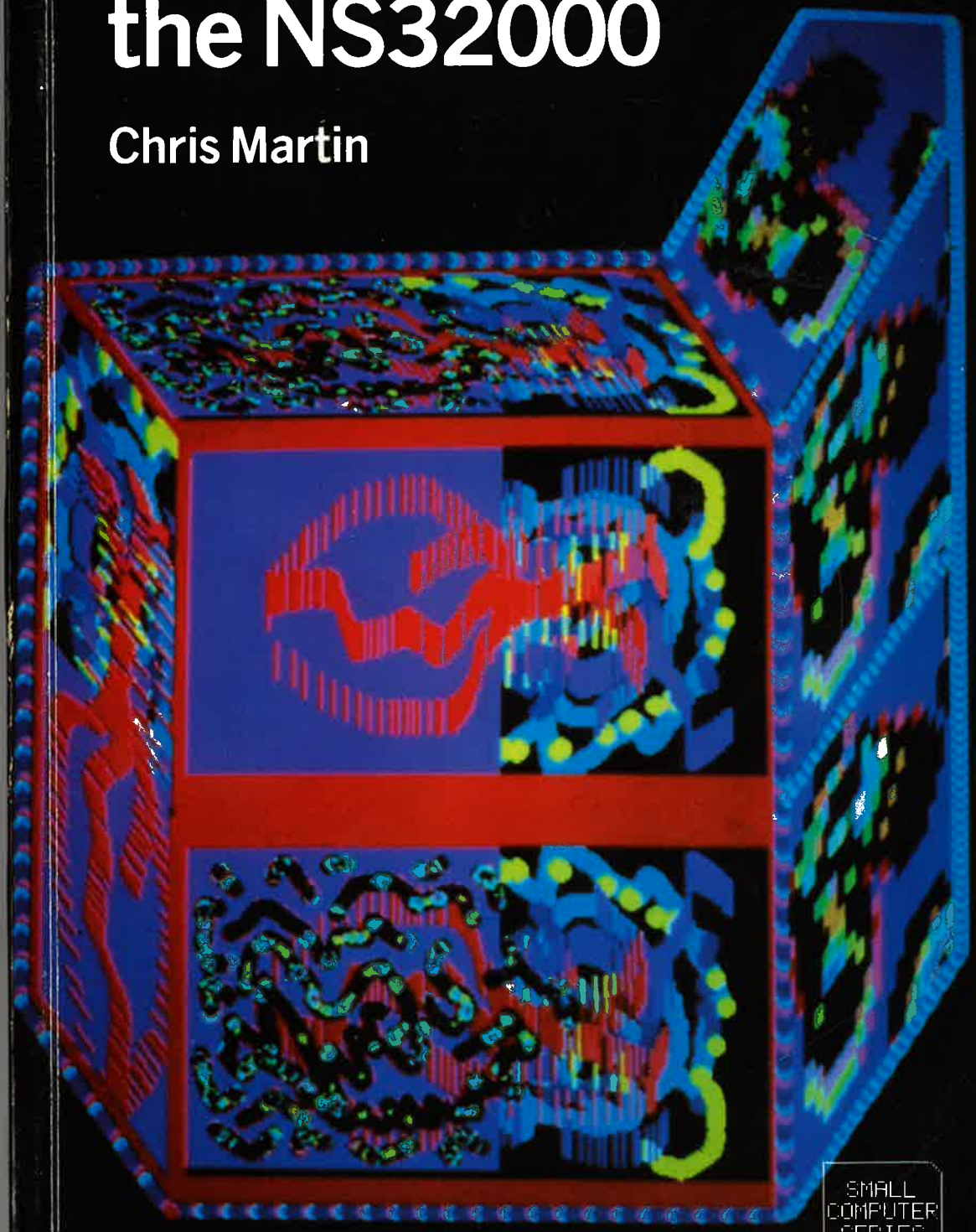
Programming the NS32000

Chris Martin



SMALL COMPUTER SERIES

Programming the NS32000

Chris Martin

Programming the NS32000

Chris Martin

The 32-bit microprocessor has made possible a level of computing power hitherto unavailable, providing a full superminicomputer architecture at the chip level. At the forefront of 32-bit chip design, the National Semiconductor 32000 series of processors has already made inroads into the scientific and engineering marketplace, as well as being incorporated in the Whitechapel MG-1, Cambridge workstation, Master Scientific and add-on boards for the IBM PC.

Programming the NS32000 provides a complete self-tutorial and reference manual for those wishing to bridge the gap between programming experience and practical applications in 32000 assembler. The text covers both forms of 32000 assembler: National Semiconductor ASM16 and Acorn ZASM. The practical approach adopted means that simple programs can be written at an early stage in the book. As an example of the high standard of design that can be achieved, an actual 32000 operating system is presented – Acorn's Panos. Exercises provided throughout require code to be written and run and are a test of the reader's comprehension of each group of instructions as they are introduced. Other topics covered include:

- the 32081 Floating Point Unit and the IEEE standard
- 32000 modules and module support
- support for operating systems
- a description of the Memory Management Unit

Three appendices provide a detailed reference summary listing instructions both alphabetically and by function, as well as further extended programming examples.

Chris Martin's style is informal and eminently readable. The book is intended for those with some programming experience in high-level languages. It would also prove useful to undergraduates with projects to develop on a 32000 system.

Addison-Wesley Publishing