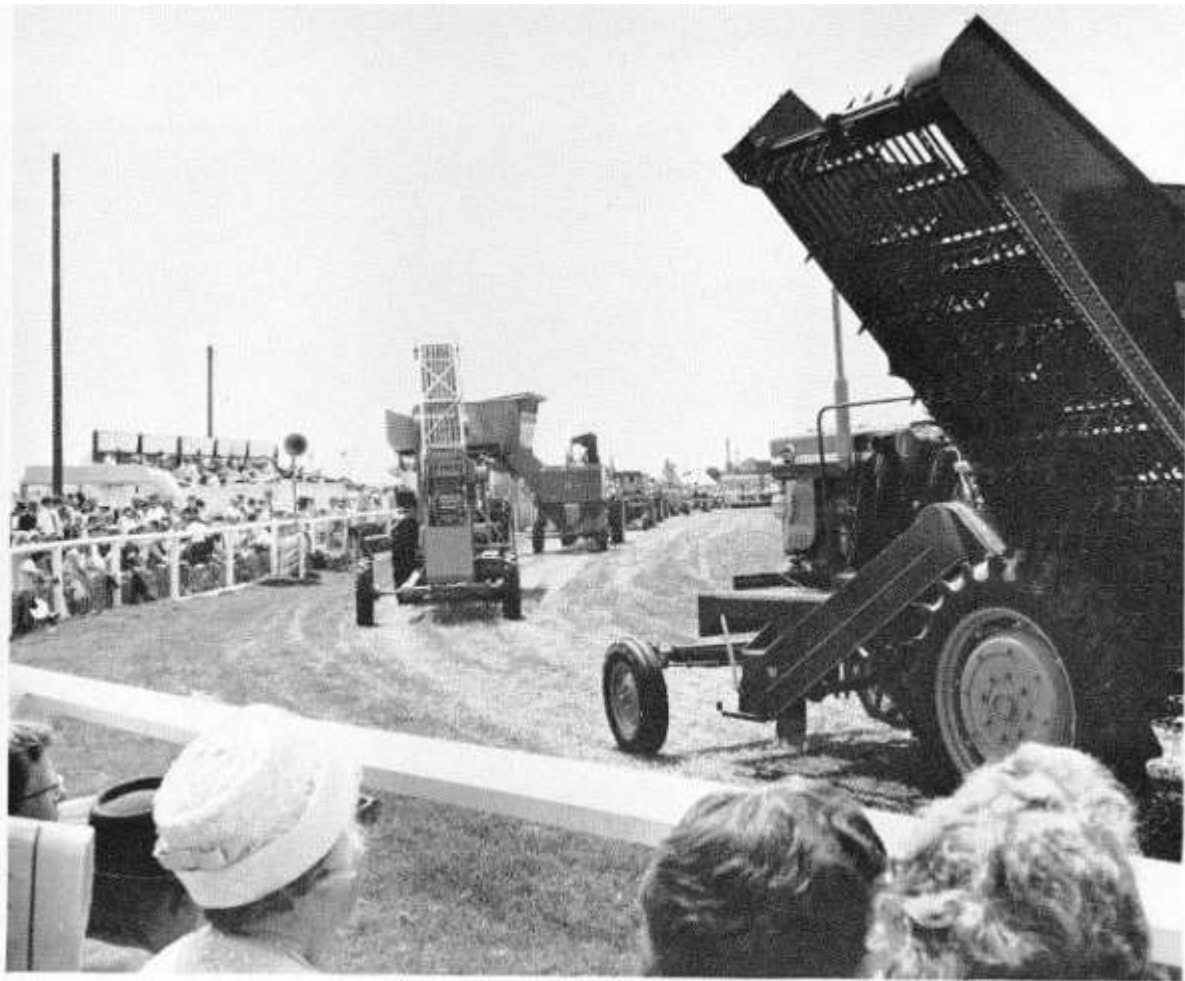
**BEAUTY PARLOUR:** Where the talk alone is enough to curl your hair [*The Sunday Post*].

A  
compromise  
between  
a way of life  
and modern  
business  
methods



# INDUSTRY IN ESSEX





IF A MAN ploughed five acres of land a day in 1945, how many acres can he plough in a day in 1969? The answer is twenty, and it shows the colossal rate of progress farming has made through mechanization in a comparatively short time.

Progress in Essex was the theme in this year's Essex Centenary Show. Other industries participating made it a county show, and the Borough produced its plans for the County town's new look.

But as soon as events in the ring started farming came to the fore. The Shire horses, the livestock, and the hunters showed their paces, and the thrills of the day followed. We had a lot in common with the Royal Signals men, the White Helmets: ours is a signals industry. "The Mounties" brought to mind the wide open spaces, Canada and corn.

And surely Essex can hold its own in giving us our daily bread? The answer to that from the

*TOP LEFT: The production of milk is of primary importance. The judge is looking over a class of British Friesian cows in milk. In the foreground Terling Cypress 140th, the Champion cow, entered by Lord Rayleigh's Farms*

*ABOVE: The display of farm machinery showed the advance of mechanization in farming. Here are new types of diggers, stackers and spreaders*



*RIGHT: Champion bull, Lavenham Patrol, a British Friesian entered by Strutt & Parker (Farms) Ltd.*

*LEFT: Her Majesty Queen Elizabeth the Queen Mother talking to the Commanding Officer of the "Mounties", The Royal Canadian Mounted Police. She toured the Show and saw many of the exhibits*



TOP LEFT: The champion Suffolk ram with his shepherd, Mr. Harry Boast, of Lawsall, right, and the judge, Mr. George Duke. Sheep bred by the owner have been exported to three countries in Europe

ABOVE: On the Farming in Essex stand the largest and the smallest harvesters were on show—the small one for experimental crops. The giant Lely has one of its attendant grain trucks alongside it, and it blows its

produce into this while reaping and threshing. The truck deposits the grain into a hopper and the grain is blown through pipes into the granary

LEFT: Essex-grown barley being sampled by Mr. Peter Holmes, one of the stewards. The exhibit shows all the uses of barley and that it makes calf-weaner, beef-grower, sow-nuts, pig-grower, and bacon; not forgetting beer, and of course Scotch

Farming tent was that Essex has 166,000 acres of wheat, and in all 384,000 acres of cereals with barley and oats. This is the highest acreage of wheat in any county in England.

Fewer men are needed to harvest the corn these days. Where in 1945 twelve men cut and stooked it, carried it home, stacked and threshed it, now two men, a harvester, and a truck do the same work.

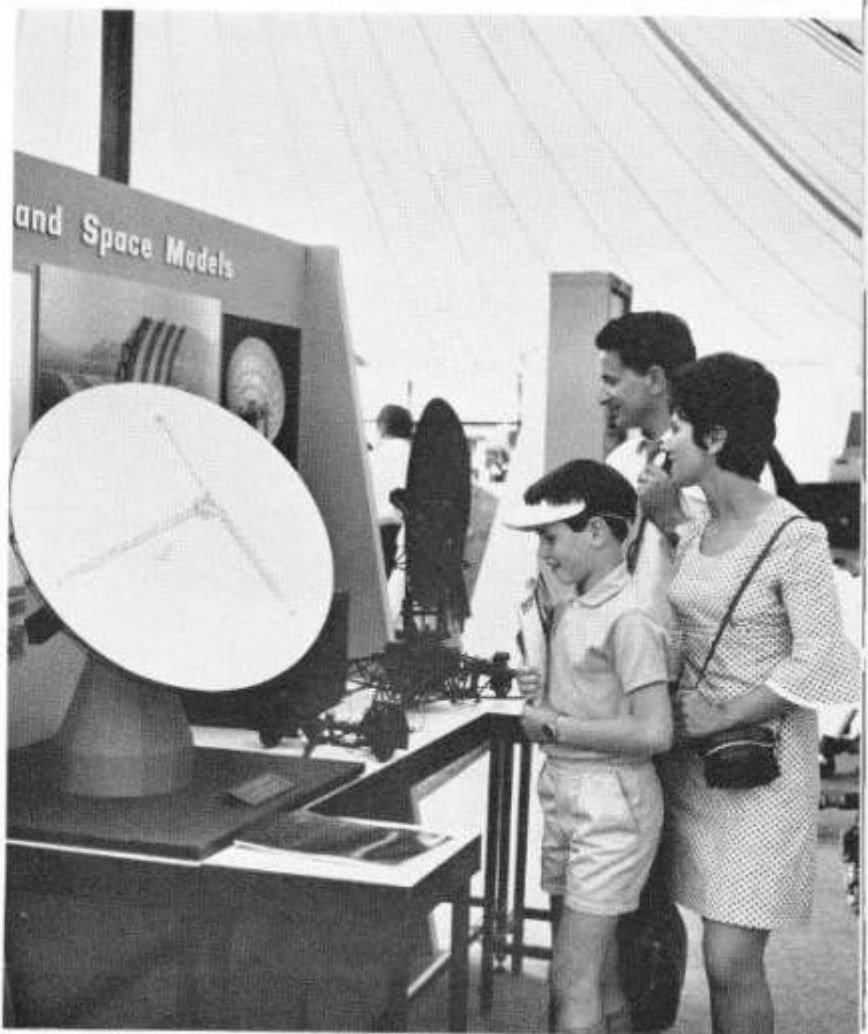
These figures come from the County Agricultural Adviser, Mr. J. R. Keyworth. He tells us also that there are 20,000 acres of main crop potatoes, mainly King Edwards, and that Essex grows 40,000 acres of field beans which are exported to the Continent from Maldon, Colchester and Ipswich. Of the total of 676,000 acres, 561,000 are arable. Of livestock there are approximately 500 dairy herds, and a small beef herd of about 4,000 cattle. The main livestock enterprises are pigs and poultry. The pig population at any one time is about a quarter of a million, with a total each year of well

over 300,000. The annual throughput of broilers is in the order of four and a half million.

