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**COMPUTER TERMINOLOGY**

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## COMPUTER TERMINOLOGY

### -A-

**Access** - The sequence of locating and processing information or locating and retrieving data from a disk.

**Access time** - The period of time between a request for information and the availability of that data. Often used to reference the speed of a hard disk drive.

**Acoustic coupler** - A form of low speed modem that sends and receives data using a conventional telephone handset and does not require a permanent connection to the line. It is frequently used with portable terminals.

**Address** - Identification code that references specific data location within storage.

**Address modes** - The manner in which the computer codes registers and memory in order to access and work with data. The number of available address modes is a measure of the computer's power.

**Address register** - A specific location in the Central Processing Unit (CPU) for storage of identification code (address) values.

**Alphanumeric** - A character set that contains both letters (A-Z) and numbers (0-9). Other characters, such as punctuation marks, may also be allowed.

**Analog** - Contrasted to digital, analog devices measure a continuous variable, such as voltage levels.

**ANSI** - (American National Standards Institute.) A private organization that publishes proposed standards for products, including computer languages. Adherence to standards is voluntary.

**Applications** - Software programs that perform a specific user-oriented task such as word processing or payroll. Applications can be either purchased as a package, or custom designed by a programmer.

**Architecture** - The way in which the components of a computer system are organized and inter-connected.

**Archive** - To copy information to a storage device that holds files which need not be instantly accessible.

**Artificial Intelligence** - The ability of a computer to imitate certain human actions or skills such as problem solving, decision making and learning.

**ASCII** - (American Standard Code for Information Interchange.) A standard seven-bit hex-to-character conversion code used to represent up to 256 different letters, numbers, and symbols. Every character has a unique binary representation.

**Assembler** - A program that deciphers coded instructions prepared by the programmer and then translates them into binary machine language.

**Asynchronous device** - A piece of equipment having a variable or random time interval between successive events. The transmission of information (character, word, or small block) is individually timed by the use of start and stop bits.

**AUTOEXEC.BAT** - A special batch file containing a series of commands that DOS will execute when the computer is turned on.

### -B-

**Backup** - An extra copy of a disk or file which has been made in case the original disk is lost or ruined. Backups of all master disks should be made immediately upon receiving or purchasing a new piece of software. Also make backups of important work disks and files.

**Bad Sector** - A disk sector that cannot reliably hold data because of a media flaw or damaged format markings.

**BASIC** - (Beginners All-purpose Symbolic Instructional Code.) A common, easily learned computer language developed in the 1960's at Dartmouth College.

**Batch File** - A file containing a series of commands that the operating system executes when the file is called.

**Baud** - A measure of the rate of data transmission, bits per second. Typically referred to as "Baud rate" with data communications. Baud rate divided by "10" is approximately equal to characters per second (cps). Thus, 1200 - baud is about 120 cps.

**Binary** - A number system with a base of "2," rather than 10, using only two digits: "0" and "1".

**BIOS (Basic Input/Output System.)** - The part of the operating system that handles the communications between the computer and its peripherals. These programs are often burned into the read-only memory (ROM) chips.

**BIT** - (Binary digiT) The basic element of a byte (eight bits constitute one byte). It is a type of electrical switch that is either "on" or "off." One binary digit is usually represented by "1" or "0."

**Boot Record** - A one-sector record on the disk which supplies instructions to the computer on how to load the operating system into memory, thus booting the computer.

**Booting up or Bootstrapping** - The initial loading of information that takes place when a computer is turned on, enabling it to read in or respond to further instructions.

**Buffer** - A memory storage area that temporarily holds data during the transfer between internal and external or input/output storage.

**Bug** - Mistake in a program or malfunction in a computer.

**Bus** - The electrical pathway over which data and other signals travel.

**Byte** - A unit of memory capacity. A standard-length sequence of bits, usually eight, used to represent a single character.

### -C-

**C** - A very concise programming language widely used for writing operating systems and application programs.

**CAD** - (Computer Aided Design.) An advanced graphics program that assists in product design.

**Carriage return** - A control character recognized as a signal for the end of a particular input of data.

**Cache Memory** - A high speed memory which contains the next most likely instruction to be executed or data block to be used.

