

McGRAW-HILL DICTIONARY OF SCIENTIFIC AND TECHNICAL TERMS

**Sixth
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**National Oilwell Varco, LP
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Page 1 of 31**

On the cover: Representation of a fullerene molecule with a noble gas atom trapped inside. At the Permian-Triassic sedimentary boundary the noble gases helium and argon have been found trapped inside fullerenes. They exhibit isotope ratios quite similar to those found in meteorites, suggesting that a fireball meteorite or asteroid exploded when it hit the Earth, causing major changes in the environment. (Image copyright © Dr. Luann Becker. Reproduced with permission.)

Over the six editions of the Dictionary, material has been drawn from the following references: G. M. Garrity et al., *Taxonomic Outline of the Prokaryotes*, Release 2, Springer-Verlag, January 2002; D. W. Linzey, *Vertebrate Biology*, McGraw-Hill, 2001; J. A. Pechenik, *Biology of the Invertebrates*, 4th ed., McGraw-Hill, 2000; U.S. Air Force Glossary of Standardized Terms, AF Manual 11-1, vol. 1, 1972; F. Casey, ed., *Compilation of Terms in Information Sciences Technology*, Federal Council for Science and Technology, 1970; *Communications-Electronics Terminology*, AF Manual 11-1, vol. 3, 1970; P. W. Thrush, comp. and ed., *A Dictionary of Mining, Mineral, and Related Terms*, Bureau of Mines, 1968; *A DOD Glossary of Mapping, Charting and Geodetic Terms*, Department of Defense, 1967; J. M. Gilliland, *Solar-Terrestrial Physics: A Glossary of Terms and Abbreviations*, Royal Aircraft Establishment Technical Report 67158, 1967; W. H. Allen, ed., *Dictionary of Technical Terms for Aerospace Use*, National Aeronautics and Space Administration, 1965; *Glossary of Stinfo Terminology*, Office of Aerospace Research, U.S. Air Force, 1963; *Naval Dictionary of Electronic, Technical, and Imperative Terms*, Bureau of Naval Personnel, 1962; R. E. Huschke, *Glossary of Meteorology*, American Meteorological Society, 1959; *ADP Glossary*, Department of the Navy, NAVSO P-3097; *Glossary of Air Traffic Control Terms*, Federal Aviation Agency; *A Glossary of Range Terminology, White Sands Missile Range, New Mexico*, National Bureau of Standards, AD 467-424; *Nuclear Terms: A Glossary*, 2d ed., Atomic Energy Commission.

McGRAW-HILL DICTIONARY OF SCIENTIFIC AND TECHNICAL TERMS, Sixth Edition

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automatic bias

which is actuated by a single starter switch, opens automatically at the start of the weighing operations of each material, and closes automatically when the designated weight of each material has been reached. { 'd-ə'mad-ik 'bæʃ-ər }

automatic bias [ELECTR] A method of obtaining the correct bias for a vacuum tube or transistor through use of a resistor, usually in the cathode or emitter circuit. { 'd-ə'mad-ik 'bi-əs }

automatic brazing [MET] Brazing by the use of either portable or stationary equipment which does not require constant supervision by the operator. { 'd-ə'mad-ik 'bræz-ɪŋ }

automatic breech mechanism [ORD] A device that utilizes the energy of recoil, or the pressure of the powder gases, to open the breech, withdraw the fired cartridge case, insert a new cartridge, and close the breech. { 'd-ə'mad-ik 'brɛʃ ,mek-ə'niz-əm }

automatic brightness control [ELECTR] A circuit used in a television receiver to keep the average brightness of the reproduced image essentially constant. Abbreviated ABC. Also known as automatic background control. { 'd-ə'mad-ik 'brɪt-nəs kən'trɒl }

automatic calibration [ENG] A process in which an electronic device automatically performs the recalibration of a measuring range of a weighing instrument, for example an electronic balance. { 'd-ə'mad-ik ,kal-ə'bræʃ-ən }

automatic calling unit [COMPUT SCI] A device that enables a business machine or computer to automatically dial calls over a communications network. { 'd-ə'mad-ik 'kɔl-ɪŋ ,yʊ-nɪt }

automatic call origination See autocall. { 'd-ə'mad-ik 'kɔl ə'rij-ə'næʃ-ən }

automatic carriage [COMPUT SCI] Any mechanism designed to feed continuous paper or plastic forms through a printing or writing device, often using sprockets to engage holes in the paper. { 'd-ə'mad-ik 'kær-ɪj }

automatic casing hanger [PETRO ENG] Unitized hanger-seal assembly latched at the lower end of an oil-well casing string to support the next smaller string and make a seal between the two strings. { 'd-ə'mad-ik 'kæs-ɪŋ ,hæŋ-ər }

automatic C bias See self-bias. { 'd-ə'mad-ik 'sɛ ,bi-əs }

automatic celestial navigation See celestial-inertial guidance. { 'd-ə'mad-ik sɔ'les-tʃəl ,nav-ə'gæʃ-ən }

automatic character recognition [COMPUT SCI] The technology of using special machine systems to identify human-readable symbols, most often alphanumeric, and then to utilize this data. { 'd-ə'mad-ik 'kær-ɪk-tər ,rek-ɪg'nɪʃ-ən }

automatic check [COMPUT SCI] An error-detecting procedure performed by a computer as an integral part of the normal operation of a device, with no human attention required unless an error is actually detected. { 'd-ə'mad-ik 'tʃek }

automatic check-out system [CONT SYS] A system utilizing test equipment capable of automatically and simultaneously providing actions and information which will ultimately result in the efficient operation of tested equipment while keeping time to a minimum. { 'd-ə'mad-ik 'tʃek,aʊt ,sɪs-təm }

automatic choke [MECH ENG] A system for enriching the air-fuel mixture in a cold automotive engine when the accelerator is first depressed; the choke plate opens automatically when the engine achieves normal operating temperature. { 'd-ə'mad-ik 'tʃɒk }

automatic chroma control See automatic color control. { 'd-ə'mad-ik 'krɒm-ə kən'trɒl }

automatic chrominance control See automatic color control. { 'd-ə'mad-ik 'krɒm-ə-nəns kən'trɒl }

automatic code See autocode. { 'd-ə'mad-ik 'kɒd }

automatic coding [COMPUT SCI] Any technique in which a computer is used to help bridge the gap between some intellectual and manual form of describing the steps to be followed in solving a given problem, and some final coding of the same problem for a given computer. { 'd-ə'mad-ik 'kɒd-ɪŋ }

automatic color control [ELECTR] A circuit used in a color television receiver to keep color intensity levels essentially constant despite variations in the strength of the received color signal; control is usually achieved by varying the gain of the chrominance band-pass amplifier. Also known as automatic chroma control; automatic chrominance control. { 'd-ə'mad-ik 'kɔl-ər kən'trɒl }

automatic computer [COMPUT SCI] A computer which can carry out a special set of operations without human intervention. { 'd-ə'mad-ik kəm'pyʊt-ər }

automatic degausser

169

automatic connection [ELECTR] Ability of electronic switching equipment to make a connection between users without human intervention. { 'd-ə'mad-ik kə'nek-ʃən }

automatic contrast control [ELECTR] A circuit that varies the gain of the radio-frequency and video intermediate-frequency amplifiers in such a way that the contrast of the television picture is maintained at a constant average level. { 'd-ə'mad-ik 'kən'trast kən'trɒl }

automatic control [CONT SYS] Control in which regulating and switching operations are performed automatically in response to predetermined conditions. Also known as automatic regulation. { 'd-ə'mad-ik kən'trɒl }

automatic control balance [ENG] An automatic balance fitted with an accessory which determines whether a package has been filled within preselected limits. Also known as check-weigher. { 'd-ə'mad-ik kən'trɒl ,bal-əns }

automatic-control block diagram [CONT SYS] A diagrammatic representation of the mathematical relationships defining the flow of information and energy through the automatic control system, in which the components of the control system are represented as functional blocks in series and parallel arrangements according to their position in the actual control system. { 'd-ə'mad-ik kən'trɒl 'blɒk ,di-ə,gram }

automatic-control error coefficient [CONT SYS] Three numerical quantities that are used as a measure of the steady-state errors of an automatic control system when the system is subjected to constant, ramp, or parabolic inputs. { 'd-ə'mad-ik kən'trɒl 'er-ər ,kə-ə'fɪʃ-ənt }

automatic-control frequency response [CONT SYS] The steady-state output of an automatic control system for sinusoidal inputs of varying frequency. { 'd-ə'mad-ik 'frɛ-kwəns-ē rɪ'spɒns }

automatic controller [CONT SYS] An instrument that continuously measures the value of a variable quantity or condition and then automatically acts on the controlled equipment to correct any deviation from a desired preset value. Also known as automatic regulator; controller. { 'd-ə'mad-ik kən'trɒl-ər }

automatic-control servo valve [CONT SYS] A mechanically or electrically actuated servo valve controlling the direction and volume of fluid flow in a hydraulic automatic control system. { 'd-ə'mad-ik kən'trɒl 'sɜ:və ,vɒlv }

automatic-control stability [CONT SYS] The property of an automatic control system whose performance is such that the amplitude of transient oscillations decreases with time and the system reaches a steady state. { 'd-ə'mad-ik kən'trɒl stə,bɪl-ə-de }

automatic control system [CONT SYS] A control system having one or more automatic controllers connected in closed loops with one or more processes. Also known as regulating system. { 'd-ə'mad-ik kən'trɒl ,sɪs-təm }

automatic-control transient analysis [CONT SYS] The analysis of the behavior of the output variable of an automatic control system as the system changes from one steady-state condition to another in terms of such quantities as maximum overshoot, rise time, and response time. { 'd-ə'mad-ik kən'trɒl 'tranz-ɪənt ə,næl-ə'səs }

automatic coupling [MECH ENG] A device which couples rail cars when they are bumped together. { 'd-ə'mad-ik 'kʌp-lɪŋ }

automatic custody transfer [PETRO ENG] Automatic system for measuring and sampling oil or petroleum products at points of receipt or delivery. { 'd-ə'mad-ik 'kʌs-təd-ē ,tranz-fər }

automatic cutout [ELEC] A device, usually operated by centrifugal force or by an electromagnet, that automatically shorts part of a circuit at a particular time. { 'd-ə'mad-ik 'kʌd,aʊt }

automatic dam [MIN ENG] In placer mining, a dam with a gate that automatically discharges the water when it reaches a certain height behind the dam. { 'd-ə'mad-ik 'dam }

automatic data processing [ENG] The machine performance, with little or no human assistance, of any of a variety of tasks involving informational data; examples include automatic and responsive reading, computation, writing, speaking, directing artillery, and the running of an entire factory. Abbreviated ADP. { 'd-ə'mad-ik 'dæd-ə 'præs-ɪŋ }

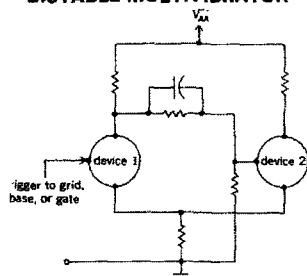
automatic degausser [ELECTR] An arrangement of degaussing coils mounted around a color television picture tube, combined with a special circuit that energizes these coils

BISON



North American bison (*Bison bison*), with enormous forequarter development and hump behind the head.

BISTABLE MULTIVIBRATOR



Circuit diagram of an unsymmetrical bistable multivibrator.

used to make enamels and to color ceramics. Also known as bismuth oxide; bismuth yellow. { 'biz-məth tɪ'æk, sɪd }

bismuth yellow See bismuth trioxide. { 'biz-məth 'yel-ə }

bismutite [MINERAL] (BiO)₂CO₃ A dull-white, yellowish, or gray, earthy, amorphous mineral consisting of basic bismuth carbonate. Also known as bismuth spar. { 'biz-məd, it }

bismutotantalite [MINERAL] Bi(Ta,Nb)O₄ A pitch black, orthorhombic mineral consisting of an oxide of bismuth and tantalum and occurring in crystals. { ,biz-məd-ə'tan-tə, lit }

bison [VERT ZOO] The common name for two species of the family Bovidae in the order Artiodactyla; the wisent or European bison (*Bison bonasus*), and the American species (*Bison bison*). { 'bɪs-ən }

bisphenoid [CRYSTAL] A form apparently consisting of two spheneoids placed together symmetrically. { 'bɪs'fē, nɔɪd }

bisphenol A [ORG CHEM] (CH₃)₂C(C₆H₅OH)₂ Brown crystals that are insoluble in water; used in the production of phenolic and epoxy resins. { bɪ'sfēn-əl 'a }

bisporangiate [BOT] Having two different types of sporangia. { ,bɪ-spə'ran-jē, at }

bispore [BOT] In certain red algae, an asexual spore that is produced in pairs. { 'bɪ, spɔr }

bistable [SCITECH] Capable of assuming either of two stable states. { ,bɪ'stā-bəl }

bistable circuit [ELECTR] A circuit with two stable states such that the transition between the states cannot be accomplished by self-triggering. { ,bɪ'stā-bəl ,sər-kət }

bistable magnetic core [ELECTR] A magnetic core that can be in either of two possible states of magnetization. Also known as bimag core. { ,bɪ'stā-bəl mag'ned-ik 'kɔr }

bistable multivibrator [ELECTR] A multivibrator in which either of the two active devices may remain conducting, with the other nonconducting, until the application of an external pulse. Also known as Eccles-Jordan circuit; Eccles-Jordan multivibrator; flip-flop circuit; trigger circuit. { ,bɪ'stā-bəl məl-ti'vɪ-brəd-ər }

bistable optical device [OPTICS] A device which can be in either of two stable states of optical transmission for a single value of the input light intensity.

bistable system [CHEM] A chemical system with two relatively stable states which permits an oscillation between domination by one of these states to domination by the other. { ,bɪ'stā-bəl 'sɪs-təm }

bistable unit [ENG] A physical element that can be made to assume either of two stable states; a binary cell is an example. { ,bɪ'stā-bəl 'yü-nət }

bistatic radar [ENG] Radar system in which the receiver is some distance from the transmitter, with separate antennas for each. { ,bɪ'stad-ik 'rɑ,dər }

bistatic reflectivity [OPTICS] The characteristic of a reflector which reflects energy along a line, or lines, different from or in addition to that of the incident ray. { 'bɪ'stad-ik rē'flek-tiv-əd-ē }

bisulfate [INORG CHEM] A compound that has the HSO₄⁻ radical; derived from sulfuric acid. { bɪ'səl,fæt }

bisynchronous transmission [COMMUN] A set of procedures for handling synchronous transmission of data and, in particular, for handling a block of data, called a message format, that is transmitted in a single operation. { bɪ'sɪŋ-krə-nəs tranz-'mɪʃ-ən }

bit [COMPUT SCI] 1. A unit of information content equal to one binary decision or the designation of one of two possible and equally likely values or states of anything used to store or convey information. 2. A dimensionless unit of storage capacity specifying that the capacity of a storage device is expressed by the logarithm to the base 2 of the number of possible states of the device. [DES ENG] 1. A machine part for drilling or boring. 2. The cutting plate of a plane. 3. The blade of a cutting tool such as an ax. 4. A removable tooth of a saw. 5. Any cutting device which is attached to or part of a drill rod or drill string to bore or penetrate rocks. [MATH] In a pure binary numeration system, either of the digits 0 or 1. Also known as bigit; binary digit. [MET] In soldering, the portion of the iron that transfers either heat or solder to the joint involved. { bit }

bitangent See double tangent. { bɪ'tɛŋ-jənt }

bitartrate [ORG CHEM] A salt with the radical HC₄H₄O₆⁻. Also known as acid tartrate. { bɪ'tār, trāt }

bit blank [DES ENG] A steel bit in which diamonds or other

cutting media may be inset by hand peening or attached by a mechanical process such as casting, sintering, or brazing. Also known as bit shank; blank; blank bit; shank. { 'bit ,blæŋk }

bit block transfer [COMPUT SCI] In computer graphics, a hardware function that moves a rectangular block of bits from the main memory to the display memory at high speed. Abbreviated bitblt. { ,bit ,blæk 'tranz-fər }

bitbit See bit block transfer.

