

The Hewlett-Packard

HP-80

Computer Calculator

The most revolutionary financial device of our time



The HP-80 instantly solves hundreds of time-and-money problems – yet it's as easy to use as an adding machine

Simply press a few keys

The exclusive Quick Reference Guide enables anyone to master the HP-80 quickly.

With the HP-80, it's not necessary to remember equations or the "why" behind them. The exclusive Quick Reference Guide – supplied with each calculator – provides key-by-key instructions for the most commonly used functions. The HP-80 is really so simple to use, you probably won't need the guide after you do a few calculations.

There's never been anything like the Hewlett-Packard HP-80.

It's the only business machine of its size that's capable of solving financial and business problems instantly – without cumbersome and time-consuming tables... without pencil-and-paper calculations.

All the tables, all the calculations, even 200 years of calendars have already been preprogrammed into the HP-80. So all you have to do is press a few keys!

In seconds – or less – your problems are solved. With accuracy to within the last new penny in a million pound calculation.

If your primary responsibility involves computing time-and-money problems, you'll be amazed at how quickly and easily the HP-80 supplies you with the answers – even to the most complex problems. And there's no waiting for the answer (as is so often the case with on-line computers).

But even if financial problems are not your main concern, the HP-80 can still prove invaluable – to figure costs... markups... profits... discounts... interest rates... taxes... rate of return on investments... sales forecasts... depreciation... averages... present or future values of annuities, amounts compounded... loan calculations... square roots – even dates.

All by just pressing a few keys

And because the HP-80 operates on AC or on rechargeable batteries (it recharges while you use it on AC), you can use it anywhere, at any time – when you're face-to-face with a client or customer... at a meeting... at home... on a plane or train... in a hotel room, even outdoors.

If you're in business, you can't afford to be without the HP-80!



It's the first computer calculator that's preprogrammed to do more for you than any hand-held business machine you've ever seen

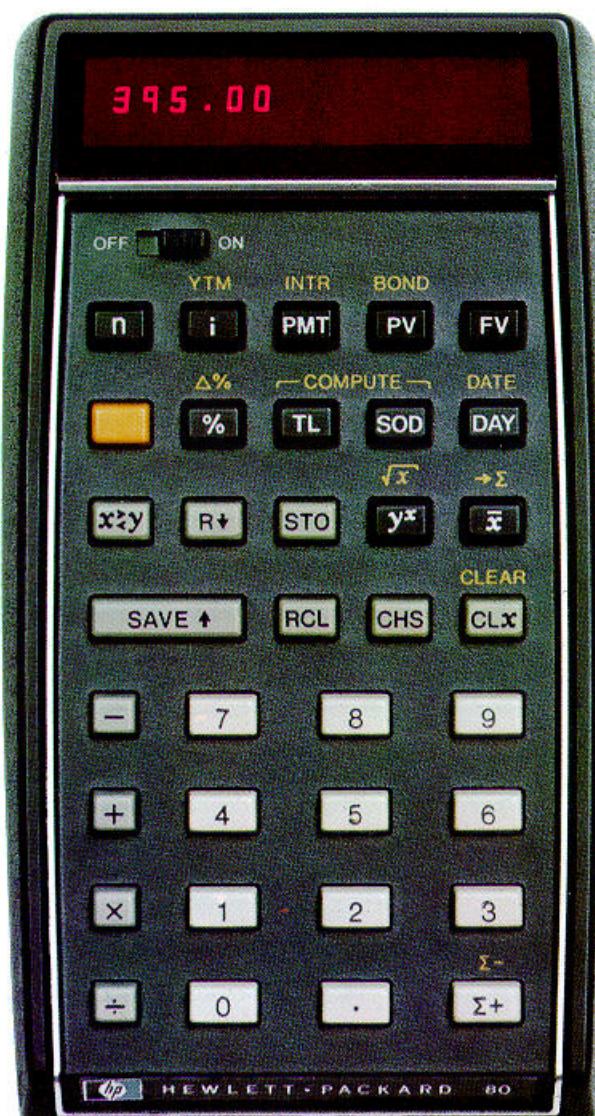
The HP-80 is the ideal "use-it-anywhere" aid for anyone in banking, instalment sales, law, insurance, accounting, commercial finance, investments, real estate, personal finance, tax analysis, auditing, business management, sales, business education, retailing, wholesaling, manufacturing, business research, statistics, securities analysis. This nine ounce, shirt-pocket-sized computer calculator has a solid-state memory similar to those used in large computers, so that its capabilities extend far beyond simple addition, subtraction, multiplication and division. With the HP-80, virtually all financial calculations involving the relationship between time and money can be done quickly and easily. Although its calculating power and speed rivals that of a computer, you don't have to know anything about computers to use the HP-80 effectively, since the handy Quick Reference Guide supplied with each calculator gives clear key-by-key instructions.

