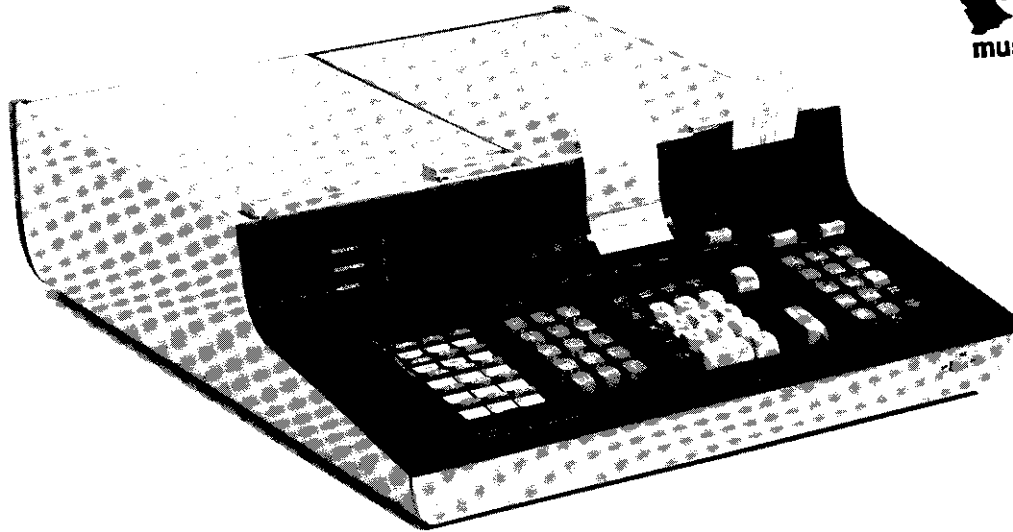


HEWLETT  PACKARD

MODEL
10

**9810A
CALCULATOR**

TECHNICAL DATA MAY 1973



Whatever your discipline, from physicist to financier, engineer to biochemist, there is a Hewlett-Packard Model 10 Programmable Calculator that is right for you. The Model 10 is the only computing calculator on the market that incorporates all the special features you would specify, if you were designing a calculator for yourself. In fact, that is exactly what happens. *The modular structure of the Model 10 allows you to help design the calculator that best suits your needs!* From keyboard to memory, peripherals to program packages, you can configure the Model 10 to satisfy any situation — including a tight budget.

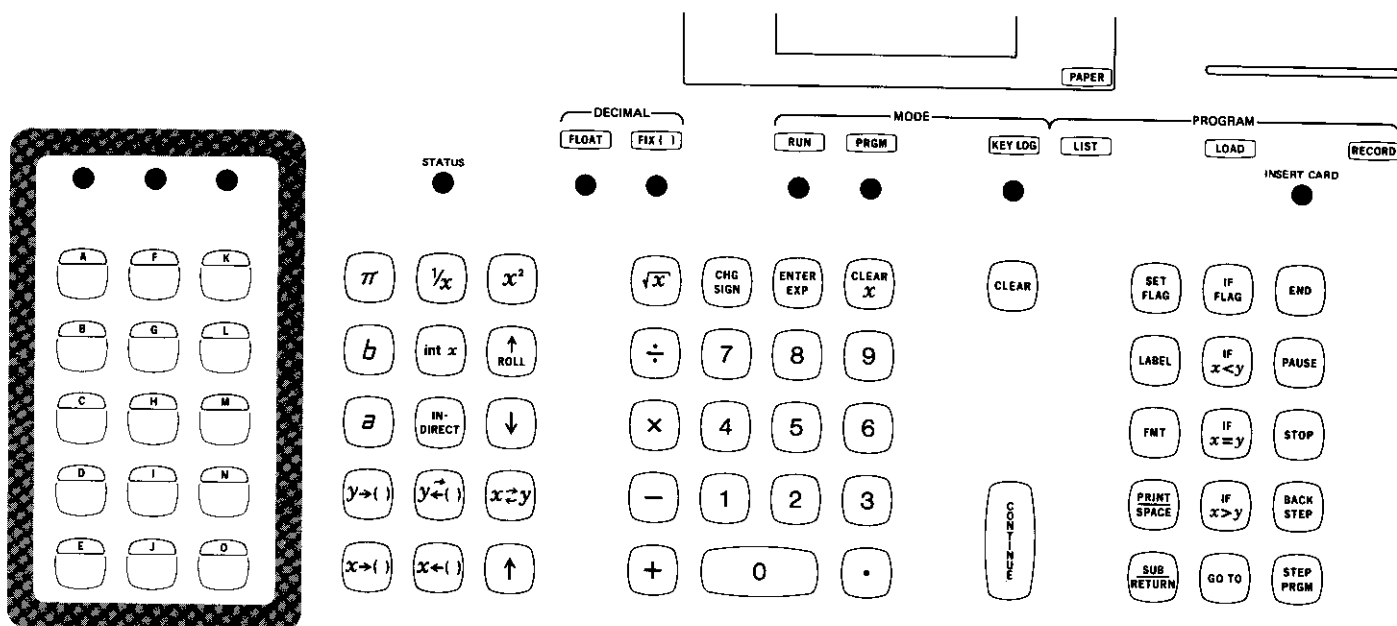
Don't be distracted by the mechanics of problem-solving. There is *no special language* to learn with the Model 10. Even if you have never worked with anything more powerful than a slide-rule or adding machine, you can be solving complex problems with the Model 10 after only a few minutes of instruction.