**Carrier** - The reference signal on which information is superimposed for transmission or reception of data over telephone lines.

**Character** - A symbol, such as a letter or punctuation mark, used to represent data or operational instructions.

**Circuit** - A complete electronic path. A collection of circuits is gathered together on a plastic sheet to produce a circuit board.

**Clock** - A timing device in the control unit which is used to synchronize the operation of different parts of the computer.

**COBOL** - (COmmon Business Oriented Language.) A programming language, resembling English, that is used primarily for business applications.

**Code** - A set of rules that specifies the manner in which data may be represented.

**Compatibility** - The capability of a computer to work with other devices like printers, data storage units and with other computer models either from the same or different manufacturers. Also could include software and program languages.

**Compiler** - A programming language translator that converts programs from high-level language (such as FORTRAN or PASCAL) to machine language. Compiled programs typically execute faster than coded programs.

**Component** - A part of a computer system, usually a specific piece of equipment.

**Computer** - An electronic device that is capable of number computations, data storage, and logical operation. The computer is directed by a program that is prepared by a human.

**Computer graphics** - The process of converting digital information into a format that can be displayed visually on a graphics terminal.

**Computer language** - A specific set of rules and symbols which is used to communicate with a computer. BASIC and FORTRAN are two such languages common to computer users.

**Computer program** - A series of instructions that guide the activities of a computer.

**Computer system** - The combination of hardware (equipment) and software (programs) which is used for performing certain tasks.

**CONFIG.SYS** - A file which is created to tell the DOS operating system how to configure itself when the computer starts up.

**Connector** - A physical interface (plug) between components, typically male or female.

**Conventional Memory** - The first 640K of memory. DOS is limited to conventional memory for use in running applications.

**CP/M** - (Control Program (for) Micro-computers.) An operating system from Digital Research, Inc., widely used before the introduction of MS-PC/DOS.

**CPS** - (Characters per second.) The speed of operation of a printer or data transmission device.

**CPU (Central Processing Unit)** - The brain of a microcomputer. It contains the address registers, arithmetic logic unit, and timing signal generator.

**<CR>** - The symbol standing for carriage return.

**CRT** - SEE Screen.

**Crash** - A malfunction that brings work to a halt. A head crash means physical damage to a disk and probably data loss.

**Cursor** - An electronically generated symbol that appears on the screen of the microcomputer to tell the operator where the next character will appear.

**Cylinder** - The total number of tracks that can be read on a hard disk without moving the heads. A typical 20 meg hard disk will have 4 heads and 615 cylinders, where each cylinder is 4 tracks.

### -D-

**Data** - The input of facts, numbers, letters, and symbols that when processed becomes usable information.

**Database** - An organized collection of interrelated information about a particular field or topic.

**DBMS** - (Data Base Management System.) A computer application program designed to keep records in a database.

**Data processing** - The manipulation of data by following a sequence of instructions to achieve a desired result.

**Debug** - The process of locating, identifying and correcting mistakes or problems with a program or equipment. The same idea as trouble-shooting.

**Default** - The standard option which is assumed if you fail to specify otherwise.

**Delete** - To erase data from the screen or from a disk, whether it be a character, sentence, or a whole file. Similar to erase.

**Density** - The amount of data that can be packed into a given area on a floppy disk. A double density 3-1/2" diskette holds 720K of information; a high density one holds 1.44 megs.

**Desktop Publishing** - The process of using a microcomputer, laser printer and specialized software to create documents for publication that were formerly typeset.

**Digital** - Contrasted to analog, digital devices measure discrete values. A digital piece of information might be inches of rainfall or pounds of seed, or electronic pulses in a computer.

**Dip Switch** - A small switch found on a circuit board which is used to designate the operating state of a component.

**Direct-connect modem** - In contrast to an acoustic modem, direct-connect modems connect the computer directly to a telephone wall outlet (jack). They have the capability of automatically answering or dialing. The preferred modem for microcomputers.

**Direct Memory Access (DMA)** - Transfer of data between memory and storage device without going through the arithmetic processing unit of the CPU.

