Compucorp Alpha 327

Scientific Desktop Computer

The Alpha 327 occupies little more desk space than a notebook, yet this hard working microcomputer provides these problem-solving features that get your work done:

- Fast, convenient keyboard with over 100 functions and algebraic math so you can evaluate an expression the way it's written.

- Quick, easy programming for solving complex or repetitive problems, with full set of program trace and edit controls.

- Program-controllable magnetic tape cassette memory for storage of your programs and data for future use and reuse.

- Extensive library of applications software paks that already solve many of your more difficult problems.

- Optional I/O peripheral interface to provide a formatted and typed solution to your problem.
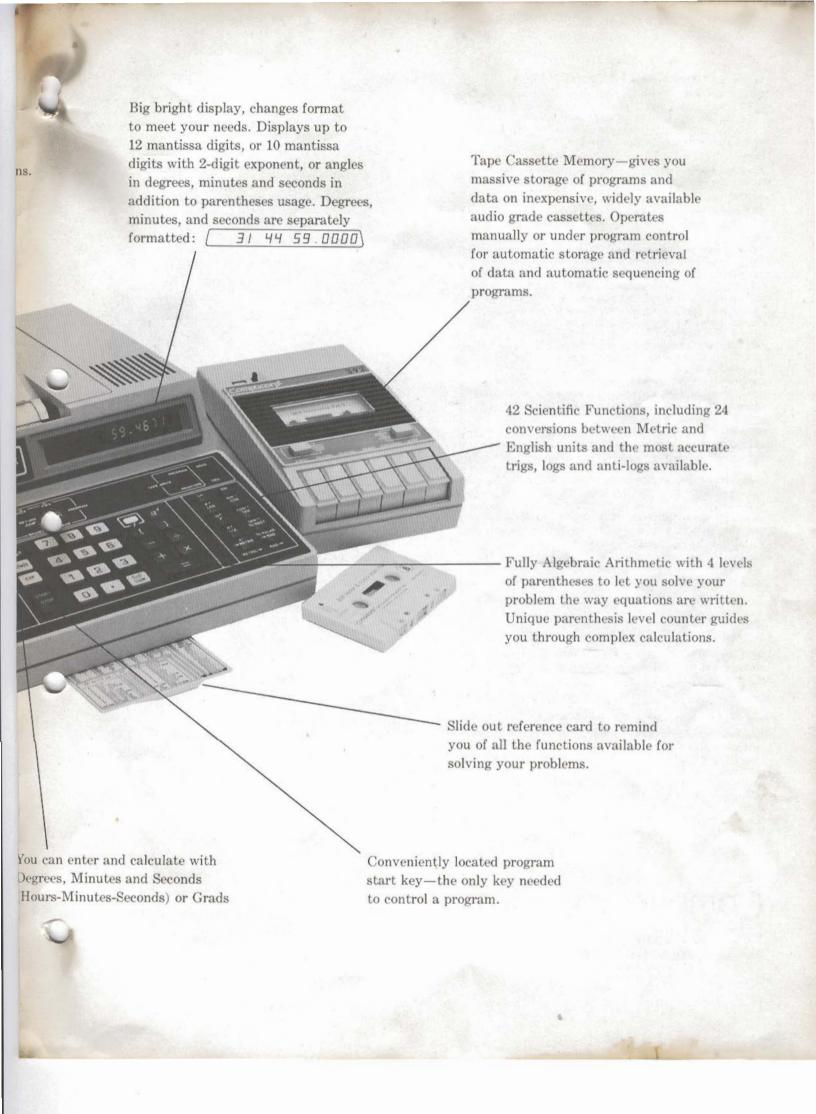
Whether you're solving problems with keyboard calculations, using programmed solutions to problems in Engineering, Surveying, Science, Mathematics, and Statistics, estimating quantities for proposal preparation, or accumulating data on the tape memory for subsequent processing with typed results, the Alpha 327 is the solution.

Your Compucorp representative will be happy to show you how the Alpha 327 gets your work done.

Printer with easily read symb[...] provides a permanent record o[...] calculations and program oper[...]

Optional I/O peripheral interface for formatted and typed results.

Programming Controls make it easy for you to Write, Trace, and Edit programs. Programming is powerful yet simple. You can be an expert in your field without becoming an expert in ours.

Format key to control the significance of numbers displayed and printed. Regardless of the format setting, numbers are carried internally to 13-digit accuracy with 2 exponent digits.

Data storage register controls let you access 44 registers, directly or indirectly, and do math operations into and out of each register.

Big bright display, changes format to meet your needs. Displays up to 12 mantissa digits, or 10 mantissa digits with 2-digit exponent, or angles in degrees, minutes and seconds in addition to parentheses usage. Degrees, minutes, and seconds are separately formatted: `31 44 59.0000`

Tape Cassette Memory—gives you massive storage of programs and data on inexpensive, widely available audio grade cassettes. Operates manually or under program control for automatic storage and retrieval of data and automatic sequencing of programs.

42 Scientific Functions, including 24 conversions between Metric and English units and the most accurate trigs, logs and anti-logs available.

Fully Algebraic Arithmetic with 4 levels of parentheses to let you solve your problem the way equations are written. Unique parenthesis level counter guides you through complex calculations.

Slide out reference card to remind you of all the functions available for solving your problems.