The Model 10 — *the calculator you design yourself.*

Personal. In a word, that is the Model 10 Calculator.

- *Design your own keyboard* with special plug-in modules that give you single key-stroke solutions for statistics, mathematics, or special functions for a host of disciplines.
- *Specify the memory* size you need, yet retain the option to expand at a later date.
- *Choose the output* that suits your requirements. Now you can choose a calculator without printer, calculator with numeric printer, or calculator with the exclusive HP **ALPHANUMERIC** printer.
- *Add peripheral equipment* to tailor the input, output, and control to your special situation. Flexible I/O structure lets you interface the Model 10 to a broad selection of Series 9800 peripherals.

MODEL 10 KEYBOARD



OPERATIONS

Built-in single key operations include

Arithmetic:

Addition, subtraction, multiplication, and division.

Miscellaneous:

Keys: Integer X, $1/X$, X^2 , π , and \sqrt{X}

3-register display:

Results appear in bright, distinct LED display. LED (light emitting diodes) assure high reliability.

NUMERICAL FORMAT

FIXED POINT Up to 10 decimal digits
(e.g., 1234.567890)

or

FLOATING POINT Scientific notation
(e.g., 1.234567890×10^3)

DYNAMIC RANGE . . . 10^{-98} to 10^{98} with 10
significant digits of accuracy.

OVERFLOW-UNDERFLOW INDICATION

EASY PROGRAMMING

The calculator is programmed either by use of the keyboard or by magnetic cards. The program mode allows entry of program instructions, via the keyboard, into program memory. Programming consists of pressing keys in the proper sequence.

You can store *programs* or large amounts of *data* on handy magnetic cards for instant entry into your Model 10. The "feed-through" feature of the magnetic card reader speeds program and data entry. For particularly long programs, cards may be linked for automatic feed, on command by the calculator. These magnetic cards are reusable; a "protect tab" prevents accidental erasure.

SPECIAL FEATURES

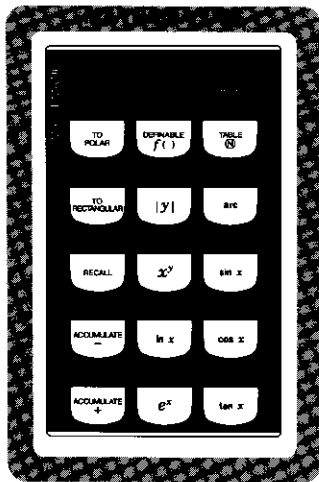
Perform mathematical operations on data directly in the storage registers, without recalling it to a "working register."

Use indirect addressing and indirect arithmetic to save innumerable programming operations and greatly speed your computations.

Execute branches by Symbolic (Labeled) addressing permitting branching to program sections identified by name only.