**Directory** - An index to the files of data and programs on diskette. Also referred to as a Catalog.

**Disk** - A flat, circular, platelike device with a magnetic coding on which information can be encoded and permanently stored. Disks can be flexible and movable "floppy" diskettes, or rigid and unmovable "hard" disks. Floppy disks are classified by physical size, 5-1/4" or 3-1/2", and storage capacity in "K" (kilobytes) or "megs" (megabyte), while hard disks are classified as internal or external and by storage capacity in "megs" or gigabytes.

**Disk drive** - A piece of equipment used to store and access data on diskettes.

**Documentation** - A description of what a program does, how it does it, its assumptions, and possible applications. An "owner's and operator's manual" for a program or piece of hardware.

**DOS** - (Disk Operating System.) Any operating system that emphasizes the use of disks to store files. Commonly refers to the popular operating system developed by Microsoft, Inc. for PC's, MS-DOS or PC-DOS.

**Dot matrix** - A printer type using a number of pins, 9 or 24, impacting a ribbon to form characters.

**Download** - The process of accessing files on a remote computer and transferring them to the file system of one's own computer.

**Downloadable Font** - A font that is downloaded to the printer's memory from a disk. Also called soft font.

**Driver** - A program that provides an input format to an external device or another program. A printer driver receives input from the computer in the form of printed lines or graphic characters, and it outputs these instructions to a line printer or plotter.

**Dump** - To copy or print out certain contents in memory or to transfer information from memory to an external storage device.

**Duplex** - SEE full duplex and half duplex. When duplex is set incorrectly, characters will either not appear, or they will appear double.

#### -E-

**Edit** - To change data or programs by either inserting or deleting characters.

**Electronic Mail** - Mail that is sent and received by electronic means.

**Enter** - Has the same meaning as input--to type information onto the screen to later be recorded, edited, deleted, etc. Not to be confused with a certain function key on some machines.

**Erase** - To remove information stored on a CRT, random access memory, or external storage device. The same as delete.

**Error Message** - A word or combination of words to indicate to the user that an error occurred while the program was operating.

**Execute** - To carry through with program instructions, to "run" a program.

**Expanded Memory** - Memory in addition to conventional memory that is available for applications. Expanded memory requires a special program called an expanded memory manager which comes with the expanded memory board. Because the memory manager gives applications access to only 16K blocks of memory at a time, expanded memory is slower and more cumbersome than extended memory.

**Extended Memory** - A seamless addition of memory above 1 meg. Since DOS can only access the first meg of memory, extended memory is administrated by a memory manager which addresses the extended memory and prevents several programs from trying to use the same memory at once. Extended memory cannot be used on 8088 computers.

**External Modem** - A stand-alone modem, as opposed to an internal one, which is connected to the CPU by serial cable.

### **-F-**

**FAT (File Allocation Table)** - A table held near the outer edge of a disk that tells which sectors are allocated to each file and in what order.

**FAX (Facsimile Terminal)** - The transmission of images via telephone lines for reproduction on paper.

**Field** - A single item of information. A collection of fields is used to define a data record.

**File** - A specified collection of information (data) or instructions (programs) located on a diskette or other storage medium.

**File Extension(s)** - The three character second part of a filename identifying the type of file.

**File Name** - The first part of a file name, limited to 8 characters. Excluded characters include space, ., ", etc.

**Floppy disk (diskette)** - A flexible disk. Most common are 5-1/4" and 3-1/2" in physical size.

**Font** - A particular design or shape and size of lettering or of a typeface for printing.

**Format (Formatting)** - Preparing a diskette for data storage. Also the structure of a file.

**FORTRAN** - (FORmula TRANslator.) A programming language used primarily to express complex arithmetic expressions.

**Full Duplex** - Two way data transmission where data transfers can occur simultaneously in both directions. Characters you type are sent to the remote which echoes them back.

**Function** - A specific operation, movement, control, or command performed by the computer. Example, SIN gives the sine of a number, while INT returns the integer (whole number) portion of a number.

**Function Keys** - Additional keys on a keyboard which are used to perform user or program definable operations.

### **-G-**

**Gigabyte** - A unit of storage. One gigabyte is approximately one billion bytes.

**GIGO** - Common computer acronym for Garbage-In, Garbage Out. Output from a computer is only as good as the data input.

**Graphics** - A computer-generated picture.

**-H-**

**Half duplex** - Two-way data transmission where data transfers occur alternately in both directions. Characters you type are echoed locally and characters sent to the remote are not echoed.

