

**Webster's
NewWorld**

**DICTIONARY OF
COMPUTER
TERMS**

**COMPLETELY REVISED
& UPDATED**

4500 COMPUTER TERMS EXPLAINED

**COVERS THE MOST CURRENT
COMPUTER TERMINOLOGY WITH CLEAR
JARGON-FREE DEFINITIONS**

THIRD EDITION

**Webster's
New World
DICTIONARY
OF
COMPUTER
TERMS
Third Edition**

**Prepared under the supervision of the
Editorial Staff of Webster's New World
Dictionary**



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What Does DOS Mean? MODEM?

DOS is an acronym for **Disk Operating System**. A specialized, disk-oriented program that provides an easy-to-use link between the user and a computer's disk drive. Modem is an acronym for **Modulator/Demodular**, a device that translates digital pulses from a computer into analog signals for telephone transmission, and analog signals from the telephone into digital pulses the computer can understand. The modem provides communications capabilities between computer equipment over common telephone facilities.

These are only two of the more than 4,500 clear, complete, nontechnical definitions *Webster's New World Dictionary of Computer Terms, Third Edition*, gives you. Whether you're brand new to the world of computers, in the process of study, or already a confident user—here is a source of help that clarifies the unknown and puts language power behind your computer vocabulary!

**It's The Reliable Backup
You'll Use Every Day!**

INTRODUCTION

Today the use of computers, especially micro-computers, is one of the fastest-growing and most important developments of our time. These machines are being used by more and more people to do everything from solving complex business problems to composing music. A major problem with any revolutionary development is the nomenclature. In a fast-moving field such as computer technology, many new terms and concepts develop with the technology. It is important that these terms and concepts be defined and constantly updated and refined.

Webster's New World Dictionary of Computer Terms, Third Edition is a collection of more than 4,500 computer terms that focus on those topics of interest to computer users. These terms have been selected as those most likely to confront the beginning computer user. The book is written in terms a layperson can understand. Wherever possible, technical terms have been avoided so that the definitions might be easily read and understood. Where a proper understanding of a term depends upon the comprehension of another term, the reader is directed to it by a cross reference.

All terms are entered in a strict alphabetical listing, so that spaces and dashes are to be ignored in looking up a particular word or phrase. A term that begins with a number is entered in the position it would occupy if the number had been spelled out; for example, RS-232C appears in the position for "RS-two thirty-two C."

The most common meaning has been provided for most words. Frequently, the same word will have other, more specific meanings when used in specialized fields within the computer industry. If a term has more than one commonly accepted meaning, or is used as more than one part of speech, each sense is preceded by a number. Wherever possible, the more general sense of the word appears first. Because many of the terms have been recently introduced, absolute standardization of meaning has not yet taken place, and one term may have several similar, yet slightly different meanings.

The use of computers will continue to grow. People in all walks of life will become increasingly dependent upon them. A common understanding, among lay and professional users, of the basic terms of the technology will need to be achieved. This dictionary is designed as a tool to help bring that understanding about.

A

AAAI An abbreviation for **AMERICAN ASSOCIATION FOR ARTIFICIAL INTELLIGENCE**, a professional organization concerned with advancing artificial intelligence.

abbreviated addressing A modification of the Direct Address mode that uses only part of the full address and provides a faster means of processing data due to shortened code.

abend An acronym for **ABNORMAL ENDING**. An early termination of a program due to an error condition, such as division by zero or trying to add a number and a letter.

abort The procedure for terminating a program when a mistake, malfunction, or error occurs.

absolute address An address that is permanently assigned by the machine designer to a particular storage location. For example, the addresses 0000, 0001, 0002, and 0003 might be assigned to the first four locations in a computer's storage. Also called **MACHINE ADDRESS**.

absolute coding Coding that uses machine instructions and absolute addresses; therefore, it can be directly executed by a computer without prior translation to a different form. Contrast with **SYMBOLIC CODING**.

absolute movement Moving an object on the screen by providing the new location in terms of a specific X-Y coordinate pair.

absolute value The value of the number without reference to positive or negative sign. Denoted in mathematical notation by enclosure in vertical bars: $| +38 | = | -38 | = 38$.

abstract A summary of a document.

