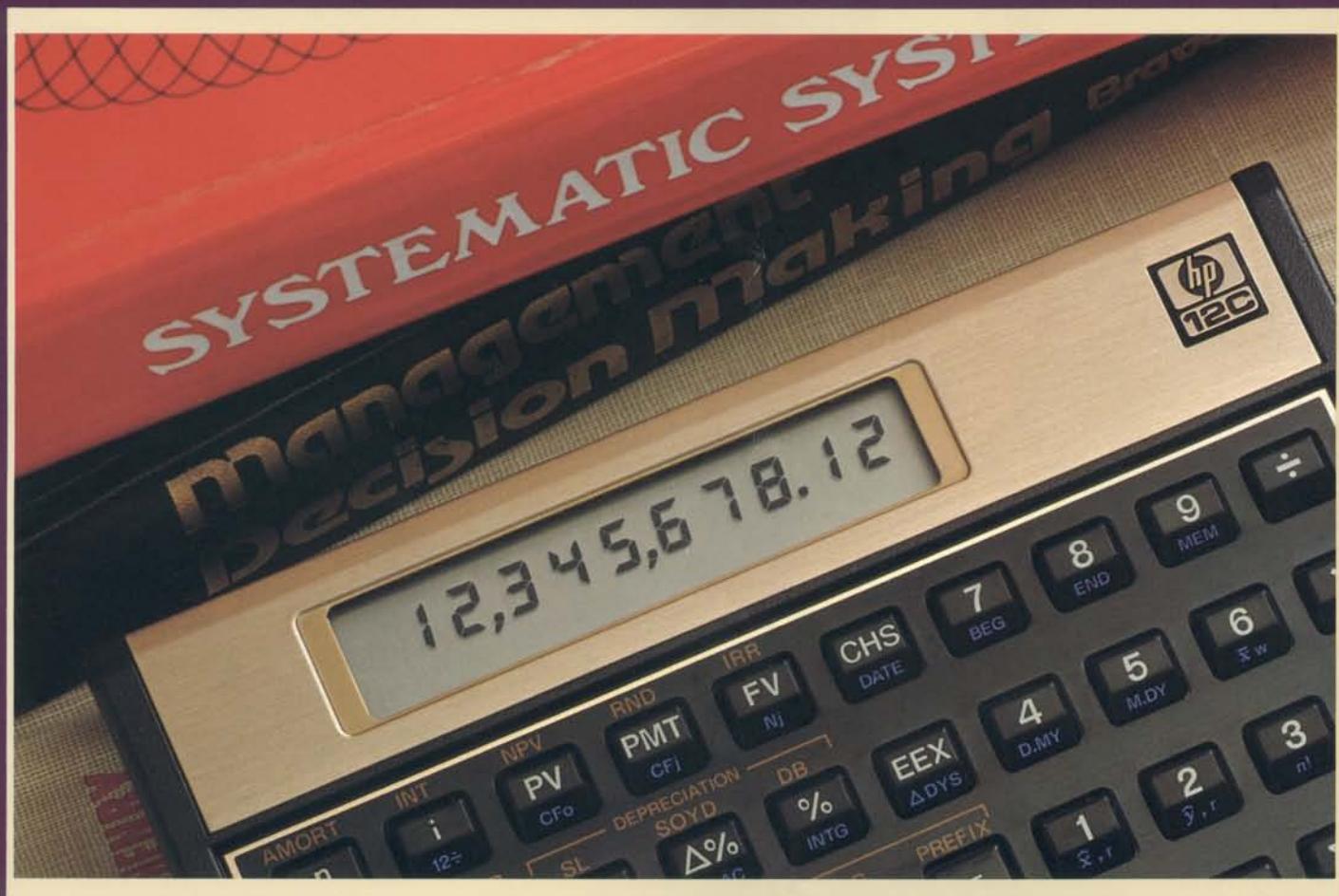


# Series 10 Professional Calculators

 HEWLETT  
PACKARD





# Series 10— Calculators With a Difference.

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## Why Do You Need a Professional Calculator?

Selecting the *right* calculator can help you improve decision-making, increase productivity and enhance your professional growth. Selecting one that doesn't offer the features and functions tailored to your tasks can result in wasted time, tedious problem-solving and lost opportunities.

That's why, before you select *any* calculator, you should make sure it can solve *all* of your problems — the ones you face today as well as those you're likely to face tomorrow.