We are second only to Kent as the fruit-growing area of England, with 9,500 acres of commercial orchards; and vegetables for London from the lighter seaboard soils total 18,000 acres.

Farming is rightly counted an industry in Essex. Its progress and efficiency is evident everywhere. But what is not evident everywhere is that the agricultural output from the whole county is handled by only 10,000 full-time workers. It maintains its efficiency with a number of employees equal to only two-thirds of Marconi's staff. That will make the big firms sit up and tickle their computers.

Mr. Keyworth has the last word on this. 'The farmers of Essex', he says, 'are some of the most advanced in the country. They have found the compromise between a way of life and modern business methods.'



TOP: Mark Knight of E.E.V. besieged by a gang of enthusiastic youngsters—boys of all ages

ABOVE: The Deputy Mayor of Chelmsford, Les King, of Marconi Radar Division, right, with the Mayor's Secretary, Alan Hay, centre, in the Chelmsford Borough Exhibition. With them is John Pool, Marconi Exhibition Manager.

TOP RIGHT: The Queen Mother with the Mayor of Chelmsford walking through the Exhibition Section of the Show. In the background, to the left, are John Pool, Marconi Exhibition Manager and Bill Smith, Publicity Manager, English Electric Valve Company

RIGHT: One of the many families interested in Marconi accomplishments. Marine, Radio and Space Communications were represented on the stand as well as the new mobile radar, and radio history

## Any suggestions?

SINCE JULY last, when the M.I. Inventions and Suggestions sub-committee was formed, twenty-five suggestions have been received. Eight of these have been successful and awards ranging from £2 to £8 have been made.

Two of the award winners were Reg Duke, Chargehand, Printed Boards, and Joe Buckridge, MI-Sanders, Dept. 557. Reg suggested a way of improving the contact used during the gold-plating of printed boards, while Joe reduced the noise level of the Weidemann Turret Press by suggesting that the existing solenoid box be replaced with a sound-proofed version.

The sub-committee (chairman A. G. Wray, Chief Engineer, and secretary W. Waller, Chief Production Engineer) hope that in future they will be called on to make an increased number of awards.

## Active First-aid

THE M.I. first-aiders have had an active time recently both as a team and individually.

They attended the inspection of the Hertfordshire Divisions of the St. John Ambulance Brigade by H.M. the Queen Mother at Hatfield Polytechnic. Although it was a wet Saturday afternoon a considerable number of Brigade members were on parade. The 1,885 Hertfordshire members devoted 64,514 hours of voluntary public service during 1968.

The Hertfordshire Show was held on the following Saturday and some members were on standby ambulance duty and on patrol. A great many people attended the Show but the St. John members had a quiet time. This could not be said of the Sunday which followed, for an M.I. team took part in the 1969 Casualties Union competition for the first

*Many overseas visitors to M.I. have shown interest in old St. Albans, so copies of an etching have been prepared to give to them. The picture shows the building which houses Boots and the tower of the Abbey. An inspection of the roofs of the buildings from the top of the tower shows that they still look much the same as this*





time. The team found these tests of diagnosis and first-aid quite interesting.

Mrs. E. Collister, of Hedley Road M.I. Service Department, who for three years has been Superintendent of the St. Albans Nursing Division of the St. John Ambulance Brigade, has resigned from the Division after twenty-nine years' service. She has been appointed assistant county records officer.

## Years of service

FRED COOK of M.I. will now be able to spend more time making electronic organs for he has retired after thirty-four years' service. Actually he was with Marconi Company at Chelmsford for a brief spell in 1928, but it was not until 1935 that he joined the E. K. Cole machine shop in Southend.

He later became a test engineer and came to St. Albans when the Company was transferred at the beginning of the war. During the next two decades he acquired considerable experience in Progress, Planning and Estimating. In 1963 he became Post Design Services Officer where his capacity for conscientious work was most useful in his contacts with the Ministry. We wish him a happy retirement.

## Wonders of the future

'AT THE moment of writing, television has not yet been accomplished. Whether it is commercially possible with the natural phenomena, manufacturing processes and materials of construction at our disposal, time alone will show.' So wrote N. W. McLachlan, research engineer to the Marconi Company, in *Harnsworth's Wireless Encyclopedia*, 1923. He would have been surprised at the Marconi equipment and M.I. test gear shown and well received at the Montreux Television Symposium and Exhibition.

This early wireless encyclopedia, which introduces the new science with enthusiasm, is the property of George Lucas, Manager M.I. Special Products, whose department is currently working on some of the new range of television test gear.

### Can you beat it?

**BOTTLE:** A container used for bringing up babies and bringing down adults.

**BROCCOLI:** Scottish description of a good dog.

**CLASS HATRED:** The reason schoolboys play truant [*The Sunday Post*].



Mrs. Christine (Elsa) Faulkner, who is usually secretary to the General Sales and Government Sales and Service Managers, was a part-time receptionist during the Electronics Exhibition held at the Kensington Close Hotel, London. The floral arrangement, one of many, was provided by the M.I. Floral Arrangement Group, and attracted quite a lot of attention from the more than 1,100 invited visitors. They also saw the latest in the Autotest range of equipment, and a number of new instruments.

## Keeping pace

SINCE THE 4-30 computer was installed at M.I. in August 1968 an increasing number of its systems have become operational. Among these are the Creditors' Ledger, Debtors' Ledger, Sales Statistics, Costing, Payroll and Mailing. The Production and Stock Control system, formerly run outside the Company, is also now being transferred.

Recently the computer has been replaced by a faster System 4-50. This new machine will reduce the running time taken by existing systems and facilitate the implementation of more sophisticated systems in the near future. For some while now the computer has been running on a two-shift, five-day basis—shortly to be increased to two-shift, seven-day. Management information must be available early to be of maximum use, and the new machine and systems will better allow us to keep pace with events—as they happen.

# LANDING

# BLIND

## *Automatic landing means Marconi*

BY B. H. L. BLAKE, AERONAUTICAL DIVISION

AUTOMATIC LANDING, or blind landing as it is more popularly known, is very much in the news at the moment. All the world's leading airlines are striving to perfect the techniques of landing in conditions which a few years ago would have meant a diversion to another airfield perhaps 200 miles or more away, and as the United Kingdom is particularly prone to bad weather, any method which would allow take-offs and landings to continue without restriction in very low cloud, heavy rain, snow or thick fog, would be very popular with the airlines. The initial cost of ground and air installations would soon be recovered by fuel saved because the re-scheduling of flights would no longer be necessary.

Both British European Airways (B.E.A.) and British Overseas Airways Corporation (B.O.A.C.) have been working on this problem for several years with their Tridents and VC10s. In both cases, the basic radio guidance system is provided by Marconi radio equipment—the AD260, manufactured by Aeronautical Division—which is fitted to the Trident I and II fleets and the VC10 and Super VC10 aircraft of B.E.A. and B.O.A.C., as well as to many other operators.