AC An abbreviation for **ALTERNATING CURRENT**, the type of electricity found in homes, schools, and businesses.

acceptance test A test used to demonstrate the capabilities and workability of a new computer system. It is usually conducted by the manufacturer to show the customer that the system is in working order.

access Generally, the obtaining of data. To locate the desired data.

access arm A mechanical device in a disk file storage unit that positions the reading and writing mechanism.

access code A group of characters or number that identifies a user to the computer system.

access mechanism A mechanical device in the disk storage unit that positions the read/write heads on the proper tracks.

accessory A peripheral device, such as a floppy disk drive.

access time The time a computer takes to locate and transfer data to or from storage.

accumulator A register or storage location that forms the result of an arithmetic or logic operation. Commonly used when a series of calculations are to be totaled.

accuracy The degree of exactness of an approximation or measurement. ACCURACY normally denotes absolute quality of computed results; PRECISION usually refers to the amount of detail used in representing those results. Thus, four-place results are less precise than six-place results; nevertheless, a four-place table could be more accurate than an erroneously computed six-place table. See PRECISION.

ACM See ASSOCIATION FOR COMPUTING MACHINERY.

acoustical sound enclosure A device that fits over a printer or other machine to reduce noise.

acoustic coupler A modem (MODULATOR/DEMODULATOR) that connects to a telephone handset with rubber cups. The modem converts signals from the computer into audible tones that are detected by the telephone mouthpiece. Incoming signals are converted by the modem into electrical signals that the computer can read. Acoustic couplers, also called acoustic modems, are preferred by many small-computer users because they are compatible with almost any telephone. In contrast, direct-connect modems require a modular telephone jack connected to the phone system. Speed is limited to about 1200 bits per second. See MODEM.

ACP An abbreviation for **ASSOCIATE COMPUTER PROFESSIONAL**, a program designed to assist two general groups of people. They are: students or recent graduates from computer programs in one-, two- or four-year colleges; and people who have been working in the computer field only a short period of time. Based on curriculum guidelines developed in the field, the ACP selects common areas of competence and their relative importance. The ACP program was designed to measure such basic knowledge. As a computer professional moves to higher positions, senior level programs provide competency measurement. Administered by the **INSTITUTE FOR CERTIFICATION OF COMPUTER PROFESSIONALS**.

ACPA See **ASSOCIATION FOR WOMEN IN COMPUTING**.

acronym A word formed from the first letter (or letters) of each word in a phrase or name (e.g., VDT stands for Visual Display Terminal and IC stands for Integrated Circuit).

action (1) The performance of a particular operation or set of operations in response to a stimulus. (2) The resulting activity from a given condition.

action-oriented management report A report used to alert management to abnormal situations that require special attention.

action statement A statement that tells the computer to perform some action.

active cell In an electronic spreadsheet, the cell on the matrix that is highlighted by the cursor. Information may be entered, altered, or deleted by the user when the cell is active.

active file A file currently being used.

active program Any program currently being executed in the computer.

activity One of the subunits of work that comprise a task.

activity ratio When a file is processed, the ratio of the number of records in the file that have activity to the total number of records in that file.

actuator In a disk drive, a mechanism that moves the read/write head to the desired position over the disk surface.

ACU An abbreviation for **AUTOMATIC CALLING UNIT**. A device that allows a business machine to make dial calls on a telephone network.

Ada A high-level programming language developed in the late 1970s for the U.S. Department of Defense. It is named for Ada Augusta Lovelace, the first female programmer. ADA is intended particularly for embedded systems. It stresses modularity, reliability, and maintainability, and bears a strong resemblance to Pascal. Here is a sample program written in ADA:

```
with Sqrt, Simple_IO;
procedure Print_Root is
    use Simple_IO;
    X: Float;
begin
    Get(X);
    Put(Sqrt(X));
end Print_Root;
```

adapter A device that allows compatibility between different equipment.

adapter boards The printed circuit boards that connect a system board to peripheral I/O devices or add specialized functions to the system.

adaptive system A system displaying the ability to learn, change its state, or otherwise react to a stimulus. Any system capable of adapting itself to changes in its environment.

adder A device capable of forming the sum of two or more quantities.

add-in Refers to a component that can be placed on a printed circuit board already installed in a computer. For example, the addition of additional memory chips to empty slots in a microcomputer.

addition record A record that results from the creation of a new record during the processing of a file.

add-on Component or device added to a computer system to increase its storage capacity, to modify its architecture, or to upgrade its performance.

address An identification, such as a label, number, or name that designates a particular location in storage or any other data destination or source.

address bus A bus that conveys address data from one system component to another.

address decoder Circuitry that enables data to be obtained from a particular location when its character code is provided.

addressing Techniques for locating a required piece of data.

address modification An operation that causes an address to be altered in a prescribed way by a computer.

address register A register containing the address of the instruction currently being executed.

address space The complete range of addresses available to a computer user.

address translation The process of changing the address of an instruction or item of data to the address in main memory at which it is to be loaded or relocated.

advanced BASIC An advanced implementation of the BASIC programming language.

aesthetic Having to do with beauty as opposed to usefulness or moral or emotional content.

