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Computer Dictionary

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electronics *n.* The branch of physics dealing with electrons, electronic devices, and electrical circuits.

Electronics Industries Association *n. See* EIA.

electronic software distribution *n.* A means of directly distributing software to users on line over the Internet. Electronic software distribution is analogous to direct-mail ordering. *Acronym:* ESD.

electronic spreadsheet *n. See* spreadsheet program.

electronic storefront *n.* A business that displays its merchandise on the Internet and has provisions for contact or online sales.

electronic text *n. See* e-text.

electron tube *n.* A device for switching and amplifying electronic signals. It consists of a sealed glass container with electronic elements, such as metallic plates and grids, inside. In most applications, tubes have been replaced by transistors, although they are still used in cathode-ray tubes and in some radio frequency circuits and audio amplifiers. *Also called:* vacuum tube, valve. *See also* CRT.

electrophotographic printers *n.* Printers in a category including laser, LED, LCD, and ion-deposition printers. In such a printer, a negative image is applied to an electrically charged, photosensitive drum. A photosensitive drum develops a pattern of electrostatic charge on its surface representing the photo negative of the image the drum will print. Powdered ink (toner) adheres to the charged areas of the drum, the drum presses the ink onto the paper, and then heat binds the toner to the paper. The printer types vary mainly in how they charge the drum. *See also* ion-deposition printer, laser printer, LCD printer, LED printer.

electrophotography *n.* The production of photographic images using electrostatic charges. This method is used in photocopiers and laser printers. *Also called:* xerography. *See also* electrophotographic printers.

electroplating *n.* The use of electrolysis for depositing a thin layer of one material onto another material. *See also* electrolysis.

electrostatic *adj.* Of or relating to electric charges that are not flowing along a conducting path. Electrostatic charges are used in copiers and laser printers to hold toner particles on a photoconducting drum and in flatbed plotters to hold the plot medium in place.

electrostatic discharge *n.* The discharge of static electricity from an outside source, such as human hands, into an integrated circuit, often resulting in damage to the circuit. *Acronym:* ESD.

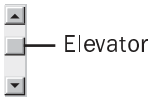
electrostatic plotter *n.* A plotter that creates an image from a dot pattern on specially coated paper. The paper is electrostatically charged and exposed to toner, which adheres to the dots. Electrostatic plotters can be up to 50 times faster than pen plotters but are more costly. Color models produce images through multiple passes with cyan, magenta, yellow, and black. *See also* plotter. *Compare* electrophotographic printers, pen plotter.

electrostatic printer *n. See* electrostatic plotter.

elegant *adj.* Combining simplicity, terseness, efficiency, and subtlety. On the academic side of computer science, elegant design (say, of programs, algorithms, or hardware) is a priority, but in the frenetic pace of the computer industry, elegant design may be sacrificed for the sake of speeding a product's development, sometimes resulting in bugs that are difficult to correct.

element *n.* **1.** Any stand-alone item within a broader context. For example, a data element is an item of data with the characteristics or properties of a larger set; a picture element (pixel) is one single dot on a computer screen or in a computer graphic; a print element is the part of a daisy-wheel printer that contains the embossed characters. *See also* daisy-wheel printer, data element, graphics primitive, pixel, thimble. **2.** In markup languages such as HTML and SGML, the combination of a set of tags, any content contained between the tags, and any attributes the tags may have. Elements can be nested, one within the other. *See also* attribute (definition 3), HTML, markup language, SGML.

elevator *n.* The square box within a scroll bar that can be moved up and down to change the position of text or an image on the screen. See the illustration. *Also called:* scroll box, thumb. *See also* scroll bar.



Elevator.

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the virus also changes the registry, infects the Normal.dot Word template (which, in turn, infects new documents), and, in Office 2000, disables the Word macro virus warning. Although the Melissa virus does not destroy data, it can affect e-mail performance through the increased volume of messages. If an infected document is open at a time when the day of the month is the same as the minute value of the current time, the virus inserts the text "Twenty-two points, plus triple-word-score, plus fifty points for using all my letters. Game's over. I'm outta here" at the current location of the cursor. The virus was named after an acquaintance of the hacker who developed it.

meltdown *n.* **1.** The complete collapse of a computer network caused by a higher level of traffic than the network can support. The term refers, by analogy, to the accidental melting down of a nuclear reactor core. **2.** Colloquially, the breakdown of a person, usually in a job situation, caused by overwork, stress, or failure.

member *n.* **1.** In object-oriented programming, a variable or routine that is part of a class. *See also* C++, class. **2.** A value that is part of a set data structure. *See also* set[2] (definition 1).

membrane keyboard *n.* A keyboard in which an unbroken plastic or rubber shell (a membrane) covers keys that have little or no travel (movement). Rather than use normal, full-travel keys, membrane keyboards use pressure-sensitive areas that are sometimes, but not always, defined by small bumps under the membrane.

memo field *n.* A field in a database file that can contain unstructured text.

memo pad *n.* A note-taking feature offered by many personal digital assistants and other handheld computing devices. Memo pad allows for the entry of short notes via typing or handwriting recognition applications. The notes can be categorized, organized, and edited later.

memory *n.* A device where information can be stored and retrieved. In the most general sense, memory can refer to external storage such as disk drives or tape drives; in common usage, it refers only to a computer's main memory, the fast semiconductor storage (RAM) directly connected to the processor. *See also* core, EEPROM, EPROM, flash memory, PROM, RAM, ROM. *Compare* bubble memory, mass storage.