## What Can a Hewlett-Packard Professional Calculator Offer You?

If you're considering the purchase of a Series 10 Professional Calculator, you can depend on Hewlett-Packard to fill your professional computing needs.

This means having a working tool equipped with the features and functions needed to solve "real world" problems easily. The kinds of problems *you* face everyday.

And, there's more. When you purchase a Series 10 calculator you aren't getting just an excellent calculating device. You're also getting support, and lots of it. From the easy-to-understand owner's handbooks and standard accessories, to software solutions books and engineering support — it's a total support system.

But, don't take our word for it, ask the owner of a Hewlett-Packard calculator. You're apt to detect a quiet sense of pride in the answer. It's

the experience of satisfaction in owning an instrument that has been designed — in every detail — to be the finest of its kind.

If you're a professional, or soon to be, now may be just the time to step up to a Series 10 calculator. You'll be in excellent company.

## Pencil-and-Paper Easy With RPN Logic.

HP's unique RPN logic system helps you convert even complex problems into easily-managed calculations. Each time you press a key, the figure or calculation appears in the display. You never get lost in the middle of your calculations and you can recover readily from error.

Problems with nested parentheses are worked from the innermost brackets, just like they are on paper. But, with RPN you gain *significant* time-savings. The automatic memory stacks store figures or calculations that can be incorporated into later computations. This frees you from having to jot down your intermediate results on paper.

## Continuous Memory Remembers When You Don't.

Continuous Memory saves your work, even when the calculator is turned off. You concentrate on solving problems, not on reloading programs or reentering numbers.

## Smart, Power-Saving Calculator.

Turn your attention to something else, but don't worry about the calculator's batteries running down. After several minutes of

non-use, your Series 10 calculator automatically shuts itself off. And, when the batteries are getting low, a flashing asterisk will appear in the display.

## Programmability To Save You Steps.

Series 10 Professional Calculators can be programmed to simplify the repetitive tasks that you frequently face. Simply store the program in memory until you need to recall it.

## A Built-in Calculator Doctor.

Each of the calculators in the Series 10 family performs self-diagnostic tests on their internal circuitry and keyboard contacts, so you'll always know that your calculator is in top form.

## The HP Hallmark of Quality.

Every HP calculator receives the same careful consideration during design and testing stages. We make every effort to produce sound, trouble-free calculators to serve you better. For example, we use gold for critical contact points because it resists wear and corrosion better than less expensive metals. And, in testing, the calculators are stressed beyond what you would normally require, to ensure reliability.

## Easy To Use — The Finishing Touch.

Not only are HP calculators durable, but they're also designed for ease of use. The liquid-crystal display is easy to read, even in bright sunlight. The keyboard is spaced to make data entry comfortable. And, when you press a key, you feel a "click" that assures you that your calculator has registered the numbers you've entered.

## HP-12C Advanced Programmable Financial Calculator For Professionals and Students in Business, Finance and Real Estate.

Business professionals have always needed a professional calculator to solve complex calculations with efficiency, accuracy and speed. Financial decisions are based on the results of those calculations, so you need the best tool to find that information, quickly, wherever you are. The HP-12C is just such a tool. It gives you a wide range of functions and power to quickly produce results on which you can base decisions.

The HP-12C is quickly becoming our most popular financial calculator of all time. Its unique combination of features and functions make it the popular choice of individuals who demand fast and accurate business solutions regardless of their profession.

### Simplify Tasks With Preprogrammed Functions.

Preprogrammed functions unravel common problems faced by investment analysts, bankers, brokers, accountants, realtors and other professionals in business and finance. At the touch of a key, the HP-12C simplifies basic time and money problems like simple and compound interest. The HP-12C can quickly calculate amortization schedules, discounted cash flows, bond prices and yields, depreciation schedules

and trend analyses, with a few short keystrokes.

