As powerful as a computer — as easy to use as a calculator

More memory
More graphics
More convenience

The new HP 48 goes where no other calculator has gone before — and now it's easier to use than ever!

The HP 48G and the expandable HP 48GX are designed to walk you every step of the way through your most complex math and engineering problems.

Look for features never before offered on a handheld calculator: more memory (expandable to 4 MB in the HP 48GX); more capability (over 2300 built-in functions); and more visualization tools (3-D plotting, 15 graph types and 15 zoom functions). And it's all faster and more accessible than ever.

More timesaving features
Simplified data entry and quick access to hundreds of equations add up to a short learning curve and long-term calculating efficiency.

Get up to speed immediately — just follow the directions on the screen for the fill-in-the-blank input forms, familiar prompt boxes, and pull-down menus. Identify and solve equations quickly with the built-in HP Solve Equation Library — over 300 of the most commonly used scientific and engineering equations at the touch of a key.

More computational power
Enter and see even your most complex equations as they would appear on paper, using HP's exclusive EquationWriter application.

Plot a graph of your equation, then find roots, intersections, local extremes, derivatives, slopes, and areas under curves while you view it. The HP 48 offers the most comprehensive graphing and zoom functions of any calculator.

Find conceptual solutions, right on the calculator, with HP's exclusive symbolic math feature. Manage dimensional units efficiently, as the HP 48 automatically converts your results into the units you want. Get to solutions quickly with the HP Solve application. And use the HP MatrixWriter application for fast entry and editing of complicated matrices.

More memory and flexibility
Count on enough memory for complex problem solving and storage,
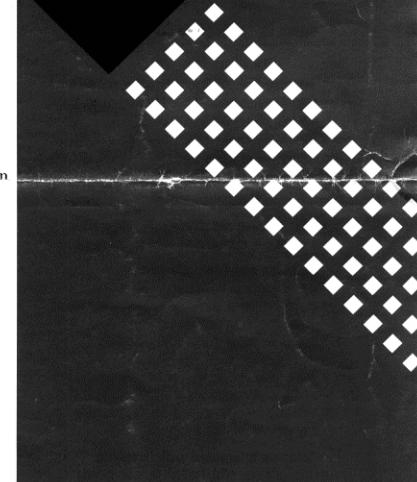
with 128 KB of built-in RAM in the HP 48GX (or 32 KB in the HP 48G). For PC-like flexibility, use the HP 48's memory management tools, such as user-defined directories. Add special applications or more memory using the HP 48GX plug-in card slots.

More connectivity
Link (using optional cable and software) to your desktop computer with the HP 48 standard RS-232C serial port — for file exchange, storage, program development, and full-size keyboard and screen access. And with infrared capability, exchange files with another HP 48, or print to the optional HP infrared printer.
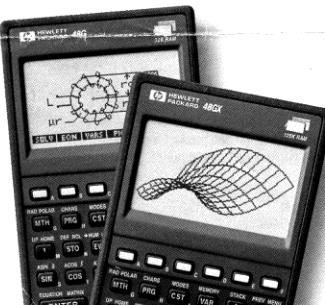
HP 48G/GX Technical Data

Purple - indicates features exclusive to HP 48 graphing calculators.

Display
- High contrast LCD
- 8 lines X 22 characters
- 64 X 131 pixels

Graphing Features
- Unlimited number of plots and equations within available memory
- 2-dimensional plot types: function, polar, parametric, scatter, differential equation, conic section, histogram, bar, truth
- 3-dimensional plot types: wireframe, parametric surface, slopefield, contour, pseudo-contour, gridmap, Y-slice
- 15 zoom functions including autozoom and zoom to last view
- Function trace and shading, plus draw lines, arcs, boxes, circles, dots, labels, and more

Calculus and Symbolic Math
- Symbolic derivatives, polynomial integration
- Numerical integration, Taylor series, numerical differential equation solver
- Isolate variables symbolically, symbolic manipulation
- Solve quadratic and nth order polynomials for all roots, real and complex
- HP Solve application provides back-solving for any variable in your equations

Calculus Integrated with Graphics
- From graphics plot, find roots, intersection points, local extremes, derivatives (symbolic and graphical), slope, area under curve

Advanced Math Functions
- HP MatrixWriter application provides easy entry, editing, and viewing of matrices
- Extensive row/column matrix operations HP 48G maximum matrix size - 42 X 42 HP 48GX maximum matrix size - 85 X 85; or 125 X 125 with optional HP 82215A RAM card
- Handles real and complex numbers and matrices without changing modes
- 2-dimensional vectors in rectangular or polar mode
- 3-dimensional vectors in rectangular, cylindrical, or spherical mode

Scientific Features
- Angle conversions, base conversions, and arithmetic
- Extensive computer math functions including bit manipulation and Boolean operations — all fully programmable
- Polar/rectangular conversions

Statistical Features
- Fast collection and editing of multivariate data in matrix format
- Linear regression, curve fitting (linear, log, exponential, power, or best fit)
- Distributions: normal, chi square, student's t, F distribution
- Mean, sample, and population standard deviation; variance and covariance

Customizing
- Structured, object-oriented programming language
- All keys redefinable
- User-defined menus and input forms
- User-defined directories for memory management

Engineering Equation Library
- 15 technical subjects, 100 equation groups, 322 equations total
- Equations grouped by engineering discipline
- Definitions provided for each variable in each equation
- On-screen pictures illustrate many equations
- Multi-equation solver handles families of equations
- Physical constants library provides key values

Constants and Conversions
- 49 pre-defined physical and mathematical constants
- 148 units of measure pre-defined; others may be added
- Any units may be combined; for example, newton — meters/second^2
- 20 common prefixes may be used with any unit or combination
- Computations may be done with units attached; conversions are performed automatically

HP EquationWriter Application
- Eliminates the need to convert to cumbersome strings of parentheses and computer symbols
- Algebraic entry of expressions

Operating Features
- RPN entry logic
- Consistently formatted menus and input forms for 54 different applications
- Dialog prompt boxes for most applications

Input/Output
- Two-way infrared communication for transferring programs and data between HP 48s
- Infrared output to optional HP 82240B infrared printer
- RS-232C serial port for connection to PC or Macintosh computers with optional cable and software
- HP 48GX: Two card ports for RAM or ROM cards. 128 KB maximum in port one, 4 MB maximum in port two

Memory
- 512-KB ROM
- HP 48G: 32-KB RAM
- HP 48GX: 128-KB RAM, expandable to 4 MB in two card expansion slots
- Non-volatile RAM: memory is retained, even when the HP 48 is turned off

Hewlett-Packard stands behind its products with technical support and a limited warranty. Technical information and product availability are subject to change without notice.