AFCET An acronym for ASSOCIATION FRANCAISE POUR LA CYBERNETIQUE ECONOMIQUE ET TECHNIQUE. A professional organization whose purpose is to bring together French scientists, computer users, computer manufacturers, and engineers interested in computer technology and applied mathematics.

AFIPS See AMERICAN FEDERATION OF INFORMATION PROCESSING SOCIETIES.

AI An abbreviation for artificial intelligence, the branch of computer science that works on getting computers to think like human beings.

AISP See ASSOCIATION OF INFORMATION SYSTEMS PROFESSIONALS.

alarm A warning signal that is displayed or activated whenever a critical deviation from normal conditions occur.

ALGOL An acronym for **ALGORITHMIC LANGUAGE**, an international high-level programming language used to code mathematical and number problems. The language has had a strong impact on programming language design. ALGOL is essentially a "dead" language that managed to spawn others, most notably Pascal and Modula-2.

algorithm A prescribed set of well-defined, unambiguous rules or processes for the solution of a problem in a finite number of steps; for example, a full statement of an arithmetic procedure for evaluating cosine x to a stated precision. A computer can carry out the steps in many different types of algorithms. Thus the study of computers and the study of algorithms are closely related subjects. Contrast with HEURISTIC.

algorithmic language A language designed for expressing algorithms. See ALGOL.

aliasing Undesirable visual effects in computer-generated images caused by improper sampling techniques. The most common effect is a jagged edge along object boundaries. See STAIRCASING.

aligning edge That edge of a form that, in conjunction with the leading edge, serves to position correctly a document to be scanned by an OCR device.

alignment An adjustment of tolerances within the mechanism of a device so it will operate properly.

allocate To assign a resource for use in performing a specific job.

allocation The process of reserving computer storage areas for instructions or data. Allocation is sometimes done by a programmer, or sometimes automatically by a program.

alphabetic Referring to data that consists of letters and special symbols.

alphabetic string A string in which the characters are letters, or pertain to an agreed alphabet set.

alphameric A contraction of alphanumeric.

alphanumeric A general term for alphabetic letters (A through Z), numerical digits (0 through 9), and special characters (-, /, *, \$, (,), +, etc.) that are machine-processable.

alphanumeric display terminal A device for entering alphanumeric information into a computer system and displaying it on a screen.

alphanumeric sort A process in which a computer system puts a list into alphabetical or numerical order, or both.

alpha testing Trying a new product out on the employees of one's own company before subjecting it to a beta test. See BETA TESTING.

alternate routing In data communications, the process of switching the path between two locations to an alternate when the normal path is not available.

alternating current The type of electricity found in schools, homes, and businesses.

ALU An abbreviation for **ARITHMETIC-LOGIC UNIT**, the portion of the central processing unit (CPU) where arithmetic and logical operations are performed. A basic element of the CPU.

ambient conditions The environmental conditions that surround a computer system, such as light, temperature, and humidity.

ambient temperature The temperature surrounding a piece of equipment.

American Federation of Information Processing Societies (AFIPS) As the American representative of the International Federation for Information Processing (IFIP), AFIPS represents the majority of the major computer science and data processing organizations in the country. Activities include sponsorship of the annual National Computer Conference, and committee work on education, research, government activities, standards and practices, and the history of computing.

American National Standards Institute (ANSI) An organization that acts as a national clearing-house and coordinator for voluntary standards in the United States.

American Society for Information Science (ASIS) A professional organization that provides a forum for librarians, information specialists, and scientists who seek to improve the communication of information.

American Standard Code for Information Interchange See ASCII.

Amiga™ The brand name of a family of microcomputers manufactured by Commodore International, Ltd. The Amiga is a revolutionary product in many respects. It uses a Motorola 68000 microprocessor, includes color graphics, multi-tasking and an IBM-PC compatible option. There are three members to this family: Amiga 500™, Amiga 1000™, and Amiga 2000™.

analog Referring to the representation of numerical quantities by the measurement of continuous physical variables: for example, the magnitude of an electrical signal might represent a number. Contrast with DIGITAL.

analog computer A computer that measures continuously changing conditions, such as temperature and pressure, and converts them into quantities. See COMPUTER. Contrast with DIGITAL COMPUTER.

analog data A physical representation of information such that the representation bears an exact relationship to the original information. For example, the electrical signals on a telephone channel are analog data representation of the original voice data. Contrast with DIGITAL DATA.

analogical reasoning Drawing conclusions about a system by studying a model of it.

analog-to-digital converter Mechanical or electrical device used to convert continuous analog signals to discrete digital numbers.

analysis The investigation of a problem by some consistent, systematic procedure. See SYSTEMS ANALYSIS.

analysis graphics Types of graphics programs that are designed to allow users to more clearly examine and analyze data, making it easier for them to develop conclusions about what the data itself means. The major component of business graphics, analytical graphics programs, consist basically of bar, area, line, and pie charts.

analyst A person skilled in the definition and development of techniques for solving a problem, especially those techniques for solutions on a computer. See PROGRAMMER/ANALYST and SYSTEMS ANALYST.

ancillary equipment See PERIPHERAL EQUIPMENT.