### Take Shortcuts to Time and Money Solutions.

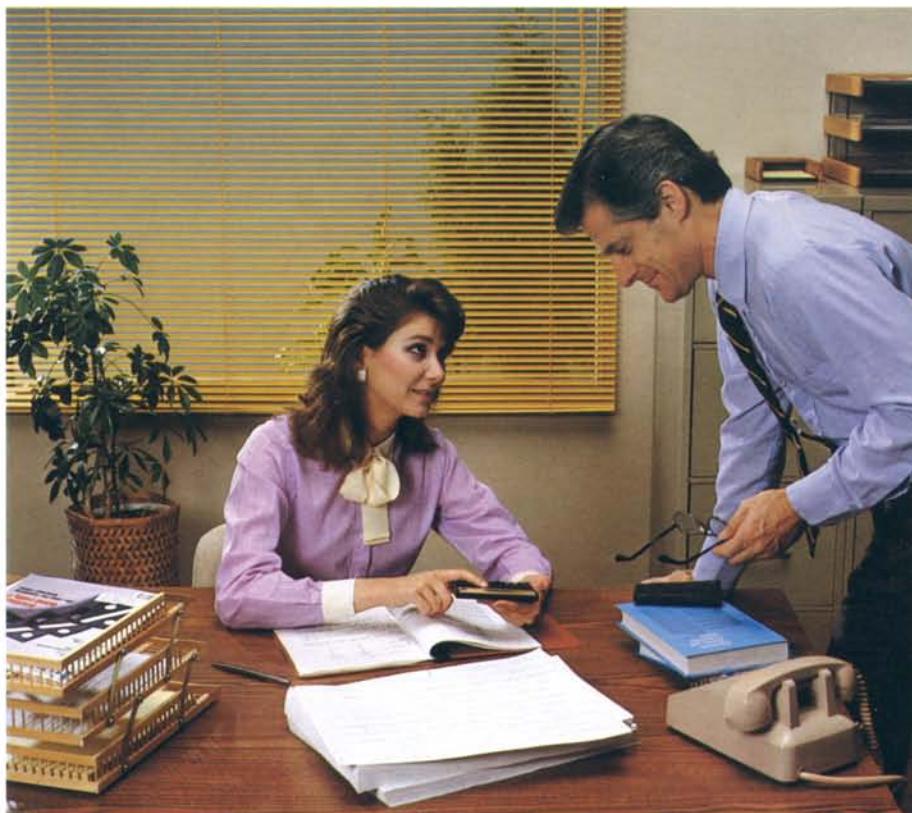
In calculating time and money problems, you enter three or four of five variables: interest rate, present value, number of compounding periods, payment, or future value. Then just press a key to solve for the unknown variable, and the answer appears in the display.

To project different scenarios, simply change the variables involved and press the key of the unknown variable. No need to spend your time reentering the entire problem for each calculation. And, odd-days interest is solved with a minimum of keystrokes. The HP-12C can free you from voluminous tables by telling you the precise amount of interest, quickly and accurately.

### Save Time With the Automatic Financial Calendar.

With the preprogrammed calendar, your HP-12C has two calendar bases: an actual 365-day option or the 30-day month/360-day year option. You enter two dates, press a single key and wait for the number of days between those two dates to appear. You can also use it to determine a past or future date. Simply enter the current date, the specified number of days you want calculated, press [g] [ $\Delta$  DYS] and not only the date, but the day of the week on which it falls, will appear.

With these financial calendar functions, think how easy it will be to determine expiration dates for contracts and options, working backwards to determine issue dates, and more!



## Track Flexible Discounted Cash Flows.

Take advantage of the HP-12C's keystroke-simple discounted cash flow functions. Enter up to 20 uneven cash flow groups, with up to 99 similar cash flows for each group. And, count on the built-in net present value [NPV] and internal rate of return [IRR] functions to accurately determine the state of your investment.

## Price and Market Analyses — The Easy Way.

Three percentage functions on the HP-12C simplify your calculations for markups, margins, price structure, growth rates and market share. And, each of the percent functions: percent, percent of total and percent difference; automatically convert whole numbers to decimals.

Statistical keys let you analyze market trends or interpret research data. And, you can predict one variable in terms of another with the HP-12C's regression analysis capability.

## Generate Amortization Schedules Automatically.

Produce amortization schedules quickly and easily with the pre programmed AMORT function. Your HP-12C calculates what portion of a single payment, or of several payments, is applied to principal and what portion to interest. It will even tell you the outstanding balance at any point in the transaction.

