RAL

R.A.L. PC Support

RAL has a rapidly increasing community of PC users who require support. The PC Support section was set up some 4 years ago to provide for the needs of this community. The support provided covers the entire range of activities involved in purchasing and using the best equipment for the user's needs. PC Support presently covers over 350 PCs at RAL, this is increasing at a rate of 70 plus per year. Spending through PC Support on personal computers and related equipment amounts to a third of a million pounds a year spread over some 250 orders.

PC Support tests hardware and software to assess present and future suitability for RAL use. A testing suite has been developed which includes critical tests of all aspects of a PC. These tests have shown up faults with a number of loaned test machines thus preventing expensive mistakes. PC related literature is studied to pick out equipment worthy of testing, and to keep up with present and future developments such as 80386 and 80486 central processors, OS/2, Unix, Windows/386 and Desqview/386. The results of these tests are used to maintain a list of recommended equipment. This list together with reviews and technical information is published in the RAL PC Newsletter which is distributed throughout RAL and also sent to other SERC sites.
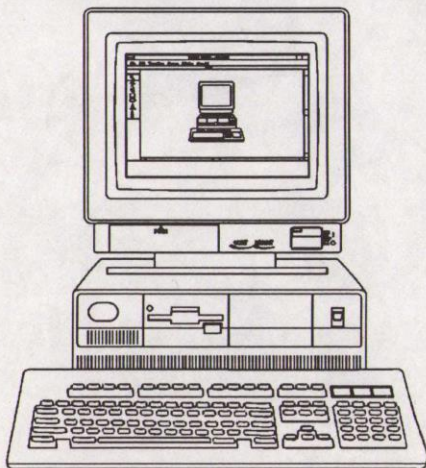
PC using a drawing package

Users who wish to purchase equipment contact PC Support for advice. They are advised on the best equipment for their particular application, allowing for available finances and possible future uses of the machine. In the case of machines for which the use of the PROFS office automation system is a prime requisite, there is liaison with the PROFS group at Rutherford. Users are provided with pricing details and the ordering process is overseen. Once delivered, equipment is configured and installed for the user who is then shown how to make the best use of it.

Users contact PC Support if they have problems, these are analysed over the phone and solution attempted. If their problem is more serious then a visit is made. Data can be recovered from corrupted floppy and hard discs with a good rate of success. This process requires detailed knowledge of disc layout including any new ones. These are continually being introduced.

PC support carries out technical work to maintain and expand the technical knowledge of the section and to produce utilities for use by RAL users. An example would be writing short programs to test new functions available on newer machines and with new versions of operating systems. An "anti computer virus" program to detect virus infection has been produced and uses several techniques to detect the infection.

Viruses have received a lot of publicity but they are not as widespread as may be thought. Nevertheless, there have been four "infections" at RAL plus the well publicised AIDS trojan. All of these attacks have been successfully cured by the PC Support section.

Use of PCs at RAL is increasing with a total installed cpu power and disc capacity rivalling a mainframe computer. As such they require expert effort to maintain their efficient use and exploitation.

PCs are used in a wide range of activities:

Office automation - wordprocessing, databases, spreadsheets;

Use of RAL's IBM mainframe and its office automation system (PROFS);

Communications with other computers such as VAXs and other mini-computers, using text and graphic terminal emulators;

Computer Aided Design including circuit design;

Capturing data from experimental equipment using various interfaces available for PCs, eg control and representation of results from a thermal imaging system;

Graphical representation and analysis of data using either commonly available graphics programs or programs specifically written at RAL;

Mathematical modelling to analyse differences between experiment and theory;
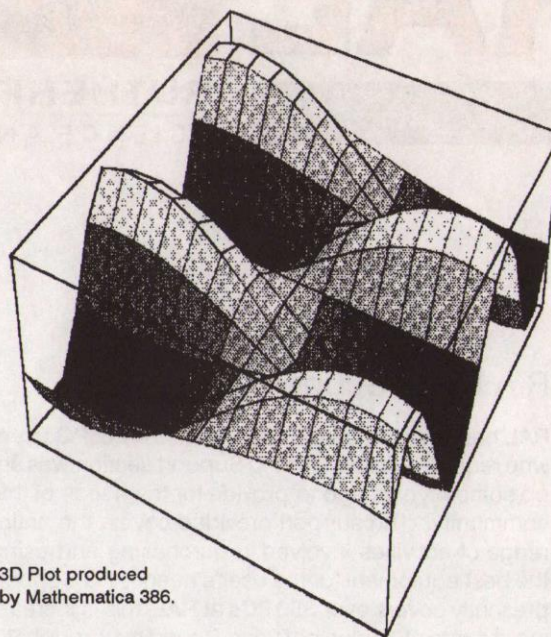
3D Plot produced by Mathematica 386.

Demonstrations

The demonstrations show two uses of PCs:

The first PC is running a package called Mathematica 386 which allows a Scientist to easily solve complex equations, plot functions in three dimensions and plot experimental data. The package is difficult to use but can carry out calculations and solve equations in a fraction of the time normally needed.

The second PC shows an example of the technical work carried out within PC Support. A program has been written in the C programming language and is being run on a source level debugger. This is a package which allows the code written by the programmer

to be viewed and run one step at a time on one screen whilst the output of the program is viewed on the other screen. Any errors in utilities written by PC Support can (usually) be traced using this technique.

A further PC is shown dismantled into its constituent parts simply to show what makes a PC tick (see accompanying technical leaflet for more details). A few older computers are displayed to show the evolution of personal computers.

PC controlling a particle sizer which uses centrifugal sedimentation of samples dispersed in a liquid.

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