

RAL

DESIGN & DISCOVERY

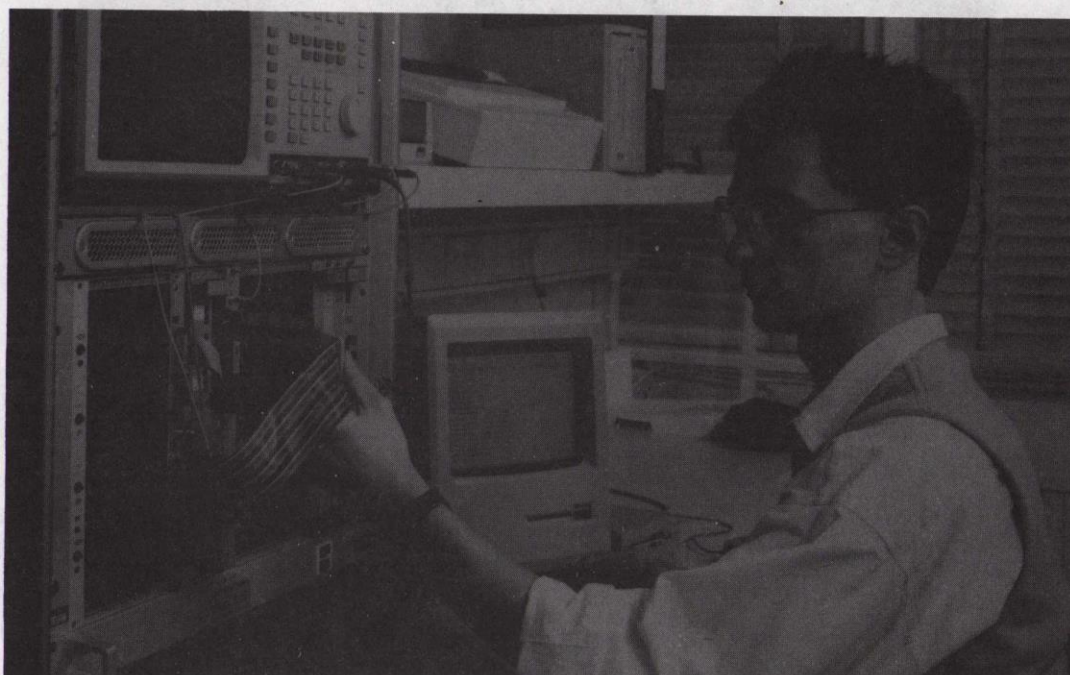
Open Days July 1990

RUTHERFORD APPLETON LABORATORY

SCIENCE AND ENGINEERING RESEARCH COUNCIL

SYSTEM TEST AND COMMISSIONING

The Electronics Division is responsible for designing and producing electronic systems for use in a wide range of advanced research projects, such as those used on the particle physics experiments currently running on the LEP machine at CERN. The testing and commissioning of these large systems has several stages which are described below.



Board functional test

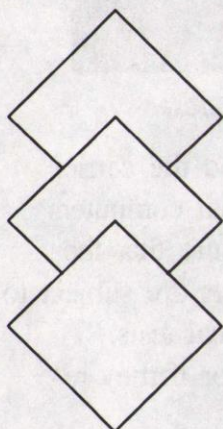
The first stage, after initial inspection of the individual components and the carrier board itself, is a functional test at the board level. Stand-alone personal computers are used together with purpose-designed hardware and software to ensure that the boards meet their functional specification. Boards which fail these tests are subject to a fault rectification process and retested until they pass all the functional tests. A similar procedure is used to repair faulty boards if they fail in service or if they require updating to meet a new operational demand.

The second stage, following the individual board functional testing, is to build up and test a prototype system which is a representative subset of the final system to ensure that the separate boards will operate as required when they are connected together. The drive computer for these tests, wherever possible, will be the same type as will be used to drive the system in the real application.



Part of the CERN UA1 system racks

Final commissioning of the completed system takes place at the experimental location. Members of the Division's staff are often to be found at CERN(Geneva), DESY(Hamburg), ILL(Grenoble) or elsewhere undertaking such commissioning and maintenance work.



*For further information, contact either
Peter Sharp or Andrew Kurzfeld on 0235
446242 or 445286 who will be pleased to
help.*