The HP-80, like larger, more expensive machines, can handle numbers as large as a 1 followed by 99 zeros. It displays up to ten significant digits and you can choose where you want to round off, up to six decimals. And, it won't accept impossible problems or dates (the display repeatedly flashes to tell you it can't be calculated).

The development of the HP-80 was an almost inevitable extension of Hewlett-Packard's capabilities in precision electronic measurement, analysis and computation. HP systems and equipment are now at work for many thousands of the most exacting scientists and engineers, whose very success or failure depends on the most precise measurements possible.

Since the introduction of its first model, the HP-35, in January 1972, HEWLETT-PACKARD has sold more than 500,000 scientific and financial pocket-sized calculators.

**All you do is
press the keys...**



Shown actual size.

For example, the top row of keys is used to solve all types of problems involving compound interest, compound growth and annuities. Merely by entering your numbers and pressing several of these keys – in left-to-right sequence – you can instantly find:

- The number of periods (days, months, etc.) required for an instalment loan, annuity or amount compounded.
- The effective interest rate per period as well as the annual percentage rate.
- The amount of an instalment, sinking fund or annuity payment, investment, etc.
- The present value or future value of an annuity or an amount compounded.

The other unique HP-80 keys are just as easy to use.

DATE **This key puts a 200-year calendar (1900 to 2099) at your fingertips**

Simply enter any known date in digit form (e.g., May 2, 1973 = 5.021973) and press a few other keys to find:

- The number of calendar days between two dates
- The day of the week a date falls on
- A future date, given the number of days from the known date
- A past date, given the number of days from the known date

This feature is an integral part of the HP-80's ability to instantly solve bond, interest and annuity problems (leap years are taken care of automatically), or you can use it to plan meetings or appointments... schedule shipments or assignments... enter due dates on contracts or purchase orders... or in countless other ways.

$\Sigma+$ These keys make statistical analysis easy

The $\Sigma+$ key not only provides a running total when adding numbers, but computes the sum of the squares of all your entries and keeps track of the number of entries. (It's also used in calculating discounted cash flows and accumulated interest between any two points.) The \bar{x} key gives you the arithmetic mean of your entries and the standard deviation.

SOD Want to calculate depreciation or interest rebates?

Using the sum-of-the-years' digits method, this key enables you to calculate depreciation, on a year-by-year basis, in just seconds! And you can instantly find the remaining book value after any given year. Further-

more, if you wish, you can easily obtain this data for any point in the depreciable life span of the asset, and you can obtain values for all subsequent years. When used in calculating rebates on prepaid consumer loans, this key utilises the Rule of 78's to calculate the interest due, the unearned interest, and the balance due on the principal.

TL The trend line key lets you forecast the future

To forecast future results, simply key in the known data and the HP-80 will instantly project the trend. For example, to estimate your sales in nine months, enter your sales figures for the last few months and use the Trend Line key. This straight-line (linear regression) forecasting technique can provide results for any future period... and any type of trend, such as production, sales, expenses, profits, etc.

