

**COMPUTERISED CONTROL OF THE 6MV EN-TANDEM
ACCELERATOR AT THE SCHONLAND RESEARCH CENTRE
FOR NUCLEAR SCIENCES**

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- The 6MV EN-Tandem accelerator from High Voltage Engineering has been computerised. The accelerator has been divided into 6 units. Each unit has its own Node computer and each node computer is connected via a LAN network (Ethernet) to the Console computer, through which control is enabled to the following units of the accelerator: the ion source(s), low energy transport, high voltage tank, high energy transport and target beam-line control. Each section has been electrically interfaced through Nudam Modules which control the input/output through an RS485 serial link. Three types of Nudam modules are used: Analog input (0-10V), Analog output (0-10V) and Digital 8 bit input/output. The analog output modules control the PSU voltage/current output. The Analog input modules monitor the voltage/current etc. of the PSU, and the digital I/O module is used for on/off switching and is used for valve control, error checking, etc. The magnet PSU is digitally controlled by adding two units together obtaining 16 bit accuracy. The use of Node computers speeds up the reading of each monitor/control point. The cost effectiveness and relative ease of interfacing makes this approach efficient, economical and reliable.