ABOVE: The moment before touchdown: a B.E.A. Trident making a blind landing in smog. Marconi were the first to produce a commercially available automatic landing equipment all-transistorized in the V.H.F. band. It was shown at Farnborough in 1960 when we had a lead of eighteen months on the Americans

LEFT: Engineers of Aeronautical Division, Basildon, responsible for the design of the Marconi automatic landing equipment AD260. The three units on the desk are the AD6404 glide path receiver, AD6402 localizer/VOR, and AD6401 VHF receivers. Left to right: E. S. Cheng, L. R. Mullin, Manager; R. S. Robson, Technical Manager; and T. T. Brown

# ID



This means that Britain is well in the lead in the techniques of automatic landing and for this lead thanks are due to the Marconi AD260, which is the only British equipment available to carry out this vital task. It was designed originally over ten years ago with the specific requirements of blind landings in view, and was chosen as the standard equipment to install in the new aircraft of B.E.A. and B.O.A.C. Many other operators, both civil and military, all over the world have also selected the AD260 for their aircraft fleets.

Briefly, the system used to enable the aircraft to land in what are known as 'zero-zero' conditions is known as I.L.S.—the abbreviation for Instrument Landing System—and the ground installations are already fitted or being fitted to every major airport in the world. The system works by defining a

gradually descending path through the air which starts at 1500 ft. five miles from the airfield and finishes on the runway itself. Radio signals are sent out from ground transmitters in the form of two beams, one known as the localizer, which defines the azimuth or direction of the correct path, and the other which defines the angle of descent and is known as the glide-slope. These two beams are achieved by transmitting lobes, two for the localizer and two for the glide-slope, which inform the aircraft automatic landing system whether the machine is left or right of the correct centre line, or above or below it. If the aircraft is maintained on the centre line of both beams then it will make a safe landing on the centre line of the runway. Coupled with the system is an airborne radio altimeter which enables the landing system to carry out an

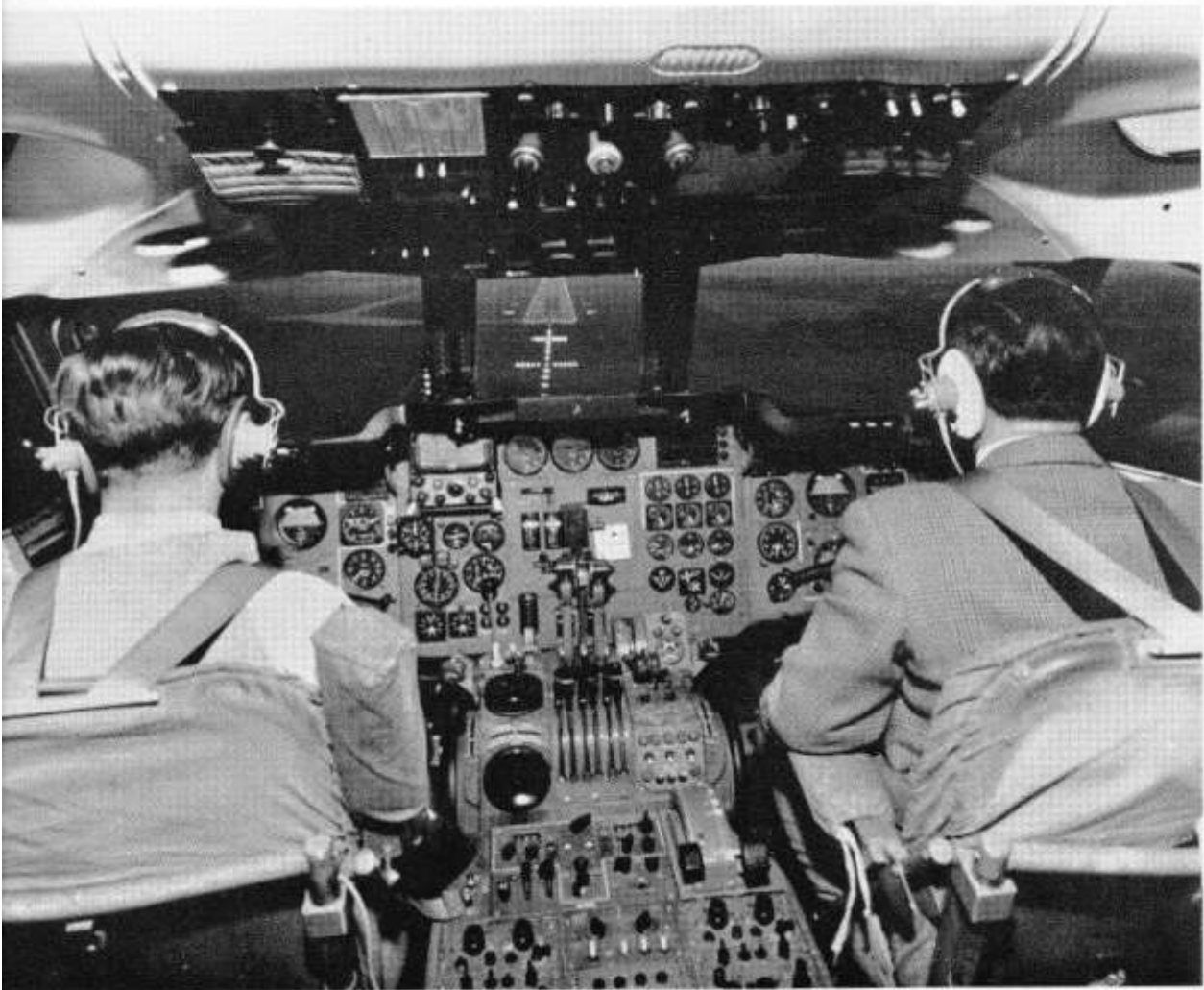
auto-flare, i.e. a rounding out of the descent path just before touch-down so as to make a gentle landing.

The various recommended minimum conditions for automatic landing are divided into broad categories: Category 1 lays down a minimum of 200 ft. cloud base and 800 metres runway visual range; Category 2 is 100 ft. cloud base and 400 metres visibility, and Category 3 goes down to a cloud base on the surface and nil visibility, zero-zero conditions such as would exist in thick fog or driving snow. The final category is divided into a number of sub-categories which apply mainly to the ability to taxi the aircraft into the terminal area in nil visibility.

Thousands of practice landings and much research have been carried out for a number of years by the Blind Landing Experimental Unit at Bedford

(part of the Royal Aircraft Establishment, Farnborough) and also by Hawker Siddeley Aviation on the Trident and British Aircraft Company on the VC10. Both B.E.A. and B.O.A.C. have made many landings on scheduled flights, and indeed the world's first fully automatic landing on a normal scheduled passenger flight was made by a B.E.A. Trident at London Airport in June 1965. The Tridents have been cleared to operate normally under Category 2 conditions for some time now, and shortly hope to improve this performance. The VC10s are cleared to Category 1, and are getting close to the time for Category 2 landings.

The AD260 consists of four boxes, which are mounted on the radio rack in the aircraft, and a controller which is positioned on the pilot's flight panel. The equipment carries out two roles—one for navigation of the aircraft in the air using ground



*RIGHT: A B.E.A. Trident fitted with Marconi blind landing equipment. This aircraft can now go down to an airport shrouded in bad weather and make a landing which previously would have been impossible*



*LEFT: The captain of a Trident, left, flying with hands off during the final phase of an automatic landing. This is J. H. Phillips, Hawker Siddeley's test pilot, who has made over 600 automatic landings during the course of development flying. In normal circumstances the pilot's hands would rest on the controls. He is flying hands-off here for demonstration purposes*

beacons known as VOR, and the other which we are more interested in at this moment—I.L.S. landing. The equipment picks up the signals from the two ground transmitters, localizer and glide-slope, and translates them into directions to go. They are then fed to the computer of the automatic landing system and ultimately to the automatic pilot, which will fly the aircraft along the path defined by the radio equipment. It will be obvious that the airborne I.L.S. system must be extremely accurate; after all, an error of only a few feet either way can make the difference between success and failure in an actual landing. In order to ensure that the AD260 would meet all the stringent requirements, a short and long-term testing programme was carried out over many thousands of running hours. This programme proved conclusively that the AD260 was eminently suitable for all types of

automatic landing systems. To make assurance doubly sure, however, the complete installation is triplicated in all aircraft so that the computer can continually monitor the performance of the equipment and cut out any part that is in the least bit doubtful. However, the greatest compliment that can be paid to any piece of equipment has been paid to the AD260: it has been selected to check out the ground I.L.S. installations at various airfields around this country. Specially calibrated sets have been fitted to two HS748 aircraft operated by the Civil Aviation Flying Unit at Stansted which are used to assess the reliability of all civil ground I.L.S.

Finally to prove that Aeronautical Division is not resting on its laurels, another generation of airborne I.L.S. equipments is on its way—the AD270, which is being developed for the next range of aircraft such as the Concorde.

## Obituary

### MR. W. L. WRIGHT

One of this country's leading men in Space Communications, Mr. William Lea Wright, died on 8 June in the U.S.A., where he was working with the American Scientific Civil Service.

