

THE NUCLEUS OF AN OPERATING SYSTEM FOR THE ICL 1902A COMPUTER

ABSTRACT

An Operating System is the interface between the computer hardware and the users of the computer. It may be regarded as a large computer program designed such that the users can have easy and efficient access to all the hardware resources available at the computer installation.

It can therefore be deduced that the level of efficiency achieved by the user may very often be directly proportional to the level of efficiency in the design of the operating system.

With this in mind the behaviour of the hardware of the ICL 1902A was examined and the relevant features were discovered. Consequently, the nucleus of an operating system was designed and implemented.

The following presentation is an account of this exercise.

Chapter 1 gives a working knowledge of the computer. It deals with the Central processor, the storing of data, layout of memory, manipulation of instructions, the intricacies of input and output and all the characteristics of the interrupt structure.

In Chapter 2, there is the description of the operating system. It begins with an overview of the system followed by a detailed breakdown.

Chapter 3 can be viewed as being complementary to Chapters 1 and 2. Most of the features of the hardware are brought out in the program listings. The coding is done in PLAN language which is the low-level language of this machine. A short introduction to PLAN is included in the appendix for the benefit of the reader who might be unfamiliar with this language.