A true subroutine capability permitting instant access to subroutines from any point in a program.

PLUG-IN FUNCTION BLOCKS



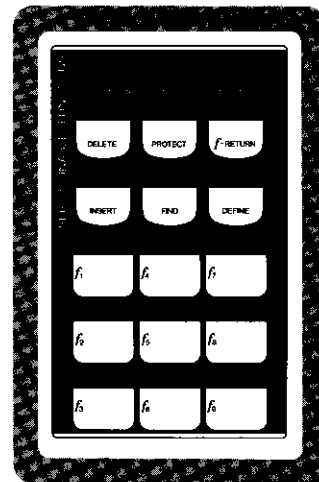
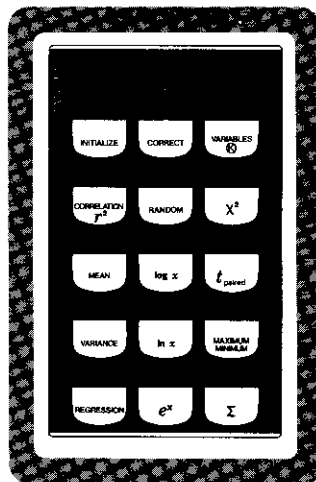
INTERCHANGEABLE

These function blocks are completely interchangeable and require absolutely no modification or any special tools or skills to install.

MATHEMATICS

In addition to the functions shown on the keyboard; pressing TABLE followed by keys 1, 2, 3, . . . 9, gives you access to 9 more functions: SET DEGREES; SET RADIANS; SET GRADS; $\log_{10} X$; 10^X ; degrees/minutes/seconds to decimal degrees conversion; decimal degrees to degrees/minutes/seconds conversion; $X!$; and Round. These functions *do not* draw upon the main calculator memory.

For added flexibility, you can program the key labeled $\text{DEFINABLE } f()$ to perform any function you wish. *DO LOOPING* is an additional feature of this block.



STATISTICS

Computations such as; X^2 ; paired t; linear, multiple-linear, and parabolic regressions; random number generations; accumulation of sums, sums of products, and sums of squares for up to five variables; means and variances for up to three variables, maximum/minimum search are all solved instantly. In addition, erroneous data can be removed by the use of the exclusive CORRECT key. These Statistical keys do not draw upon the main programming memory.

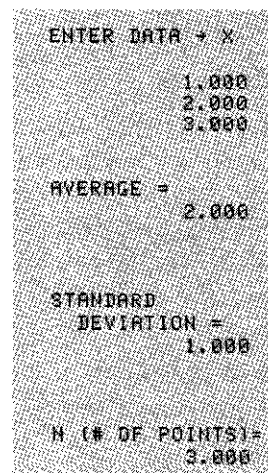
DEFINABLE

Select the User Definable Function keyblock and *you* can customize each of the nine keys labeled f_1 through f_9 to perform *your* functions at the touch of a single key. Your single key functions *are fully protected* by the calculator's automatic "bookkeeping" system -- until you want to change them, that is.