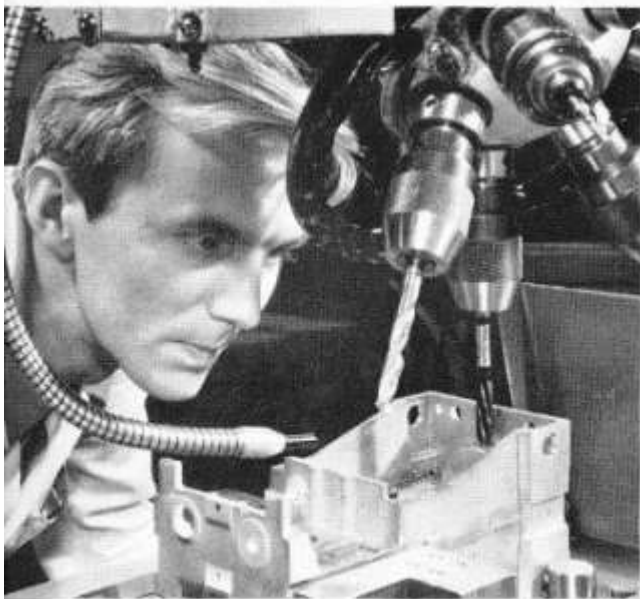
He joined Baddow Research in 1946, played a leading part in the design of our first u.h.f. multi-channel communications system, and in 1966 he was appointed Technical Manager of Space Communications. He was also a member of the International Radio Consultative Committee (C.C.I.R.) Studio Group 4.

We offer our sympathy to Mrs. Wright and their two sons.



*A batch of TF1245A end adaptors being turned by David Gough. This is one of the components in the M.I. Q meter that will later be gold-plated. The plating of the complete test circuit and tuning capacitor of this instrument gives a significant improvement in long-term stability. Note the Digiturn readout, used instead of a micrometer.*

*To achieve the high stability of the TF2006 F.M. signal generator it is necessary for the mechanical features to be precision made. Here Ray Butcher, M.I. Machine Shop, is using a numerical control tape drill on a drive mount for one of the individual oscillators of this instrument*



## Veteran owner

OLD CARS have a fascination, and so quite a crowd collected in the M.I. car park when a 1928 Renault appeared there. A 9 h.p. Weymann Saloon, it is in almost perfect condition. The new and proud owner, Barry Williams, Project Controller, Computer Department, says it hasn't been on the road since 1960, but now jogs along at a comfortable 35 m.p.h. Its cost when new was £295. The previous owner knows nothing of its history so Barry is now investigating.

## Forty years of music

FOR FORTY YEARS the Frank Harwood Orchestra has provided music for dancing at functions within a sixty mile radius of St. Albans. Frank is now about to pass on the leadership of his orchestra to his son, Ian, who has his father's talents.

Older M.I. people will remember the Victoria Hall and the crowds that used to dance to the music of his ten-piece band. Then from 1947 until recently, his was the residential band at the regular Thursday night dances held at The Barn.

Many years ago he was a music teacher, his instruments being the piano and accordion. Then came the war, and Frank was directed into industry, finding himself, in due course, at M.I. where he is now Senior Inspector in the Machine Shop. Although small groups provide 'pop' music for many dances, the larger functions still require an orchestra. 'There is room for us both', says Frank.

In arranging his music and M.I. life, organization has been the keyword, and his wife, Mrs. Jane Harwood, has been a great help. She is also at M.I., working in the Inspection Superintendent's department.

## Fauna corner

SEEING a pair of pink eyes looking out of a drain near the Longaeres car park, Ken Colthorpe, M.I. Chief of Buildings and Facilities, obtained the help of plumber John Tyler, who, with a piece of meat on a string, persuaded a hungry white ferret to come out. John has ferrets of his own and is taking care of this one until its owner can be found.

Despite people passing only two foot away, the sound of the recent M.I. Theatrical Show and other activities, a thrush nested in a bush at the back of the canteen stage.

## From Baghdad

'ST. ALBANS talisman-maker from old Baghdad', read the *Evening Echo* heading over an illustrated article about Shakir Hassan, of M.I. Assembly Test Group 660.

It is said that everyone has at least one story to tell but Shakir Hassan has several. He served for twenty-six years in the Iraqi Air Force and for eleven of these years was personal radio-operator to King Feisal, who was killed in 1958.

When he left the air force, with the rank of Warrant Officer, he was undecided what to do, until a chance encounter with two English tourists led him to open a pottery business in Baghdad, where he made souvenirs. Trade was brisk and the goods were sold in the tourist shop at the city airport as fast as he could make them.

During a holiday tour of Istanbul, Vienna, Frankfurt and London, in 1966, he read an advertisement offering a position at M.I. He applied and was accepted. He likes St. Albans with its Roman remains. Shakir is a keen member of St. Albans International Centre and still makes several articles of copper enamel jewellery each week which he glazes in a little kiln and sells for the funds of the Centre.

*Enamelling brooches in his home kiln is Shakir Hassan, of M.I. Assembly Test Group 660. 'Evening Echo' photograph*



*Forty years of experience behind that down-beat. Frank Harwood conducts his band at the M.I. annual ball. Keeping his hand in is Denis Kensett (second from right), Foreman Group 634, who is an ex-professional musician*

## Obituaries

### MR. G. TULLBERG

THOSE OF US at M.I. who were privileged to be colleagues of Gerry Tullberg knew him as a man of tremendous courage. He joined the Company in 1943, and for the first twenty years he worked as a senior test technician. He was a keen football and cricket player.

When his sight failed he trained as an audio typist and worked, when his health allowed, in a Test Methods department until his death. At his wish there were no flowers at the funeral and the money which would have been used for this purpose was sent to the Royal National Institute for the Blind. To his wife and family we extend our sincere sympathy.

### MR. H. LITTLECHILD

M.I. PEOPLE at Hedley Road Service Department will miss Herbert Littlechild, who died suddenly after eight years at M.I. He will be particularly remembered not only for cheerily carrying out his normal duties but for the tending of the pretty garden which he regarded as his special job. We send our sympathy to his wife and family.



### Awards for long service

Long-service awards were presented to those members of the Company who had completed forty and fifty years, by R. Telford, Managing Director. Left to right, F. E. Stannard, Equipment Division, forty years; W. J. Laws, Building and Facilities Group, fifty years (retired); R. Telford, Managing Director; R. G. Boyce, Equipment Division, fifty years; C. G. Marshall, Equipment Division, forty years; C. Tumbridge,

Equipment Division, forty years; G. R. Giddings, Fabrication Division, forty years; R. Bragg, Equipment Division, forty years; R. J. Turner, R. & D. Workshops, forty years. Miss V. Friend of Accounts Department has also received her award for forty years' service, but was on holiday when this photograph was taken

### Obituaries

We offer our sincere sympathy to the relatives and friends of the following Marconi people who have died:

Mr. Bruce Barnard, Plant Engineers, twenty-seven years. His brother Bob, son-in-law John Preston and brother-in-law are all at New Street.

Mr. Alfred Thomas Hockley, Equipment Division, forty years' service

Mr. Derek Hedgecock, Reprographic Services Group, eighteen years, whose wife Jean is in the Secretary's Department.

Mr. Leonard Stevenson, Commercial Services Division, ten years.



### HAPPY DAYS



FAR LEFT: Michael Ginn, Traffic Studies Section, Autonomics Laboratory, and his wife June after their wedding at St. Michael and All Angels, Galleywood, with the cake made in New Street canteen by pastrycook J. Adams. Road Research Laboratory friends at Crowthorne gave Michael stainless steel tableware and those at Baddow a cheque, which A. B. E. Ellis, Chief of Data Systems, Research Division, presented. Michael's father, Ken, is at New Street and his mother, Peggie, at Baddow. LEFT: New Street telephonist Mrs. Thomas Smith, the former Susan Workman, and her American bridegroom after their Chelmsford Register Office wedding. Kitchen scales were given to Susan by her Switchboard friends, and Mrs. Joan Hall, Supervisor, made the presentation [photos K. Richter]



## Football

The Heris Aubrey Cup, the most attractive trophy in Hertfordshire, has been won by the M.I. Football Club. After beating League Champions, Leggatt's Way O.B., 3-2 in the semi-final M.I. felt they had a good chance against Rolls-Royce in the final.

Although our opponents had two good chances to score, we were always in command with skipper Mick Fleming proving to selectors why he was chosen for Hertfordshire four times in the 1968-9 season.

A good goal by Peter Waite after eleven minutes, and a second-half goal by Basil Williamson, gave M.I. a 2-0 victory.

