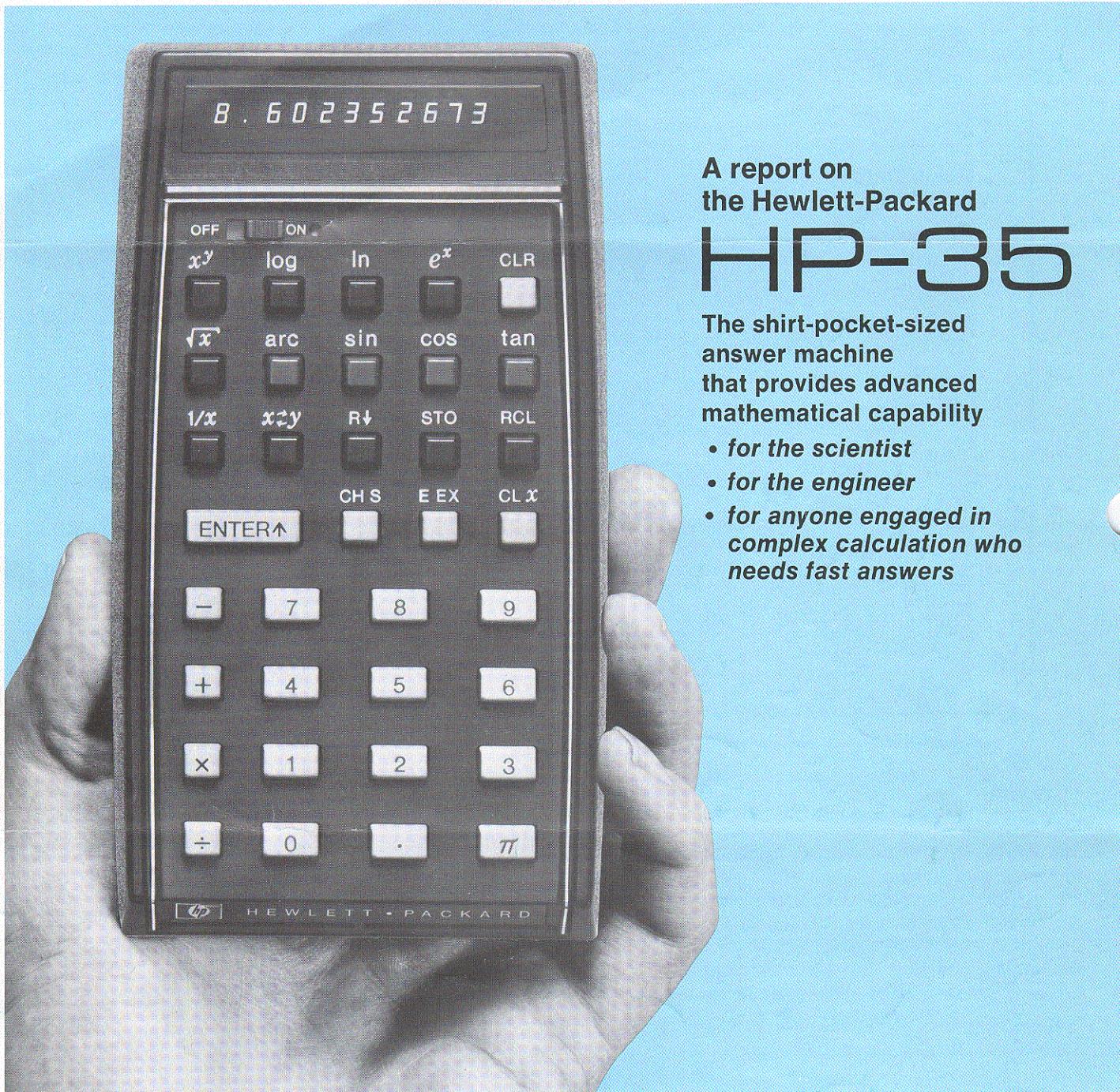




# POCKET CALCULATOR

## TECHNICAL DATA



### A report on the Hewlett-Packard

# HP-35

The shirt-pocket-sized  
answer machine  
that provides advanced  
mathematical capability

- for the scientist
- for the engineer
- for anyone engaged in  
complex calculation who  
needs fast answers