**Hard copy** - Information generated by a computer and printed on paper.

**Hard Disk** - A disk that cannot be removed from its housing. Made of rigid material with a magnetic coating and used for the mass storage of data. Also called a fixed disk.

**Hardware** - The physical components of a computer system. If you can touch it, it's hardware.

**Header** - Information appended to the front of a block of data for control.

**Hexadecimal** - A number system with a base of "16," using 16 digits ("0" through "9" and "A" through "F"). Also called Hex.

**High-Level Formatting** - Formatting performed by the DOS FORMAT program. This process creates the root directory and the file allocation tables.

**-I-**

**I/O** - (Input and/or Output.) I/O devices include keyboards, floppy disk drives, CRTs, printers, or monitoring devices such as for grain temperature or rainfall. Each of these feed information into and/or works from information coming out of the CPU.

**Icon** - A graphical representative of various elements, such as applications, documents, and hardware.

**Impact Printer** - A printer that works on the principle of striking at the paper through an inked ribbon, like a typewriter. (Also see Dot Matrix.)

**Initialization** - The process of preparing external media such as diskettes for access by the computer.

**Input** - The process of transferring data or program instructions into memory from peripheral unit.

**Integer** - The "whole" number portion of a number. For example, "3" is an integer number, while "3.2" is not.

**Integrated Package** - A computer applications package that combines several types of applications, for example: word processing, spreadsheet and database.

**Interactive** - A mode of operation in which the user is conversational with the computer.

**Interface** - A place inside or outside a computer where various components meet. This ranges from the simple plug-ins to box-like devices into which you plug various components of a system. An interface permits peripherals in a system to communicate with one another.

**Interleave Factor** - The number of sectors that pass beneath the disk drive heads before the "next" numbered sector arrives. For example, if the interleave factor is 3 to 1, a sector is read, two pass by, then the next sector is read.

**-J-**

**Joystick** - An input device that allows the control of the cursor or some part of the image on a computer screen. Used extensively with video games.

**Jumper** - A small connector that slips over two pins protruding from a circuit board. The jumper connects the pins electrically, thus connecting the two terminals of a switch, turning the switch "on".

**-K-**

**Keyboard** - The typewriter-like input device used to enter character information into the computer.



**Kilobyte** - Or K. "Kilo" means thousand, so a thousand bytes. It is used to rate the information storage capacity or memory of a computer. (Technically  $2^{10}$  bytes, or 1,024 bytes.)

### -L-

**Language** - A system of encoding instructions to the computer. Each language has its own rules of syntax and characteristic strength and weaknesses for particular uses. Must be decoded and translated into executable binary code by a translator. Examples include FORTRAN, BASIC, Pascal and C.

**Laptop** - A small, self-contained computer designed for mobility. Usually smaller and more lightweight than a portable computer and larger and heavier than a notebook computer.

**LCD** - (Liquid Crystal Display.) A type of output display (screen) in which characters are typically formed by black lines on a gray background. Commonly used on many laptop and portable computers.

**Load** - A programming process of retrieving programs or data from storage for processing.

**Local Area Network (LAN)** - A system in which a number of independent computers are linked together to share data and peripherals within a limited geographical area.

**Logical Drive** - A drive as named by a DOS specifier, not necessarily a physical drive. A single physical drive may act as several logical drives.

**Lost Clusters** - Clusters of information that have accidentally been marked as "unavailable" in the file allocation table, even though they belong to no file listed in a directory.

**Low-Level Formatting** - Formatting that divides tracks into sectors on the disk surfaces. Defective tracks are marked.

### -M-

**Magnetic disk** - SEE Disk.

**Mainframe computer** - The largest of computers. With an expansive internal memory and fast processing time, costs range into the millions of dollars.

**Megabyte** - (Mb or Meg) A measure of storage capacity. "Mega" means million, so a million bytes of information storage capacity. (Technically  $2^{20}$  bytes, or 1,048,576 bytes.)

**Memory** - or storage. That portion of the computer which is used to store information. The size of memory is measured in kilobytes or megabytes. Also see RAM and ROM.

**Memory Resident Program** - A program that remains in memory once it has been loaded. The program may be activated at any time, even during another program. Also called Terminate and Stay Resident (TSR).