The first eleven had a disappointment in losing the runners-up position in the Herts County Premier Division by 0.003 of a goal. Needing to win their last game of the season either 8-0 or 9-1 to beat Saffron Walden for runners-up position, M.I. beat Sun Sports (Watford) 8-1, and with 26 goals against them in thirty matches we had to settle for third place.

The reserves had a fair season finishing in the top half of Division 1 of the County League, and losing 3-2 in the County Reserve Cup semi-final.

The committee feel that we had a good season, but that next year must be better.

Many thanks to all those that sup-

ported the club every week with their shillings, and for vocal support given in our cup matches.

Football training starts on 15 July at 7 p.m. at the sports ground. New players welcome.

G.W.

## Gardeners' quiz

The M.I. canteen was the scene of a convincing victory when Welwyn Garden City Horticultural Society beat a team from Goffs Oak by 26 points in the final of the Hertfordshire County Horticultural Society inter-society gardeners' quiz.

Supporters from both districts, and members of M.I. Horticultural Society were present to see the County H.S. President, Brigadier R. N. Hanbury, award the cup and outline the plans for the forthcoming County Horticultural Show in September.

## Cricket

During the last month there has been two of those awkward mix-ups with fixtures that happen in the crossfire of

*The winners of the 1969 Hertfordshire Aubrey Cup were the M.I. first eleven pictured here with George Clabon (standing), club chairman, Mick Fleming, captain, chaired left and Jack Sears, team manager, chaired right*



**St. Albans**

correspondence when every team is trying to fix up matches with other teams. On one occasion M.I. stepped down when three teams turned up for a game.

There was, however, a very good game when M.I. played a Sunday match at home against Arland of Luton and won by 2 wickets. Our opponents batted first and Richard Laskey took 7 wickets for 25 runs. Alec Beach, our captain, helped the score along with a useful 39. Altogether a pleasant afternoon's cricket played on a good pitch in fine weather.





## Chelmsford



### Cricket

The Saturday 1st XI opened the season with an exciting tie. After a quiet start, Marconi declared at 131 for 5 (R. Clover 43). Baddow looked confident reaching 102 for 3 but in the last 30 minutes collapsed to 131 for 8.

Marconi again declared at 125 for 6 (Audsley 57) against Red Triangle, who, despite an early breakthrough, eventually ran out winners by seven wickets. The Laindon Taverners match was washed out with Marconi struggling at 79 for 6. The final game in May was against the

*The team. Back row, left to right: Dave Poole, umpire; Tony Freeman, Des Taylor, Rowley Hawes, captain; Ray Morgan, Pat Saltmarsh, Jim Dyer. Front row: Clive Denny, Derek Monk, George Robbins, Bill Brown, Von Audsley, Jack Simpson, scorer*

old enemy, Ernest Turner's XI. Turner's opened strongly, but with the advent of the new ball (the old having been launched into moon orbit) were dismissed for 130 (Ottley 20-6-37-5)

including a fine 57 from J. Turner. Marconi's lost their first wicket without score and, always coming from behind, were dismissed for 101.

The 2nd XI lost their opening game against Writtle. Writtle scored 101 (S. Wright 52, Onijons 18-3-43-5) but Marconi could only reply with 68 (Mathams 11-3-33-8). At Terling, bright batting allowed Marconi to declare at 139 for 7 (J. Ginn 50 n.o., G. Robbins 37). Terling were equal to the task reaching 143 for 5 (J. Barn 40 n.o., J. Joslin 36, J. Ginn 10-0-37-5). On a home pitch which occasionally 'fizzed' Marconi were dismissed for 98, but bowled out Ardleigh Green for 61, due mainly to fine catching.

Marconi's Sunday XI had two very good eight-wicket wins. The first over Colchester Grasshoppers, who were dismissed for 68 (Taylor 5-1-17-5). Robbins scored 43 in Marconi's 72 for 2. In the second Jackdaws were dismissed for 29 (Ottley 12-8-8-7). In the match against Crittalls, Marconi's target was 117 for 7, but only 42 all out was achieved (Lang 12-6-14-5).

There are again sixteen teams in this year's evening league tournament. May's results are:

E.E. Valve Co. (Chelmsford) 116 (10 points) beat Beehive Lane 64 (0 points). Communications Division v. Computer Test cancelled--to be averaged. O. & M. 86 (10 points) beat Central Division 45 (0 points). 'A' Group 130 (10 points) beat E.E. Valve Co. (Maldon) 89 (0 points). Microelectronics 103 (10 points) beat Accounts 49 (0 points). Tool Room 113 (10 points) beat Apprentices 56 (0 points). Broadcasting Division 96 (6 points) beat N.S. Test 93 (4 points). E.E. Valve Co. (Chelmsford) v. 'W' Group cancelled--to be averaged. Beehive Lane 65 (10 points) beat Computer Division 24 (0 points). Communications Division 98 (10 points) beat O. & M. 58 (0 points).

Finally, the section is keen to increase its playing strength and new members will be very welcome at our Thursday 'Nets'.

### Bridge

The Marconi Bridge Club is a flourishing one and meetings are held every Tuesday evening in the M.A.S.C. main hall. In the summer rubber bridge is played for very low stakes, and in the winter duplicate pairs play with a simultaneous team of four every four weeks.

There is much enthusiasm for outside events both at county and national level. Three teams are entered in the S.E. Essex bridge league and another plays for the county itself. The club runs beats of the Essex and National pairs, and organizes a charity event, the Red Cross pairs, as well as its own pairs and team championships. It also plays a

### A typical Tuesday evening at the Bridge Club

*All tables in play. Theme--concentration*



few friendly matches against other local clubs.

New members are always welcome, and anyone interested should contact P. D. Sizer, captain, Baddow int. 253, ext. 203.

### Drama

The summer production, *Busybody*, a gripping comedy by Jack Poppleswell, produced by Bruce Buckley, was a great success. Sue Flatt portrayed Mrs. Piper, a charlady turned detective, who constantly tried to outwit the long-suffering Detective Superintendent Baxter, played by Robin Hatcher.

The society is hoping to present a one-

*Marian Selby, played by Mrs. Dorothy Gibbins, and Dickie Reynolds, played by Marilyn Smith, in the Marconi Dramatic Society's production of 'Busybody' by Jack Poppleswell. Marian and Dickie are two of Mr. Marshall's staff who find that they are suspected of murder*



act play some time in September, at the invitation of the Wivenhoe Social Club.

Activity in another direction included a trip to Tiptree to see *Sison and Laura*, and it is hoped to arrange a party to London this month following the success of the visit to *Hudrian VII*.

Photos of previous productions with general information about the club will be on display at the M.A.S.C. during Festival Week.

### Wine Guild

Five Marconi winemakers headed by the Guild's chairman, Lou Argent, went to Southport for the National Association's annual show. They went by coach and had a busy and entertaining week-end.

First thing on Saturday morning seventy-four judges were faced with the task of selecting the class winners of the wine competitions. The total number of



ABOVE: Talking point, the strike that got away? Left to right, Jes Morley, a former world doubles-champion; Jill and Mick De'Ath, Carol and John Griffin, and Jill Morley

bottles entered was of the order of 3,500, which means that each judge had to taste on an average fifty wines and select the winners of their particular class or classes. The job was finished by 12.30 p.m. Then came the most exacting task of selecting the trophy winners. The Awards Secretary, Mr. J. C. Luker, must be congratulated on the speed with which he and his team dealt with it.

After browsing around the many exhibits and trade stands, delegates assembled for a talk by Ken Hill on 'Modern Beer Making'—quite a provocative and instructive lecture.

After tea there was a quiz, and on the panel were C. J. J. Berry, Bill Millett, (Marconi), A. H. Ritchie and B.C.A. Turner. The next session, when the judges were 'at the bar' to answer competitors' questions, we found particularly informative and helpful. In this way competitors were able to find out more about their wines.

In the evening delegates were invited by the Mayor and Mayoress to a Civic Reception and buffet dance.

On Sunday morning Dr. G. Pasman introduced Dr. R. A. Webb who spoke on judging and said that the National Guild of Judges required more members. He drew attention to standards and how these were related to grape wine.

Among the trophy winners there was

BELOW: The Stores team who won the League Division 1. Left to right, Mick Downes, Quentin Freeman, Reg Blowers, Ted Kozulinski, captain

BOTTOM: M.I.M.Co. R. winners of Division 3. Left to right, Maurice Lokie, John Gladwin, Phil Johnson, Ray Fuller, captain





*The Campers and Caravanners' wine and cheese party, one of the most successful events of the winter season, and here are a few of the seventy members and friends who enjoyed the many varieties of wine and cheese.*



*LEFT: Dismantling the tent which had been on view in front of the M.A.S.C. are John Lacey, right, and Bob Porsvart, left, ably assisted by, left to right, Reg Bragg, Bill Piper and Bob's son Roy.*

one from Essex, Mrs. Rosa Dodds of Wickford. In the various class awards Lou Argent got a fifth prize.