## Calculate Depreciation Three Ways.

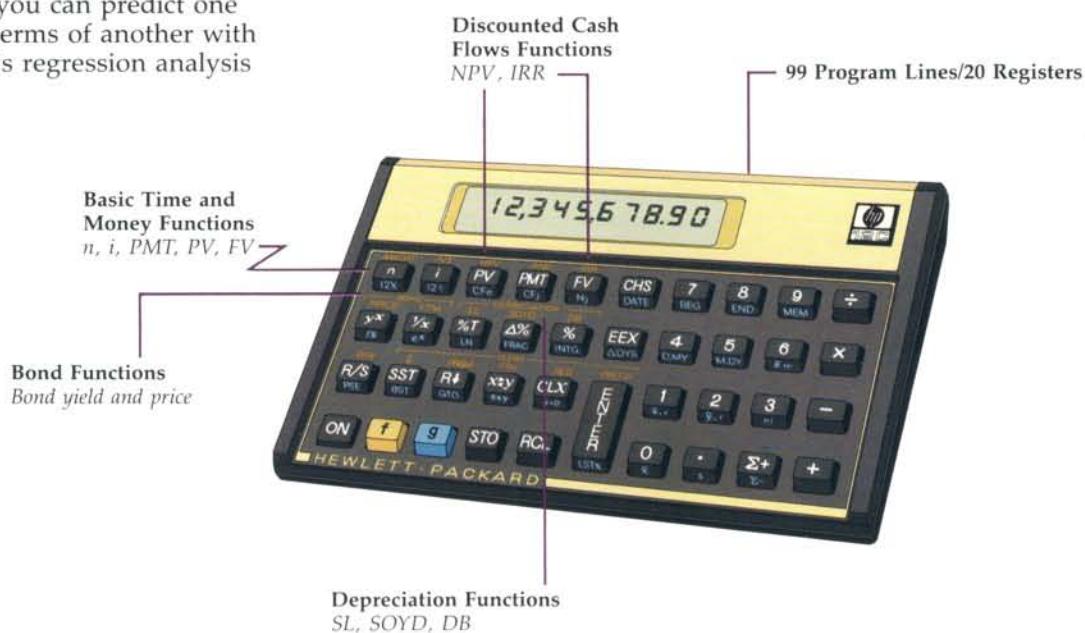
Computing depreciation and finding the remaining depreciable value of an asset takes only a few keystrokes with the HP-12C. Straight-line, sum-of-years-digits or declining balance — you choose the method.

## Even Mathematics Functions and Programmability!

Handle numbers quickly with a comprehensive set of mathematical functions. Your HP-12C can also find reciprocals, factorials, square roots, logarithms or exponentials at the touch of a key. And, there are 20 data storage registers that can be converted to a maximum of 99 program lines, as you need them.

## Software Available.

HP-12C Solutions Book 00012-90009  
HP-12C Training Guide 00012-90022  
HP-12C Real Estate Applications  
00012-90015  
HP-12C Leasing Applications  
Handbook 00012-90021



# Science and Engineering

## HP-10C Programmable Scientific Calculator.

As HP's lowest-priced programmable, the HP-10C has everything you need to calculate with confidence and convenience.

### Make Trig Calculations Easy.

You press only one key each to

compute sine, cosine and tangent, or the inverse values for all three. Your HP-10C helps you work in degrees, radians or grads; convert decimal angles into degrees; and directly convert between rectangular and polar coordinates.

### With 10-Digit Accuracy.

Exponentials, reciprocals, square roots, pi, percentages, common and

natural logs and antilogs, are all produced to 10-digit accuracy with a single keystroke.

### Easy-to-use Programming Features.

These functions are backed by 79 program lines and features such as automatic memory allocation, branching, conditional tests and pause.

## HP-11C Advanced Programmable Scientific Calculator.

The HP-11C gives you a comprehensive package of advanced tools and built-in functions that solve your day-to-day problems in science and engineering.

### Programming Features Simplify Repetitive Calculations.

Cut through repetitive calculations

with such HP-11C programming tools as conditional tests, flags, branching, controlled looping, user-definable keys and program labels. You can take advantage of up to 203 program lines, and memory can be allocated between 63 program lines and 20 data registers. Add new instructions by using the "go to" [GTO] key to access any part of your program. Quickly delete a program line by pressing the backarrow key. Other editing functions let you review your program, one line at a time.

### Solve Problems With the Extensive Function Set.

Get answers you need to trigonometric problems, hyperbolics, inverses, logarithms, exponentials, factorials, gamma functions and probability calculations by simply pressing a key. Your HP-11C also makes conversions between degrees and radians or between rectangular and polar coordinates.