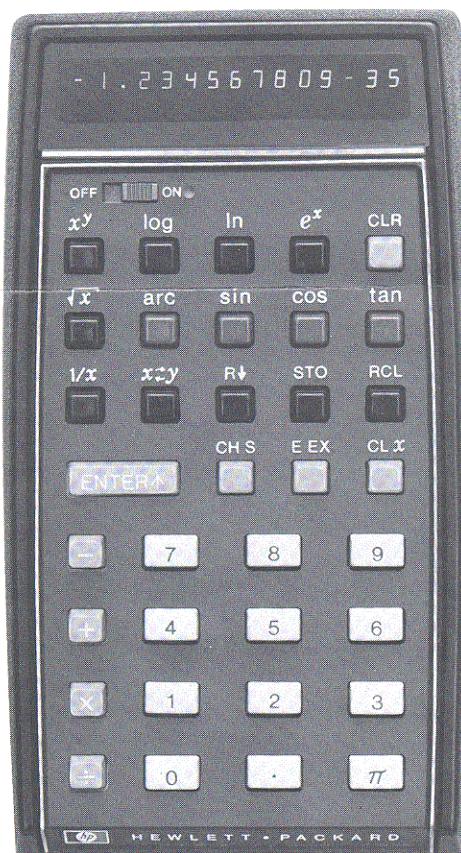
Development of the HP-35 is a breakthrough from  
Hewlett-Packard research -- a *long leap forward in pocket calculator capability*.  
It is about as small as a calculator can be made -- while retaining fingertip  
operation and easy-to-read answers. Yet its computational power is extraordinary . . . and  
it costs only a fraction of the price of desk-top scientific calculators.

The HP-35 actually compresses most of this "big machine" capability into  
a nine-ounce unit that fits comfortably into a shirt pocket.

# HEWLETT-PACKARD HP-35

A scientific-language pocket calculator that combines slide rule portability with the precise accuracy and problem-solving power of a small computer.

Yet you can compute complex transcendental functions with exceptional accuracy in less than half a second. As easy to use as an adding machine.



## Description

The HP-35 is a 35-key, pocket-sized scientific and engineering calculator. It performs logarithmic, trigonometric, and mathematical functions with single keystrokes and eliminates the need to refer to log or trig tables. It displays up to 10 significant decimal digits and automatically positions the decimal point throughout its 200-decade calculating range ( $10^{-99}$  to  $10^{99}$ ). It combines the portability and convenience of the slide rule with the problem-solving power of a desk-top scientific calculator. However, it provides answers in a fraction of the time required for slide rule calculation.

## Single Keystroke Functions

A series of specific functions or formulas are pre-programmed into the HP-35 to provide its unique capability for performing trigonometric and exponential functions with single keystrokes. This feature makes it unnecessary to refer to tables for the values of these functions:

**Arithmetic:** Add, subtract, multiply, divide and square root.

**Trigonometric:** Sin x, Cos x, Tan x, Arc Sin x, Arc Cos x, Arc Tan x.

**Logarithmic:**  $\log_{10} x$ ,  $\log_e x$ , and  $e^x$ .

**Other functions:**  $x^y$ ,  $1/x$ ,  $\pi$  and data storage and positioning keys.

## Special Features

### Operational Stack and Memory

The HP-35 is provided with an "operational stack" of 4 registers, plus a memory register for constants. The stack is used for solving either simple or complex problems that require intermediate values. It holds the intermediate results and at the appropriate time, automatically brings them back for further processing. This eliminates the need for scratch notes or the re-entry of intermediate answers.

Stack control keys permit the contents of any register to be shifted to the display for review.

### Automatic Decimal Point Positioning

The HP-35 allows values to be entered in either floating point or scientific notation. Answers larger than  $10^{-2}$  and smaller than  $10^{10}$  are displayed in floating point with the decimal properly positioned. For values outside this range, answers are displayed in scientific notation, with the exponent of 10 shown at the right of the display.

### Blanked Digits

Displays pertinent numbers from left to right. Insignificant trailing zeros are automatically blanked for easier reading of the display. Example:  $\frac{1}{2}$  is displayed as .5 with no trailing zeros.

### Overflow-Underflow and Improper Operations

Overflow and underflow are indicated by the HP-35's closest answers:  $9.99 \dots \times 10^{99}$ , and zero, respectively. Improper operations, such as the square root of a negative number, are indicated by a flashing display.

### Battery Power or AC Line Operation

A battery pack, consisting of nickel-cadmium rechargeable batteries, provides three to five hours of operation under normal use. When operating on the battery pack, the HP-35 automatically provides positive indication of low battery power. Five to 10 minutes of operating time remain after this warning signal is flashed. An adapter is provided for AC operation (115 or 230 volts). The unit can be operated on AC while the battery pack is being charged.

## Advanced Technological Features

### Large-Scale Integrated Circuits (LSI):

The HP-35 has especially designed MOS/LSI (Metal-Oxide-Semiconductor/Large-Scale Integration) circuits using a new low-power, high-performance ion-implant process. Each circuit is equivalent to 6,000 transistors—a total of 30,000.

### Light-Emitting-Diode Display (LED):

The bright, easily-read display in the HP-35 was designed specifically for this application by Hewlett-Packard, one of the world's leading producers of optoelectronic devices. Since the displays are made from semi-conductor materials, they—like transistors—do not wear out with time.