More entries are needed from Essex if we are to make a name for ourselves. Competition is stiff but it is only by competition that we can hope to produce home-made country wines of real quality.

### Camping and caravanning

A wine and cheese party, the last social event of the winter season, in the M.A.S.C. main hall was attended by about seventy members and friends. Basildon Marconi Camping Club was represented by Roy Marshall, hon. secretary, and Alan Francis, committee member. Cyril Taylor gave an excellent film-show with edited commentaries; also a slide show, and one of the latest tents was erected in front of the M.A.S.C. so visitors and members could see the type of equipment the section had to offer for the coming season.

### A beginners view of caravanning

Caravanning can be a pleasurable and relaxing way of spending a holiday, whether on a camp site or touring.

One of the first things to cause us some trepidation, however, was how to set about loading our touring caravan, a 12 ft. Sprite. But available storage space, cupboards and lockers, we found, were most suitable for small items of food, clothing and bedding, and heavier things, such as filled water-carriers, bulk food supply, and collapsible chairs, were best placed immediately above the axle. A very important factor was to ensure the load was distributed as evenly as possible, and the weight on the jockey wheel did not exceed 70 to 80 lb.

With the caravan loaded and hitched to the car, an Austin 1100, we set off. The journey was uneventful and the Raydor clip-on extended mirrors provided good vision, although they seemed a little difficult to set up at the correct angle. Fears about towing were soon dispelled, the only precautions necessary

being to allow plenty of braking space going down hill, as the weight of the caravan tends to push the car forward. The other factor to note was that the turning circle of car and caravan is somewhat larger and care must be taken when negotiating sharp corners.

On arrival at site we parked the caravan and, being novices, made mistakes. One, quite a serious hazard, was not ensuring that the caravan wheels were level before lowering the stabilizing jacks. This caused us quite a headache until someone pointed out that a wedge-shaped piece of wood, 4 ft. long and tapering from 9 inches to nothing, might probably answer our problems. I think this tip could prove a great asset to anyone considering touring. Then, having parked and levelled the caravan, our holiday commenced.

As it was Easter time the weather was still cold and the 38 oz. sleeping bag was not quite warm enough, but two ex-W.D. blankets bought the following day solved the problem. Meals presented no problems as we had a pressure-cooker, a great time saver and strongly recommended to all would-be caravanners.

One important point when living in a small space is that there is a place for everything and the van is kept tidy. An untidy caravan leads to frustration and tends to spoil the relaxing atmosphere.

Having learned all these wrinkles the hard way, for what they are worth I pass them on to the would-be adventurer.

T. RENOUF

### Bowls

The club was entertained at Ramsgate by the St. Lawrence Bowling Club, when the home side won by fourteen shots, each winning three rinks, and the fine weather helped to make it a very enjoyable game.

R. Garwood, S. Garrett, L. Gurney and R. Parker played in the Ashford Cup trial. S. Garratt took part in the first round and has again been selected for the second.

Competitive games are in full swing but it is early yet to comment on progress.

### Tennis

The Chelmsford and District leagues and the Essex leagues are now in full swing.

The ladies' and men's second teams did well in the Essex Cup k.o. tournaments but, unfortunately, both were beaten in the quarter finals.

### Auto club

The section was invited by the Federation of Police Motor Clubs, the Seaxes, to take part in a driving test at Wethersfield aerodrome.

Tests, laid out in sequence along 300 yards of runway, were, except for the first, each against the clock and points/penalties were awarded to competitors on their runs.

'It must be Marconi benefit day!' commented the C.O. of the base, Colonel Gibson, when he presented the awards. For Marconi won each class event, they had the best overall time and took the first eleven places in the final results. But the actual fastest time was put up by an American serviceman—an unofficial entrant.

Afterwards, winners and losers alike settled their differences by enjoying the superb buffet laid on by the U.S.A.F.

There were fifty entrants for the Willingale driving tests, six from Marconi, and Derek Ryley took a first in Class F, Peter Lacey, one of our vice-presidents, a third in Class S and Charles Braiford a third in Class B.

### Golf

The Society opened its season with a match against Maldon Golf Club at Maldon which consisted of eight four-ball better games, and Marconi ran out winners at 5-3. Afterwards, as usual, the Maldon ladies put on a wonderful meal which was thoroughly enjoyed by all. Our sincere thanks are extended to our very old friends at Maldon.

Once again we met the 'Exiles' (Cable & Wireless Ltd.) at Chelmsford Golf Club. This fixture goes back for more years than we care to remember, but the interest in the match is one of the highlights of our season. The weather was wonderful, indeed a perfect day for golf. Everyone who participated in the match considered it one of the best ever. Teams consisted of thirty each side, and the final result was in our favour by 20-8, with two games halved. So Marconi retain the 'Pender-Van-de-Velde Cup' for another year.

In passing we must mention that the Society is growing in strength and the numbers who want to start playing golf are really phenomenal. The trouble is the lack of golf courses in Essex and thus many people are being denied the opportunity of playing golf. We must stress that our Society cannot help 'beginners' to secure membership of a golf club, or obtain facilities for teaching



*The American serviceman in a Sunbeam Alpine who put up the fastest time of the day in the Seaxes (Federation of Police Motor Clubs) driving tests at Wethersfield aerodrome*

people who want to play this most frustrating and fascinating game.

We can only beseech our members to keep swinging to be in good trim for our future competitions and matches.

### Sailing

The big event in our sailing calendar was the Spring Bank Holiday Regatta, held this year on 24, 25, 26 May. Anticipating worse weather but a greater number of entrants this year a marquee was hired, which proved a valuable asset.

Marconi provided about forty of the 155 boats entered for the week-end: a great increase. Thirty-five started in the first race for a Missions to Deep Sea Fishermen pennant. Nine slower dinghies started fifteen minutes later, sailing for the Missions to Seamen pennant. The first race was won by J. Conolly of

Stone Sailing Club, and the second by Gordon Trower of Thurrock Yacht Club.

The points racing started in earnest on Whit Sunday with almost 150 boats, in batches of between six and twenty-three according to class, battling for the best end of starting line. After four races for each class, spread over two days, the leaders gradually became clearer. Three classes had over twenty entrants. In the Hornet class Marconi did very well to gain seven of the first ten places: 1, Simon Darney; 2, Bruce Long and Richard Houlding; 4, Peter Jennings; 5, Mick Turner; 9, John Tillotson; 10, Colin Smith; Simon was awarded the Hallam Trophy. Sailing for the Triple K Cup, the Marconi Enterprise helmsmen did moderately well, Julian Bigden was 2nd, Nicholas Tovey 7th, and

*The Cable & Wireless Exiles met the Marconi Golfing Society at the Chelmsford Golf Club for the annual match. Here are both teams in front of the clubhouse before going out for a good day's golf*





Winner and runner-up of the James Cup darts' competition, George Butcher and Brian Ellis, kneeling right and left centre, with supporting members of the Marconi Basildon darts section. The presentation was made by H. Menday, Machining Unit Superintendent, Basildon [N. Miller]

BELOW: E.E.V. team. Back row, left to right: B. Cloughton, P. Swainston, B. Howgego, N. Atkinson, P. Tourle, C. Bridges, T. Foster. Front row: B. Cant, substitute; G. Smith, goalscorer; T. Pimcock, D. French, D. Farrar, captain and goalscorer

BOTTOM: Boddow Research team. Back row, left to right: E. Jacoby, D. Fawcett, Captain; R. Ashby, T. Dunning, goalscorer; R. Davis, P. Murray. Front row: A. Dawson, J. Parry, M. Coleman, R. Kennedy, goalscorer; A. Hunt



ex-member Charles Hewlett 10th. In the GP 14 class for the Commodore Cup, Norman Palmer was 8th and Pat Black 10th.

In a smaller class, fourteen entrants, Sue Tillotson was 5th in the Fleetwind Eastern Area Championship. J. McDonald was 6th and Alf Cottam 7th in the Mirror Class—ten entrants. The Flying Dutchman, Finn, Fireball and '420' classes were entirely visitors. In the Handicap Class Keith Ryder was 10th.

The rescue launches manned by John Witter, Bryan Urry, Bill Mortimer, Ron Greygoose, and a few others had a fair bit of work to do during squalls.

Avril Stevens and her band of helpers organized an extremely good party with the theme 'Nautical Knights' on the Saturday.