bit breaker [DES ENG] A heavy plate that fits in a rotary table for holding the drill bit while it is being inserted or broken out of the drill stem. { 'bit ,bræk-ər }

bit buffer unit [COMMUN] A unit that terminates bit-serial communications lines coming from and going to technical control. { ,bit 'bʌf-ər ,yü-nət }

bit cone See roller cone bit. { 'bit ,kɔn }

bit count appendage [COMPUT SCI] One of the two-byte elements replacing the parity bit stripped off each byte transferred from main storage to disk volume (the other element is the cyclic check); these two elements are appended to the block during the write operation; on a subsequent read operation these elements are calculated and compared to the appended elements for accuracy. { 'bit ,kaunt ə'pen-dij }

bit density [COMPUT SCI] Number of bits which can be placed, per unit length, area, or volume, on a storage medium; for example, bits per inch of magnetic tape. Also known as record density. { 'bit 'den-səd-ē }

bit depth [COMPUT SCI] In a digital file, the number of colors for an image; calculated as 2 to the power of the bit depth; for example, a bit depth of 8 supports up to 256 colors, and a bit depth of 24 supports up to 16 million colors. { 'bit ,depth }

bit drag [DES ENG] A rotary-drilling bit that has serrated teeth. Also known as drag bit. { 'bit ,drag }

bite [BTOL] 1. To seize with the teeth. 2. Closure of the lower teeth against the upper teeth. [ENG] In glazing, the length of overlap of the inner edge of a frame over the edge of the glass. [GRAPHICS] In photoengraving, the various stages of etching accomplished through the action of acid. [MED] Skin injury produced by an animal's teeth or the mouthparts of an insect. { bit }

bitegmic [BOT] Having two integuments, especially in reference to ovules. { bɪ'teg-mik }

bitermate [BOT] Of a ternate leaf, having each division ternate. { bɪ'tər,nət }

bitewing [MED] A dental x-ray film having a central wing on which the teeth can close to hold it in place. { 'bit,wɪŋ }

bit flipping See bit manipulation. { 'bit ,flip-ɪŋ }

bithionol [ORG CHEM] A halogenated form of bisphenol used as an ingredient in germicidal soaps and as a medicine in the treatment of clonorchiasis. { bɪ'thɪ-ə,nəl }

biting angle [ORD] Smallest angle of impact at which a projectile will penetrate or pierce armor. { 'bɪd-ɪŋ ,æŋ-gəl }

biting-in [GRAPHICS] In etching, the action of dilute nitric acid or other mordant upon the bare steel or copper plate. { 'bɪd-ɪŋ ,ɪn }

biting louse See bird louse. { 'bɪd-ɪŋ ,laus }

bit location [COMPUT SCI] Storage position on a record capable of storing one bit. { 'bit lɔ'kə-shən }

bit manipulation [COMPUT SCI] Changing bits from one state to the other, usually to influence the operation of a computer program. Also known as bit flipping. { 'bit mænɪp-yə'lə,ʃən }

bit-mapped font [COMPUT SCI] A font that is specified by a complete set of dot patterns for each character and symbol. { ,bit ,mæp 'fɒnt }

bit-mapped graphics See raster graphics. { ,bit ,mæp 'ɡraf-iks }

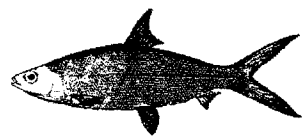
bit mapping [COMPUT SCI] The assignment of each location in a computer's storage to a physical location on an electronic display. { 'bit 'mæp-ɪŋ }

bit matrix [ENG] The material, usually powdered and fused tungsten carbide, into which diamonds are set in the manufacture of diamond bits. { 'bit ,mā-'trɪks }

bit-oriented protocol [COMMUN] A communications protocol in which individual bits within a byte are used as control codes. { ,bit ,ɔr-ɪ-ent-əd 'prɒd-ə,kɔl }

Bitot's spots [MED] The silver-gray, shiny, triangular spots on the cornea characteristic of xerosis conjunctivae. { 'bɛ-tɔs ,spɒts }

CHANIDAE



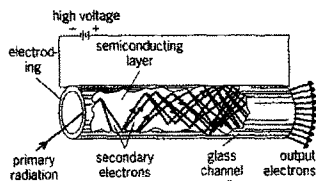
The milkfish (*Chanos chanos*), length up to 5 feet (1.5 meters).

CHANNEL BUOY



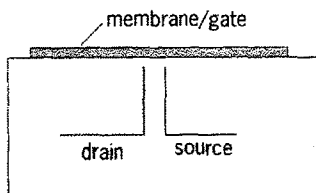
Black buoy with odd number indicates channel lies to starboard, proceeding from seaward.

CHANNEL ELECTRON MULTIPLIER



Cutaway view of a straight, single-channel electron multiplier, showing the cascade of secondary electrons resulting from the initial, primary radiation event, which produces an output charge pulse. (After J. L. Wiza, *Microchannel plate detectors*, Nucl. Instrum. Meth., 162: 587-601, 1979)

CHANNEL FET MICROPHONE



Cross section of a channel FET microphone.

chandui See chanduy. { 'chān-dwē }

chanduy [METEOROL] A cool, descending wind at Guayaquil, Ecuador, which blows during the dry season (July to November). Also spelled chandui. { 'chān-dwē }

change chart [METEOROL] A chart indicating the amount and direction of change of some meteorological element during a specified time interval; for example, a height-change chart or pressure-change chart. Also known as tendency chart. { 'chānj, chārt }

change dump [COMPUT SCI] A type of dump in which only those locations in a computer memory whose contents have changed since some previous event are copied. { 'chānj, dāmp }

changed memory routine [COMPUT SCI] A selective memory dump routine in which only those words that have been changed in the course of running a program are printed. { 'chānj d 'mem-rē rūtēn }

change file [COMPUT SCI] A transaction file that is used to update a master file. { 'chānj, fil }

change gear [MECH ENG] A gear used to change the speed of a driven shaft while the speed of the driving remains constant. { 'chānj, gir }

change of control [COMPUT SCI] 1. A break in a series of records at which processing of the records may be interrupted and some predetermined action taken. 2. See jump. { 'chānj əv kən'trōl }

change of tide [OCEANOGR] A reversal of the direction of motion (rising or falling) of a tide, or in the set of a tidal current. Also known as turn of the tide. { 'chānj əv, tīd }

changeover switch [ELEC] A means of moving a circuit from one set of connections to another. { 'chānj-ōvər, swīch }

change record [COMPUT SCI] A record that is used to alter information in a corresponding master record. Also known as amendment record; transaction record. { 'chānj, rek-ərd }

change tape [COMPUT SCI] A paper tape or magnetic tape carrying information that is to be used to update filed information; the latter is often on a master tape. Also known as transaction tape. { 'chānj, tāp }

changing bag [ENG] An enclosure of lightproof material used for operations such as loading of film holders in daylight. { 'chānj-īg, bāg }

Chanidae [VERT ZOO] A monospecific family of teleost fishes in the order Gonorynchiformes which contain the milkfish (*Chanos chanos*), distinguished by the lack of teeth. { 'kan-ə, dē }

channel [CHEM ENG] In percolation filtration, a portion of the clay bed where there is a preponderance of flow. [CIV ENG] A natural or artificial waterway connecting two bodies of water or containing moving water. [COMMUN] 1. A band of radio frequencies allocated for a particular purpose; a standard broadcasting channel is 10 kilohertz wide, a television channel 6 megahertz wide. 2. A path through which electrical transmission of information takes place. [COMPUT SCI] 1. A path along which digital or other information may flow in a computer. 2. The section of a storage medium that is accessible to a given reading station in a computer, such as a path parallel to the edge of a magnetic tape or drum or a path in a delay-line memory. 3. One of the longitudinal rows of intelligence holes punched along the length of paper tape. Also known as level. 4. A device or portion of a computer that controls and stores data and transfers information between the computer and peripheral equipment. [ELECTR] 1. A path for a signal, as an audio amplifier may have several input channels. 2. The main current path between the source and drain electrodes in a field-effect transistor or other semiconductor device. [ENG] The forming of cavities in a gear lubricant at low temperatures because of congealing. [HYD] The deeper portion of a waterway carrying the main current. [NAV] Navigable portion of a body of water. [NUCLEO] A passage for fuel slugs or heat-transfer fluid in a reactor. [PETRO ENG] In a drilling operation, a cavity appearing behind the casing because of a defect in the cement. { 'chan-əl }

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channel adapter [COMPUT SCI] Equipment that allows devices operating at different rates of speed to be connected and data to be transferred at the slower data rate. { 'chan-əl ə, dāp-tər }

channel address word [COMPUT SCI] A four-byte code containing the protection key and the main storage address of

the first channel command word at the start of an input/output operation. Abbreviated CAW. { 'chan-əl 'ad, res, wərd }

channel-attached device [COMPUT SCI] Equipment that is directly connected to a computer by a channel. { 'chan-əl ə'tačt dī, vīs }

channel bank [ELECTR] Part of a carrier-multiplex terminal that performs the first step of modulation of the transmitting voice frequencies into a higher-frequency band, and the final step in the demodulation of the received higher-frequency band into the received voice frequencies. { 'chan-əl, bānk }

channel black See gas black. { 'chan-əl, blak }

channel buoy [NAV] In marine operations, a buoy marking a channel. { 'chan-əl, bōi }

channel capacity [COMMUN] The maximum number of bits or other information elements that can be handled in a particular channel per unit time. { 'chan-əl kə'pas-əd-ē }

channel command [COMPUT SCI] The step, equivalent to a program instruction, required to tell an input/output channel what operation is to be performed, and where the data are or should be located. { 'chan-əl kə'mānd }

channel command word [COMPUT SCI] A code specifying an operation, one or more flags, a count, and a storage location. Abbreviated CCW. { 'chan-əl kə'mānd, wərd }

channel configuration [COMPUT SCI] The types, number, and logical relationships of devices connected to a given computer channel. { 'chan-əl kən, fig-yə, rā-shən }

channel control [HYD] A condition whereby the stage of a stream is controlled only by discharge and the general configuration of the stream channel, that is, the contours of its bed, banks, and floodplains. { 'chan-əl kən'trōl }

channel control command [COMPUT SCI] An order to a control unit to perform a nondata input/output operation. { 'chan-əl kən'trōl kə'mānd }

channel design [COMPUT SCI] The type of channel, characterized by the tasks it can perform, available to a computer. { 'chan-əl dī'zīn }

channel director [COMPUT SCI] A unit in some very large computers that controls the functioning of several channels. { 'chan-əl dī, rek-tər }

channel effect [ELECTR] A leakage current flowing over a surface path between the collector and emitter in some types of transistors. { 'chan-əl i'fekt }

channel electron multiplier [ELECTR] A single-particle detector which consists of a hollow glass or ceramic tube with a semiconducting inner surface; it responds to one or more primary particle impact events at its entrance by producing, in a cascade multiplication process, a charge pulse of typically 104-108 electrons. { 'chan-əl ē'lek, trān 'mōl-tə, plī-ər }

channel-end condition [COMPUT SCI] A signal indicating that the use of an input/output channel is no longer required. { 'chan-əl, end kən'dish-ən }

channeler See channeling machine. { 'chan-əl-ər }

channel FET microphone [ENG ACOUS] A microphone in which a membrane is used as the gate to a field-effect transistor (FET) located just below it, and motion of the membrane modulates the current between the source and drain of the transistor. { 'chan-əl 'fēt 'mī-krə, fōn or 'ef, ē, tē }

channel fill [GEOL] Accumulations of sand and detritus in a stream channel where the transporting capacity of the water is insufficient to remove the material as rapidly as it is delivered. { 'chan-əl, fil }

channel frequency See stream frequency. { 'chan-əl, frē- kwān-sē }

channel gradient ratio See stream gradient ratio. { 'chan-əl 'grād-ē-ənt, rā-shō }

channeling [ANALY CHEM] In chromatography, furrows or breaks in an ion-exchange bed which permit a solution to run through without having contact with active groups elsewhere in the bed. [COMMUN] A type of multiplex transmission in which the separation between communication channels is accomplished through the use of carriers or subcarriers. [NUCLEO] The transmission of extra particles through a medium in a nuclear reactor due to the presence of voids in the medium. [PETRO ENG] A condition occurring in a water-drive reservoir in which oil is bypassed because of erratic or uncontrolled water encroachment; can be aggravated by excessive production rates. [PHYS] The steering of energetic charged particles by the atomic rows or atomic planes of a crystalline solid. { 'chan-əl-īŋ }

a joint. **2.** Retarded relaxation of muscle, as when it is injected with veratrine. { kən'trək-čər }

contracurrent system See katoptric system. { 'kän-trə/kər-ənt ,sis-təm }

contraflexure point [CIV ENG] The point in a structure where bending occurs in opposite directions. { 'kän-trə'flek-šər ,pɔɪnt }

contrail See condensation trail. { 'kän,trəl }

contrail-formation graph [METEOROL] A graph containing the parameters pressure, temperature, and relative humidity for critical values at which condensation trails (contrails) form; used as an aid in forecasting the formation of condensation trails. { 'kän,trəl fər'mā-shən ,graf }

contraindication [MED] A symptom, indication, or condition in which a remedy or a method of treatment is inadvisable or improper. { 'kän-trə,in-də'kā-shən }

contralateral [PHYSIO] Opposite; acting in unison with a similar part on the opposite side of the body. { 'kän-trə'lād-ə-rəl }

