

Introduction

Welcome to the world of the Hewlett-Packard Computer Scientist! You're in good company with HP—the calculator of choice for astronauts in the space shuttle, climbers on Mt. Everest, yachtsmen in the America's Cup, and engineers, scientists, and students the world over.

The HP-16C is a versatile and unique calculator, especially designed for the many professionals and students who work with computers and microprocessors—whether as programmers or designers. The HP-16C specialized design provides:

- Integer arithmetic in four number bases (hexadecimal, decimal, octal, and binary), operating in 1's or 2's Complement or Unsigned mode.
- A variable word size, selected by the user, up to a maximum of 64 bits.
- Logical operators and bit manipulations.
- 203 bytes of user memory, providing up to 203 program lines.
- Floating-point decimal arithmetic.
- Continuous Memory, retaining data and program instructions indefinitely.
- Extremely low power consumption and long battery life.

This handbook is written with the professional in mind—someone already familiar with the principles of computer organization and binary operations. The handbook accommodates a wide range of expertise, however. For a quick overview of and reference to the calculator's operations, use the Function Summary and Index—the blue-edged pages just in front of the Subject Index.

Part I of the handbook, HP-16C Fundamentals, covers the specific operations of the HP-16C, as well as its RPN (Reverse Polish Notation) logic system. Part II, HP-16C Programming, is dedicated to keystroke programming methods and capabilities. Each programming section is structured to give first a general explanation

of operations, then examples, then a more detailed look at certain features. This makes it easy for you to get a quick picture of how the system operates, if this is all you need.

The functions discussed in sections 1 and 2 of part I and in part II (HP-16C Programming) are similar to those used in certain other HP calculators, while the features unique to the HP-16C are concentrated in sections 3 through 6.

Before starting these sections, you can get a brief introduction to the capabilities of the HP-16C by working through the HP-16C: A Quick Look, starting on page 10.

Finally, the appendices include details on error and flag conditions, lists of operations with special characteristics, and warranty and service information. The Function Summary and Index at the back of the handbook provides short descriptions of every key's function, with page references to more comprehensive material within the handbook. It makes it easy to get the most from your HP-16C!