$\Delta\%$ Gold key doubles the function of many keys

Like the shift key on a typewriter, the gold key permits a number of keys to perform a dual function. For example, pressing it before pressing the $\%$ key lets you instantly compute the percent difference between two numbers ($\Delta\%$).

$x\bar{y}$ $R\downarrow$ STO $SAVE \uparrow$ RCL Data control keys let you load and manipulate data

These keys permit you to:

- Load and retrieve constant values, so you can use the numbers for repetitive calculations



- Store and retrieve numbers for deferred calculations
- Display numbers previously saved
- Reverse the order of the numbers saved

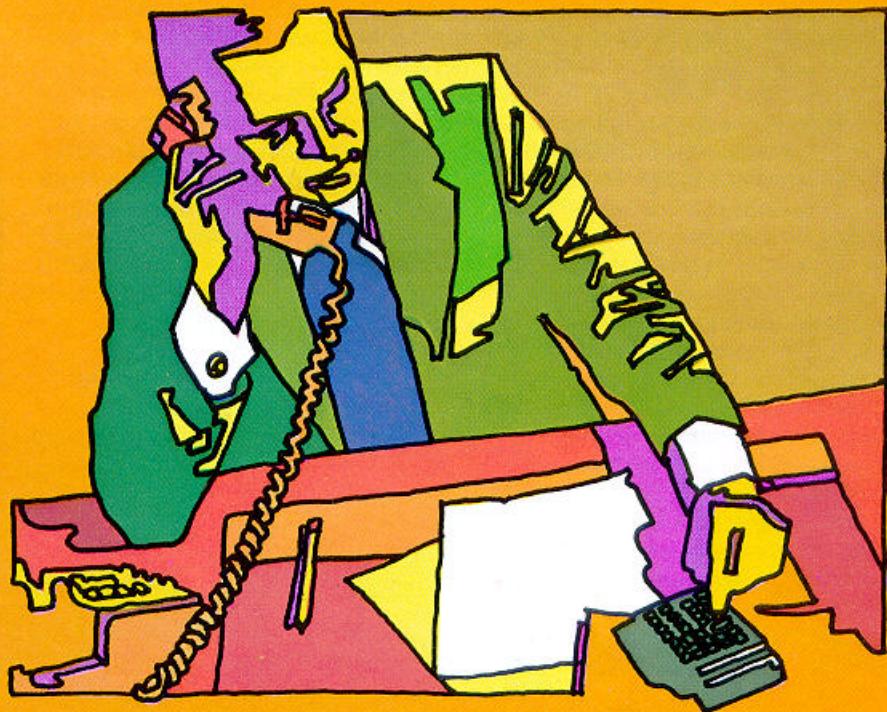
The HP-80 gives you precise answers to a variety of business problems...

You have an opportunity to purchase property for £11,900 and expect to sell it in 1980 for £17,000. Calculate the annual rate of return.

A customer wants to delay payment of your invoice an extra 90 days on a £27,000 order, in lieu of the additional 5% discount you normally grant on orders of this size. To keep your accounts receivable manageable, you will have to borrow the £27,000. What is the highest rate of interest you can pay and come out "even"? Also, what is the date 120 days from next Wednesday (when you can ship and invoice)?

You need to prepare a sales forecast chart so the production department can maintain proper inventories. The sales of a certain item for the last six months were:

Month 1 .. 48,600 units	Month 4 .. 47,000 units
Month 2 .. 43,700 units	Month 5 .. 52,300 units
Month 3 .. 50,600 units	Month 6 .. 51,200 units



Using the straight-line forecasting technique, calculate projected sales figures for the next three months. A lorry used in your business costs £7,500 and its salvage value at the end of 12 years is £1,000. Using the sum-of-the-years' digits method, what is the amount of depreciation and the book value of the lorry for each of the first three years? If £250 is deposited each month in a savings account, at 6% interest compounded monthly, how much will be on deposit at the end of five years?