CONTRAN [COMPUT SCI] Computer programming language in which instructions are written at the compiler level, thereby eliminating the need for translation by a compiling routine. { 'kän,tran }

contratransformation [GEN] The incorporation of two or more linked genes on the same fragment of foreign deoxyribonucleic acid into a bacterial genome. { ,kän-tranz-fər,mā-shən }

co-transport [CELL MOL] The simultaneous transport of two substrates across a cell membrane, either in the same direction (symport) or in opposite directions (antiport). { ,kō 'tranz,pɔrt }

contraorbit missile [AERO ENG] A missile that is sent backward along the calculated orbit of an aerospace weapon, satellite, or spacecraft for the purpose of destroying it in a head-on collision with an explosive warhead or through use of a secondary missile. { 'kän-trə'ɔr-bət 'mis-əl }

contrapositive [MATH] The contrapositive of the statement "if p , then q " is the equivalent statement "if not q , then not p ." { 'kän-trə'pāz-əd-iv }

contrapropagating ultrasonic flowmeter [ENG] An instrument for determining the velocity of a fluid flow from the difference between the times required for high-frequency sound to travel between two transducers in opposite directions along a path having a component parallel to the flow. { 'kän-trə'prā-pə,gād-ɪŋ 'əl-trə,šān-ik 'flō,mēd-ər }

contrarotating propellers [MECH ENG] A pair of propellers on concentric shafts, turning in opposite directions. { 'kän-trə'rō,tād-ɪŋ prə'pel-ərz }

contrarotation [ENG] Rotation in the direction opposite to another rotation. { 'kän-trə'rō'tā-shən }

contra solem [METEOROL] Characterizing air motion that is counterclockwise in the Northern Hemisphere and clockwise in the Southern Hemisphere; literally, against the sun. { 'kän-trə'sō,lem }

contrast [COMMUN] The degree of difference in tone between the lightest and darkest areas in a television or facsimile picture. [COMPUT SCI] In optical character recognition, the difference in color, reflectance, or shading between two areas of a surface, for example, a character and its background. { 'kän,tras }

contrast control [ELECTR] A manual control that adjusts the range of brightness between highlights and shadows on the reproduced image in a television receiver. { 'kän,tras kən'trɔl }

contrastes [METEOROL] Winds a short distance apart blowing from opposite quadrants, frequent in the spring and fall in the western Mediterranean. { kən'tras,tēz }

contrast ratio [ELECTR] The ratio of the maximum to the minimum luminance values in a television picture. { 'kän,tras ,rā-shō }

contrast sensitivity See threshold contrast. { 'kän,tras sen-sə'tiv-əd-ē }

contrast sharpening [GRAPHICS] A procedure for increasing local contrasts in an image and reducing blurring by using computer processing of the image to emphasize its high spatial frequencies. { 'kän,tras ,šār-pən-ɪŋ }

contrast threshold See threshold contrast. { 'kän,tras ,thresh,hold }

contravariant functor [MATH] A functor which reverses the sense of morphisms. { 'kän-trə'ver-ē-ənt 'fəŋk-tər }

contravariant index [MATH] A tensor index such that, under a transformation of coordinates, the procedure for obtaining a component of the transformed tensor for which this index has the value p involves taking a sum over q of the product of a component of the original tensor for which the index has the value q times the partial derivative of the p th transformed coordinate with respect to the q th original coordinate; it is written as a superscript. { 'kän-trə'ver-ē-ənt 'in,deks }

contravariant tensor [MATH] A tensor with only contravariant indices. { 'kän-trə'ver-ē-ənt 'ten-sər }

contravariant vector [MATH] A contravariant tensor of degree 1, such as the tensor whose components are differentials of the coordinates. { 'kän-trə'ver-ē-ənt 'vek-tər }

contributing structure [ORG CHEM] A structural formula that is one of a set of formulas, each contributing to the total wave function of a molecule. Also known as canonical form; canonical structure. { kən'trib-yəd-ɪŋ 'strək-čər }

contributory See tributary. { kən'trib-yə,tɔr-ē }

control [COMPUT SCI] **1.** The section of a digital computer that carries out instructions in proper sequence, interprets each coded instruction, and applies the proper signals to the arithmetic unit and other parts in accordance with this interpretation. **2.** A mathematical check used with some computer operations. [CONT SYS] A means or device to direct and regulate a process or sequence of events. [ELECTR] An input element of a cryotron. [STAT] **1.** A test made to determine the extent of error in experimental observations or measurements. **2.** A procedure carried out to give a standard of comparison in an experiment. **3.** Observations made on subjects which have not undergone treatment, to use in comparison with observations made on subjects which have undergone treatment. { kən'trɔl }

control accuracy [CONT SYS] The degree of correspondence between the ultimately controlled variable and the ideal value in a feedback control system. { kən'trɔl ,ak-yə-rə-sē }

control agent [CHEM ENG] In process automatic-control work, material or energy within a process system of which the manipulated (controlled) variable is a condition or characteristic. { kən'trɔl ,əj-ənt }

control and read-only memory [COMPUT SCI] A read-only memory that also provides storage, sequencing, execution, and translation logic for various microinstructions. Abbreviated CROM. { kən'trɔl ən ,rēd ,ɔn-lē 'mem-rē }

control area [NAV] An area over which air-traffic control is exercised by a ground-located traffic-control center. { kən'trɔl ,er-ē-ə }

control bit [COMPUT SCI] A bit which marks either the beginning or the end of a character transmitted in asynchronous communication. { kən'trɔl ,bit }

control block [COMPUT SCI] A storage area containing (in condensed, formalized form) the information required for the control of a task, function, operation, or quantity of information. { kən'trɔl ,blɒk }

control board [ELEC] A panel at which one can make circuit changes, as in lighting a theater. [ENG] A panel in which meters and other indicating instruments display the condition of a system, and dials, switches, and other devices are used to modify circuits to control the system. Also known as control panel; panel board. { kən'trɔl ,bɔrd }

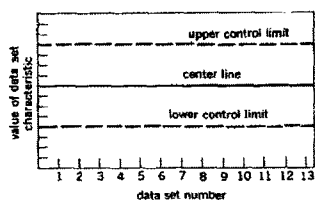
control break [COMPUT SCI] **1.** A key change which takes place in a control data field, especially in the execution of a report program. **2.** A suspension of computer operation that is accomplished by simultaneously depressing the control key and the break key. { kən'trɔl ,bræk }

control character [COMPUT SCI] A character whose occurrence in a particular context initiates, modifies, or stops a control operation in a computer or associated equipment. { kən'trɔl ,kar-ik-tər }

control characteristic [ELECTR] **1.** The relation, usually shown by a graph, between critical grid voltage and anode voltage of a gas tube. **2.** The relation between control ampere-turns and output current of a magnetic amplifier. { kən'trɔl ,kar-ik-tə'ris-tik }

control chart [IND ENG] A statistical tool used to detect excessive process variability due to specific assignable causes that can be corrected. It serves to determine whether a process is in a state of statistical control, that is, the extent of variation of the output of the process does not exceed that which is expected based on the natural statistical variability of the process. { kən'trɔl ,čhært }

CONTROL CHART



Control chart, consisting of a center line and two sets of control lines.

counter sun

specimen to color elements other than those demonstrated by the principal stain. { 'kaunt-ər, stən }

counter sun See anethelon. { 'kaunt-ər, sən }

countersunk bolt [DES ENG] A bolt that has a circular head, a flat top, and a conical bearing surface tapering in from the top; in place, the head is flush-mounted. { 'kəun-tər, sɒŋk 'bɒlt }

counter terms [QUANT MECH] Additional terms added to a Lagrangian in quantum field theory in order to absorb the typical divergences that occur in a perturbation expansion of the theory. { 'kaun-tər, tɔrmz }

countertransference [PSYCH] The conscious or unconscious emotional reaction of the therapist to the patient, which may interfere with psychotherapy. { 'kaunt-ər-tranz'fɔr-əns }

counter tube [ELECTR] An electron tube having one signal-input electrode and 10 or more output electrodes, with each input pulse serving to transfer conduction sequentially to the next output electrode; beam-switching tubes and cold-cathode counter tubes are examples. [NUCLEO] An electron tube that converts an incident particle or burst of incident radiation into a discrete electric pulse, generally by utilizing the current flow through a gas that is ionized by the radiation; used in radiation counters. Also known as radiation counter tube. { 'kaunt-ər, tɪb }

counter voltage [ELEC] The reverse voltage that appears across an inductor when current through the inductor is shut off. { 'kaunt-ər, vɒl-tij }

counterweight [MECH ENG] 1. A device which counterbalances the original load in elevators and skip and mine hoists, going up when the load goes down, so that the engine must only drive against the unbalanced load and overcome friction. 2. Any weight placed on a mechanism which is out of balance so as to maintain static equilibrium. Also known as counterbalance; counterpoise. { 'kaunt-ər, wəɪt }

counting chamber [MICROBIO] An accurately dimensioned chamber in a microslide which can hold a specific volume of fluid and which is usually ruled into units to facilitate the counting under the microscope of cells, bacteria, or other structures in the fluid. { 'kaunt-ɪŋ, ʧəm-bər }

counting circuit [ELECTR] A circuit that counts pulses by frequency-dividing techniques, by charging a capacitor in such a way as to produce a voltage proportional to the pulse count, or by other means. Also known as counter circuit. { 'kaunt-ɪŋ, sər-kət }

counting-down circuit See frequency divider. { 'kaunt-ɪŋ, daʊn, sər-kət }

counting glass [TEXT] A magnifying glass for counting the number of threads per inch in textile fabrics. { 'kaunt-ɪŋ, glas }

counting ionization chamber See pulse ionization chamber. { 'kaunt-ɪŋ, ɪ-ɔ-nə'zə-shən, ʧəm-bər }

counting number [MATH] One of the numbers used in counting objects, either the set of positive integers or the set of positive integers and the number 0. { 'kaunt-ɪŋ, nəm-bər }

counting rate [PHYS] The average rate of occurrence of events as observed by means of a counting system. { 'kaunt-ɪŋ, ræt }

counting rate meter [NUCLEO] An instrument that indicates the time rate of occurrence of input pulses to a radiation counter, averaged over a time interval. Also known as rate meter. { 'kaunt-ɪŋ, ræt, mēd-ər }

counting rate-voltage characteristic See plateau characteristic. { 'kaunt-ɪŋ, ræt 'vɒl-tij, kər-ɪk-tə'rɪs-tɪk }

country rock [GEOL] 1. Rock that surrounds and is penetrated by mineral veins. 2. Rock that surrounds and is invaded by an igneous intrusion. { 'kʌn-trē 'ræk }

count system See numerical system. { 'kaunt, sis-təm }

couplant [ENG] A substance such as water, oil, grease, or paste used to avoid the retarding of sound transmission by air between the transducer and the test piece during ultrasonic examination. { 'kəp-lənt }

couple [CHEM] Joining of two molecules. [ELEC] To connect two circuits so signals are transferred from one to the other. [ELECTR] Two metals placed in contact, as in a thermocouple. [ENG] To connect with a coupling, such as of two belts or two pipes. [MECH] A system of two parallel forces of equal magnitude and opposite sense. { 'kəp-əl }

coupled antenna [ELECTROMAG] An antenna electromagnetically coupled to another. { 'kəp-əld an'ten-ə }

coupled circuits [ELEC] Two or more electric circuits so arranged that energy can transfer electrically or magnetically from one to another. { 'kəp-əld 'sər-kəts }

coupled column [ARCH] One of two columns used as a grouped pair. { 'kəp-əld 'kæl-əm }

coupled engine [MECH ENG] A locomotive engine having the driving wheels connected by a rod. { 'kəp-əld 'en-jən }

coupled field vectors [ELECTROMAG] The electric and magnetic-field vectors, which depend upon each other according to Maxwell's field equations. { 'kəp-əld 'fi:ld, 'vek-tərz }

coupled harmonic oscillators [PHYS] Linear oscillators with an interaction, often also linear or weak. { 'kəp-əld har'mən-ɪk 'ās-ə,ləd-ərz }

coupled modes [ACOUS] Modes of acoustic transmission along a duct having a discontinuity, so that the reflected and transmitted waves contain modes other than the incident ones. { 'kəp-əld 'mɔdɪz }

coupled oscillators [ELECTROMAG] A set of alternating-current circuits which interact with each other, for example, through mutual inductances or capacitances. [MECH] A set of particles subject to elastic restoring forces and also to elastic interactions with each other. { 'kəp-əld 'ās-ə,ləd-ərz }

coupled reaction [CHEM] A reaction which involves two oxidants with a single reductant, where one reaction taken alone would be thermodynamically unfavorable. { 'kəp-əld rē'ak-shən }

coupled systems [COMPUT SCI] Computer systems that share equipment and can exchange information. [PHYS] Mechanical, electrical, or other systems which are connected in such a way that they interact and exchange energy with each other. { 'kəp-əld 'sis-təmz }

coupled transistors [ELECTR] Transistors connected in series by transformers or resistance-capacitance networks, in much the same manner as electron tubes. { 'kəp-əld tran'zɪs-tərz }

coupled wave [FL MECH] A surface wave which is being continuously generated by another wave having the same phase velocity. Also known as C wave. { 'kəp-əld 'wæv }

coupler [ELEC] A component used to transfer energy from one circuit to another. [ELECTROMAG] 1. A passage which joins two cavities or waveguides, allowing them to exchange energy. 2. A passage which joins the ends of two waveguides, whose cross section changes continuously from that of one to that of the other. [ENG] A device that connects two railroad cars. [GRAPHICS] A substance that can react with the unexposed diazonium salt in a diazo material to produce the visible dye image. [NAV] The portion of a navigation system that receives signals of one type from a sensor and transmits signals of a different type to an actuator. { 'kəp-lər }

coupling [ELEC] 1. A mutual relation between two circuits that permits energy transfer from one to another, through a wire, resistor, transformer, capacitor, or other device. 2. A hardware device used to make a temporary connection between two wires. [ENG] 1. Any device that serves to connect the ends of adjacent parts, as railroad cars. 2. A metal collar with internal threads used to connect two sections of threaded pipe. [MECH ENG] The mechanical fastening that connects shafts together for power transmission. Also known as shaft coupling. { 'kəp-lɪŋ }

coupling agent [CHEM] A substance that can react with both reinforcement and matrix components of a composite material to form a binding link at their interface. { 'kəp-lɪŋ, ā-jənt }

coupling aperture [ELECTROMAG] An aperture in the wall of a waveguide or cavity resonator, designed to transfer energy to or from an external circuit. Also known as coupling hole; coupling slot. { 'kəp-lɪŋ, ap-ə-ʧər }

coupling capacitor [ELECTR] A capacitor used to block the flow of direct current while allowing alternating or signal current to pass; widely used for joining two circuits or stages. Also known as blocking capacitor; stopping capacitor. { 'kəp-lɪŋ kə'pas-əd-ər }

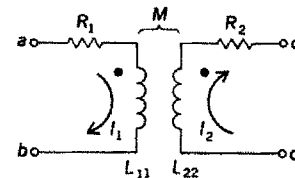
coupling coefficient [ELECTR] The ratio of the maximum change in energy of an electron traversing an interaction space to the product of the peak alternating gap voltage and the electronic charge. [PHYS] See coupling constant. { 'kəp-lɪŋ, kə'ɪ-fɪʃ-ənt }

coupling constant [PARTIC PHYS] A measure of the strength of a type of interaction between particles, such as the strong

coupling constant

501

COUPLED CIRCUITS



A pair of coupled circuits.