**Menu** - Display of a list of options available to the user at a particular point in the execution of the program. Programs that function this way are referred to as menu driven.

**MHz (megahertz)** - A unit of analog frequency used to measure the speed of the computer microprocessor.

**Microcomputer** - A small computer utilizing a microprocessor. It has less capabilities and ability to store information than a minicomputer or mainframe computer.

**Microprocessor** - A silicon circuitry comprising the "brain" or CPU of the microcomputer.

**Minicomputer** - A computer somewhat larger, more powerful and more expensive than a microcomputer, and suitable for a larger business.

**Modem** - (MODulator-DEMulator.) A device that permits one computer to communicate with another via telephone line by converting digital electronic signals to analog tones (sound).

**Monitor** - The video screen connected to the computer that displays input/output information and messages from the computer.

**Motherboard** - The primary circuit board used in different microcomputers. It provides power to other circuit boards via electronic circuitry, and it links the CPU, memory and peripherals together.

**Mouse** - A hand-held input device that controls movement of the pointer (cursor) on the monitor screen having one to three buttons which access various features.

**Multitasking** - The act of running several programs simultaneously.

### -O-

**Offline** - Equipment or devices which are not under the direct control of the Central Processing Unit (CPU).

**Online** - Equipment directly under the Central Processing Unit (CPU) control.

**Operating System** - A software package that manipulates files and allocates system resources to various computing functions such as copying, printing, editing and executing files. Sometimes referred to as the Master Control Program. Examples include: DOS, CP/M and UNIX.

**OS/2** - A multitasking operating system developed by IBM and Microsoft. Includes Presentation Manager, a graphical icon- and window-based software interface.

**Output** - Information moved from internal storage to output devices such as printers or display screens.

### -P-

**Page** - A specific memory location in a computer typically containing 256 bytes of information.

**Parallel** - The simultaneous transfer of a group of binary bits by sending each bit over a separate wire. Contrast to serial.

**Parity** - A technique for adding an overhead bit to a character code to provide error-checking capability.

**Park** - The procedure in which disk drive heads are moved to an unused track so that they will not damage data if a head crash occurs. Heads should always be parked prior to moving a computer.

**Pascal** - One of the newer, more structured programming languages which was developed in the late 1960s by Nicholas Worth. Pascal uses a P-code in a compiled version rather than an actual machine language. Thus, Pascal can be more easily transported from one machine to another with few, if any, changes.

**Password** - A secret identification code that must be keyed in by the user and checked by the system before access is permitted.

**Path** - The combination of disk drive letter and directory(ies) which directs the user to a file within his system.

**PC** - (Personal Computer.) 1. Any micro-computer. 2. Also refers to personal computers sold by IBM from 1981-88 using an 8088 microprocessor, or the compatibles made by others.

**Peripheral** - Any external piece of equipment which is an accessory of a system that receives information from or sends it to a computer, i.e., disk drives, CRTs, printers, and modems.

**Permanent storage** - Data that is retained even when the power of the computer is turned off.

**Pixel** - The smallest graphic unit on the screen. Also known as picture elements.

**Port** - A channel of communication between the Central Processing Unit (CPU) and a peripheral.

**Program** - A series of instructions that tells a computer in detail how to process data, normally written in a standard computer language.

**Prompt** - A message on your display screen requesting information and telling you which responses can be made. Also refers to the cursor.

**Protocol** - A standard procedure for transmitting information that allows computers to exchange data accurately over a communications link. The protocol defines message formats, devices for detecting and correcting transmission errors, and the commands and responses needed to coordinate the activities of the transmitter and receiver.

Protocol rules include:

**Block Size** - Defines the amount of data that will be sent in one continuous block. For example: X modem uses 128 byte blocks, while Y modem uses 1024 byte (1K) blocks.

**Duplex** - Defines the procedure for the sequence of transmissions. Full duplex allows information to be sent both directions simultaneously, while half duplex allows information to be sent in only one direction at a time.

**Handshaking** - Defines the procedure for responding to information sent.

**Error detection** - Defines the procedure for detecting an error. Both header information and data block must be checked.

