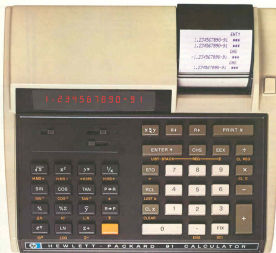


# HP-91



For school plus see inside

**The first battery-operated scientific calculator that delivers a printed record of all your calculations — wherever you go.**

The new HP-91 Scientific Printing Calculator provides you with a full range of scientific and arithmetic functions — complete with a printed record — all in one compact calculator. And because the HP-91 prints and operates on AC or its own built-in batteries, you can use it anywhere — in the office or in the remotest field locations.

**Outlet thermal printer provides a complete record.**

The sophisticated new thermal printing system of the HP-91 employs a moving thin-film head to record and label your calculations on heat-sensitive paper. Because the HP-91 can print all your calculations, you can keep track of long, complex equations. If desired, you can print — with labels — statistical summaries, contents of the operational stack, or the contents of all sixteen addressable registers. Routine repetitive calculations can be performed by non-specialists and later checked for accuracy. Paper is available in 25-metre (80-feet) rolls that accommodate 9,790 lines of printed data.

# HP-91

## All the most-needed scientific functions – preprogrammed for speed and accuracy.

The HP-91 provides the same preprogrammed functions as the widely-used HP-41C pocket calculator – plus the added advantage of a printed record of all calculations. Matrix capabilities include log and trig functions (in degrees, radians or grads), rectangular/polar conversions and three separate percentage functions. Statistical capabilities include summations, mean and standard deviation, linear regression, linear estimates (all for two variables), and factorial. The HP-91 has sixteen addressable registers, an automatic four-register stack, a LAST X register for easy error recovery and four clearing options. For a complete list of HP-91 capabilities, see back page.

## Select from three printing modes.

With switch set to ALL, the printer will show all entered data, functions, intermediate and final answers. With the switch set to NORMAL, the printer will record entered data and functions only. In this mode, intermediate and final answers may be printed by pressing the PRINT X key. With switch set to MANUAL, the printer will operate only when you press the PRINT X key or a test function. This mode is useful in conserving battery power or when the full printing capability of the HP-91 is not required.

## Extra large display is easy to read.

The brilliant lighted display of the HP-91 shows up to 10 significant digits, plus two-digit exponent and appropriate signs. And the display is at a 45° angle that makes it easily read while seated at your desk or standing at your workbench or drafting board.

## Print and display in fixed decimal, scientific or engineering notation.

The HP-91 will print and display in fixed decimal and scientific notation, converts in many scientific conversions. It will also print and display in engineering notation, an exclusive HP feature that displays values with exponents that are multiples of 3. This is useful in working with many units of measure, such as kilo (10<sup>3</sup>), nano (10<sup>-9</sup>), etc.

## Compact design and light weight for easy portability.

Total weight of the HP-91 without AC adapter/charger is only 5.10 kg (11.25 lb.). It will fit into a standard briefcase so you can take it with you, and operate it while you travel by airplane, taxi, anywhere. For security, it will easily fit into lockable desk drawers or the glove compartment of your car. A built-in metal tab lets you secure it to your desk easily with a cable or lock. (A special cable and lock is available as an optional accessory.)

## 256-page Owner's Handbook includes Detailed Applications Section.

The Owner's Handbook for the new HP-91 Scientific Printing Calculator is extensive and detailed. It covers all functions and operations – including a clear description of HP's Mode 1 and Mode 2. The book is devoted to practical applications of the HP-91 in mathematics, statistics, finance, navigation, and surveying. Formulas used for each of the preprogrammed functions in the HP-91 are provided for easy reference.

## Display

Brightest display angled at 45° for easy reading. Shows 10 significant digits, plus two-digit exponent and appropriate signs.

## Print Mode Switch

NORM selects print out of digit entries and functions; ALL prints out digit entries, functions and results; MAN keeps printer at idle.

## Maths and Trig Functions

Preprogrammed log; trig (in degrees, radians or grads); polar (r) rectangular to polar and decimal angle (theta) (p) (r) degrees (theta) (minutes/seconds conversions); pi; n factorial; percentage and percentage difference; related arithmetic functions.

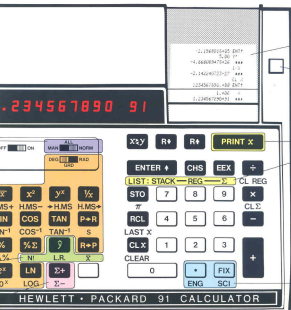
## Statistical Functions

Arithmetic mean and variances; standard deviations and variances; linear regression coefficients and estimates.

## Summation Key

Provides a running total when adding numbers, keeps track of the number of entries and computes automatically for statistical work, deletes unwanted data.





### Thermal Printer

Making thin-film heat prints and labels calculations on heat sensitive paper: lists statistical summations, operational stack contents, or contents of all 18-addressable registers. Paper available in 26-metre (86-foot) rolls for 5,760 lines of printed data.

### Paper Advance

Advance paper, half-line operations and clears errors.

### Printer Control

Prints displayed number, prints and labels contents of stack registers, or prints and labels contents of the summation registers.

### Notation Selector Key

NS rounds off to as many decimal places as you need. SCI gives the same plus two-digit exponent while EMD provides the exponent in multiples of  $10^{12}$ .

