



COMPUTING CALCULATOR

Scientific and engineering problem-solver
Model 9100A



9100A

Uses

Statistical and economic analysis
Coordinate geometry calculations
Solution of transcendental equations
Numerical integration
Vector and complex arithmetic
Network analysis
Solution of differential equations

Description

The 9100A is a programmable, electronic calculator which performs operations commonly encountered in scientific and engineering problems. Its log and trig functions are each performed with a single key stroke, providing fast, convenient solutions to intricate equations. Computer-like memory enables the calculator to store instructions and constants for iterative solutions. The easily-readable cathode ray tube instantly displays entries, answers and, when desired, intermediate results.

Operations

Direct keyboard operations include

Arithmetic: addition, subtraction, multiplication, division and square-root.

Logarithmic: $\log x$, $\ln x$ and e^x .

Trigonometric: $\sin x$, $\cos x$, $\tan x$, $\sin^{-1}x$, $\cos^{-1}x$ and $\tan^{-1}x$ (covers all quadrants and any size angle in degrees or radians).

Hyperbolic: $\sinh x$, $\cosh x$, $\tanh x$, $\sinh^{-1}x$, $\cosh^{-1}x$, and $\tanh^{-1}x$.

Coordinate transformation: polar-to-rectangular, rectangular-to-polar, cumulative addition and subtraction of vectors.

Miscellaneous: other single-key operations include taking the absolute value of a number, extracting the integer part of a number, and entering the value of π . Keys are also provided for positioning and storage operations.

Decimal point

Selectable fixed-point or floating-point notation for display of entries and answers.

Fixed-point display: typical display 1234.567890

Up to 10 significant digits with automatic decimal placement and alignment.

Decimal wheel selects 0-9 decimal places, with automatic rounding to the number of places selected.

Left overflow automatically forces display to floating-point notation to allow completion of calculation with no loss of information.

Floating-point display: typical display

1.234 567 890 03

(interpreted as 1.234567890×10^0 or as 1234.567890.)

Dynamic range: accommodates numbers over the range, 10^{-99} to 10^{99} .

Up to 10 significant digits with automatic decimal placement and alignment.

Numerical entry

Fixed-point: digits of number are entered from left to right; keying decimal point in its proper position.

Floating-point: significant digits are entered from left to right, exponent of 10 is entered separately.

Memory

Magnetic core memory contains 19 registers:

3 display registers (keyboard, accumulator, temporary).

16 storage registers, with store/retrieve controls.

Total of 2,208 bits in core memory.

Registers: may be used to store 16 constants, or 196 program steps plus 2 constants, or a combination of constants and program steps.

Capacity: register accommodates floating-point number with 12 significant digits (including 2 undisplayed guard digits) plus 2-digit exponent. Alternately, register accommodates 14 program steps.

Read-only memory: contains over 32,000 bits of fixed information for keyboard routines.