### Software Available.

HP-11C Solutions Book 00011-90009

## HP-15C Advanced Programmable Scientific Calculator With Special Functions.

You get fast results for advanced mathematical calculations with the technically sophisticated HP-15C.

### An Array of Matrix Calculations.

Store and recall up to five matrices in the HP-15C's memory. Enter up to 64 elements, designate a result matrix

and you can perform operations such as addition, subtraction, multiplication, inversion, transposition and more.

### Complex Functions—The Real and the Imaginary.

Handle complex numbers as easily as real numbers with the HP-15C's Complex mode. That's because two parallel stacks, one for the real part and the other for the imaginary part of a complex number, let you perform operations on the contents of both stacks simultaneously.

### Getting to the Root of an Equation.

Use the SOLVE key to find the real roots of an equation instead of plodding through algebraic manipulations by hand. Just enter your estimate of the roots and wait for the HP-15C to do the work.

### Streamline Numerical Integration.

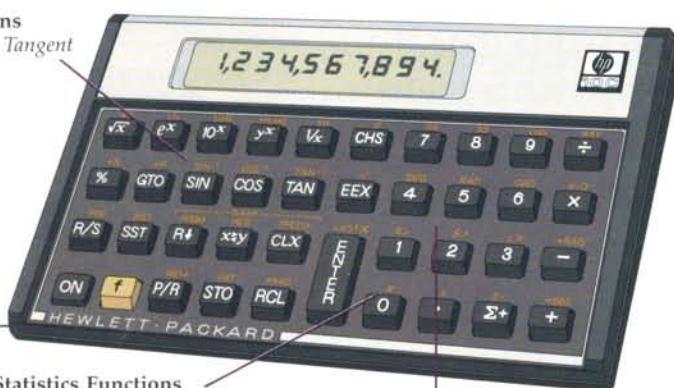
To calculate the integral of a function, enter the equation, and the limits of integration. Press the  $\int$   $\int$  keys and your HP-15C solves the problem, effortlessly.

### Convenient, One-Key Statistical Functions.

The HP-10C comes equipped with a full-complement of useful statistical functions. A single keystroke enables you to calculate the mean for two variables and then obtain a sample standard deviation for two sets of data.

79 Program Lines/10 Registers

Trig Functions  
Sine, Cosine, Tangent

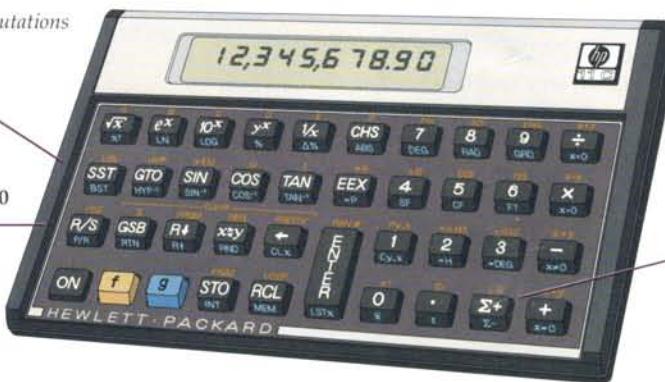


Math Functions  
Hyperbolics, Permutations & Combinations

203 Program Lines/20 Registers

Statistics Functions  
Mean, Standard Deviation, Linear Regression

Conversion Functions  
Rectangular-to-Polar, Degrees-to-Radians



### Advanced Programming Capability? Of Course!

Your HP-15C offers 67 storage registers that you can allocate to a maximum of 448 program lines as needed. In addition to the many editing features built into your HP-15C, such as the insert/delete feature, you get 25 programming labels, 12 conditional tests and controlled looping.