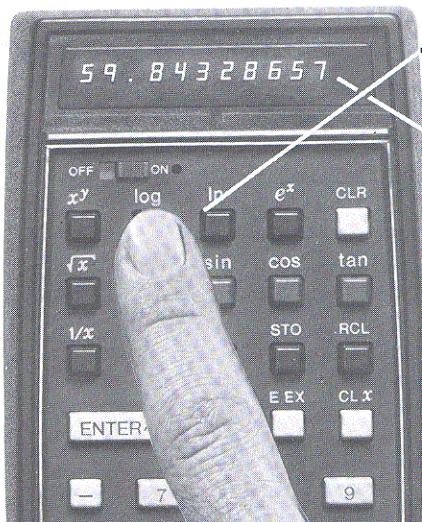
### Tactile Feedback Keyboard:

The unique keyboard allows grouping of 35 easily-operated keys on a front panel approximately 3 x 5 inches. Keys are fully spaced for convenient fingertip operation. Each key has a "breakaway" or "overcenter" touch similar to the key action of a high quality electric typewriter.

### Compact, Contoured Case:

The HP-35 has been designed to take substantial punishment in field use. Its sculptured, shirt-pocket case is made possible through a combination of modern packaging techniques and high-density integrated circuit electronics.

**Provides a unique combination of advanced mathematical capability plus shirt-pocket portability—and it's as easy to use as an adding machine.**



**Performs** protracted and repetitious trigonometric and other intricate functions with a single key stroke. Makes it unnecessary to put in a recurring figure over and over or refer to tables. A series of specific functions or formulas are pre-programmed in the calculator.

**Displays** 10 significant digits with the decimal point automatically positioned. Answers larger than  $10^{-2}$  and smaller than  $10^{10}$  are automatically displayed in floating point. Outside this range, numbers are expressed in scientific notation, with the exponent of 10 shown at extreme right.



**ENTER↑**

**R↓**

**STO**

**RCL**

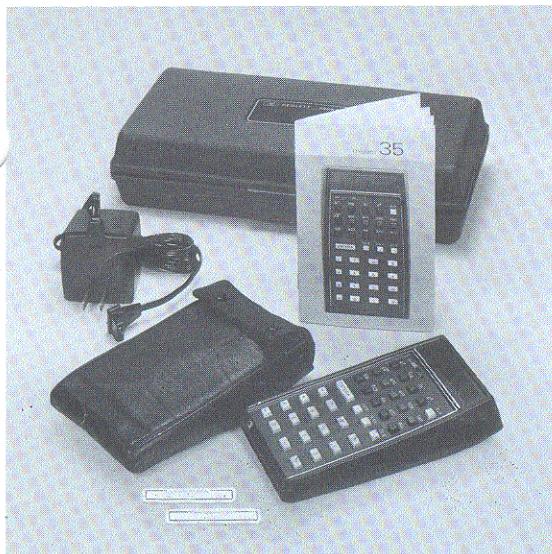
**Provides** "stack" of four registers plus one storage memory which can hold intermediate solutions to a problem and bring them back at appropriate time. Allows you to "roll down" any register to the display for review, and to interchange the first two registers.

**Stores** a "constant" in memory, and recalls it to display at one touch of a key—a feature that is handy for many ordinary home and business applications, as well as more sophisticated operations.



**Displays** pertinent numbers from left to right—while suppressing the usual confusing string of trailing zeros. Negative is displayed by minus sign to left.

**This Light-Emitting Diode display** (shown actual size) is bright red, and easy to read. All digits appear as continuous solid lines, not as broken segments.



## General Specifications:

### POWER:

AC—115 or 230 V,  $\pm$  10%, 50 to 60 Hz, 5 watts.  
Battery—500 mw derived from Nickel-Cadmium rechargeable  
Battery Pack.

### WEIGHT:

Calculator—9 ounces  
Recharger—5 ounces  
Shipping weight—approx. 2 lbs.

### DIMENSIONS:

Length—5.8 inches  
Width—3.2 inches  
Height—0.7 to 1.3 inches

### TEMPERATURE OPERATING RANGE:

0° C to 50° C (32° F to 122° F)

### ACCESSORIES INCLUDED:

- AC Adapter and battery recharger (115/230V).
- Soft case with belt loop.
- Safety travel case of molded plastic, which holds both calculator and recharger and is compact enough to fit most standard attache cases.
- Self-adhesive owner name tags for the unit and accessories.
- Operating manual.

### OPTIONAL ACCESSORIES

(Details sent with the HP-35):

- Security Cradle
- Field Case
- Spare Battery Pack and Holder

## Warranty

Hewlett-Packard Pocket Calculator Products are warranted against defects in materials and workmanship. This warranty applies for one (1) year from the date of delivery. We will repair or replace components which prove to be defective during the warranty period, provided the defective units are returned to Hewlett-Packard. No other warranty is expressed or implied. We are not liable for consequential damage.

HEWLETT  PACKARD

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