

A Myriad channels of thought

Electronic circuitry, which occupied four cabinets six feet high, can now be compressed into the control desk of a computer. This report from G. D. Speake, Chief of Research, became one of the highlights of the year 1964, and the research achievement that it represented is now the root of a rapidly growing tree with a spread of blossom this summer which promises to give a good yield.

'The skill which has been acquired during recent years in the production of microelectronic circuits has begun to pay dividends in terms of practical equipment', explained Mr. Speake at the time. It led

Imp, the prototype computer built at Baddow to prove techniques from which Myriad was evolved. On the left is John Keene with Peter Jefferies



to the development of Imp, a prototype digital computer which uses integrated semi-conductor circuits.

The new computer was capable of fulfilling so many functions that it was in fact a complete 'family' of general high speed computers. It was therefore aptly re-named Myriad. Its incredibly small size allows it to fit into the dimensions of the average office desk, and its speed can be judged by the fact that it is ten times as fast as any comparable general purpose computer.

In order to meet the Company's growing requirements for electronic digital computers and their peripheral equipment in the fields of radar defence, civil air traffic control, communications systems and airborne systems, it was decided to form a Marconi Computer Division with E. F. Atkins as Manager.

Now that the prototype of Myriad has been evaluated and designs are complete, the division's engineering development sections, established in laboratories at Baddow, are transforming the final specification into hardware. The first model will be ready in the autumn and others will follow it closely.

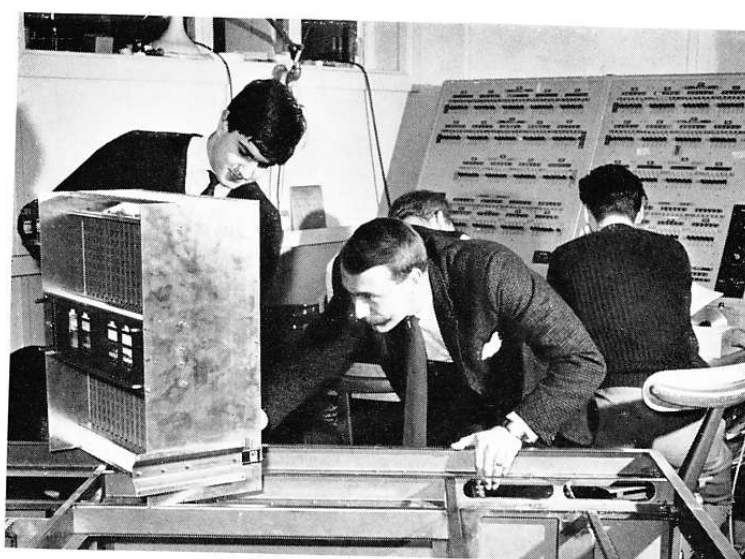
Computers already play a prominent part in our radar, air traffic control, and other installations and Myriad has been designed to play an advanced role in equipment such as this. But Myriad is adaptable to a number of purposes and can also be used for industrial process control and for commercial work. Already we have a number of confirmed orders for complete systems including one from the Royal Radar Establishment at Malvern. Demonstrations have also been given to other interested customers.

With the formation of English Electric-Leo Marconi-Computers and with the close links between The Marconi Company and the parent Company, the supply of certain types of computer systems to our own Product Divisions and the English Electric Group should, in the relatively near future, grow into a major divisional undertaking, and Mr. Atkins is forming the structure of his division on that basis.

He has four laboratories: two for development, where Myriad is now being built, and two specializing in work for the future on systems development and design techniques. The techniques people examine all new devices and new methods of construction as a forward-looking policy on which to form the basis of improved design for the next generation of computers, and are concerned with application and connexion problems for obtaining the full measure of performance from individual components. The systems people must use the full potential of the techniques in the organization of the



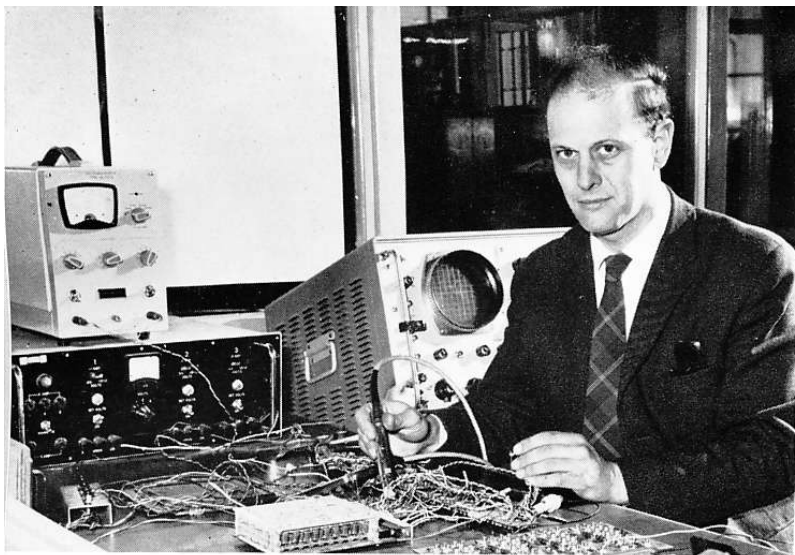
Brian Partridge, left, working out flow diagrams for new computers with Derek Jeffrey, Section Chief, Systems Lab