Robbie Sims must have felt he was in quarantine, firing guns and hoisting flags in the race box for three days with hardly a break. Edna Cooper and Bernard Tillotson were among his valuable assistants.

As always, our commodore Jack Bigden became an odd job man and was never short of something to do. Stan Allerton was official of the day and John Witter was regatta secretary. Eleanor Witter dealt with racing entries and paperwork and Margaret Cottam provided an excellent galley service.

More than twenty other members must have helped at one time or another with the bar, race box, galley party and racing paperwork—a really great effort by everyone concerned.

For the first time a number of people camped at the far end of the dinghy park and even with heavy rain managed to stay dry.

The cruisers had a record six boats meeting at Pyfleet a few week-ends ago. The dinghy cruise scheduled for the same week-end was cancelled.

### Inter-departmental football

The knock-out cup final at Beehive Lane between last year's winners, Baddow Research, and a new team to inter-departmental football, E.E.V., was a clean hard-fought match which ended in a 2-2 draw. Goalscorers were: T. Dunning and R. Kennedy for Baddow and G. Smith and D. Farrar for E.E.V. The cup, to be shared by the two finalists, will be held by E.E.V. for the first six months. The referee was R. Hurrell and the linesmen M. Downes and P. Crisp.

### Rifle club

At an extraordinary committee meeting Peter Haycock resigned as club secretary, as he was leaving the Company at the end of the month, and Ian White has been elected to take over his duties until the A.G.M. later this year. The club is now only meeting every other week at the Waterhouse Lane range.

### Basildon darts

The Basildon darts section have had quite an eventful season. They were runners up in the Basildon Central League and also in the Hutton Club and Pairs Cup. R. Townsend, captain, and J. Horne, secretary, were runners up in the Captains' and Secretaries' Cup, in the Landon and District League and the other teams in the section have landed just below the half-way line in their respective leagues.

The ladies have fared well and hold a position mid-way down their league.

The James Cup was played for at the 'Winged Horse', Basildon, and after a good competitive match George Butcher deservedly won it. Quarter final, E. Regan v. D. Eames 2-1; G. Butcher v. J. Hill 2-0; A. Showell v. P. Collier, 1-2; D. Dean v. B. Ellis 0-2. Semi-final, B. Ellis v. E. Regan 2-1; G. Butcher v. P. Collier 2-0. Final G. Butcher v. B. Ellis. In the first leg G. Butcher finished in fifteen darts, the scores being 67, 47, 133, 78 (20, 20, double 18). In the second leg B. Ellis averaged 60 finishing on double 2, with G. Butcher left with 10 to get. G. Butcher won the toss in the third leg, averaged 55 finishing with double 8, double 8 (32) and B. Ellis left 48 for his next shot.

# WITH BEST WISHES...



TOP: After thirty-four years at M.I. Fred Cook, P.D.S. Officer, was not allowed to leave until his friends, who were represented by W. A. G. Brian, Company Secretary, had met to bid him 'happy retirement'

RIGHT: Good wishes, symbolized by computer punchings, were showered upon Section Leader Dennis McKeogh, fifteen years a Marconi man, when D. R. Polley, Chief Estimator, presented a pressure-cooker, the wedding gift from his colleagues.



T. J. O'Flynn, Printed Board Unit Superintendent, Basildon, and a Magazine Editorial Advisory Committee member, whose eight years at Basildon were preceded by twenty at New Street, has become Senior Personnel Officer, Basildon. Gifts to mark the occasion which L. F. Stibbs, Production Control Supervisor, presented were a gas table-lighter, an ash-tray and a Parker pen [R. V. Tutte]

FAR RIGHT: Tony Hopkins, Product Training Engineer, was getting married so on behalf of his M.I. friends C. N. E. Woodley, Marketing Services Manager, presented him with a table-lamp.



Marilyn Piper's coming of age did not go by unnoticed by Computer Test, Wilford site 2. Her presents included 'The Forsyte Saga', a shopping bag, and a brooch, and there were many birthday cards. 'We always knew there was a use for old test tapes,' they said, 'and dig that crazy car-ring,' as she sat at her decorated typewriter [A. Backroyd]

FAR RIGHT: Brenda Edwards, a member of Marconi for seven years, received a wedding cheque, since used to buy a slicing machine, which D. R. Martin, Section Leader, Tool Design, presented on behalf of her friends.





Preceding the honeymoon in Majorca and wedding at St. Andrews Church, Hornchurch, of Dick Chapman and his wife Eileen was the presentation to Dick of Crown Merton saucepans by A. E. Parish, Tool Room Superintendent

**FAR LEFT:** Wedding bells for Colin Bloss, Shipping Group, eleven years a Marconi man. Best wishes for his future happiness were wrapped up in the cheque which A. T. Holloway, Manager, Packing and Transport, presented. Colin intended using this to buy stainless steel cutlery



Outside in the sunshine at Writtle are Dick Mugeridge, Section Leader, Message Switching Software, eight years a Marconi man, and Message Switching people. J. K. Todd, Technical Manager, Line Communications Division, presented him with a wedding gift, a bathroom cabinet, subscribed to by divisional colleagues and other Company friends. He also presented 2,000 Green Shield stamps



R. Lincoln, Foreman of Printed Board Section Beehive Lane, presenting to Jennifer Dobson, a water-set in Swedish smoked-grey glass, six whisky glasses, and a novelty china-cat with scissors and string with very best wishes for the future. Jennifer, who was getting married, has been at Beehive Lane for three years. [Photograph by Howard Williams]

**FAR LEFT:** Wedding gift of a standard lamp for Roy Read, Production Control Assistant—Special Products, from his M.I. friends. G. Chance, Production Controller, made the presentation.



Gifts which included a carry-cot and a baby-bath and stand were presented by C. King, Production Controller, Basildon 2, to Mrs. Ann Appleton, his secretary for more than five of her ten years' Marconi service and one of the first trainee typists [G. Hoare]

**FAR LEFT:** Twenty-one-today was Peter Morphew, M.I. Moulding Shop, so his friends gave him a battery-shaver, which was presented by P. Lawrence, Chargehand.



About to open the case of the travelling clock at his farewell presentation by P. Guest, Wilford site 2 Superintendent, left, is test engineer Peter Bridgwood [A. Buckroyd]

FAR RIGHT: This pre-wedding presentation to R. 'Jock' Muir, Section Leader, Disposal and Reclaim, took place in Drivers Yard. A. L. Webb, Materials Handling Controller, was there and handed over stainless steel cutlery, plus a Calibri lighter for the bride-to-be



Janet Hempstead was about to be married to Brian Mellish, Central Division, so E. H. Palmer, Supervisor, Despatch Inspection and Documentation, Packing and Transport, presented with every good wish for their future a set of towels and a milk saucepan



For keen gardener Roy Hardy, Contracts Supervisor, Radio Communications Division, who was leaving the Company after more than nine years, colleagues subscribed to a king size garden and greenhouse spray, a pair of edging shears and a reel of hose which D. B. Kennett, Project Manager, Major Tropo Systems, presented on their behalf

FAR RIGHT: An electric kettle was the wedding gift for Ray Butcher, M.I. Machine Shop, and R. Sully, Manager Feeder Shop 1, made the presentation on behalf of his friends.



A gold charm for her bracelet was the farewell gift presented by J. F. Frewer, Company Safety Fire Officer to Mrs. Vivienne Willett, his secretary, when she left to become a full-time housewife. Her father, 'Bill' Lucy, has just retired after thirty-four years, and brother John is still at New Street

FAR RIGHT: Farewell to M.I. Publicity's Mrs. Trixie Wilkinson, who handled magazine sales at St. Albans. A week-end case was presented to her by Chris Hooper, Assistant Publicity Manager, on behalf of her friends





A bracelet and other gifts for Tina Crook, M.I. Group 672, when she was twenty-one. The presentation, on behalf of her friends, was by L. Windmill, Assembly Superintendent—Production Unit 2.

**FAR LEFT:** Mrs. Joy Frewer received an electric clock from her friends which J. Richardson, Senior Contracts Administrator, Radar Division, Baddow, presented when she left after twenty-eight years, but with husband Jan still at New Street, he is Company Safety/Fire Officer, and herself a veteran, she is still very much connected with Marconi



Baby things from her M.I. friends for Mrs. Angela Beasley, Printed Board Assembly. They were presented by Foreman R. Gibbs.