AND A logical connector, as in the statement A AND B, which means that the statement is true if, and only if, both A and B are true simultaneously.

AND-gate (1) A binary circuit with two or more inputs and a single output, in which the output is logic 1 only when all inputs are logic 1, and the output is logic 0 if any one of the inputs is logic 0. (2) In a computer, a gate circuit with more than one input terminal. No output signal will be produced unless a pulse is applied to all inputs simultaneously. Contrast with OR-GATE.

android A human-like male robot.

angstrom A unit of measurement, 1/250 millionth of an inch. Angstroms are used to measure the elements in electronic components on a chip.

animation Process of making an object appear to move by rapidly displaying a series of pictures of it, each one in a slightly different position. The technique used for producing computer-generated movies.

annotation A comment, note or descriptive remark added to a program or flowchart.

annotation symbol A symbol used to add messages or notes to a flowchart, attached to other flowcharting symbols by dashed lines.

ANSI An acronym for AMERICAN NATIONAL STANDARDS INSTITUTE. An organization that acts as a national clearinghouse and coordinator for voluntary standards in the United States.

answer mode The ability of a modem to accept an incoming call from another modem.

answer/originate In telecommunications, refers to the alternatives of sending (originating) or receiving (answering) a phone call.

anti-aliasing A filtering technique to give the appearance of smooth lines and edges in a raster display image.

antistatic mat A floor mat placed in front of a device such as a disk unit that is sensitive to static, to prevent shocks that could cause loss of data during human handling of the unit.

APL An abbreviation for **A PROGRAMMING LANGUAGE**, a mathematically structured programming language, popular for problem-solving applications. In its simplest mode of operation, APL performs the functions of an intelligent calculator. The power of the language is demonstrated by its extended single operators that allow a user to perform directly such calculations as taking the inverse of a matrix or solving a set of linear equations. Here is a program written in APL.

```
      ▽ INVEST
[1] P←1000
[2] I←5
[3] N←10
[4] A←P x (1 + I) ÷ 100) * N
[5] A
[6] ▽
      INVEST
1628.894627
```

append To add on, for example, to add new records to a data base or to add to the end of a character string or list.

Apple™ (1) The brand name for a family of microcomputers manufactured by Apple Computer, Inc., including the Apple II™, Apple IIPlus™, Apple IIc™, Apple IIe™, and Apple IIGS™. (2) One of the largest microcomputer manufacturers. The company, located in Cupertino, California, was founded by Steven P. Jobs and Stephen G. Wozniak.

AppleBus An external device that allows a Macintosh micro-computer to be connected to other computers to form a

network so information may be passed from one computer to another.

Apple Pascal A high-level programming language designed for use on the Apple II™ family of microcomputers. The Apple Pascal system incorporates UCSD Pascal and extensions for graphics, sound, paddles, and other functions. See PASCAL and UCSD PASCAL.

AppleLine A hardware device that enables a Macintosh microcomputer to exchange information with IBM mainframe systems.

Applesoft BASIC An extended version of the BASIC programming language used with Apple II+, IIc, IIe and IIGS™ computers and capable of processing numbers in floating-point form. An interpreter for creating and executing programs in Applesoft BASIC is built into the computer.

Appleworks™ An integrated software package containing word processing, spreadsheet, and data base services that can share data with one another. The package is widely used in educational institutions. Developed by Apple Computer, Inc.

application Task to be performed by a computer program or system. Broad examples of computer applications are computer-aided design, numerical control, airline seat reservations, business forecasting, and hospital administration. Word processing or electronic spreadsheet programs are examples of applications that run on microcomputer systems.

application-oriented language A problem-oriented programming language whose statements contain or resemble the terminology of the computer user.

application programmer A computer programmer who develops application programs.

application programming The preparation of programs for application to specific problems in order to find solutions. Contrast with SYSTEM PROGRAMMING.

application programs The programs normally written by programmers within an organization that enable the computer to produce useful work; for example, inventory control, attendance accounting, linear programming, or medical accounting tasks. Contrast with SYSTEM PROGRAMS.