### RPN – the professional logic system – gives added flexibility, speed and confidence.

Compared to algebraic logic, the RPN logic system is faster, more efficient and more versatile in solving the complex problems faced by today's professionals in science and finance. For most calculations, it requires far fewer keystrokes. You don't need parenthesis keys and you don't need to keep track of complicated hierarchies. Intermediate answers are displayed and stored automatically in an operational stack of four memories – so you never need to write them down and risk errors. The size and complexity of problems that can be handled with RPN logic are virtually unlimited.

### The HP-91 Scientific Printing Calculator comes complete with:

Battery pack that under normal use provides 3 to 7 hours of continuous operation and fully charges in under 6 hours.

Recharger/AC adapter that lets you operate the calculator on AC while the battery pack is recharging.

Soft carrying case with handle. Illustrated Owner's Handbook with instructions and applications section.

Thermal paper (2 rolls).

### Optional Accessories

(Details seen with HP-91).

Security cable and lock secures the HP-91 to your work area.

Reserve Power Pack provides a spare battery pack and keeps it fully charged.

Thermal paper (box of 6 rolls).

### The HP-91 Scientific Printing Calculator Features and Specifications:

#### Printer Features:

Print mode Switch.

See  icon.

Selects printing modes. You can print nothing, digit entries and functions, or digit entries, functions and results.

Prints the displayed number.

Left  

Prints and labels the contents of the stack registers.

Left 

Prints and labels the contents of the summation registers (R<sub>1</sub>–R<sub>4</sub>).

Left 

Prints and labels the contents of the addressable registers.

 Paper Advance

Advances the paper. At the same time halves last operations and clears errors.

#### Mathematical Functions:

Angular Mode Switch.

See  icon.

Selects degrees, radians or grade mode.

Trigonometric functions and their inverses.

Natural log and antilog.

Common log and antilog.



Exponential function.



Rectangular/polar coordinate conversion.

Time (angle) addition and subtraction in hours, minutes, and seconds.

Time (angle) conversion between hours, minutes and seconds and hours.

Convenient math functions.

Arithmetic functions.



Percentage.



Percentage difference.



Percentage of total.



#### Statistical Functions:

- [Σ]**  
Accumulates  $x$ ,  $y$ ,  $x^2$ ,  $y^2$ ,  $xy$ ,  $n$ .
- [Σ-]**  
Deletes unwanted data.
- [Σ]**  
Mean — two variables.
- [Σ]**  
Standard deviation — two variables.
- [Σ]**  
Linear regression coefficients.
- [Σ]**  
Linear estimate.
- [RCL]**  
Factorial.

#### Data Manipulation and Storage Functions:

- [STO]**  
Separates numerical entries.
- [RCL]**  
Exchanges contents of  $x$  and  $y$  stack registers.
- [↓]**  
Rolls down contents of stack registers.
- [↑]**  
Rolls up contents of stack registers.
- [CHS]**  
Changes the sign of a number.

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#### [ENT]

Enters exponent for numbers in scientific notation.

#### [LST]

Recalls last entry **after** an operation. Gold shift key; selects functions printed in gold on keyboard.

#### [RCL]

Stores displayed value into addressable register. Also used with arithmetic functions in storage register arithmetic.

#### [RND]

Recalls a number to the display from an addressable register.

#### Display Control and Clearing Options:

##### [DR]

Sets fixed decimal notation display.

##### [SD]

Sets scientific notation display.

##### [SE]

Sets engineering notation display.

##### [CL]

Clears display.

##### [CMA]

Clears stack, addressable registers, and LastIn register.

##### [CNR]

Clears addressable registers  $R_0$ - $R_9$ .

##### [CLT]

Clears summation registers  $R_0$ - $R_9$ .

#### Physical Specifications:

Calculator width: 228.6 mm (9")  
Calculator depth: 203.2 mm (8")  
Calculator height: 60.5 mm (2.4")

Calculator weight: 1.13 kg (2.5 lb)  
Recharger weight: 268 g (9.5 oz)  
Shipping weight: 3.16 kg (7 lb)

Operating temperature range:  
0°C to 50°C (32°F to 122°F)  
Charging temperature range:  
10°C to 40°C (50°F to 104°F)  
Storage temperature range:  
-40°C to 55°C (-40°F to 131°F)  
Paper temperature range  
(operating and storage):  
10°C to 45°C (50°F to 113°F)  
Power Requirements:  
AC: 220 V,  $\pm$  10%,  
50 to 60 Hz.  
Battery: 5.5 Vdc nickel cadmium  
rechargeable battery pack.

#### Full One-Year Warranty:

The HP-91C is warranted against defects in materials and workmanship for one year from the date of delivery. During the warranty period, Hewlett-Packard will repair, or at its option, replace at no charge components which prove to be defective, provided the calculator is returned shipping prepaid, to Hewlett-Packard's Customer Service facility. This warranty does not apply if the calculator has been damaged by accident or misuse, or as a result of service or modification by other than an authorized Hewlett-Packard Customer Service facility. No other express warranty is given by Hewlett-Packard. HEWLETT-PACKARD SHALL NOT BE LIABLE FOR CONSEQUENTIAL DAMAGES. Hewlett-Packard reserves the right to make changes in materials, specifications or accessories without notice.

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