### Software Available.

HP-15C Advanced Functions Handbook 00015-90011

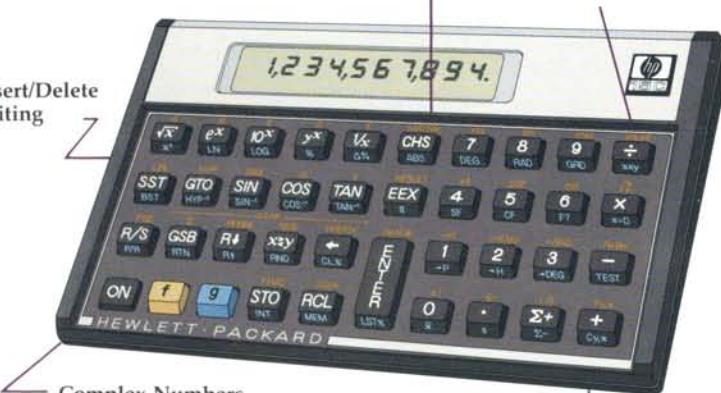
Insert/Delete Editing

Matrices  
Determinants, Transpositions, Inversions, Transforms

Solve and Integrate  
Find real roots of equations and evaluate integrals

448 Program Lines/67 Registers

Complex Numbers  
Parallel stacks for real and imaginary part of number



## HP-16C Advanced Programmable Calculator For Computer Scientists.

The HP-16C brings a unique combination of power, versatility, and convenience to your computer science applications. Let your HP-16C quickly convert among number bases, determine the outcome of Boolean operations or emulate individual processor instructions, so you can spend more of your time in creative design work.

### Convert Number Bases, Instantly.

The HP-16C is just the tool to help free you of many laborious number-crunching activities. With the HP-

16C, you won't have to memorize number base conversions or refer to endless pages of mathematical tables. Press a key and your HP-16C converts numbers into one of four number bases: binary, octal, decimal, hexadecimal. And, it can temporarily display your number in any of the four when you need it. You can even perform arithmetic in any of the four number bases. The HP-16C also provides you with three different representations of negative numbers: one's complement, two's complement and unsigned.

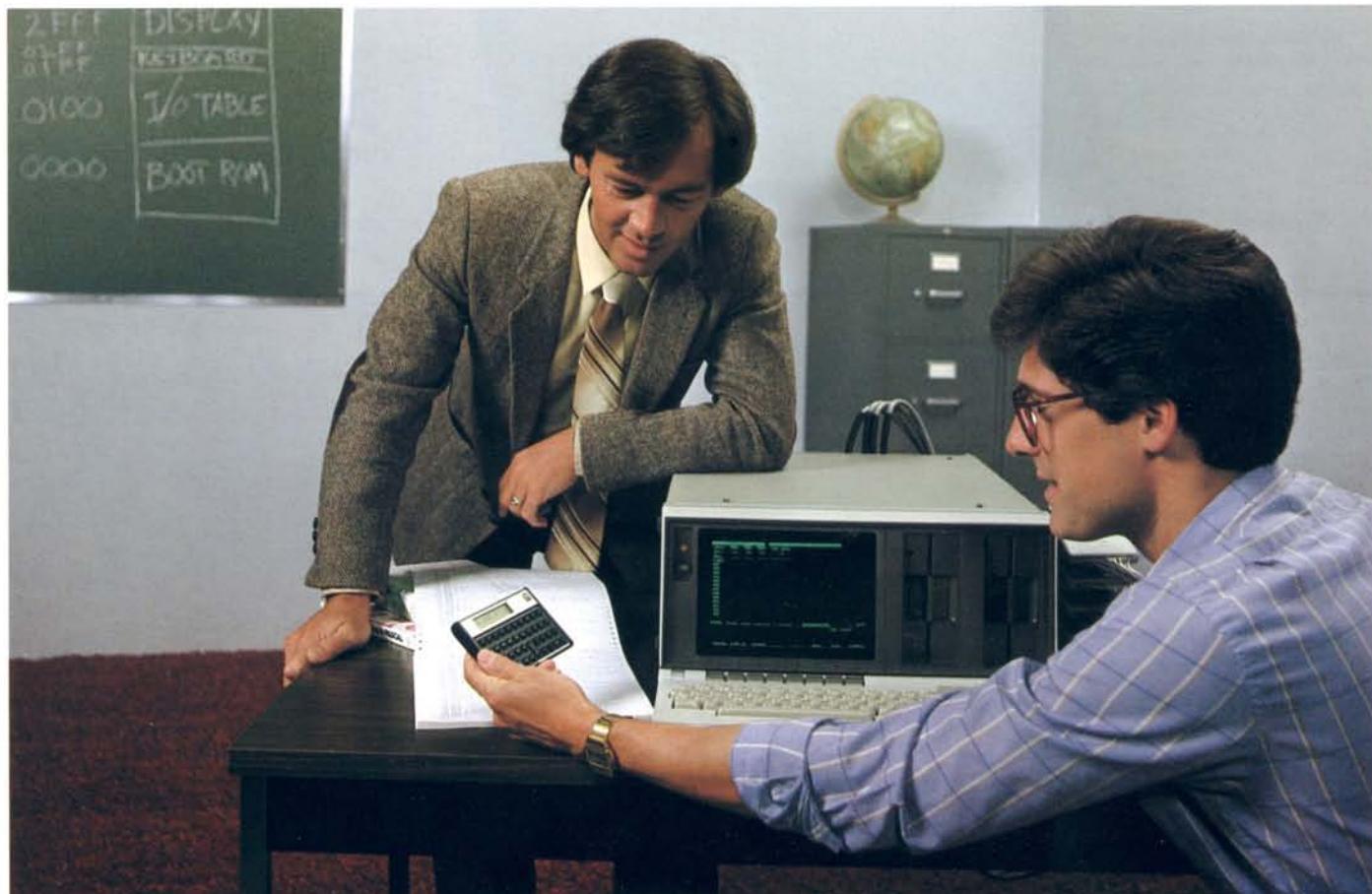
### You Determine Word Sizes.