demonstrate any interference between two quantum states of the system. { ,dē-kō'hīr-əns }

decoking [CHEM ENG] Removal of petroleum coke from equipment. { dē'kōk-īŋ }

decollator [COMPUT SCI] A device which separates the sheets of continuous stationery that form the output of a computer printer into separate stacks. { dē'kō,lād-ər }

décollement [GEO] Folding or faulting of sedimentary beds by sliding over the underlying rock. { dā'kāl-mənt }

decolorize [CHEM ENG] To remove the color from, as from a liquid. { dē'kāl-ə,rīz }

decolorizer [CHEM ENG] An agent used to decolorize; the removal of color may occur by a chemical reaction or a physical reaction. { dē'kāl-ə,rīz-ər }

decolorizing carbon [CHEM] Porous or finely divided carbon (activated or bone) with large surface area; used to adsorb colored impurities from liquids, such as lube oils. { dē'kāl-ə,rīz-īŋ 'kār-bən }

decimeter [ELECTR] An adding-type phasemeter which rotates continuously and adds up the total number of degrees of phase shift between two signals, such as those received from two transmitters in the Decca navigation system. { dē'kām-əd-ər }

decomino [MATH] One of the 4655 plane figures that can be formed by joining 10 unit squares along their sides. { ,dek-ə'mē-nō }

decommissioning [NUCLEO] The process of shutting down a nuclear facility such as a nuclear reactor or reprocessing plant so as to provide adequate protection from radiation exposure and to isolate radioactive contamination from the human environment. { dē-kə'mīsh-ən-īŋ }

decommutation [ELECTR] The process of recovering a signal from the composite signal previously created by a commutation process. { dē,kām-yə'tā-shən }

decommutator [ELECTR] The section of a telemetering system that extracts analog data from a time-serial train of samples representing a multiplicity of data sources transmitted over a single radio-frequency link. { dē'kām-yə,tād-ər }

decompensation [PSYCH] The deterioration of existing defense mechanisms, leading to an exacerbation of pathologic behavior. { dē,kām-pən'sā-shən }

decomposable process [MATH] A process which can be reduced to several basic events. { dē-kām'pō-zə-bəl 'prās-əs }

decomposer [ECOL] A heterotrophic organism (including bacteria and fungi) which breaks down the complex compounds of dead protoplasm, absorbs some decomposition products, and releases substances usable by consumers. Also known as microcomposer; microconsumer; reducer. { dē-kām'pō-zər }

decomposition [CHEM] The more or less permanent structural breakdown of a molecule into simpler molecules or atoms. See chemical weathering. [MATH] 1. The expression of a fraction as a sum of partial fractions. 2. The representation of a set as the union of pairwise disjoint subsets. { dē,kām-pə'zīsh-ən }

decomposition potential [PHYS CHEM] The electrode potential at which the electrolysis current begins to increase appreciably. Also known as decomposition voltage. { dē,kām-pə'zīsh-ən pə'ten-chəl }

decomposition voltage See decomposition potential. { dē,kām-pə'zīsh-ən ,vōl-tij }

decompound [BOT] Divided or compounded several times, with each division being compound. { dē'kām,pāund }

decompression [ENG] Any procedure for the relief of pressure or compression. { dē-kām'prēsh-ən }

decompression chamber [ENG] 1. A steel chamber fitted with auxiliary equipment to raise its air pressure to a value two to six times atmospheric pressure; used to relieve a diver who has decompressed too quickly in ascending. 2. Such a chamber in which conditions of high atmospheric pressure can be simulated for experimental purposes. { dē-kām'prēsh-ən ,chām-bər }

decompression illness See aeroembolism. { dē-kām'prēsh-ən ,īl-nəs }

decompression table [ENG] A diving guide that lists ascent rates and breathing mixtures to provide safe pressure reduction to atmospheric pressure after a dive. { dē-kām'prēsh-ən ,tā-bəl }

deconcentrator [ENG] An apparatus for removing dissolved or suspended material from feedwater. { dē'kāns-ən,trād-ər }

decontamination [ENG] The removing of chemical, biological, or radiological contamination from, or the neutralizing of it on, a person, object, or area. { dē-kən,tam-ə'nā-shən }

decontamination factor [NUCLEO] The ratio of initial specific radioactivity to final specific radioactivity resulting from a separation process. { dē-kən,tam-ə'nā-shən ,fak-tər }

decontamination index [NUCLEO] The logarithm of the ratio of initial specific radioactivity to final specific radioactivity resulting from a separation process. { dē-kən,tam-ə'nā-shən ,īn,dēks }

decoppering agent [ORD] Material, such as finely divided tin, included in a propelling charge, or inserted in the chamber with the propelling charge, for the purpose of removing the coppering from the surface of the bore. { dē'kōp-ər-īŋ ,ā-jənt }

decorative stone [MATER] A stone that serves for architectural decoration, as in mantles or store fronts. { ,dek-rad-iv 'stōn }

decorticate [BIOL] Lacking a cortical layer. [TEXT] To remove woody residual matter, such as flax from bast fibers after retting. { dē'kōrd-ə,kāt }

decouple [ENG] 1. To minimize or eliminate airborne shock waves of a nuclear or other explosion by placing the explosives deep under the ground. 2. To minimize the seismic effect of an underground explosion by setting it off in the center of an underground cavity. { dē'kōp-əl }

decoupler [IND ENG] A materials handling device designed specifically for cellular manufacturing. { dē'kōp-lər }

decoupling [ELEC] Preventing transfer or feedback of energy from one circuit to another. { dē'kōp-līŋ }

decoupling era [ASTRON] The time about 300,000 years after the big bang when matter and radiation, which had previously been strongly coupled, practically ceased to interact, electrons were able to attach to nuclei and form atoms, and photons could propagate freely. { dē'kōp-līŋ ,īr-ə }

decoupling filter [ELECTR] One of a number of low-pass filters placed between each of several amplifier stages and a common power supply. { dē'kōp-līŋ ,fīl-tər }

decoupling network [ELEC] Any combination of resistors, coils, and capacitors placed in power supply leads or other leads that are common to two or more circuits, to prevent unwanted interstage coupling. { dē'kōp-līŋ ,net,wərk }

decoy [ORD] 1. An object with reflective characteristics of a target, used in radar deception. 2. Underwater device which reflects acoustic radiation, used by submarines in the deception of acoustic listening devices and acoustic homing torpedoes. { ,dē,kōi }

decoy target [ORD] A device assembled from prefabricated materials, designed to simulate miscellaneous types of field equipment. { ,dē,kōi ,tār-gət }

decoy transponder [ELECTR] A transponder that returns a strong signal when triggered directly by a radar pulse, to produce large and misleading target signals on enemy radar screens. { ,dē,kōi tran,spān-dər }

decreasing function [MATH] A function, f , of a real variable, x , whose value gets smaller as x gets larger; that is, if $x < y$ then $f(x) > f(y)$. Also known as strictly decreasing function. { dī'krēs-īŋ ,fəŋk-shən }

decreasing sequence [MATH] A sequence of real numbers in which each term is less than the preceding term. { dī'krēs-īŋ 'sē-kwəns }

decrement [COMPUT SCI] 1. A specific part of an instruction word in some binary computers, thus a set of digits. 2. For a counter, to subtract 1 or some other number from the current value. [HYD] See groundwater discharge. [MATH] The quantity by which a variable is decreased. [PHYS] The ratio of the amplitudes of an underdamped harmonic motion during two successive oscillations. Also known as damping factor; numerical decrement. { ,dek-rə-mənt }

decremental arc [ASTRON] A crater arc in which the diameters of the craters decrease from one end of the arc to the other. { ,dek-rə'ment-əl 'ārک }

decremental chain [ASTRON] A crater chain in which the diameters of the craters decrease from one end of the chain to the other. { ,dek-rə'ment-əl ,chān }

decrement field [COMPUT SCI] That part of an instruction

Drilidae [INV ZOO] The false firefly beetles, a family of coleopteran insects in the superfamily Cantharoidea. { 'dril-ə,dē }

drill [ENG] A rotating-end cutting tool for creating or enlarging holes in a solid material. Also known as drill bit. [TEXT] Strong twilled carded cotton cloth. { 'dril }

drillability [ENG] Fitness for being drilled, denoting ease of penetration. { 'dril-ə'bil-əd-ē }

drill angle gage See drill grinding gage. { 'dril, aŋ-ˌgæl, ˌgāj }

drill bit See drill. { 'dril, bit }

drill cable [ENG] A cable used to pull up drill rods, casing, and other drilling equipment used in making a borehole. { 'dril, kâ-bəl }

drill capacity [MECH ENG] The length of drill rod of specified size that the hoist on a diamond or rotary drill can lift or that the brake can hold on a single line. { 'dril kə,pas-əd-ē }

drill carriage [MECH ENG] A platform or frame on which several rock drills are mounted and which moves along a track, for heavy drilling in large tunnels. Also known as jumbo. { 'dril, kar-ij }

drill chuck [DES ENG] A chuck for holding a drill or other cutting tool on a spindle. { 'dril, ˌʃək }

drill circuit [COMMUN] A telegraph circuit used only to practice sending and receiving. { 'dril, sər-ˌkət }

drill collar [DES ENG] A ring which holds a drill bit and gives it radial location with respect to a bearing. { 'dril, käl-ər }

drill column [MIN ENG] A steel pipe that can be wedged across an underground opening in a vertical or horizontal position to serve as a base on which to mount a diamond or rock drill. { 'dril, käl-əm }

drill cuttings [ENG] Cuttings of rock and other subterranean materials brought to the surface during the drilling of wellholes. { 'dril, kəd-ˌiŋz }

drill doctor [MIN ENG] 1. A person who services drill bits, tools, and steels. 2. A shop where the mechanic works. { 'dril, dāk-tər }

drill down [COMPUT SCI] In data mining, viewing data at a greater level of detail; for example, viewing individual sales as opposed to viewing total sales. { 'dril, ˌdaʊn }

drill drift [ENG] A steel wedge used to remove tapered shank tools from spindles, sockets, and sleeves. { 'dril, drift }

drilled caisson [CIV ENG] A drilled hole filled with concrete and lined with a cylindrical steel casing if needed. { 'drild 'käsən }

drilled extrusion ingot [MET] A hollow extrusion ingot made from a solid cast extrusion ingot by drilling. { 'drild ik'strü-zhən, ˌiŋ-ˌgət }

driller [ENG] A person who operates a drilling machine. [MECH ENG] See drilling machine. { 'dril-ər }

driller's method [PETRO ENG] A well-killing method that involves two circulations, one to circulate the formation fluids out of the well and the other to circulate heavier mud through the wellbore. { 'dril-ərz, meth-əd }

drill extractor [ENG] A tool for recovering broken drill pieces or a detached drill from a borehole. { 'dril ik, strak-tər }

drill feed [MECH ENG] The mechanism by which the drill bit is fed into the borehole during drilling. { 'dril, fēd }

drill fittings [ENG] All equipment used in a borehole during drilling. Also known as downhole equipment. { 'dril, ˌfid-ˌiŋz }

drill floor [ENG] A work area covered with planks around the collar of a borehole at the base of a drill tripod or derrick. { 'dril, flôr }

drill footage [ENG] The lineal feet of borehole drilled. { 'dril, fūd-ij }

drill gage [DES ENG] A thin, flat steel plate that has accurate holes for many sizes of drills; each hole, identified as to drill size, enables the diameter of a drill to be checked. [ENG] Diameter of a borehole. { 'dril, ˌgāj }

drill grinding gage [DES ENG] A tool that checks the angle and length of a twist drill while grinding it. Also known as drill angle gage; drill point gage. { 'dril, ˌgrind-ˌiŋ, ˌgāj }

drill hole [ENG] A hole created or enlarged by a drill or auger. Also known as borehole. { 'dril, hōl }

drill-hole logging See borehole logging. { 'dril, hōl 'læŋ-ˌiŋ }

drill-hole pattern [ENG] The number, position, angle, and depth of the shot holes forming the round in the face of a tunnel or sinking pit. { 'dril, hōl, pad-əm }

drill-hole survey See borehole survey. { 'dril, hōl, sər,vā }

drill-in [MIN ENG] The act or process of setting casting through overburden by using a drill machine. { 'dril, in }

drilling [ENG] The creation or enlarging of a hole in a solid material with a drill. { 'dril-ˌiŋ }

drilling break [PETRO ENG] An abrupt increase in the rate of penetration of the drill bit during a well-drilling operation. { 'dril-ˌiŋ, bræk }

drilling column [ENG] The column of drill rods, with the drill bit attached to the end. { 'dril-ˌiŋ, käl-əm }

drilling fluid See drilling mud. { 'dril-ˌiŋ, flü-əd }

drilling machine [MECH ENG] A device, usually motor-driven, fitted with an end cutting tool that is rotated with sufficient power either to create a hole or to enlarge an existing hole in a solid material. Also known as driller. { 'dril-ˌiŋ mə,shən }

drilling mud [MATER] A suspension of finely divided heavy material, such as bentonite and barite, pumped through the drill pipe during rotary drilling to seal off porous zones and flush out chippings, and to lubricate and cool the bit. Also known as drilling fluid. { 'dril-ˌiŋ, məd }

drilling platform [ENG] The structural base upon which the drill rig and associated equipment is mounted during the drilling operation. { 'dril-ˌiŋ, plat,fɔrm }

drilling rate [MECH ENG] The number of lineal feet drilled per unit of time. { 'dril-ˌiŋ, rät }

drilling time [ENG] 1. The time required in rotary drilling for the bit to penetrate a specified thickness (usually 1 foot) of rock. 2. The actual time the drill is operating. { 'dril-ˌiŋ, tīm }

drilling time log [ENG] Foot-by-foot record of how fast a formation is drilled. { 'dril-ˌiŋ, tīm, lɔg }

drill jig [MECH ENG] A device fastened to the work in repetition drilling to position and guide the drill. { 'dril, ˌjig }

drill jumbo [MIN ENG] A mobile carriage or platform fitted with mechanical arms upon which several drilling machines are mounted. { 'dril, ˌjəm-bō }

drill log [ENG] 1. A record of the events and features of the formations penetrated during boring. Also known as boring log. 2. A record of all occurrences during drilling that might help in a complete logging of the hole or in determining the cost of the drilling. { 'dril, lɔg }

drill out [ENG] 1. To complete one or more boreholes. 2. To penetrate or remove a borehole obstruction. 3. To locate and delineate the area of a subsurface ore body or of petroleum by a series of boreholes. { 'dril 'aʊt }

drill-over [ENG] The act or process of drilling around a casing lodged in a borehole. { 'dril, ˌō-vər }

drill pipe [MIN ENG] A pipe used for driving a revolving drill bit, used especially in drilling wells; consists of a casing within which tubing is run to conduct oil or gas to ground level; drilling mud flows in the annular space between casing and tubing during the drilling operation. { 'dril, pīp }

drill point gage See drill grinding gage. { 'dril, ˌpɔint, ˌgāj }

drill press [MECH ENG] A drilling machine in which a vertical drill moves into the work, which is stationary. { 'dril, ˌpres }

drill rod [ENG] The long rod that drives the drill bit in drilling boreholes. { 'dril, rəd }

drill runner [MIN ENG] A tunnel miner who operates rock drills. { 'dril, rən-ər }

drill sleeve [ENG] A tapered, hollow steel shaft designed to fit the tapered shank of a cutting tool to adapt it to the drill press spindle. { 'dril, slēv }

drill socket [ENG] An adapter to fit a tapered shank drill to a taper hole that is larger than that in the drill press spindle. { 'dril, sək-ət }

drill steel [MET] Steel with at least 0.85% carbon content made by the electric furnace process. Formerly known as crucible steel, when made by the crucible process. { 'dril, stēl }

drill stem See bent sub. { 'dril, stem }

drill-stem test [PETRO ENG] Bottom-hole pressure information obtained and used to determine formation productivity. { 'dril 'stem, test }

drill string [MECH ENG] The assemblage of drill rods, core barrel, and bit, or of drill rods, drill collars, and bit in a borehole, which is connected to and rotated by the drill collar of the borehole. { 'dril, strɪŋ }

drill up [COMPUT SCI] In data mining, viewing data in less

that reaches stream channels as runoff. Also known as effective rainfall. **2.** In irrigation, the portion of the precipitation which remains in the soil and is available for consumptive use. { ə'fek-tiv prə'sip-ə'tā-shən }

effective pressure See effective stress. { ə'fek-tiv 'presh-ər }

effective procedure [MATH] A procedure or process determined by a finite list of precise instructions. { i'fek-div prə'sē-jər }

effective radiated power [ELECTROMAG] The product of antenna input power and antenna power gain, expressed in kilowatts. Abbreviated ERP. { ə'fek-tiv 'rād-ē,əd-əd 'pau-ər }

effective radiation See effective terrestrial radiation. { ə'fek-tiv 'rād-ē'a-shən }

effective radius [ASTRON] The distance from the center of an external galaxy within which half its luminosity is included. [ORD] The radius of a circle having its center at the center of impact of a nuclear weapon, and within which a specified dosage of radiation is equal to or exceeded within a given period of time. { ə'fek-tiv 'rād-ē-as }

effective radius of the earth See effective earth radius. { ə'fek-tiv 'rād-ē-as əv ðə 'ə:θ }

effective rainfall See effective precipitation. { ə'fek-tiv 'rān,fəl }

effective rake [MECH ENG] The angular relationship between the plane of the tooth face of the cutter and the line through the tooth point measured in the direction of chip flow. { ə'fek-tiv 'rāk }

