



be to learn how to program and operate a home computer, but to gain a wider appreciation of how computers are used in everyday life. As well as providing instruction in programming and basic systems analysis, it should offer an overview of all the computers in use at the moment rather than concentrate on the machine one happens to be using. It should introduce the peripherals and extras available for all of them, with an explanation of their operating principles. To place the computer in context, one must examine in depth the tasks to which it is now applied and the software that makes those applications possible. Finally, the course should include elements of formal logic, number systems and something of the history of computing and computers. In short, a home study course should cover all the topics that would be dealt with in a conventional course in computer studies.

In THE HOME COMPUTER ADVANCED COURSE we have set out to provide the material for just such a course. Building on the average home computer user's knowledge of BASIC and some machine-specific experience of computer graphics and sound synthesis, we aim to take you through the other high-level languages found in microcomputers – PASCAL, FORTH, LOGO and C, for example – and to provide grounding in machine code programming, the key that unlocks the power of the microprocessor.

A knowledge of machine code enables us to examine the ways in which the higher level languages are defined. Then, when we have studied the way in which compilers and interpreters work, we can amalgamate these two branches of knowledge to start defining our own language and writing a compiler for it.

We won't neglect BASIC, however. We'll look at the refinements of the language and work through projects that will result in the generation of useful applications software and screen-based and Adventure games.

In addition to the internal functions of the computer, we'll explore file-handling methods, both on tape and on floppy disk, using the experience gained in defining data structures and hierarchies within the computer's internal memory. In this way we can expand the capacity of even the smallest home computer into a serious information processing system.

Bearing in mind that it's not enough to study a subject in isolation, we will consider in depth the wide choice of software packages now available – spreadsheets, word processors, database managers and the like – with a view both to understanding their operation and methods and to learning more about professional programming techniques, in order to include these in our own programming.

Some attention will be given to basic electronics, examining the function and design of individual components and the ways in which they are combined to make up computers and their peripherals. We'll look at the machines

themselves, too: the popular microcomputers, both for home and business use, and their peripherals, examining their price and specification, and assessing their impact on computing in general. We won't neglect the human side of the computer industry, however. The people who design the software and build the machines, and even the computer users who have made a contribution to the field, will have space in the course devoted to them.

If you are interested in learning about computers with a view to increasing your employment opportunities, then a home study course can be an effective replacement for the first module or two of a formal course in computer studies. Because it allows the student to proceed at his or her own pace, it is of equal value to the fast learner, as well as those who perhaps need a little more time to come to grips with what is, after all, a complex subject.

Finally, if you simply wish to be better informed about a technology that is set to change society in the course of your lifetime, then THE HOME COMPUTER ADVANCED COURSE offers a comprehensive guide. In addition to the fundamentals of computer study, we shall be examining the impact of the new technology on society at large. How will the advent of computers in our everyday lives change the way people relate to each other? What political changes will result from an 'information explosion' made possible by the low-cost microprocessor? It is difficult to obtain reasonable answers to these questions. Newspaper articles and television programmes tend to trivialise them, many computer publications seem to make them more complicated than they need be. THE HOME COMPUTER ADVANCED COURSE sets out to give you access to the essential information to answer them for yourself.

A Leap Forward

Announced to the world's press at the beginning of 1984, but not scheduled for delivery until well into the spring, Sinclair's Quantum Leap broke that company's long association with the Z80 microprocessor. Fitted instead with a version of Motorola's 32 bit 68000, it has 128 Kbytes of RAM (with a further 512 Kbytes available), and two QL Microdrives built-in. Also abandoned is Sinclair's idiosyncratic single-key-entry BASIC



IAN MCKINELL