You can enter and calculate with Degrees, Minutes and Seconds (Hours-Minutes-Seconds) or Grads

Conveniently located program start key—the only key needed to control a program.

Compucorp 327 Specifications

Data Memory: All numbers are carried internally with 13-digit accuracy plus a two-digit exponent. Forty-four data storage registers which may be accessed directly or indirectly. Any number of registers may be recorded onto or read from magnetic tape cassette, manually or under program control.

Program Memory: 416 steps. May be recorded onto or read from magnetic tape cassette, manually or under program control.

Arithmetic Functions: Add, subtract, multiply, divide, and a^x (raise a number to a power), left and right parentheses (nesting to four levels).

Pre-Programmed Operations: Sine, arcsine, cosine, arccosine, tangent, arctangent, to polar, to rectangular, degrees (or grads) to radians, radians to degrees (or grads), base e logarithm, base e antilogarithm, base 10 logarithm, base 10 antilogarithm, integer, fraction, absolute value, pi, e, round, square root, square, reciprocal, factorial, statistical summation (number of data items, sum, sum of squares), delete data from summation, mean, standard deviation, enter and calculate with angles in degrees-minutes-seconds, enter and calculate with angles in decimal degrees or grads, decimal degrees to degrees-minutes-seconds, degrees-minutes-seconds to decimal degrees, reset, clear entry, set decimal point (0 to 9 digits to right of decimal point), exponent (scientific notation), print switch (on or off), print key for selective printing when print switch is off, printer paper advance.

English → Metric   Metric → English Conversions: Degrees Fahrenheit to degrees centigrade, inches to centimeters, inches/second to centimeters/second, inches/second² to centimeters/second², inches³ to centimeters³, feet to meters, miles to kilometers, miles per hour to kilometers per hour, U.S. gallons to liters, U.K. gallons to liters, pounds to kilograms, ounces to grams, pounds/inch² to kilograms/centimeter², pounds/feet³ to grams/centimeter³, degrees to grads.

Programming Operations: Addressing — Labeling (symbolic and relocatable addressing) with 17 different labels. Jumping—Unconditional or conditional jumps and branches to labeled locations. You can:

Jump > 0	Jump ≤ 0
Jump < 0	Jump $= 0$
Jump ≥ 0	Jump $\neq 0$

Jump if keyboard entry has been made.

Subroutines—Unconditional and 7 conditional branches to labeled subroutines. Automatic return from subroutine to main program or another subroutine. Subroutines can be nested to 6 levels.

Additional operation: Identifiers to indicate points where variables are entered and to label results. Start or stop program execution. Pause in program execution.

Program Editing: Automatic display of memory location, code and symbol when entering programs from keyboard. Display shows present address and code plus previous and next program step. Trace feature while stepping through programs to observe operations as performed. BACKSPACE and FORWARD keys to permit correction of program entry errors. INSERT key to add steps in any part of the program at any time. REMOVE key to remove steps in any part of the program at any time.

Register Usage: Direct and indirect store and recall of all 44 registers. Exchange an entered number with the number in any of the 44 registers. Add, subtract, multiply, divide, and a^x into and out of data registers directly or indirectly. Clear all registers, clear registers 1, 2 and 3 (group registers used in summation operation).

Printer: Prints 10 digits in fixed point, 7-digit plus 2-digit exponent and sign in scientific notation. Negative numbers are printed in red. Prints sign, decimal point, commas and symbols representing operation performed. During keyboard entry of program, program step number and symbols are listed. Provides complete audit trail of operations performed. Print switch permits and prevents printing.

Other Features: Self testing—hardwired routine that automatically tests all the segments of the gas discharge display, all the read-only and random-access memory chips, and the CPU.

Tape cassette drive—manual controls for forward, rewind, record, stop, and eject tape cassette. Manual (or programmable) controls for writing and reading data registers or programs onto or from tape cassette.

Tape cassette drive plugs into and derives power through the Alpha 327.

Tape cassette medium—Programs and registers may be stored. Information is stored in blocks. Each block can hold 416 program steps or up to 44 data registers. One side of a 30-minute cassette holds 84 blocks. 6 × 14

Physical Characteristics: Dimensions 11.5″ x 13.7″ x 4.5″ (29 cm. x 35 cm. x 11.5 cm.). Weight 13 lbs. (6 kg.). Shipping weight including 327 and cassette drive 9 kg. (20 lbs.). Power requirements 90-125 volts, 200-260 volts, 49-70 Hz. Temperature range 32 degrees F (0 degrees C) to 104 degrees F (40 degrees C) with relative humidity of 5% to 95%.

Software Compatibility: Fully compatible with software written for the Compucorp 325 and 326 Scientists, including these paks:

Math I	Beam I
Vector & Matrix Math	Structural Design I
Numerical Calculus	Electronic Engineering
Univariate Statistics	Petroleum Engineering
Regression Analysis	Spring Design
Anova & t-Test	Antenna Design

Additional paks available for the 327 are:

Analysis of Variance	Mathematics
Surveying	Structures
Multivariate Statistics	

395 Teleprinter Interface

Optional interface for RS-232C (CCITTV24) devices, such as teleprinters for formatted presentation of program results or instruments for automatic collection and reduction of data.

Alpha 327 Upgrade Kit for Alpha 325

This quickly installed kit upgrades an Alpha 325 to the full capability of an Alpha 327.

Compucorp