effective range [ORD] Distance at which a weapon may be expected to fire accurately to inflict damage or casualties. { ə'fek-tiv 'rānj }

effective resistance See high-frequency resistance. { ə'fek-tiv ri'zis-təns }

effective snowmelt [HYD] The part of snowmelt that reaches stream channels as runoff. { ə'fek-tiv 'snō,melt }

effective sound pressure [ACOUS] The root-mean-square value of the instantaneous sound pressure at a point during a complete cycle, expressed in dynes per square centimeter. Also known as root-mean-square sound pressure; sound pressure. { ə'fek-tiv 'saund 'presh-ər }

effective speed [COMPUT SCI] The actual speed that a computer system can sustain over a period of time when the time devoted to various control, error-detection, and other overhead activities is taken into account. { ə'fek-tiv 'spēd }

effective stress [GEOL] The average normal force per unit area transmitted directly from particle to particle of a rock or soil mass. Also known as effective pressure; intergranular pressure. { ə'fek-tiv 'stres }

effective surface [ENG] In a heat exchanger, a surface that actively transfers heat. { ə'fek-tiv 'sər-fas }

effective temperature [ASTROPHYS] A measure of the temperature of a star, deduced by means of the Stefan-Boltzmann law, from the total energy that is emitted per unit area. [METEOROL] The temperature at which motionless, saturated air would induce, in a sedentary worker wearing ordinary indoor clothing, the same sensation of comfort as that induced by the actual conditions of temperature, humidity, and air movement. [STAT MECH] That temperature which can be inserted in the Boltzmann distribution formula to describe the relative populations of two energy levels which may or may not be in thermal equilibrium. { ə'fek-tiv 'tem-prə-çər }

effective terrestrial radiation [GEOPHYS] The amount by which outgoing infrared terrestrial radiation of the earth's surface exceeds downcoming infrared counterradiation from the sky. Also known as effective radiation; nocturnal radiation. { ə'fek-tiv tər-ē's-trē-əl 'rād-ē'a-shən }

effective thermal resistance [ELECTR] Of a semiconductor device, the effective temperature rise per unit power dissipation of a designated junction above the temperature of a stated external reference point under conditions of thermal equilibrium. Also known as thermal resistance. { ə'fek-tiv 'θər-məl ri'zis-təns }

effective thrust [AERO ENG] In a rocket motor or engine, the theoretical thrust less the effects of incomplete combustion and friction flow in the nozzle. { ə'fek-tiv 'θrəst }

effective time [COMPUT SCI] The time during which computer equipment is in actual use and produces useful results. { ə'fek-tiv 'tīm }

effective transformation group [MATH] A transformation

group in which the identity element is the only element to leave all points fixed. { ə'fek-tiv ,tranz-fər'mā-shən ,grüp }

effective true airspeed [NAV] The effective air distance divided by the elapsed time between two pressure soundings. { ə'fek-tiv 'trū 'er,spēd }

effective value See root-mean-square value. { ə'fek-tiv 'val-yū }

effector [BIOCHEM] An activator of an allosteric enzyme. [CONT SYS] A motor, solenoid, or hydraulic piston that turns commands to a teleoperator into specific manipulatory actions. [PHYSIO] A structure that is sensitive to a stimulus and causes an organism or part of an organism to react to the stimulus, either positively or negatively. { ə'fek-tər }

effector organ [PHYSIO] Any muscle or gland that mediates overt behavior, that is, movement or secretion. { ə'fek-tər ,ōr-gən }

effector system [PHYSIO] A system of effector organs in the animal body. { ə'fek-tər ,sis-təm }

effluent [PHYSIO] Carrying or conducting away, as the duct of an exocrine gland or a nerve. { 'ef-ə-rənt }

effervescence [CHEM] The bubbling of a solution of an element or chemical compound as the result of the emission of gas without the application of heat; for example, the escape of carbon dioxide from carbonated water. { ,ef-ə-'ves-əns }

efficiency Abbreviated eff. [CHEM] In an ion-exchange system, a measurement of the effectiveness of a system expressed as the amount of regenerant required to remove a given unit of adsorbed material. [ENG] 1. Measure of the degree of heat output per unit of fuel when all available oxidizable materials in the fuel have been burned. 2. Ratio of useful energy provided by a dynamic system to the energy supplied to it during a specific period of operation. [NUCLEO] The probability that a count will be produced in a counter tube by a specified particle or quantum incident. [PHYS] The ratio, usually expressed as a percentage, of the useful power output to the power input of a device. [STAT] 1. An estimator is more efficient than another if it has a smaller variance. 2. An experimental design is more efficient than another if the same level of precision can be obtained in less time or with less cost. [THERMO] The ratio of the work done by a heat engine to the heat energy absorbed by it. Also known as thermal efficiency. { ə'fish-ən-sē }

efficiency expert [IND ENG] An individual who analyzes procedures, productivity, and jobs in order to recommend methods for achieving maximum utilization of resources and equipment. { ə'fish-ən-sē ,ek-spərt }

efficient estimator [STAT] A statistical estimator that has minimum variance. { ə'fish-ənt 'es-tə,mād-ər }

efflorescence [BOT] The period or process of flowering. [CHEM] The property of hydrated crystals to lose water of hydration and crumble when exposed to air. [MATER] A crust of salts, usually white, that forms on the surface of stone, brick, plaster, or mortar because of leaching of free alkalis from adjacent concrete or mortar. [MINERAL] A whitish powder, consisting of one or several minerals produced as an encrustation on the surface of a rock in an arid region. Also known as bloom. { ,ef-lə-'res-əns }

effluent [CHEM ENG] See discharge liquor. [CIV ENG] The liquid waste of sewage and industrial processing. [HYD] 1. Flowing outward or away from. 2. Liquid which flows away from a containing space or a main waterway. { ə'flū-ənt }

effluent stream [HYD] A stream that is fed by seeping groundwater. { ə'flū-ənt 'strēm }

effluent weir [CIV ENG] A dam at the outflow end of a watercourse. { ə'flū-ənt 'wer }

effluvium [IND ENG] By-products of food and chemical processes, in the form of wastes. { ə'flū-vē-əm }

efflux pump [CELL MOL] An active transport system for the removal of some antibiotics (such as tetracyclines, macrolides, and quinolones) from bacterial cells. { 'ē-fləks ,pəmp }

effort-controlled cycle [IND ENG] A work cycle which is performed entirely by hand or in which the hand time controls the place. Also known as manually controlled work. { 'ef-ərt kən'trəld ,sī-kəl }

effort rating [IND ENG] Assessing the level of manual effort expended by the operator, based on the observer's concept of normal effort, in order to adjust time-study data. Also known as pace rating; performance rating. { 'ef-ərt ,rād-ɪŋ }

firing mechanism [ENG] A mechanism for firing a primer; the primer may be for initiating the propelling charge, in which case the firing mechanism forms a part of the weapon; if the primer is for the purpose of initiating detonation of the main charge, the firing mechanism is a part of the ammunition item and performs the function of a fuse. { 'fir-ij ,mek-ə-niz-əm }

firing pin [ORD] A device used in the firing mechanism of a gun, mine, bomb, fuse, projectile, or the like, which strikes and detonates a sensitive explosive to initiate an explosive train or a propelling charge. { 'fir-ij ,pin }

firing point [ELECTR] See critical grid voltage. [ORD] Location from which fire is delivered in target practice. { 'fir-ij ,point }

firing position [ORD] Position of a weapon ready for firing. { 'fir-ij pə-zish-ən }

firing potential [ELECTR] Controlled potential at which conduction through a gas-filled tube begins. { 'fir-ij pə-ten-čəl }

firing pressure [MECH ENG] The highest pressure in an engine cylinder during combustion. { 'fir-ij ,presh-ər }

firing rate [MECH ENG] The rate at which fuel feed to a burner occurs, in terms of volume, heat units, or weight per unit time. { 'fir-ij ,rāt }

firing table [ORD] A table or chart giving data needed for firing a gun accurately on a target under standard conditions, and also the corrections that must be made for special conditions such as winds or variations of temperature. { 'fir-ij ,tā-bəl }

firing table elevation [ORD] The angle between the axis of the bore and the horizontal plane when the piece is laid to fire at a given range under conditions that are accepted as standard. { 'fir-ij ,tā-bəl el-ə-vā-shən }

firing time [ORD] The period of time during which a weapon is fired. { 'fir-ij ,tīm }

firmer chisel [DES ENG] A small hand chisel with a flat blade; used in woodworking. { 'fər-mər ,chiz-əl }

firming agent [FOOD ENG] A substance added prior to or during the processing of a foodstuff to protect and retain natural firmness. { 'fɪr-m-ɪŋ ,ə-jənt }

firm-joint caliper [DES ENG] An outside or inside caliper whose legs are jointed together at the top with a nut and which must be opened and closed by hand pressure. { 'fərm ,jɔɪnt 'kal-ə-pər }

firmoviscosity [MECH] Property of a substance in which the stress is equal to the sum of a term proportional to the substance's deformation, and a term proportional to its rate of deformation. { 'fər-mō-vis'kās-əd-ē }

firmware [COMPUT SCI] A computer program or instruction, such as a microprogram, used so often that it is stored in a read-only memory instead of being included in software; often used in computers that monitor production processes. { 'fərm ,wer }

firn [HYD] Material transitional between snow and glacier ice; it is formed from snow after existing through one summer melt season and becomes glacier ice when its permeability to liquid water drops to zero. Also known as firn snow. { 'fərn }

firn basin See firn field. { 'fərn ,bās-ən }

fir needle oil [MATER] An essential oil distilled from the needles and twigs of some trees of the genus *Abies*; used in perfumery, flavoring, and medicine. Also known as fir oil. { 'fər ,nēd-əl ,ɔɪl }

firn field [HYD] The accumulation area or upper region of a glacier where snow accumulates and firn is secreted. Also known as firn basin. { 'fərn ,fēld }

firn ice See iced firn. { 'fərn ,is }

firnification [HYD] The process of firn formation from snow and of transformation of firn into glacier ice. { 'fər-nə-fə'kā-shən }

firn limit See firn line. { 'fərn ,lɪm-ət }

firn line [GEOL] 1. The regional snow line on a glacier. 2. The line that divides the ablation area of a glacier from the accumulation area. Also known as firn limit. { 'fərn ,lɪn }

firn snow See firn; old snow. { 'fərn ,snō }

fir oil See fir needle oil. { 'fər ,ɔɪl }

first answer print [GRAPHICS] The motion picture composite print, with the mixed sound track and the optical effects. { 'fɜrst 'an-sər ,prɪnt }

first arrival [ENG] In exploration refraction seismology, the first seismic event recorded on a seismogram; it is noteworthy

in that only first arrivals are considered in this usage. { 'fɜrst ə'rɪ-vəl }

first bottom [GEOL] The floodplain of a river, below the first terrace. { 'fɜrst 'bɒd-əm }

first category [MATH] 1. A set is of first category if it is a countable union of nowhere dense sets. 2. A set S is of first category at a point x if there is a neighborhood of x whose intersection with S is of first category. { 'fɜrst 'kæd-ə-gôr-ē }

first-class current [PART PHYS] A weak-interaction current whose charge symmetry (or G parity) properties are the same as those of currents which arise in the Fermi theory of beta decay. { 'fɜrst ,klas 'kæ-rənt }

first cost [IND ENG] The sum of the initial expenditures involved in capitalizing a property; includes items such as transportation, installation, preparation for service, as well as other related costs. { 'fɜrst 'kɒst }

first countable topological space [MATH] A topological space in which every point has a countable number of open neighborhoods so that any neighborhood of this point contains one of these. { 'fɜrst 'kaʊnt-ə-bəl ,tɒp-ə-lɔj-ə-kəl 'spæs }

first-degree burn [MED] A mild burn characterized by pain and reddening of the skin. { 'fɜrst dɔjgrē 'bɜrn }

first derivative [MATH] The derivative of a function, considered as a function of the independent variable just as was the original function from which the derivative was taken. { 'fɜrst də'rɪv-əd-ɪv }

first derived curve See derived curve. { 'fɜrst də'rɪvd 'kɜrv }

first detector See mixer. { 'fɜrst dɪ'tekt-ər }

first estimate-second estimate method [NAV] The method of determining time of meridian transit (especially local apparent noon) for a moving craft; the time of transit is computed for an estimated longitude of the craft, and the longitude estimate is then revised to agree with the time determined by the first estimate, and a second computation is made; the process is repeated as many times as necessary to obtain an answer of the desired precision. { 'fɜrst ,es-tə-mət 'sek-ənd ,es-tə-mət ,meth-əd }

first filial generation [GEN] The first generation resulting from a cross between parents homozygous for different alleles at a locus; all members are heterozygous at the locus. Symbolized F_1 . { 'fɜrst 'fɪl-ē-əl ,jen-ə'rā-shən }

first fire [ENG] The igniter used with pyrotechnic devices, consisting of first fire composition, loaded in direct contact with the main pyrotechnic charge; the ignition of the igniter or first fire is generally accomplished by fuse action. { 'fɜrst 'fɪr }

first fire composition [MATER] A pyrotechnic composition (readily ignitable and easily pressed into a strong, solid mass), compounded to produce a high temperature, preferably with creation of slag to give heat capacity. { 'fɜrst 'fɪr ,kəm-pə'zɪsh-ən }

first Fresnel zone [ELECTROMAG] Circular portion of a wavefront transverse to the line between an emitter and a more distant point, where the resultant disturbance is being observed, whose center is the intersection of the front with the direct ray, and whose radius is such that the shortest path from the emitter through the periphery to the receiving point is one-half wavelength longer than the direct ray. { 'fɜrst frə'nel ,zɒn }

first-generation [COMPUT SCI] Denoting electronic hardware, logical organization, and software characteristic of a first-generation computer. { 'fɜrst ,jen-ə'rā-shən }

first-generation computer [COMPUT SCI] A computer from the earliest stage of computer development, ending in the early 1960s, characterized by the use of vacuum tubes, the performance of one operation at a time in strictly sequential fashion, and elementary software, usually including a program loader, simple utility routines, and an assembler to assist in program writing. { 'fɜrst ,jen-ə'rā-shən kəm'pyʊt-ər }

first gust [METEOROL] The sharp increase in wind speed often associated with the early mature stage of a thunderstorm cell; it occurs with the passage of the discontinuity zone which is the boundary of the cold-air downdraft. { 'fɜrst 'gʊst }

first harmonic See fundamental. { 'fɜrst hɑr'mɒn-ɪk }

first-in, first-out [IND ENG] An inventory cost evaluation method which transfers costs of material to the product in chronological order. Abbreviated FIFO. { 'fɜrst 'ɪn ,fɜrst 'aʊt }

first-item list [COMPUT SCI] A series of records that is

tubing made up of a string of interconnected tubing sections. { 'flō ,strɪŋ }

flow structure [GEOL.] A primary sedimentary structure due to underwater slump or flow. { 'flō ,strɪk-čər }

flow tank [PETRO ENG] A tank which receives oil from the well and where gas and water may be separated before the oil passes into a stock tank. ['flō ,tɒŋk]

flow texture [PETR.] A pattern of an igneous rock that is formed when the stream or flow lines of a once-molten material have a subparallel arrangement of prismatic or tabular crystals or microlites. Also known as fluidal texture. { 'flō ,teks-čər }

flow transmitter [ENG] A device used to measure the flow of liquids in pipelines and convert the results into proportional electric signals that can be transmitted to distant receivers or controllers. { 'flō trɒnz.mɪd-ər }

flow value [MATH] For a feasible flow on an *s-t* network, the outflow from the source. { 'flō ,væl-yū }

flow valve [ENG] A valve that closes itself when the flow of a fluid exceeds a particular value. { 'flō ,vɒlv }

flow velocity [GEOL.] In soil, a vector point function used to indicate rate and direction of movement of water through soil per unit of time, perpendicular to the direction of flow. { 'flō vɛl-əs-əd-ē }

flow visualization [ENG] Method of making visible the disturbances that occur in fluid flow, using the fact that light passing through a flow field of varying density exhibits refraction and a relative phase shift among different rays. { 'flō vɪz-ə-lə'zə:ʃən }

flow welding [MET] A welding process in which coalescence is produced by heating with molten filler metal, which is poured over the joint until the welding temperature is attained and the required amount of filler metal is added. { 'flō ,weld-ɪŋ }

floxuridine [PHARM] $C_9H_{11}FN_2O_5$. Crystals that melt at 150–151°C; used as an antiviral drug and as an inhibitor of deoxyribonucleic acid synthesis. Abbreviated FUDR. { 'flɒks-yūr-ə,dēn }

fl oz See fluid ounce.

