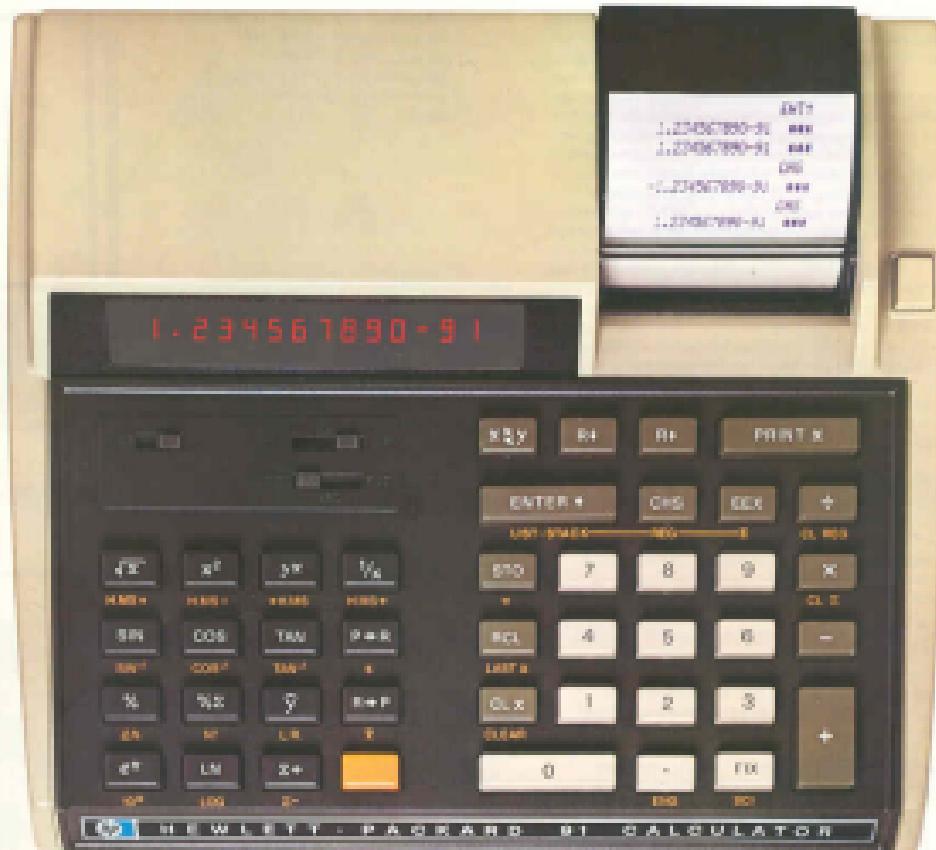


HP-91



For actual size see inside

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

The new HP-91 Portable 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 remote field locations.

Coupled 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. Reusing repetitive calculations can be performed by non-sequential and later checked for accuracy. Paper is available in 20-metre (60-foot) rolls that accommodate 10,700 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-85 pocket calculator - plus the added advantages of a printed record of all calculations. Maths 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.

Selected 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 MINIMAL, the printer will operate only when you press the PRINT X key or a 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 liquid 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 notations.

The HP-91 will print and display in fixed decimal and scientific notation, common in many scientific computations. 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 (10³), nano (10⁻⁹), etc.

Compact design and light weight for easy portability.

Total weight of the HP-91 without AC adapter is less than one kilo (2.2 lbs.). It will fit into a standard briefcase so you can take it with you, and operate it while you travel. It transports, tools, anything. For security, it will easily fit into lockable desk drawers or the given compartment of your car. And it's travel safe. Take it with you, secure it to your desk easily with a cable or belt. (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 HPPL. More than half 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

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

Print Mode Switch

Normal mode prints out all digit entries and functions; ALL prints out digit entries, functions and results; MIN prints out entries only.

Math and Trig Functions

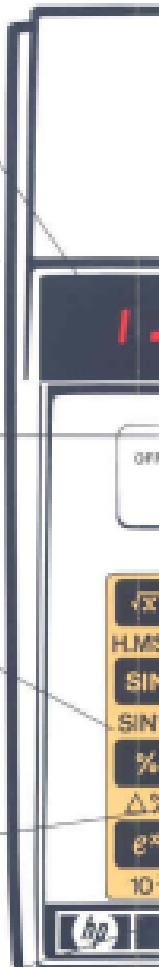
Preprogrammed log, trig (in degrees, radians or grads), polar (x,y) rectangular coordinate and decimal angle (degrees) (in x,y) (degrees), minutes/seconds/seconds conversions, pi, pi factorial, percentage and percentage differences, related arithmetic functions.

Statistical Functions

Arithmetic mean and variances, standard deviations and variances, linear regression, 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.