Your HP-16C allows you to select any binary word size of up to 64 bits and displays eight digits at a time. A

convenient status indicator tells you if there are undisplayed digits to the left or right of those shown in the display window. Handy scrolling and window functions let you view any remaining digits.

### Quick and Easy Bit-Juggling.

Another advantage of the HP-16C is the shift-bit and rotate-bit functions that simulate the multiplication and division operations in a microprocessor. Rotate bits to the left or right and shift them out of the word, reentering them at the opposite end of the word. Bits can even be rotated through the carry-bit!



### Boolean-Fast Logic.

Four Boolean operators are available in your HP-16C for the analyses and manipulation of binary values. Operators AND, OR and XOR compare bits in corresponding positions of two numbers. The NOT operator automatically inverts the value of bits in the binary quantity.

### Keystroke-Easy Bit-Testing.

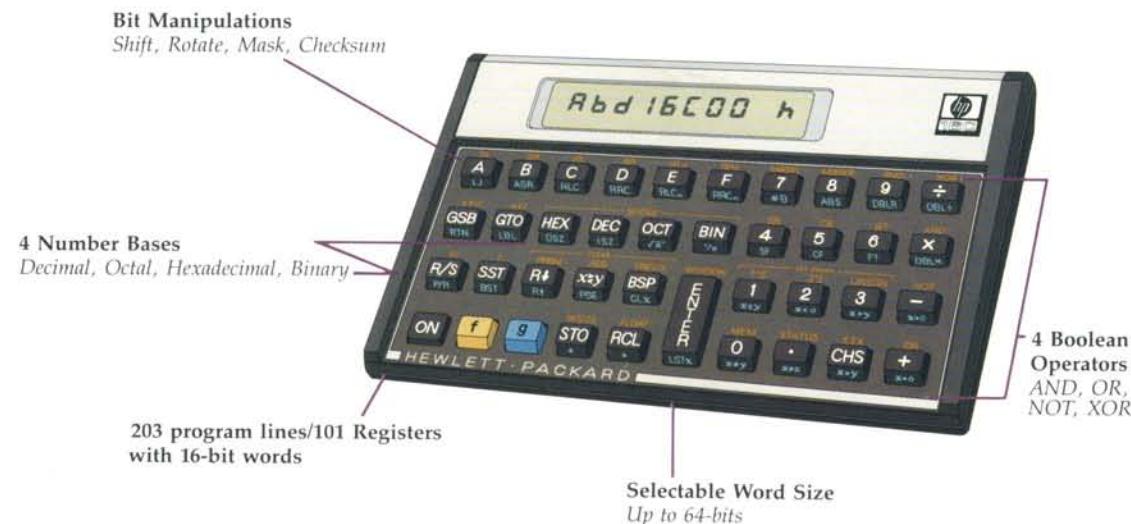
The bit-testing function of your HP-16C checks the status of any bit position as you compare the bit pattern of two words. Use the checksum facility to find the sum of the bits in any binary quantity.