**FAR LEFT:** New Street telephone exchange supervisor Mrs. Doris Northfield received a gold charm for her bracelet, also a bouquet, a purse and some perfume when she left the Company after six years' service. W. E. Eden, Chief of Communications and Housing Group, did the honours



Flowers, a necklace, and a stainless steel coffee-set from her friends for Mrs. Ericka Moore were presented by C. H. Carter, Group Controller, Production Control, Equipment Division, when she left Marconi after six years because of leaving the district

**FAR LEFT:** Before copy typist Mrs. Gladys Miller left after nine years in Marconi, friends gave her a Parker pen, and R. W. Theobald, Chief of Package Design, was in charge of the presentation ceremony



Before Gerry Gilbey, a Development Planning section leader, left Baddow after twelve years' Company service, colleagues gave him a Parker 61, and W. E. Stanbury, Chief of Development Planning Group, R. & D. Works, was in charge of the handover ceremony

**FAR LEFT:** Farewell at M.I. to Gordon Gould (left), Manager Group 674, so his friends gave him a pair of field-glasses—for bird watching—which were presented by M. E. Kelsey, Works Manager

# WHAT'S ON

WIN A CAR - see below



## M.A.S.C. Beehive Lane, Chelmsford

Saturday night is dance date night

12 July **EMBASSY DANCE BAND**

26 July **ROY KEY DANCE BAND**

2 August **DAVE REED DANCE BAND**

9 August **THE STARLINERS DANCE ORCHESTRA**

16 August **RAY NORMAN DANCE BAND**

Full details from the club office, Tel. Chel 54550

## MARCONI APPRENTICE ASSOCIATION

14 July **LOCO AND MODEL ENGINEERING CLUB** 7.30 p.m.  
Building 726 lecture room, New Street. Discussion on club project: the construction of a portable steam engine.

16 July **M.A.A. COMMITTEE MEETING**  
Any suggestions to E. Baker, c/o Training Office, New Street.

19 July **GO-KARTING** at Chelmsford Cattle Market, 2 p.m.  
Those wishing to drive should obtain an entry form from C. Baldry, Hut 26, Saddow, Bal. int 662.

22 July **VISIT TO KODAK LTD.**  
Anyone interested should write to E. Baker, c/o Training Office, New Street.

25 July **LOCO AND MODEL ENGINEERING CLUB** 7.30 p.m.  
Building 726 lecture room, New Street.

29 July **TEN-PIN BOWLING** at Basidon.  
Coach leaves New Street 6.10 p.m., calling at Springfield Place and Phoenix House hotels. Coach trip free to members, 2s. non-members, 30s. price for person who gets the nearest to a mystery score.

**RADIO CLUB** Mondays and Thursdays 7.30 p.m.  
Phoenix House, London Road, Chelmsford

**PHOTOGRAPHIC CLUB** Fridays 7.30 p.m.  
M.A.A. darkroom, Drivers Yard, New Street.

**TABLE TENNIS** Mondays 7.30 p.m. New Street Caravan.

For further details of events contact Ed. Baker, M.A.A. vice-chairman, Room 216, Marconi House, New Street.

## M.A.S.C. FESTIVAL WEEK

Monday, 14 July to Sunday, 20 July

### Monday 14 to Friday 18

Various Section activities:

Hockey Tournament (Mon.-Fri.), Darts (Mon.-Tues), Billiards and Snooker (Mon.-Tues), Carping and Caravan Display (Fri.-Sat), Dramatic Display, Costumes, etc. (Mon.), Photographic Display (Mon.), Archery—Try your hand at this sport on Tuesday

### Wednesday 8 p.m.—11 p.m.

The Wednesday Night Club presents

#### THE HARMONY GRASS

(Latest record: 'Move in a Little Class')

Supporting Group THE SWEET

Members and Guests 5/-

### Thursday 8 p.m.—11 p.m.

#### Modern Dancing Section Party Night

with demonstrations by Robert and Marguerite O'Hara, International Dancing Champions

Member 2/6 Guests 3/6

### Friday 8 p.m.—11 p.m. approx.

#### Sections' Film Show

Various sport films of interest to all sections, including Bowls, Sailing, Angling, Auto, General Sports

Members 2/- Guests 3/- including refreshments

### Saturday 2.30 p.m.—4 p.m.

#### Children's Entertainment

in main hall  
Admission free by ticket only. Available from Club office

### Saturday 8 p.m.—midnight

#### Dancing

to The Ray Norman Band (with vocalist) plus Cabaret spot

Members 5/- Guests 6/-

### Sunday 8 p.m.—midnight

#### GALA CONTINENTAL EVENING

Artists include DENNIS LOTIS, CHARLIE SMITHERS (Comps) comedians

#### Miss M.A.S.C. Competition

Cash prizes First £5 Second £3 Third £2

Members 9/6 Guests 10/6

DRAW FOR MORRIS 1100

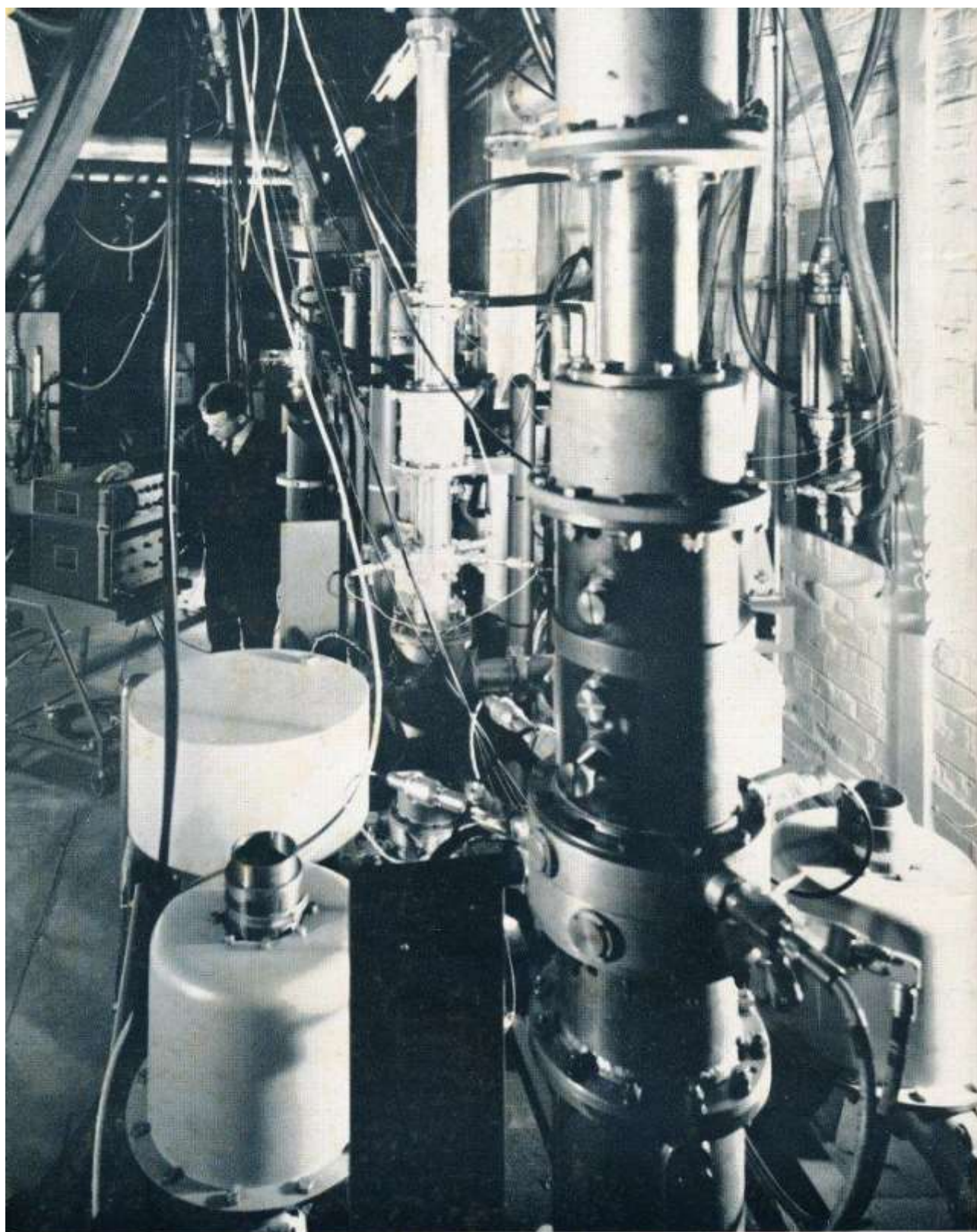
### WIN A new Morris 1100

TICKETS 2/- EACH

Value £750

A ballpoint pen with every ticket purchased

Draw to take place during GALA CONTINENTAL EVENING on Sunday, 20 July



# Marconi

*B.B.C. colour transmitting equipment  
for London on test. See page 4*