

RAL

DESIGN & DISCOVERY

Open Days July 1990

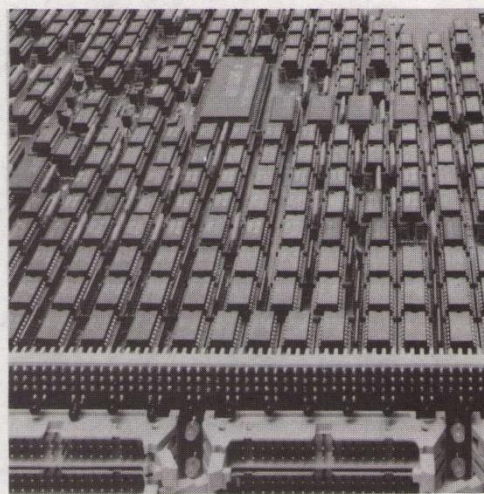
RUTHERFORD APPLETON LABORATORY

SCIENCE AND ENGINEERING RESEARCH COUNCIL

ELECTRONICS AT RAL - AN INTEGRATED SYSTEMS ENGINEERING APPROACH

Advanced electronic and microelectronic systems are provided to all Board areas of the SERC by the Electronics Division of the Rutherford Appleton Laboratory. Such systems are essential to ensure that UK research groups remain in the forefront of modern discovery. In addition, its services are increasingly used to support Small and Medium-sized Enterprises (SMEs) where the spin-off possibilities are exploited.

A wide variety of skills are brought together in an Integrated Systems Engineering approach which begins with system analysis and simulation and continues through to system commissioning and maintenance. This approach is based on experience which has been built up through involvement in major projects over the last ten years. It ensures that the most appropriate techniques are used for each task and it allows the synergy between different tasks to be used to full advantage.

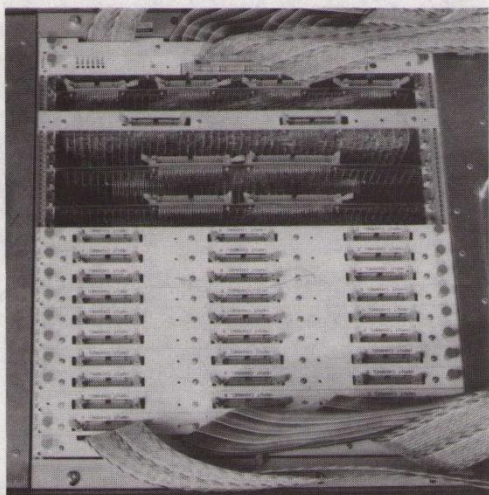


Electronics at RAL has more than 100 staff and many years of experience in the following areas:

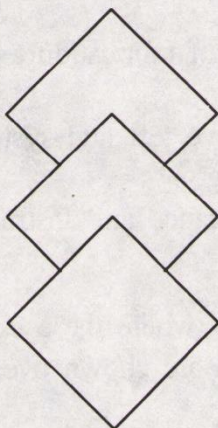
- System specification, simulation and design
- Microelectronics design and PCB layout
- A full range of fabrication technologies
- Comprehensive test and system commissioning
- Product assurance and instrument calibration

Some examples of where these skills have been applied are shown overleaf.

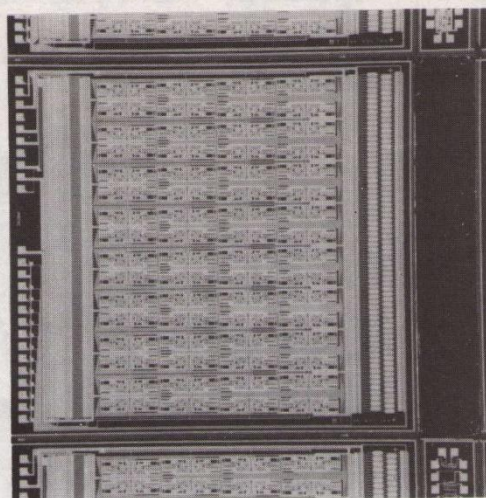
This picture shows a 128-channel charge amplifier array. This is one of the MX family of chips which have the ability to sample and hold signals from a variety of detectors. Originally designed for particle physics experiments, the MX family has applications in many other fields, including image processing, medical electronics and aerospace.



The results of the Division's work have also been used in Space Science research. Here is shown a module which is set to fly in the forthcoming ATSR satellite.



If you would like to know more, please contact Peter Sharp(T 0235 446242) or Andrew Kurzfeld(T 0235 445286) of RAL Electronics Division.



Electronics Division contributes to a wide variety of research projects. A typical rack of electronic equipment is shown in this example - just one of the many racks built by RAL and used in the UA1 experiment at CERN.