fluctuating current [ELEC] Direct current that changes in value but not at a steady rate. { 'flʌk-čə,wɒd-ɪŋ 'kə-rənt }

fluctuation [OCEANOGR.] 1. Wavelike motion of water. 2. The variations of water-level height from mean sea level that are not due to tide-producing forces. [SCITECH] 1. Variation, especially back and forth between successive values in a series of observations. 2. Variation of data points about a smooth curve passing among them. { 'flʌk-čə'wɒ:ʃən }

fluctuation noise See random noise. { 'flʌk-čə'wɒ:ʃən ,noɪz }

fluctuation test [MICROBIO] A method of demonstrating that bacterial mutations preexist in a population before they are selected; a large parent population is divided into small parts which are grown independently and the number of mutants in each subculture determined; the number of mutants in the subculture will fluctuate because in some a mutant arises early (giving a large number of progeny), while in others the mutant arises late and gives few progeny. { 'flʌk-čə'wɒ:ʃən ,test }

fluctuation theory [OPTICS] The theory proposed by M. von Smoluchowski and A. Einstein which states that the scattering of light occurs in pure water because random molecular motion causes density variations which effect changes in the refraction of light. { 'flʌk-čə'wɒ:ʃən ,thē-ə-rē }

fluctuation velocity See eddy velocity. ['flʌk-čə'wɒ:ʃən vɛl-əs-əd-ē]

flue [ENG] A channel or passage for conveying combustion products from a furnace, boiler, or fireplace to or through a chimney. { 'flū }

flue dust [MET] Fine particles of metal or alloy emitted with the gases of a smelter or metallurgical furnace. { 'flū ,dɛst }

flue exhauster [ENG] A device installed as part of a vent in order to provide a positive induced draft. { 'flū ɪg,zɒs-tər }

flue gas [ENG] Gaseous combustion products from a furnace. { 'flū ,ɡas }

flue gas analyzer [ENG] A device that monitors the composition of the flue gas of a boiler heating unit to determine if the mixture of air and fuel is at the proper ratio for maximum heat output. { 'flū ,ɡas ,an-ə,lɪz-ər }

flue gas expander [MECH ENG] In a petroleum processing system, a turbine for recovering energy at the point where

combustion gases are discharged under pressure to the atmosphere; the reduction in pressure drives the turbine impeller. { 'flū ,ɡas ɪk'spænd-ər }

fluellite [MINERAL] $AlF_3 \cdot H_2O$ A colorless or white mineral composed of aluminum fluoride, occurring in crystals. { 'flū-ə,lɪt }

fluence [ELECTROMAG] The total energy per unit area carried by a pulse of electromagnetic radiation. [PHYS] A measure of time-integrated particle flux, expressed in particles per square centimeter. { 'flū-əns }

fluent aphasia [PSYCH] Aphasia in which the facility of articulation, grammatical organization, and rate of speech are well preserved, while the comprehension of language and word choice are most affected; typically caused by lesions posterior to the Rolandic fissure. { 'flū-ənt ə'fæ:ʒə }

flufenamic acid [PHARM] $C_{14}H_{10}F_3NO_2$ Pale yellow needles with a melting point of 125°C; used as an anti-inflammatory drug or analgesic. { 'flū-fə'nam-ɪk 'as-əd }

fluid [PHYS] An aggregate of matter in which the molecules are able to flow past each other without limit and without fracture planes forming. { 'flū-əd }

fluidal texture See flow texture. { 'flū-əd-əl 'teks-čər }

fluid amplifier [ENG] An amplifier in which all amplification is achieved by interaction between jets of fluid, with no electronic circuit and usually no moving parts. { 'flū-əd 'am-plə-fɪ-ər }

fluid-bed process [CHEM ENG] A type of process based on the tendency of finely divided powders to behave in a fluidlike manner when supported and moved by a rising gas or vapor stream; used mainly for catalytic cracking of petroleum distillates. { 'flū-əd 'bed 'præs-əs }

fluid catalyst [CHEM ENG] Finely divided solid particles utilized as a catalyst in a fluid-bed process. { 'flū-əd 'kæt-əl-ɪst }

fluid catalytic cracking [CHEM ENG] An oil refining process in which the gas-oil is cracked by a catalyst bed fluidized by using oil vapors. { 'flū-əd 'kæt-əl-ɪd-ɪk 'kræk-ɪŋ }

fluid clutch See fluid drive. { 'flū-əd 'klʌtʃ }

fluid coal [MATER] Pulverized coal that, when mixed with air, can be transported through pipes. { 'flū-əd 'kōl }

fluid coating [FL MECH] The operation of depositing a liquid film on a solid, due to a relative motion between them. { 'flū-əd ,kōd-ɪŋ }

fluid coefficient [PETRO ENG] A measure of the flow resistance to the leaking off of reservoir fracturing fluids into the formation during the fracturing operation. { 'flū-əd ,kō-ɪ'fɪʃ-ənt }

fluid coking [CHEM ENG] A thermal process utilizing the fluidized solids technique for continuous conversion of heavy, low-grade petroleum oils into petroleum coke and lighter hydrocarbon products. { 'flū-əd 'kōk-ɪŋ }

fluid-compressed [MET] Pertaining to steel that has been compressed while still fluid to remove gases and make the material more homogeneous. { 'flū-əd kəm'prest }

fluid computer [COMPUT SCI] A digital computer constructed entirely from air-powered fluid logic elements; it contains no moving parts and no electronic circuits; all logic functions are carried out by interaction between jets of air. { 'flū-əd kəm'pyüt-ər }

fluid contact [PETRO ENG] The site in a reservoir where there is gas-oil contact or oil-water contact. { 'flū-əd 'kən'takt }

fluid-controlled valve [MECH ENG] A valve for which the valve operator is activated by a fluid energy, in contrast to electrical, pneumatic, or manual energy. { 'flū-əd kən'trɒld 'vɒlv }

fluid coupling [MECH ENG] A device for transmitting rotation between shafts by means of the acceleration and deceleration of a fluid such as oil. Also known as hydraulic coupling. { 'flū-əd 'kʌp-ɪŋ }

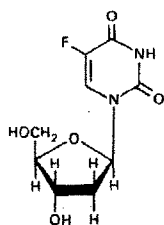
fluid density [FL MECH] The mass of a fluid per unit volume. { 'flū-əd 'den-səd-ē }

fluid die [MECH ENG] A die for shaping parts by liquid pressure; a plunger forces the liquid against the part to be shaped, making the part conform to the shape of a die. { 'flū-əd 'dɪ }

fluid distributor [ENG] Device for the controlled distribution of fluid feed to a process unit, such as a liquid-gas or liquid-solids contactor, reactor, mixer, burner, or heat exchanger; can be a simple perforated-pipe sparger, spray head, or such. { 'flū-əd dɪ'strib-yəd-ər }

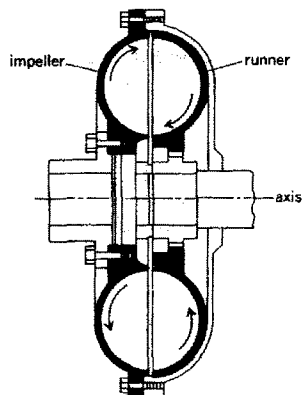
fluid dram [MECH] Abbreviated fl dr. 1. A unit of volume

FLOXURIDINE



Structural formula of floxuridine.

FLUID COUPLING



Basic fluid coupling. Fluid is contained in the impeller and the runner, both bladed rotors; the impeller acts as a pump and the runner reacts as a turbine.

incomplete beta function

incubator

1061

an additive to complete the agglutination. { ,in-kəm,plēt 'ant-i,bād-ē }

incomplete beta function [MATH] The function $\beta_x(p,q)$ defined by

$$\beta_x(p,q) = \int_0^x t^{p-1} (1-t)^{q-1} dt$$

where $0 \leq x \leq 1$, $p > 0$, and $q > 0$. { ,in-kəm'plēt 'bād-ə ,fəŋk-shən }

incomplete combustion [CHEM] Combustion in which oxidation of the fuel is incomplete. { ,in-kəm'plēt kəm'bəs-shən }

incomplete dominance [GEN] Expression of alleles such that the phenotype of the heterozygote is intermediate between that of the two homozygotes. { ,in-kəm,plēt 'dām-ən-əns }

incomplete flower [BOT] A flower lacking one or more modified leaves, such as petals, sepals, pistils, or stamens. { ,in-kəm'plēt 'flaʊ-ər }

incomplete fusion See deep inelastic collision. { ,in-kəm'plēt 'fyū-zhən }

incomplete gamma function [MATH] Either of the functions $\gamma(a,x)$ and $\Gamma(a,x)$ defined by

$$\gamma(a,x) = \int_0^x t^{a-1} e^{-t} dt$$

$$\Gamma(a,x) = \int_x^\infty t^{a-1} e^{-t} dt$$

where $0 \leq x \leq \infty$ and $a > 0$. { ,in-kəm'plēt 'gam-ə ,fəŋk-shən }

incomplete Latin square See Yonden square. { ,in-kəm,plēt 'lat-ən 'skwer }

incomplete lubrication [MECH ENG] Lubrication that takes place when the load on the rubbing surfaces is carried partly by a fluid viscous film and partly by areas of boundary lubrication; friction is intermediate between that of fluid and boundary lubrication. { ,in-kəm'plēt ,lū-brə'kā-shən }

incompressibility [MECH] Quality of a substance which maintains its original volume under increased pressure. { ,in-kəm,pre's-ə'bil-əd-ē }

incompressibility condition [FL MECH] The condition prevailing when the time rate of change of the density of a fluid is zero; this is a valid assumption for most problems in dynamic oceanography. { ,in-kəm,pre's-ə'bil-əd-ē kən,dish-ən }

incompressible flow [FL MECH] Fluid motion without any change in density. { ,in-kəm'pre's-ə-bal 'flō }

incompressible fluid [FL MECH] A fluid which is not reduced in volume by an increase in pressure. { ,in-kəm'pre's-ə-bal 'flū-əd }

incongruous [GEOL] Of a drag fold, having an axis and axial surface not parallel to the axis and axial surface of the main fold to which it is related. { in'kəŋ-grū-əs }

inconsistent axioms [MATH] A set of axioms from which both a proposition and its negation can be deduced. { ,in-kən,sis-tənt 'ak-sē-əmz }

inconsistent equations See incompatible equations. { ,in-kən'sis-tənt i'kwā-zhənz }

inconsistent inequalities See incompatible inequalities. { ,in-kən'sis-tənt ,in-ə'kwāl-əd-ēz }

incontinence [MED] Inability to control the natural evacuations, as the feces or the urine; specifically, involuntary evacuation from organic causes. { in'kənt-ən-əns }

incorporate [COMPUT SCI] To place in storage. { in'kōr-pə,rāt }

incrassate [BIOL] State of being swollen or thickened. { in'kra,sāt }

increaser [ENG] An adapter for connecting a small-diameter pipe to a larger-diameter pipe. { in'krēs-ər }

increasing function [MATH] A function, f , of a real variable, x , whose value gets larger as x gets larger; that is, if $x < y$, then $f(x) < f(y)$. Also known as strictly increasing function. { in'krēs-ig ,fəŋk-shən }

increasing sequence [MATH] A sequence of real numbers in which each term is greater than the preceding term. { in'krēs-ig 'sē-kwəns }

increment [ANALY CHEM] An individual portion of material

of a group of samples collected by a single operation of a sampling device from parts of a lot that are separated in time or space. [HYD] See recharge. [MATH] A change in the argument or values of a function, usually restricted to being a small positive or negative quantity. [SCI TECH] A small change in the value of a variable. { ,in-krə'mənt }

incremental compiler [COMPUT SCI] A compiler that generates code for a statement, or group of statements, which is independent of the code generated for other statements. { ,in-krə'ment-əl kəm'pīl-ər }

incremental computer [COMPUT SCI] A special-purpose computer designed to process changes in variables as well as absolute values; for instance, a digital differential analyzer. { ,in-krə'ment-əl kəm'pyūd-ər }

incremental cost [IND ENG] 1. The difference between the costs and the revenues between two alternative procedures. 2. The cost of the last unit produced at a given level of production. { ,in-krə'ment-əl 'kōst }

incremental digital recorder [COMPUT SCI] Magnetic tape recorder in which the tape advances across the recording head step by step, as in a punched-paper-tape recorder; used for recording an irregular flow of data economically and reliably. { ,in-krə'ment-əl ,dij-əd-əl ri'kōrd-ər }

incremental dump tape [COMPUT SCI] A safety technique used in time-sharing which consists in copying all files (created or modified by a user during a day) on a magnetic tape; in case of system failure, the file storage can then be reconstructed. Also known as failsafe tape. { ,in-krə'ment-əl 'dɒmp ,tæp }

incremental frequency shift [COMMUN] Method of superimposing incremental intelligence on another intelligence by shifting the center frequency of an oscillator a predetermined amount. { ,in-krə'ment-əl 'frē-kwəns-ē ,shift }

incremental hysteresis loss [ELECTROMAG] Hysteresis loss when a magnetic material is subjected to a pulsating magnetizing force. { ,in-krə'ment-əl ,his-tə're-səs ,lɒs }

incremental induction [ELECTROMAG] The quantity lying between the highest and lowest value of a magnetic induction at a point in a polarized material, when subjected to a small cycle of magnetization. { ,in-krə'ment-əl in'dak-shən }

incremental mode [COMPUT SCI] The plotting of a curve on a cathode-ray tube by illuminating a fixed number of points at a time. { ,in-krə'ment-əl ,mɒd }

incremental permeability [ELECTROMAG] The ratio of a small cyclic change in magnetic induction to the corresponding cyclic change in magnetizing force when the average magnetic induction is greater than zero. { ,in-krə'ment-əl ,pə-mē-ə'bil-əd-ē }

incremental printer [GRAPHICS] A printer, such as a computer-controlled electric typewriter, that prints sequentially, character by character, on each line. { ,in-krə'ment-əl 'prɪnt-ər }

incremental representation [COMPUT SCI] A way of representing variables used in incremental computers, in which changes in the variables are represented instead of the values of the variables themselves. { ,in-krə'ment-əl ,rep-rə-sən'tā-shən }

increment borer [FOR] An augerlike instrument with a hollow bit, used to extract thin radial cylinders of wood from trees to determine age and growth rate. { ,in-krə'mənt ,bɔr-ər }

incretion [PHYSIO] An internal secretion. { in'krē-shən }

incross [GEN] Mating between individuals from the same inbred line. { 'in,kros }

incubation [CHEM] Maintenance of chemical mixtures at specified temperatures for varying time periods to study chemical reactions, such as enzyme activity. [MED] The phase of an infectious disease process between infection by the pathogen and appearance of symptoms. [VERT ZOO] The act or process of brooding. { ,in-kyə'bā-shən }

