

UNIVERSITY OF
CANTERBURY



ELECTRONIC
COMPUTER

ELECTRONIC COMPUTER

The Electronic Digital Computer, like the Nuclear Reactor and the Space Rocket, is a product of the tremendous technological development that has taken place since World War II. It is probably the least known of this trio because its applications are the least obvious. If its present rate of development continues, however, its influence over the next two decades will outstrip that of the other two. In fact the computer of 1980 defies the imagination. Even today's machine is much more than a very fast calculator. It has the ability to perform logical reasoning and to make decisions, all at electronic speeds.

These machines are no longer romantic novelties. In America, Britain, Europe and now in Australia, they are being used in all phases of engineering, industrial and business activity and in all fields of pure research in science and the arts. Their use has transformed the approaches to many problems and has exposed new horizons. Typical applications include payroll calculations, factory control, structural designing, market studies, rocket ballistics, solid state physics and language translation.

New Zealand is at present unprepared for the electronic computer. In setting up a computing system at the University of Canterbury, we believe we shall be making a very real contribution to the country's development over the next two decades. We see the value of this system as three-fold:

- 1 As a tool for use in scientific, engineering and mathematical research, it represents one of the most significant steps ever taken in this University.
- 2 It will provide graduates with a training in standard computing techniques and numerical methods which would not otherwise be available.

- 3 It will enable basic research to be pursued in computing methods themselves, directed particularly to New Zealand requirements.

Canterbury, which is taking the initiative in this field, is a particularly suitable centre with its School of Engineering and its well developed research activity in mathematics and the physical sciences.

Over the past few years, as designs have improved and the transistor has come into its own, less expensive but more efficient computers have been built. Nevertheless, the computer remains a very costly piece of equipment. In order to obtain a machine that will satisfy all foreseeable requirements over the next five years, the University will have to find £35,000. £15,000 will be provided from University funds during 1961 in order to buy the basic units on which work can begin. Full provision will also be made for the installation, housing and staffing required and for all associated teaching. An additional £20,000 is required to establish a really effective computing centre.

It has been the experience of all the Universities who have installed electronic computers that the use of the machine has increased dramatically and in some cases has reached saturation point within two years. Ideas have been developed and completely new vistas have been opened up. We expect that the Canterbury installation will be no exception to this rule, that it will have an impact on all sections of the University and that it will soon be contributing to the advancement of business, engineering, scientific and industrial methods in the wider national sphere.

The University would welcome a contribution from your organisation towards the cost of this computing centre.

F. J. LLEWELLYN
Vice-Chancellor