...by simply pressing a few keys.

HP-80 Capabilities:

Beyond the basic four functions (+ - × ÷), the HP-80 is pre-programmed with 36 separate financial capabilities that you can use to solve more than a hundred types of time-and-money problems.

1. Constant storage
2. Selective round-off
3. Percentage calculation
4. Percent difference
5. Square root
6. Powers (exponentiation)
7. Running total (summation)
8. Mean (arithmetic average)
9. Standard deviation
10. Number of days between two dates
11. Future or past date given number of days
12. Future value of an amount compounded
13. Present value of an amount compounded
14. Effective rate of return for compounded amounts
15. Number of periods for an amount compounded
16. Future value of an annuity
17. Present value of an annuity
18. Effective rate of a sinking fund
19. Effective rate of a mortgage
20. Instalment of an annuity given future value
21. Instalment of an annuity given present value
22. Number of periods for a sinking fund
23. Number of periods for a mortgage
24. Add-on to effective annual rate conversion
25. True equivalent annual rate
26. Linear regression (trend line) analysis
27. Sum-of-the-years' digits depreciation amortisation
28. Rule of 78's finance charge amortisation (rebates)
29. Discounted cash flow analysis
30. Accumulated mortgage interest calculation
31. Remaining principal on a mortgage
32. Accrued interest (360- and 365-day year)
33. Discounted notes (360- and 365-day year)
34. Discounted note yields (360- and 365-day year)
35. Bond price*
36. Yield-to-maturity of a bond*

* Corresponds exactly to standard bond yield tables used in USA investment industry.

The complete HP-80 outfit includes:

- HP-80 computer calculator
- Battery pack that under normal use provides 3 to 5 hours of operation
- 230 V battery charger/adapter that lets you operate the HP-80 on AC while the battery pack is recharging
- Quick Reference Guide
- Soft carrying case
- Travel safety case
- Owner's Handbook
- Self-adhesive owner's name tags

Warranty

The HP-80 is warranted against defects in materials and workmanship for one (1) year from the date of delivery. Hewlett-Packard will repair or replace components which prove to be defective during the warranty period, providing the defective units are returned to Hewlett-Packard. No other warranty is expressed or implied, and Hewlett-Packard is not liable for consequential damage. Service will be available directly from Hewlett-Packard.

The tables programmed into the HP-80 are those commonly used in the U.S. business community.

Features:

- Serial Calculation
- Mixed Serial Calculation
- Chain Calculation



- Mixed Chain Calculation
- Automatic Doubling
- Automatic Squaring
- Display: Up to ten significant digits
- Dynamic Range: 10^{-99} to 10^{99}
- In scientific notation, two-digit exponent indicates number of places to right or left of decimal point
- Single keystroke functions
- Four-register operational stack (Automatically saves intermediate answers for use later.)
- Constant storage memory register
- Automatic decimal point positioning

- Selective round-off (number of digits appearing after decimal point can be preselected; range: up to six digits, or ten digits in scientific notation)
- Insignificant trailing zeros do not appear
- Indicators for improper operations and low battery condition
- Operates on battery or AC power
- Solid-state electronics
- Light-emitting-diode (LED) display
- Compact, contoured case
- Indicates illegal operation or incorrect date entry

Power:

AC: 230 V $\pm 10\%$, 50 to 60 Hz,
5 watts battery: 500 mW derived
from nickel-cadmium rechargeable
battery pack

Weight:

HP-80: 9 ounces/255 grams
Recharger: 8 ounces/225 grams
Shipping Weight: 2 lb/900 grams
(approx.)

Dimensions:

Length: 5.8 inches/14.8 cm
Width: 3.2 inches/8.1 cm
Height: 0.7 to 1.3 inches/1.8/3.3 cm

Temperature Operating Range

32° F to 122° F (0° C to 50° C)

HEWLETT  PACKARD

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