Roger Adams, left, and Ted Ellis, making ready to fit a rack in the skeleton console of Myriad. In the background at the test box, testing prototype printed boards from Beehive Lane are Alf Smith, left, and John Brown, the test engineer from Beehive Lane

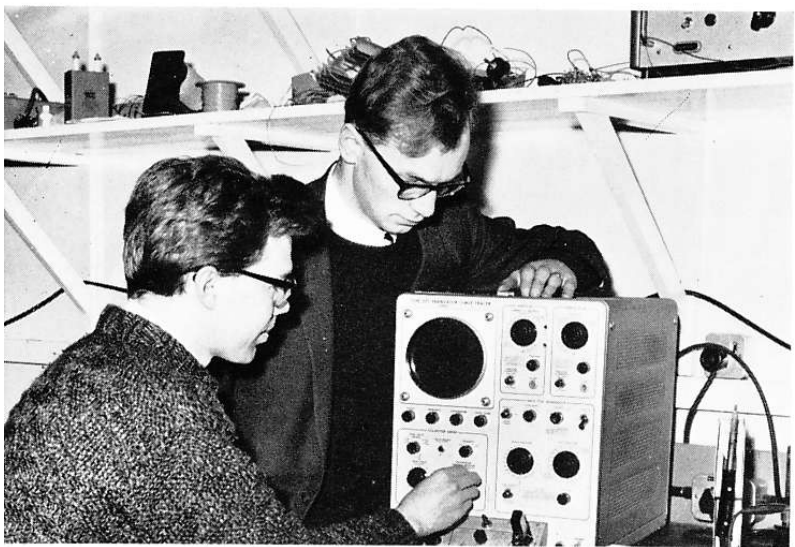


Ted Ellis, left, working out rack fixing in the skeleton console of Myriad, with Ken Monger and Tom Patterson



machine in order to ensure the greatest operational efficiency.

Any computer with the resources of Myriad must be regarded as a system with satellite contributory systems: for its ramifications are enormous though its physical elements are so small. At the hub is the processing unit whose programme is fed from tape, teleprinter, or electric typewriter, and whose computation circuits are built up from a multitude of small compact component units in the form of printed boards, each quickly isolated by a fault-finding technique and easily replaced if necessary. Round the hub a system applicable to a particular use for the computer is built up with receiving stores and work in progress stores, all at the service of the computation department, which can make withdrawals in less than a flash of time having filled in its own notes in triplicate and added the departmental signature. Thus the service offered is



The new memory store being developed in techniques laboratory by Don Beckett for Myriad and new computers

Examining the characteristics of logic modules in techniques laboratory, Andy King, Section Chief, right, and Alan Brown

BELOW: *Some of the team of engineers responsible for developing Myriad for production. Left to right, Alf Smith, Trevor Reeve, David Jennings and Roger Adams*





The team responsible for Computer Division. Left to right, standing, Ken Monger, Section Chief, Development Lab. A; Derek Jeffrey, Section Chief, Systems Laboratory; Fred Chittenden, Assistant Chief Mechanical Designer, Baddow Drawing Office; Andy King, Section Chief, Techniques Laboratory; Tom Patterson, Assistant Manager, Administration and Development; and at his desk, Eric Atkins, Manager. Reg Paskell, Section Chief, Development Lab. B unfortunately missed the picture

based on a production schedule timed to a nano-second.

Production schedules are uppermost in the minds of Eric Atkins and his team. Their aim and object is to supply computer systems to the Product Divisions and the Group. With their enthusiasm, with the right designs and the right timing to meet

their market, surely they will see success? Opportunities must break for those who have equipment ready to meet the trend of events, and who know how to keep it in the forefront when competition becomes intense.

The Early Bird is up. The dawn chorus should bring us business.

French honour for Sir Gordon Radley

Sir Gordon Radley, Chairman of The Marconi Company and Marconi Instruments Ltd., has been made a Commander of the French Order of Merit for research and invention.

He was nominated for this distinction by the presidents of the Institutions of Civil, Mechanical, and Electrical Engineers for his outstanding contributions in the fields of research and invention to the development of national and international telecommunication and, in particular, to the linking of continents by submerged telephone cables incorporating electronic amplifiers.

Sir Gordon, who retired as Director General of the Post Office in 1960, controlled the United Kingdom's part in laying the first transatlantic telephone cable.

As a pioneer of subscriber dialling on the trunk services, Sir Gordon was responsible for the early developments in electronic switching on the telephone services. More recently he has been associated with plans to make the Post Office a paying concern.

International recognition of his particular field of engineering came with the awards of the Christopher Columbus International Prize for Telecommunications in 1955, and the Faraday Medal of the Institution of Electrical Engineers in 1958.