ALPHANUMERIC PRINTER

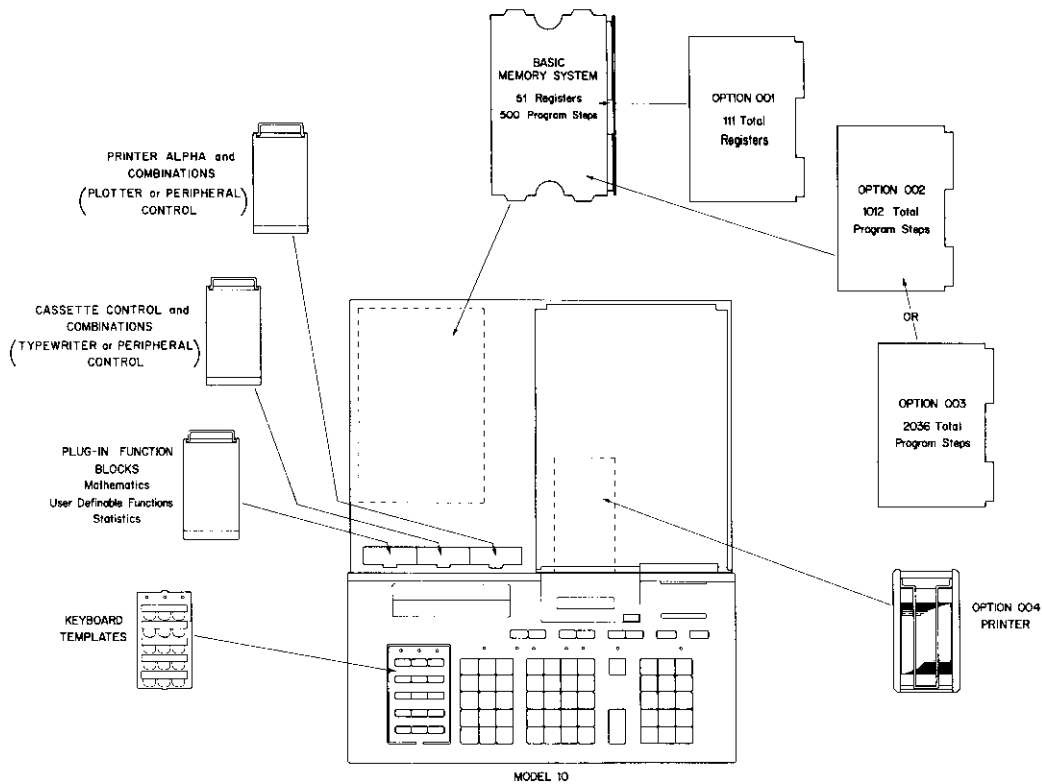
If you need basic hard copy, you can order your Model 10 with a quiet, (non-impact) built-in printer.

You can also get full alphanumeric capability for your HP printer, and have the ability to print input instructions, program instructions, and identify output data. The exclusive HP alpha-printer option can be added to your Model 10 at any time. If you have a Model 10 with a standard printer, all you need to do is insert the alpha plug-in block in your calculator and you can generate printed messages, labels, or instructions -- manually, via the keyboard, or automatically, via programmed request.



Alphanumeric Printout
(2/3 Actual Size)





EXPANDABILITY

In basic configuration, with a main program memory of 500 program steps *and* a data memory of 51 storage registers, the Model 10 is powerful enough to solve 10 simultaneous equations. If you need more power initially, or, if you order a basic Model 10 and later find growing demand warrants a larger memory, either the program memory or the data storage memory (or both) can be expanded with simple plug-in modules. You can order a Model 10 with 500, 1012, or 2036 program step capability and 51 or 111 data storage registers.

PERIPHERAL CAPABILITY

INPUT:

Beyond the keyboard, the Model 10 gives you a choice of input options that allow you to tailor your calculator to your unique operating procedures for fast turnaround and optimum utility. With its flexible I/O structure, your Model 10 will accept such Series 9800 input peripherals as paper tape readers or card readers to become a truly personal *system*.

OUTPUT:

When you need your data in typed, plotted, or other unique formats, you can interface with

Series 9800 peripheral output devices for automatic generation of special output formats. You'll be free from the tedium and cost of manual data plotting or formatting forever.

PERIPHERALS

Model 9860A	Marked Card Reader
Model 9861A	Typewriter
Model 9862A	Plotter
Model 9863A	Tape Reader
Model 9864A	Digitizer
Model 9865A	Cassette
Model 9869A	Card Reader

MODEL 10 GENERAL SPECIFICATIONS

Power: Choice of 4 Positions—100V \pm 10%, 115V \pm 10%, 200V \pm 10%, 230V \pm 10%; 50–60Hz, 70 watts.

Weight: 34 lbs. (15.42 kilograms) with printer.

Shipping Weight: 49 lbs. (22.23 kilograms).

Dimensions: 5.6" (14.22 cm.) high, 17 $\frac{3}{4}$ " (49.09 cm.) wide, 21" (53.34 cm.) deep.

Temperature: 0°C – 45°C

HEWLETT  PACKARD

Sales, service and support in 172 centers in 65 countries.
Loveland, Colorado 80537. Offices in principal cities throughout the U.S.