incubation period [MED] The period of time required for the development of symptoms of a disease after infection, or of altered reactivity after exposure to an allergen. [VERT ZOO] The brooding period required to bring an egg to hatching. { ,in-kyə'bā-shən ,pɪr-ē-əd }

incubator [AGR] A device for the artificial hatching of eggs. [MED] A small chamber with controlled oxygen, temperature, and humidity for newborn infants requiring special care. [MICROBIO] A laboratory cabinet with controlled temperature for the cultivation of bacteria, or for facilitating biologic tests. { ,in-kyə,bād-ər }

mean stress

square of the velocities of a group of particles, such as the molecules of a gas. { 'mɛn 'skwə və 'lās əd ə }

mean stress [MECH] 1. The algebraic mean of the maximum and minimum values of a periodically varying stress. 2. See octahedral normal stress. { 'mɛn 'stres }

mean sun [ASTRON] A fictitious sun conceived to move eastward along the celestial equator at a rate that provides a uniform measure of time equal to the average apparent time; used as a reference for reckoning time, such as mean time or zone time. { 'mɛn 'sʌn }

mean temperature [METEOROL] The average temperature of the air as indicated by a properly exposed thermometer during a given time period, usually a day, month, or year. { 'mɛn 'tem prə tʃər }

mean temperature difference [CHEM ENG] In heat exchange calculations, a pseudo average temperature difference between the warmer and colder fluids at inlet and outlet conditions. { 'mɛn 'tem prə tʃər ,dɪf rəns }

mean terms [MATH] The second and third terms of a proportion. { 'mɛn 'tɜrmz }

Meantes [VERT ZOO] The mud eels, a small suborder of the Urodela including three species of aquatic eellike salamanders with only anterior limbs. { mɛ 'an ,jɛz }

mean tide See half tide. { 'mɛn 'tɪd }

mean tide level [OCEANOGR] The tide level halfway between mean high water and mean low water. { 'mɛn 'tɪd ,lev əl }

mean time [ASTRON] Time based on the rotation of the earth relative to the mean sun. { 'mɛn 'tɪm }

mean time between failures [COMPUT SCI] A measure of the reliability of a computer system, equal to average operating time of equipment between failures, as calculated on a statistical basis from the known failure rates of various components of the system. Abbreviated MTBF. { 'mɛn 'tɪm bi,twɛn 'fæl jənz }

mean-time screw [HOROL] A screw in a watch balance, used to regulate precisely the speed of oscillation. { 'mɛn ,tɪm ,skrʊ }

mean time to failure [ENG] A measure of reliability of a piece of equipment, giving the average time before the first failure. { 'mɛn 'tɪm tə 'fæl jər }

mean time to repair [ENG] A measure of reliability of a piece of repairable equipment, giving the average time between repairs. { 'mɛn 'tɪm tə rɪ 'per }

mean-tone scale [ACOUS] A musical scale formed by giving the major third a ratio of exactly 5:4 and adapting other intervals to equalize them. { 'mɛn 'tɒn ,skāl }

mean trajectory [MECH] The trajectory of a missile that passes through the center of impact or center of burst. { 'mɛn trə 'jek trɛ }

mean value [MATH] 1. For a function $f(x)$ defined on an interval (a,b) , the integral from a to b of $f(x) dx$ divided by $b - a$. 2. See mean. { 'mɛn 'væl yū }

mean value theorem [MATH] The proposition that, if a function $f(x)$ is continuous on the closed interval $[a,b]$ and differentiable on the open interval (a,b) , then there exists x_0 , $a < x_0 < b$, such that $f(b) - f(a) = (b - a)f'(x_0)$. Also known as first law of the mean; Lagrange's formula; law of the mean. { 'mɛn 'væl yū ,θɪr əm }

mean velocity [PHYS] The average value of the velocities of a group of particles, such as the molecules of a gas. { 'mɛn və 'lās əd ə }

mean water level [OCEANOGR] The average surface level of a body of water. { 'mɛn 'wɔd ə ,lev əl }

measles [MED] An acute, highly infectious viral disease with cough, fever, and maculopapular rash; the appearance of Koplik spots on the oral mucous membranes marks the onset. Also known as rubella. { 'mɛz əlz }

measles encephalitis [MED] Acute disseminated encephalitis following measles. { 'mɛz əlz ɪn ,sef ə 'lɪd əs }

measles immune globulin [IMMUNOL] Sterile human globulin used to provide passive immunization against measles. { 'mɛz əlz ɪ 'mju:n 'glɒb yə lən }

measles virus vaccine [IMMUNOL] A suspension of live attenuated or inactivated measles virus used for active immunization against measles. { 'mɛz əlz 'vɪ rəs ,væk sən }

measly [FOOD ENG] Of meat, containing larval tapeworms. [MED] Infected with measles. { 'mɛz əl }

measurable function [MATH] 1. A real valued function f defined on a measurable space X , where for every real number

measuring machine

1299

a all those points x in X for which $f(x) \geq a$ form a measurable set. 2. A function on a measurable space to a measurable space such that the inverse image of a measurable set is a measurable set. { 'mez h-rə bəl 'fæŋk shən }

measurable set [MATH] A member of the sigma-algebra of subsets of a measurable space. { 'mez h-rə bəl 'set }

measurable space [MATH] A set together with a sigma-algebra of subsets of this set. { 'mez h-rə bəl 'spæs }

measurand transmitter [COMMUN] A telemetry transmitter that transmits a signal modulated according to the values of the quantity being measured. { 'mez h-ə ,rænd tranz ,mɪd ə r }

measure [MATH] A nonnegative real valued function m defined on a sigma-algebra of subsets of a set S whose value is zero on the empty set, and whose value on a countable union of disjoint sets is the sum of its values on each set. { 'mez h-ər }

measured daywork [IND ENG] Work done for an hourly wage on which specific productivity levels have been determined but which provides no incentive pay. { 'mez h-ərd 'dɛ ,wɜrk }

measured drawing [ARCH] An architectural representation drawn to the scale of an existing building. { 'mez h-ərd 'drɔ:ɪŋ }

measured drilling depth [ENG] The apparent depth of a borehole as measured along its longitudinal axis. { 'mez h-ərd 'drɪl:ɪŋ ,depth }

measured mile [CIV ENG] The distance of 1 mile (1609.344 meters), the units of which have been accurately measured and marked. [NAV] A length of 1 nautical mile (1852 meters), the limits of which have been accurately measured and are indicated by ranges ashore; used by vessels to calibrate logs, engine revolution counters, and such, and to determine speed. { 'mez h-ərd 'mɪl }

measured ore See developed reserves. { 'mez h-ərd 'ɔr }

measured relieving capacity [DES ENG] The measured amounts of fluid which can be exhausted through a relief device at its rated operating pressure. { 'mez h-ərd rɪ 'lev:ɪŋ kə ,pas əd ə }

measured service [COMMUN] Telephone service for which charge is made according to the measured amount of usage. { 'mez h-ərd 'sɜ:vəs }

measured spectrum See spectrogram. { 'mez h-ərd 'spek trəm }

measured work [IND ENG] Work, operations, or cycles for which a standard has been set. { 'mez h-ərd 'wɜrk }

measurement [SCI TECH] The process of determining the value of some quantity in terms of a standard unit. { 'mez h-ər mənt }

measurement ton See ton. { 'mez h-ər mənt ,tən }

measure of location [STAT] A statistic, such as the mean, median, quartile, or mode; it has the property for the mean that if a constant is added to each value the same constant must also be added to the location measure. { 'mez h-ər əv lə 'kæ shən }

measure-preserving transformation [MATH] A transformation T of a measure space S into itself such that if E is a measurable subset of S then so is $T^{-1}E$ (the set of points mapped into E by T) and the measure of $T^{-1}E$ is then equal to that of E . { 'mez h-ər prɪ 'zɜ:v-ɪŋ ,tranz fər 'mæ shən }

measure space [MATH] A set together with a sigma-algebra of subsets of the set and a measure defined on this sigma-algebra. { 'mez h-ər ,spæs }

measure theory [MATH] The study of measures and their applications, particularly the integration of mathematical functions. { 'mez h-ər ,θɪ ə 'rɛ }

measure zero [MATH] 1. A set has measure zero if it is measurable and the measure of it is zero. 2. A subset of Euclidean n -dimensional space which has the property that for any positive number ϵ there is a covering of the set by n -dimensional rectangles such that the sum of the volumes of the rectangles is less than ϵ . { 'mez h-ər ,zɪr ə }

measuring chute [MIN ENG] An ore bin or coal bin installed adjacent to the shaft bottom in skip winding and having a capacity equal to that of the skip used; ensures rapid, correct loading of skips without spillage. Also known as measuring pocket. { 'mez h-ərɪŋ ,ʃʊt }

measuring day [MIN ENG] The day when work is measured and recorded for assessing the wages. { 'mez h-ərɪŋ ,dɛ }

measuring machine [ENG] A device in which an astronomical photographic plate is viewed through a fixed low-power

operate time

experiences. Also known as instrumental conditioning; reinforcement conditioning. { 'äp-ä-ränt kən'dish-ä-niŋ }

operate time [COMPUT SCI] The phase of computer operation when an instruction is being carried out. [ELEC] Total elapsed time from application of energizing current to a relay coil to the time the contacts have opened or closed. { 'äp-ä-rät ,tīm }

operating angle [ELECTR] Electrical angle of the input signal (for example, portion of a cycle) during which plate current flows in a vacuum tube amplifier. { 'äp-ä-räd-iŋ ,aŋ-gəl }

operating characteristic curve [STAT] In hypothesis testing, a plot of the probability of accepting the hypothesis against the true state of nature. Abbreviated OC curve. { 'äp-ä-räd-iŋ ,kärik-tä-ris-tik 'kärv }

operating delay [COMPUT SCI] Computer time lost because of mistakes or inefficiency of operating personnel or users of the system, excluding time lost because of defects in programs or data. { 'äp-ä-räd-iŋ di,lä }

operating handle [ORD] Handle or bar with which the operating lever of a gun is operated to open and close the breech. { 'äp-ä-räd-iŋ ,han-dəl }

operating instructions [COMPUT SCI] A detailed description of the actions that must be carried out by a computer operator in running a program or group of interrelated programs, usually included in the documentation of a program supplied by a programmer or systems analyst, along with the source program and flow charts. { 'äp-ä-räd-iŋ in,stri:k-shənz }

operating lever [ORD] Lever device on a gun with which the breech is opened and closed. { 'äp-ä-räd-iŋ ,lev-ər }

operating line [CHEM ENG] In the graphical solution of equilibrium processes (such as distillation absorption extraction), the actual liquid-vapor relationship of a key component, in contrast to a true equilibrium relationship. { 'äp-ä-räd-iŋ ,lin }

operating point [ELECTR] Point on a family of characteristic curves of a vacuum tube or transistor where the coordinates of the point represent the instantaneous values of the electrode voltages and currents for the operating conditions under study or consideration. { 'äp-ä-räd-iŋ ,pɔint }

operating position [COMMUN] Terminal of a communications channel which is attended by an operator; usually the term refers to a single operator, such as a radio operator's position or a telephone operator's position; however, certain terminals may require more than one operating position. { 'äp-ä-räd-iŋ pə,zish-ən }

operating power [ELECTROMAG] Power that is actually supplied to a radio transmitter antenna. { 'äp-ä-räd-iŋ ,paú-ər }

operating pressure [ENG] The system pressure at which a process is operating. { 'äp-ä-räd-iŋ ,presh-ər }

operating range [ELECTR] The frequency range over which a reversible transducer is operable. [NAV] The maximum distance at which reliable service is provided by an aid to navigation. { 'äp-ä-räd-iŋ ,ræŋj }

operating ratio [COMPUT SCI] The time during which computer hardware operates and gives reliable results divided by the total time scheduled for computer operation. { 'äp-ä-räd-iŋ ,rät-shö }

operating slide [ORD] Mechanism in a Browning machine gun that permits opening the breech for loading, unloading, and clearing out stoppages, and closing the breech for firing. { 'äp-ä-räd-iŋ ,slid }

operating stress [MECH] The stress to which a structural unit is subjected in service. { 'äp-ä-räd-iŋ ,stres }

operating system [COMPUT SCI] A set of programs and routines which guides a computer or network in the performance of its tasks, assists the programs (and programmers) with certain supporting functions, and increases the usefulness of the computer or network hardware. { 'äp-ä-räd-iŋ ,sis-təm }

operating system supervisor [COMPUT SCI] The control program of a set of programs which guide a computer in the performance of its tasks and which assist the program with certain supporting functions. { 'äp-ä-räd-iŋ ,sis-təm 'sü-pər,viz-ər }

operating water level [MECH ENG] The water level in a boiler drum which is normally maintained above the lowest safe level. { 'äp-ä-räd-iŋ 'wöd-ər ,lev-əl }

operation [COMPUT SCI] 1. A process or procedure that obtains a unique result from any permissible combination of operands. 2. The sequence of actions resulting from the execution of one digital computer instruction. [IND ENG] A job,

operation process chart

1479

usually performed in one location, and consisting of one or more work elements. [MATH] An operation of a group G on a set S is a mapping which associates to each ordered pair (g,s) , where g is in G and s is in S , another element in S , denoted gs , such that, for any g,h in G and s in S , $(gh)s = g(hs)$, and $es = s$, where e is the identity element of G . { 'äp-ä-rä-shən }

operational [ENG] Of equipment such as aircraft or vehicles, being in such a state of repair as to be immediately usable. { 'äp-ä-rä-shən-əl }

operational advantage [NAV] In air operations, an improvement which benefits the users of an instrument procedure, such as the ability to use lower minimums. { 'äp-ä-rä-shən-əl əd'væn-tij }

operational amplifier [ELECTR] An amplifier having high direct-current stability and high immunity to oscillation, generally achieved by using a large amount of negative feedback; used to perform analog-computer functions such as summing and integrating. { 'äp-ä-rä-shən-əl 'am-plə-fi-ər }

operational analysis See operational calculus. { 'äp-ä-rä-shən-əl ə'nal-ə-səs }

operational calculus [MATH] A technique by which problems in analysis, in particular differential equations, are transformed into algebraic problems, usually the problem of solving a polynomial equation. Also known as operational analysis. { 'äp-ä-rä-shən-əl 'kal-kyə-ləs }

operational game See management game. { 'äp-ä-rä-shən-əl 'gām }

operational label [COMPUT SCI] A combination of letters and digits at the beginning of the tape which uniquely identify the tape required by the system. { 'äp-ä-rä-shən-əl 'lä-bəl }

operational maintenance [ENG] The cleaning, servicing, preservation, lubrication, inspection, and adjustment of equipment; it includes that minor replacement of parts not requiring high technical skill, internal alignment, or special locative training. { 'äp-ä-rä-shən-əl 'mænt-ən-əns }

operational standby program [COMPUT SCI] The program operating in the standby computer when in the duplex mode of operation. { 'äp-ä-rä-shən-əl 'stand,bɪ ,prō,gram }

operational unit [GEOL] An arbitrary stratigraphic unit that is distinguished by objective criteria for some practical purpose. Also known as parastratigraphic unit. { 'äp-ä-rä-shən-əl 'yü-nät }

operational weather limits [METEOROL] The limiting values of ceiling, visibility, and wind, or runway visual range, established as safety minima for aircraft landings and takeoffs. { 'äp-ä-rä-shən-əl 'weth-ər ,lim-əts }

operation analysis [IND ENG] An analysis of all procedures concerned with the design or improvement of production, the purpose of the operation, inspection standards, materials used and the manner of handling them, the setup, tool equipment, and working conditions and methods. { 'äp-ä-rä-shən ə'nal-ə-səs }