. 2 3 4 5 6 7 8 9 0 - 9 1

The image shows a calculator screen with a grid of buttons. The buttons are labeled with various functions and numbers. The top row includes X^Y, R+, R+, PRINT X, ENTER +, CHS, EEX, ÷, LIST: STACK — REG — Σ, CL REG, STO, 7, 8, 9, ×, π, RCL, 4, 5, 6, -, LAST X, CLX, 1, 2, 3, +, CLEAR, 0, ENG, FIX, SCI, and a plus sign. The buttons are arranged in a grid, with some buttons having multiple functions or being part of a larger label.

HEWLETT • PACKARD 91 CALCULATOR

Thermal Printer

Moving thermal head prints and labels calculations on heat-sensitive paper; lists statistical summaries, operational stack contents, or contents of all 16-digit numeric registers. Paper available in 20-meter (60-foot) rolls for 5,760 lines of printed data.

Paper Advances

— Advances paper, lists the operations and shows errors.

Printer Control

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

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 parentheses 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 memory keys – 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.

Notation Selector Key

PII rounds off to as many decimal places as you need. SCI gives the same plus two-digit exponent while EII provides the exponent in multiples of 10¹¹.

The HP-31 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 8 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 application sections.
Thermal paper (2 rolls).

Optional Accessories

(Order by part number HP31P.)
Security case and tool rack mount the HP-31 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-31 Scientific Printing Calculator Features and Specifications:

Printer Features:

Print Mode Switch.

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

Prints the displayed number.

Prints and labels the contents of the stack registers.

Prints and labels the contents of the summation registers (R_0 – R_9).

Prints and labels the contents of the addressable registers.

Paper Advance

Advances the paper. At the same time halts list operations and clears errors.

Mathematical Functions:

Angular Mode Switch

Selects degrees, radians or grads 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.

Conjugate math functions.

Arithmetic functions.



Percentage.

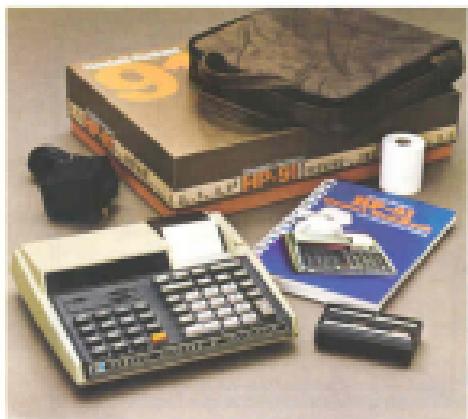


Percentage difference.



Percentage of total.

HP-31 Scientific Printing Calculator



Statistical Functions:

- Σx**
Summulates $x, x^2, x^3, x^4, \exp, \ln$.
- Σx²**
Gives unweighted data.
- Σx³**
Mean – two variables.
- Σx⁴**
Standard deviation – two variables.
- Σx⁵**
Linear regression coefficients.
- Σx⁶**
Linear estimate.
- Σx⁷**
Factorial.

Data Manipulation and Storage Functions:

- ENTER**
Separates numerical entries.
- STO**
Changes contents of x and y stack registers.
- RCL**
Not in down contents of stack registers.
- RCL**
Not in up contents of stack registers.
- RCL**
Changes the sign of a number.

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DATA

Enters a decimal for numbers in scientific notation.

DATA

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

DATA

Shows displayed value into addressable register. Associated with arithmetic functions in storage register arithmetic.

DATA

Recalls a number to the display from an addressable register.

Display Control and Clearing Options:

- DATA**
Sets fixed decimal notation display.

- DATA**
Sets scientific notation display.

- DATA**
Sets engineering notation display.

- CLEAR**
Clears display.

- CLEAR**
Clears stack, addressable registers, and last x register.

- CLEAR**
Clears addressable registers R₀–R₉.

- CLEAR**
Clears summation registers R₀–R₉.

Physical Specifications:

Calculator width: 229.6 mm (9")
Calculator depth: 203.2 mm (8")
Calculator height: 63.5 mm (2.5")

Calculator weight: 1.1 kg (2.5 lb)
Power adapter weight: 268 g (0.5 lb)
Papering weight: 3.75 kg (7 lb)

Operating temperature range: 0°C to 50°C (32°F to 122°F)

Storage temperature range: -40°C to 60°C (-40°F to 140°F)

Humidity temperature range: -40°C to 60°C (-40°F to 140°F)

Paper temperature range (operating and storage): -10°C to 45°C (18°F to 113°F)

Power Requirements: AC: 100–120 V, 50–60 Hz.

Battery: 9.6 Vdc nickel cadmium rechargeable battery pack.

Full One-Year Warranty:

The HP-91 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.

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