

RAL

DESIGN & DISCOVERY

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RUTHERFORD APPLETON LABORATORY

SCIENCE AND ENGINEERING RESEARCH COUNCIL

COUNCIL WORKS UNIT

COMPUTER AIDED DRAUGHTING AND DESIGN

The Council Works Unit (CWU) started using a computer aided draughting and design system for the preparation of drawings in November 1983 with a software package called DRAGON. At that time a single workstation was installed in each of the two design offices within this building connected up to a small mini-computer in Building R1. Now, there are a total of 7 workstations used in this building connected up to a more powerful computer housed in the ATLAS COMPUTER CENTRE, to which a further 21 workstations used by various design offices at RAL are connected. The software package currently in use is called MEDUSA.

The CWU uses the CADD system to produce two dimensional drawings for architectural, building, mechanical and electrical work which are issued to contractors and suppliers in connection with CWU's construction projects. Three dimensional drawings are also produced which greatly assist in the presentation of a new project to the client or Planning Authority.

The MEDUSA software has the ability to allow information to be presented in 'layer' form on a drawing, each layer being designated for differing requirements. One layer will be normally used for descriptive notes and another for cross hatching for example. A total of 1023 layers are available and they can be switched on or off independently as required, which is useful when transferring building outlines between design offices and for the speedy reproduction of outlines without text and cross hatching onto a VDU screen.

In 1987 the MEDUSA software package used by CWU was enhanced by the addition of TW-ARCH software which is a customisation for particular use within the architectural and construction industry. This package has the ability to produce floor plans, elevations and fenestrations, draw out automatically various types of walls, eg brickwork and blockwork showing cavities where required, varying line types and thicknesses, different types of text and reproduce from memory items such as doors, windows, bathroom fittings etc.

Located within this building is a high speed plotter that is able to produce drawings directly from commands given by the workstation user. The plotter is of the electrostatic type and can produce monochrome drawings of any length up to 36 inches in width.

A major future development will be the operation of the present MEDUSA software using 'stand-alone workstations. The computing power for a stand-alone system is situated at the users desk rather than in a highly subscribed remotely located mini-computer. This has the advantage of being more powerful than the mini-computer resulting in a vastly increased speed of response to commands. It is completely independent of the action of other RAL CADD operators and allows improved facilities for the archiving of already completed drawings.