**Error correction** - Defines the procedure to follow if an error is detected. Generally, this involves retransmission of the entire packet (header plus data block). If the error is not correctable, the transmission will be aborted.

**Public Domain Software** - Software that can be freely copied and distributed. Authors do not claim royalties or license fees to use the program. Also referred to as freeware.

### -Q-

**Queue** - Any line of items waiting for service, such as documents waiting to be printed.

### -R-

**RAM** - (Random Access Memory) Memory that can both be read from and read to while the computer is running. Information in RAM is lost when computer is turned off. Also called volatile memory.

**Record** - A collection of data items stored on a diskette or other medium which may be recalled as one unit. Records may be either fixed or of variable length. One or more records usually makes up a data file.

**Release** - The particular version of a program. Since most programs are updated continually, one version can be significantly different from another.

**ROM** - (Read Only Memory.) This is permanent memory that is built into the computer and cannot be changed. It is associated with interpreting computer languages and communication between the computer and its peripherals.

**Root Directory** - The highest directory of any hard disk or floppy disk.

**Run** - Any single performance of one or more tasks by the computer.

### -S-

**Save** - To transfer information from the computer's volatile memory to a disk or other type of permanent storage.

**Scanner** - An input device that converts a graphic or a printed page into digital form so that it can be entered, stored and manipulated within the computer.

**Screen** - The television-like display connected to or part of the computer. Also called a monitor or CRT.

**Scroll** - The vertical or horizontal movement of text on the screen. As new information is entered or displayed, previous lines or columns move up or to the side, and off the screen.

**Sector** - The smallest unit of storage on a disk track which may be updated.

**Serial** - The transfer of bits in sequential order, one right after the other.

**Shareware** - Refers to a type of software distribution or the software itself where the developer encourages widespread copying of the program as a means of distribution. Users are asked to register and to pay a small fee, generally less than \$100. Shareware is copyrighted and should not be confused with public domain software.

**Software** - The instructions contained in a program and/or the program itself.

**Source code** - The original language version of a program as it was prepared by a programmer. Before execution by the computer, the program language source code is converted to an object code which is made up of more complex machine instructions.

**Spreadsheet** - An applications program that allows entry of data into a row and column configuration and the manipulation of this data, including many mathematical functions.

**Storage** - Memory. A device which stores data for retrieval at a later time.

**String** - A variable defined within a program to be a collection of numbers, symbols and characters.

**Sub-Directory** - A directory contained within another directory.

**Subroutine** - A procedure which can be used repeatedly by another program or routine.

**Support** - To assume the responsibility for making something in a computer system (hardware or software) operate or work properly.

### -T-

**Telecommunications** - Information sent and received by wire, radio, optic or infrared media. Commonly refers to computerized information sent and received over the telephone lines.

**Terminal** - The combination typewriter keyboard and CRT unit that permits you to communicate with a computer.

**Track** - A complete circular path of magnetic storage on a diskette. Tracks on a diskette are concentric from the center to the outer perimeter.

### -U-

**Uninterruptible Power Supply** - A device that supplies power to the computer from batteries so that power will not stop during an outage.

**UNIX** - An operating system originally developed by AT&T and initially used on mainframe computers and mini-computers. A version of UNIX is now used on some PC's.

**Upload** - The process of transferring files from one computer system to a remote computer system through a telecommunications link.

**User-friendly** - Term applied to both hardware and software that implies that these are easy to use or learn, even for the computer novice.

**Utilities** - A general-purpose computer program designed to improve the operation of a computer system and accomplish a variety of "house-keeping" chores.

### -V-

**Vaccine** - A program intended to counteract or eliminate a certain virus or group of viruses. SEE Virus.

**Virtual Memory** - A technique by which operating systems create the illusion that more memory is available for programs and data than there is in actuality. Parts of the programs and data are kept on disk and constantly swapped back and forth into system memory. The application software is oblivious to the process.

**Virus** - A program or computer code designed to insert itself into an existing program, alter or destroy data, and attach itself to other programs.

**-W-**

**Wildcard** - A general character that substitutes for a character or group of characters. In DOS the asterisk (\*) can be used to indicate one to eight letters that match that position in file names.

**Window** - A rectangular portion of the computer screen in which information is presented.

**Word processor** - An application program that formats and prints text entered by the user.

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