### Sophisticated Programmability Lightens Your Load.

You can harness the HP-16C's advanced programming features for tedious tasks like decoding the format of commercial processors or programming binary random number generators. The HP-16C can hold a maximum of 203 program lines or 101 16-bit data storage registers. The insert/delete editing keys help you debug your programs. You can locate and run a particular program simply by using the 16 program labels. Four levels of subroutines, six flags and eight conditional branching tests all add to the flexibility of this powerful calculator.

### Four-Function Arithmetic, Too!

Not only is your HP-16C a microprocessor simulator, but it also performs ordinary calculator arithmetic. Simply switch to Floating-Point Decimal mode for performing decimal-point calculations.



# Comparison Chart

Use the two comparison charts below to help find the HP calculator or handheld computer that's right for you. To get your bearings, refer first to the Series 10 and Series 40 product summary. Next, turn to the remaining sections for a convenient map of features and functions.

## Series 40 Handheld Computers

### Financial/ Scientific



HP-41C,  
HP-41CV

## Series 10 Professional Calculators

### Scientific



HP-10C

### Financial



HP-15C

### Computer Science



HP-12C



HP-16C

## Summary

Peripherals & Add-ons (I/O)	PA					
Maximum memory (registers)	919	10	21	67	20	101*
Maximum number of program lines	6,454	79	203	448	99	203
Alpha mode/display/keyboard						
Software	S		H	H	H	
Custom software	C					
Redefinable keyboard	F		P	P		
Batteries	← disposable and rechargeable →			disposable		→

## Programming Features

Alpha program labels	F					P
Alpha string manipulation						
Audible tones						
Conditional tests	10	2	8	12	2	8
Flags	56		2	10		6
Indexed looping (DSE, ISG)						
Indirect control	F	P	F			P
Insert/Delete editing						
Levels of subroutines	6	4	7			4
Numeric program labels	100		10	20		10
Single-character program labels	56		5	5		6

## Business Features

Amortization	S		H			
Beginning/end of period selection	S		H	H		
Bond:						
yield-to-maturity	S					
price	S					
Calendar functions	S					
Net present value (NPV) and internal rate of return (IRR)	S		H			
Number of dedicated financial registers				5		

### Key

- PA Dedicated and HP-IL peripherals and add-ons
- \* 16-bit registers
- Built-in feature or function
- S Application Pacs, Solutions Books, and more than 6,000 Users' Library programs.
- H Owner's, Solutions, and application handbooks
- F Full
- P Partial
- C Choice of software: custom ROMs, cassettes, mag cards, bar code.

### Series 40 Handheld Computers

#### Financial/ Scientific



HP-41C,  
HP-41CV

### Series 10 Professional Calculators

#### Scientific



HP-10C

#### Financial



HP-15C

#### Computer Science



HP-12C  
HP-16C

### Scientific Features

Bit manipulation	S				
Boolean operators (NOT, OR, AND, XOR)	S				
Complement modes (1's, 2's, unsigned)	S				
Complex functions	S H				
Decimal angle ↔ angle in degrees (hrs/min/sec)	S				
Degrees ↔ radians	S				
Engineering notation	S				
Hyperbolics and inverses	S				
Integrate (numerical integration)	S H				
Matrix operations	S				
Number base arithmetic (binary, octal, decimal, hexadecimal)	S				
Rectangular ↔ polar coordinates	S				
Scientific notation	S				
Solve (root finder)	S H				
Trigonometric functions	S				

### Statistical Functions

Correlation coefficient	S				
Factorial function	S				
Gamma function	S				
Linear regression or estimate	S				
Mean/standard deviation (1- or 2-variable)	S				
Percent	S				
Percent change	S				
Percent total	S				
Permutations and combinations	S				
Random number generator	S				
Weighted mean	S				
$n, \Sigma x, \Sigma x^2, \Sigma y, \Sigma y^2, \Sigma xy$	S				

### General Arithmetic Features

Absolute value	S				
Storage register arithmetic +, -, /, ×, $\sqrt{x}$ , $1/x$ , CHS	S				
$\ln x, e^x$	S				
$y^x, \log x, 10^x, x^2, \pi$	S				

*Technical information in this brochure is subject to change without notice.*

For additional information or a demonstration of Hewlett-Packard Professional Calculators, visit your nearest HP dealer. For the location and number of the dealer nearest you, call toll-free 1-800-547-3400. In Alaska, Hawaii, and Oregon, call (503) 758-1010. TTY users with hearing or speech impairments, please dial (503) 758-5566.

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