

◀ The DAC 512:
the programmable
calculator/computer
that doesn't need
a programmer.



PICKER NUCLEAR

The Picker Nuclear DAC 512 is a desktop calculator/computer that speaks your language.

(And boasts a capacity of 512
program steps and
120 data storage registers.)

A Practical In-lab Computer

Practical because it's easy to program and use

The DAC 512 is a desk top general purpose computer which bridges the gap between a desk calculator and a large computer. Designed with the engineer, physicist and biologist in mind, the DAC 512 can be used either as a decimal or algebraic calculator or can be easily programmed for a variety of simple or complex mathematical computations. The DAC 512 solves complicated algebraic functions quickly, operates on tables of data, estimates a solution, analyzes statistical data, experiments with a set of variables, fits a curve. In your own office or laboratory you can compute immediate answers without the cost and turn around time of larger computer facilities.

Because the DAC 512 speaks algebra you can talk to it directly. Because it is as easy to manipulate as an adding machine your secretary will be able to process data for you.

Stored Programs

In addition to performing the usual add, subtract, multiply and divide functions, the DAC 512 can learn and recall as many as eight stored programs. Each program page may contain up to 64 commands or instructions. If a very complex and lengthy problem is to be solved, the program storage locations can be used in tandem to write longer programs, up to 512 total instructions.

Storage Registers

In addition to stored program capability, the DAC 512 contains 120 storage registers for storing numbers. Data in these storage registers can be recalled either manually or automatically via an appropriate program. This generous storage capacity is extremely useful for storing tables of numbers for later automatic look up, extraction, or modification.

One storage register may specify the "address" of another register; for example, tables, lists, or matrices may be conveniently scanned.

Typical Applications

Matrix problems

Solutions of up to 9 simultaneous equations

Exponentiation of variables

Integration of arbitrary continuous functions

Solution of arbitrary continuous functions
for real roots

Reduction of determinants (up to 9×9) to a
diagonal

Least squares fit of data to a power series
(up to eighth order)

Computation of correlation coefficients

Spectrum stripping computations

Atomic composition analysis

Multi-compartment analysis

Radiation dosimetry

Activation analysis

Scintillation data processing

Cardiac output computations

Stress and strain calculations

Heat flow calculations

Pressure and velocity calculations

Tension and compression problems

RLC circuit problems

Ladder networks

Transfer function computations

Fourier series evaluation

Power series evaluation

Ballistic studies

Orbital calculations

Rocket thrust calculations

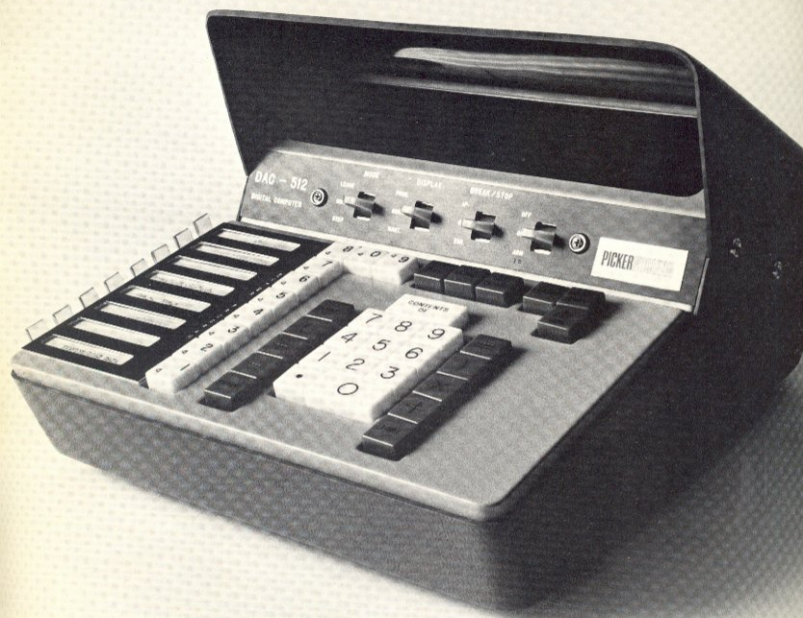
Some typical functions available as DAC 512 sub-programs include:

Powers, roots, logs e^x , $\ln X$, \sqrt{x}

Factorials $N!$

Transcendental
functions $\sin x$, $\cos x$
 $\sinh x$, $\cosh x$
 $\tan^{-1}x$

Evaluation of
power series $f(x) = a_0 + a_1x + \dots + a_nx^n$



Statistical Analysis Program

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Standard Deviation Program

Chi Square Program

Linear Regression Program

Curve Fitting Program (a)

Curve Fitting Program (b)

Exponential Sub-program

Logarithmic Sub-program

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6



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