memory bank *n.* The physical location on a motherboard where a memory module can be inserted. *See also* bank (definition 1).

memory board *n.* A plug-in printed circuit board that contains one or more memory chips. *See also* memory chip.

memory cache *n.* *See* CPU cache.

memory card *n.* A memory module that is used to extend RAM storage capacity or in place of a hard disk in a portable computer, such as a laptop, notebook, or handheld PC. The module is usually the size of a credit card and can be plugged into a PCMCIA-compliant portable computer. The module can be composed of EPROM, RAM, or ROM chips or flash memory. *Also called:* RAM card, ROM card. *See also* EPROM, flash memory, handheld PC, hard disk, memory cartridge, module (definition 2), PCMCIA, RAM, ROM.

memory cartridge *n.* A plug-in module containing RAM (random access memory) chips that can be used to store data or programs. Memory cartridges are used primarily in portable computers as smaller, lighter (but more expensive) substitutes for disk drives. Memory cartridges typically use either a nonvolatile form of RAM, which does not lose its contents when power is turned off, or battery-backed RAM, which maintains its contents by drawing current from a rechargeable battery within the cartridge. *Also called:* RAM cartridge. *See also* memory card, RAM. *Compare* ROM cartridge.

memory cell *n.* An electronic circuit that stores one bit of data. *See also* bit.

memory chip *n.* An integrated circuit devoted to memory storage. The memory storage can be *volatile* and hold data temporarily, such as RAM, or *nonvolatile* and hold data permanently, such as ROM, EPROM, EEPROM, or PROM. *See also* EEPROM, EPROM, integrated circuit, memory board, nonvolatile memory, PROM, RAM, volatile memory.

memory management *n.* **1.** In operating systems for personal computers, procedures for optimizing the use of RAM (random access memory). These procedures include selectively storing data, monitoring it carefully, and freeing memory when the data is no longer needed. Most current operating systems optimize RAM usage on their own; some older operating systems, such as early versions of MS-DOS, required the use of third-party utilities to optimize RAM usage and necessitated that the user be more

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modulation *n.* **1.** The process of changing or regulating the characteristics of a carrier wave vibrating at a certain amplitude (height) and frequency (timing) so that the variations represent meaningful information. **2.** In computer communications, the means by which a modem converts digital information sent by a computer to the audio form that it sends over a telephone line.

modulation standards *n.* Protocols that determine how modems convert digital data into analog signals that can be transmitted over telephone lines. Initially, Bell created modulation standards used in the United States, and the CCITT created international recommendations. The ITU-T (formerly called the CCITT) now makes recommendations generally adopted by modem manufacturers both internationally and in the United States. The ITU-TV series recommendations (such as V.34 and V.90) define data communication over the telephone network. The suffixes -bis and -ter (for example, V.32bis) indicate later versions. *See also* V.34, V.90.

module *n.* **1.** In programming, a collection of routines and data structures that performs a particular task or implements a particular abstract data type. Modules usually consist of two parts: an interface, which lists the constants, data types, variables, and routines that can be accessed by other modules or routines; and an implementation, which is private (accessible only to the module) and which contains the source code that actually implements the routines in the module. *See also* abstract data type, information hiding, Modula-2, modular programming. **2.** In hardware, a self-contained component that can provide a complete function to a system and can be interchanged with other modules that provide similar functions. *See also* memory card, SIMM.

modulo *n.* An arithmetic operation whose result is the remainder of a division operation. For example, 17 *modulo* 3 = 2 because 17 divided by 3 yields a remainder of 2. Modulo operations are used in programming.

moiré *n.* A visible wavy distortion or flickering in an image that is displayed or printed with an inappropriate resolution. Several parameters affect moiré patterns, including the size and resolution of the image, resolution of the output device, and halftone screen angle.

molecular beam epitaxy *n.* A process used in the fabrication of semiconductor devices, such as integrated circuits. A device employing molecular beam epitaxy creates thin layers of semiconducting material by vaporizing the material and then directing a beam of molecules at the substrate on which the layer is to be formed. This technique allows very precise and very thin layers to be created.

MOM *n.* Acronym for **m**essaging-**o**riented **m**iddleware. A class of programs that translates data and messages between applications that use one format and communications services (such as NetBIOS and TCP/IP) that expect a different format.

monadic *adj. See* unary.

Money *n.* Microsoft's Windows-based financial-management software for individuals, families, and small businesses. Money includes tools for managing bank accounts and investments, budgeting, tax estimating and financial planning, and paying bills.

monitor *n.* The device on which images generated by the computer's video adapter are displayed. The term *monitor* usually refers to a video display and its housing. The monitor is attached to the video adapter by a cable. *See also* CRT.

monitoring software *n.* A program or set of programs used to oversee computer-based systems and networks for the purpose of tracking usage or identifying, reporting on, and solving problems at the earliest possible stage. Monitoring software is used in a variety of areas ranging from hardware platforms and their components to operating systems, databases, Internet/intranet access, and business applications. Typically, different tools are used to monitor individual system components, though the individual monitors might feed information to a higher-level monitor in order to encompass an entire computing environment.

monitor port *n. See* display port.

monochrome *adj.* Of, pertaining to, or being a monitor that displays images in only one color—black on white (as on early monochrome Macintosh screens) or amber or green on black (as on early IBM and other monochrome monitors). The term is also applied to a monitor that displays only variable levels of a single color, such as a gray-scale monitor.

monochrome adapter *n.* A video adapter capable of generating a video signal for one foreground color or sometimes for a range of intensities in a single color, as for a gray-scale monitor.

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