operation analysis chart [IND ENG] A form that lists all the essential factors influencing the effectiveness of an operation. { 'äp-ä-rä-shən ə'nal-ə-səs ,chärt }

operation breakdown See job breakdown. { 'äp-ä-rä-shən 'bräk,däün }

operation code [COMPUT SCI] A field or portion of a digital computer instruction that indicates which action is to be performed by the computer. Also known as command code. { 'äp-ä-rä-shən ,kōd }

operation cycle [COMPUT SCI] The portion of a memory cycle required to perform an operation; division and multiplication usually require more than one memory cycle to be completed. { 'äp-ä-rä-shən ,si-kəl }

operation decoder [COMPUT SCI] A device that examines the operation contained in an instruction of a computer program and sends signals to the circuits required to carry out the operation. { 'äp-ä-rä-shən də'kōd-ər }

operation number [COMPUT SCI] 1. Number designating the position of an operation, or its equivalent subroutine, in the sequence of operations composing a routine. 2. Number identifying each step in a program stated in symbolic code. { 'äp-ä-rä-shən ,nəm-bər }

operation part [COMPUT SCI] That portion of a digital computer instruction which is reserved for the operation code. { 'äp-ä-rä-shən ,pärt }

operation process chart [IND ENG] A graphic representation that gives an overall view of an entire process, including

outlet box

power can be obtained by inserting the plug of a line cord. Also known as convenience receptacle; electric outlet; receptacle. { 'aüt,let }

outlet box [ELEC] A box at which lines in an electric wiring system terminate, so that electric appliances or fixtures may be connected. { 'aüt,let ,bäks }

outlet glacier [HYD] A stream of ice from an ice cap to the sea. { 'aüt,let ,glä-shär }

outlet head [HYD] The place where water leaves a lake and enters an effluent. { 'aüt,let ,hed }

outlet ventilator See louver. { 'aüt,let 'vent-äl,äd-är }

outlier [GEOL] A group of rocks separated from the main mass and surrounded by outcrops of older rocks. [STAT] In a set of data, a value so far removed from other values in the distribution that its presence cannot be attributed to the random combination of chance causes. { 'aüt,li-är }

outline font See scalable font. { 'aüt,lin ,fänt }

outline map [MAP] A map that presents minimal geographic information, usually only coastlines, principal streams, major civil boundaries, and large cities, leaving as much space as possible for the addition of specific data. { 'aüt,lin ,map }

outline processor [COMPUT SCI] A software system that organizes notes in ordinary English into an outline that serves as the basis for a document. { 'aüt,lin ,prä,ses-är }

out-of-line coding [COMPUT SCI] Instructions in a routine that are stored in a different part of computer storage from the rest of the instructions. { 'aüt av 'lin 'köd-ing }

out of phase [PHYS] Having waveforms that are of the same frequency but do not pass through corresponding values at the same instant. { 'aüt av 'fäz }

out-of-service jack [ELEC] Jack associated with a test jack which removes the circuit from service when a shorted plug is inserted. { 'aüt av 'sär-väs 'jak }

outpatient [MED] A patient who comes to the hospital or clinic for diagnosis and treatment but who does not occupy a bed in the institution. { 'aüt,pä-shänt }

out-plant system [COMPUT SCI] A data-processing system that has one or more remote terminals from which information is transmitted to a central computer. { 'aüt ,plant ,sis-təm }

output [COMPUT SCI] 1. The data produced by a data-processing operation, or the information that is the objective or goal in data processing. 2. The data actively transmitted from within the computer to an external device, or onto a permanent recording medium (paper, microfilm). 3. The activity of transmitting the generated information. 4. The readable storage medium upon which generated data are written, as in hard-copy output. [ELECTR] 1. The current, voltage, power, driving force, or information which a circuit or device delivers. 2. Terminals or other places where a circuit or device can deliver current, voltage, power, driving force, or information. [SCI TECH] The product of a system. { 'aüt,püt }

output area [COMPUT SCI] A part of storage that has been reserved for output data. Also known as output block. { 'aüt ,püt ,er-ä-ä }

output block [COMPUT SCI] 1. A portion of the internal storage of a computer that is reserved for receiving, processing, and transmitting data to be transferred out. 2. See output area. { 'aüt,püt ,bläk }

output-bound computer [COMPUT SCI] A computer that is slowed down by its output functions. { 'aüt,püt ,baünd kəm,pyüd-är }

output bus driver [ELECTR] A device that power-amplifies output signals from a computer to allow them to drive heavy circuit loads. { 'aüt,püt 'bäs ,driv-är }

output capacitance [ELECTR] Of an n -terminal electron tube, the short-circuit transfer capacitance between the output terminal and all other terminals, except the input terminal, connected together. { 'aüt,püt kə,päs-äd-əns }

output class [COMPUT SCI] An indicator of the priority of output from a computer that determines the order in which it is printed from a spool file. { 'aüt,püt ,klas }

output device See output unit. { 'aüt,püt di,vīs }

output gap [ELECTR] An interaction gap by means of which usable power can be abstracted from an electron stream in a microwave tube. { 'aüt,püt ,gap }

output impedance [ELECTR] The impedance presented by a source to a load. { 'aüt,püt im,péd-əns }

output indicator [ENG] A meter or other device that is connected to a radio receiver to indicate variations in output signal

strength for alignment and other purposes, without indicating the exact value of output. { 'aüt,püt ,in-də,käd-är }

output-limited [ENG] Restricted by the need to await completion of an output operation, as in process control or data processing. { 'aüt,püt ,lim-äd-äd }

output link [COMMUN] The last link in a communications chain. { 'aüt,püt ,līnk }

output meter [ENG] An alternating-current voltmeter connected to the output of a receiver or amplifier to measure output signal strength in volume units or decibels. { 'aüt,püt ,mēd-är }

output-meter adapter [ENG] Device that can be slipped over the plate prong of the output tube of a radio receiver to provide a conventional terminal to which an output meter can be connected during alignment. { 'aüt,püt ,mēd-är ə,dap-tär }

output monitor interrupt [COMPUT SCI] A data-processing step in which control is passed to the monitor to determine the precedence order for two requests having the same priority level. { 'aüt,püt ,man-äd-är 'int-ə,rəpt }

output power [ELEC] Power delivered by a system or transducer to its load. { 'aüt,püt ,pau-är }

output program See output routine. { 'aüt,püt ,prö,gram }

output rating See carrier power output rating. { 'aüt,püt ,räd-ing }

output record [COMPUT SCI] 1. A unit of data that has been transcribed from a computer to an external medium or device. 2. The unit of data that is currently held in the output area of a computer before being transcribed to an external medium or device. { 'aüt,püt ,rek-örd }

output resistance [ELECTR] The resistance across the output terminals of a circuit or device. { 'aüt,püt ri,zis-təns }

output routine [COMPUT SCI] A series of computer instructions which organizes and directs all operations associated with the transcription of data from a computer to various media and external devices by various types of output equipment. Also known as output program. { 'aüt,püt rü,tēn }

output shaft [MECH ENG] The shaft that transfers motion from the prime mover to the driven machines. { 'aüt,püt ,shaft }

output stage [ELECTR] The final stage in any electronic equipment. { 'aüt,püt ,stāj }

output standard See standard time. { 'aüt,püt ,stan-därd }

output transformer [ELECTR] The iron-core audio-frequency transformer used to match the output stage of a radio receiver or an amplifier to its loudspeaker or other load. { 'aüt ,püt tranz,för-mär }

output tube [ELECTR] Power-amplifier tube designed for use in an output stage. { 'aüt,püt ,tüb }

output unit [COMPUT SCI] In computers, a unit which delivers information from the computer to an external device or from internal storage to external storage. { 'aüt,püt ,yü-nät }

output winding [ELECTROMAG] Of a saturable reactor, a winding, other than a feedback winding, which is associated with the load, and through which power is delivered to the load. { 'aüt,püt ,wind-ing }

output word [COMPUT SCI] Any running word into which an input word is to be translated. { 'aüt,püt ,wörd }

outrigger [ENG] A steel beam or lattice girder extending from a crane to provide stability by widening the base. { 'aüt,rīg-är }

outside air temperature See indicated air temperature. { 'aüt,sid 'er ,tem-prə-char }

outside caliper [DES ENG] A caliper having two curved legs which point toward each other; used for measuring outside dimensions of a workpiece. { 'aüt,sid 'kal-ə-pär }

outside diameter [DES ENG] The outer diameter of a pipe, including the wall thickness; usually measured with calipers. Abbreviated OD. { 'aüt,sid di'am-äd-är }

outside extension [COMMUN] Telephone extension on premises separated from the main station. { 'aüt,sid ik'sten-chən }

outside fix [NAV] The fix position determined by the method of bisectors when the lines of position result from observations of objects or celestial bodies lying within a 180° arc of the horizon. { 'aüt,sid 'fiks }

outside strake [NAV ARCH] The outer strake of an in-and-out system of shell plating; a strake which laps on the inner strake and which is the thickness of the plating outside the molded frame line. { 'aüt,sid 'sträk }

outside strake

1503

OUTSIDE CALIPER



Drawing of outside caliper.

pressure point [PHYSIO] A point of marked sensibility to pressure or weight, arranged like the temperature spots, and showing a specific end apparatus arranged in a punctate manner and connected with the pressure sense. { 'presh·ər pɔɪnt }

pressure process [CHEM ENG] Treatment of timber to prevent decay by forcing a preservative such as creosote and zinc chloride into the cells of the wood. { 'presh·ər prə'səs }

pressure radius [PETRO ENG] The effective radius of increased reservoir pressure surrounding a water-injection well. { 'presh·ər rād·ē'səs }

pressure rating [ENG] The operating (allowable) internal pressure of a vessel, tank, or piping used to hold or transport liquids or gases. { 'presh·ər rād·ɪŋ }

pressure-regulating valve [ENG] A valve that releases or holds process-system pressure (that is, opens or closes) either by preset spring tension or by actuation by a valve controller to assume any desired position between full open and full closed. { 'presh·ər reg·yə,lād·ɪŋ ,vəlv }

pressure regulator [ENG] Open-close device used on the vent of a closed, gas-pressured system to maintain the system pressure within a specified range. { 'presh·ər reg·yə,lād·ər }

pressure release [GEOPHYS] The outward-expanding force of pressure which is released within rock masses by unloading, as by erosion of superincumbent rocks or by removal of glacial ice. { 'presh·ər ri,lēs }

pressure-release jointing [GEOL] Exfoliation that occurs in once deeply buried rock that erosion has brought nearer the surface, thus releasing its confining pressure. { 'presh·ər ri'lēs jɔɪnt·ɪŋ }

pressure relief [ENG] A valve or other mechanical device (such as a rupture disk) that eliminates system overpressure by allowing the controlled or emergency escape of liquid or gas from a pressured system. { 'presh·ər ri,lēf }

pressure-relief device [MECH ENG] 1. In pressure vessels, a device designed to open in a controlled manner to prevent the internal pressure of a component or system from increasing beyond a specified value, that is, a safety valve. 2. A spring-loaded machine part which will yield, or deflect, when a predetermined force is exceeded. { 'presh·ər ri,lēf dɪ,vɪs }

pressure-relief valve [MECH ENG] A valve which relieves pressure beyond a specified limit and recloses upon return to normal operating conditions. { 'presh·ər ri,lēf ,vəlv }

pressure resistance [FL MECH] In fluid dynamics, a normal stress caused by acceleration of the fluid, which results in a decrease in pressure from the upstream to the downstream side of an object acting perpendicular to the boundary. Also known as pressure drag. { 'presh·ər ri,zɪs'təns }

pressure-retaining member [MECH ENG] That part of a pressure-relieving device loaded by the restrained pressurized fluid. { 'presh·ər ri'tān·ɪŋ ,mem·bər }

pressure ridge [GEOL] 1. A seismic feature resulting from transverse pressure and shortening of the land surface. 2. An elongate upward movement of the congealing crust of a lava flow. 3. A ridge of glacier ice. [OCEANOGR] A ridge or wall of hummocks where one ice floe has been pressed against another. { 'presh·ər ,rɪd }

pressure ring [MIN ENG] A ring about a large excavated area, evidenced by distortion of the openings near the main excavation. { 'presh·ər ,rɪŋ }

pressure-rise center [METEOROL] A point of maximum increase in atmospheric pressure over a specified interval of time; on synoptic charts, a point of maximum positive pressure tendency. Also known as anallobaric center; center of rises; isallobaric high; isallobaric maximum. { 'presh·ər rɪz ,sen·tər }

pressure roll [ENG] In plastics-extrusion coating, the roll that with the chill roll applies pressure to the substrate and the molten extruded web. { 'presh·ər ,rɒl }

pressure seal [ENG] A seal used to make pressure-proof the interface (contacting surfaces) between two parts that have frequent or continual relative rotational or translational motion. { 'presh·ər ,sɛl }

pressure-sensitive adhesive [MATER] An adhesive that develops maximum bonding power when applied by a light pressure only. { 'presh·ər sen·səd·ɪv əd'hē·sɪv }

pressure-sensitive paint [FL MECH] A flow visualization technique in which ultraviolet light is used to excite specific molecules in a special paint affixed to a test surface positioned in a wind tunnel flow. The resulting phosphorescence of these

molecules indicates the amount of oxygen in contact with the paint and, thereby, the spatial distribution of surface pressure. { 'presh·ər sen·səd·ɪv 'pānt }

pressure shadow [PETR] In structural petrology, an area adjoining a porphyroblast, characterized by a growth fabric rather than a deformation fabric, as seen in a section perpendicular to the *b* axis of the fabric. Also known as pressure fringe; strain shadow. { 'presh·ər ,shad·ə }

pressure shift [SPECT] An increase in the wavelength at which a spectral line has maximum intensity, which takes place when pressure is increased. { 'presh·ər ,ʃɪft }

pressure solution [PETR] In a sedimentary rock, solution occurring preferentially at the grain boundary surfaces. Also known as pressolution. { 'presh·ər sə,lú·shən }

pressure-stabilized [AERO ENG] Referring to membrane-type structures that require internal pressure for maintenance of a stable structure. { 'presh·ər 'stā·bə,lɪzd }

pressure still [CHEM ENG] A continuous-flow, petroleum-refinery still in which heated oil (liquid and vapor) is kept under pressure so that it will crack (decompose into smaller molecules) to produce lower-boiling products (pressure distillate or pressure naphtha). { 'presh·ər ,stɪl }

pressure storage [ENG] The storage of a volatile liquid or liquefied gas under pressure to prevent evaporation. { 'presh·ər ,stɔr·ɪd }

pressure suit [AERO ENG] A garment designed to provide pressure upon the body so that respiratory and circulatory functions may continue normally, or nearly so, under low-pressure conditions such as occur at high altitudes or in space without benefit of a pressurized cabin. { 'presh·ər ,sɪt }

pressure suppression See vapor suppression. { 'presh·ər sə,presh·ən }

pressure surface See potentiometric surface. { 'presh·ər ,sər·fəs }

pressure-surface map See potentiometric map. { 'presh·ər ,sər·fəs ,map }

pressure survey [MIN ENG] A study to determine the pressure distribution or pressure losses along consecutive lengths or sections of a ventilation circuit. [PETRO ENG] The measurement of static bottomhole pressures in an oil field with producing wells shut in for a time interval sufficient for reservoir pressure buildup to stabilize. { 'presh·ər ,sər·və }

pressure switch [ELEC] A switch that is actuated by a change in pressure of a gas or liquid. { 'presh·ər ,swɪtʃ }

pressure system [ENG] Any system of pipes, vessels, tanks, reactors, and other equipment, or interconnections thereof, operating with an internal pressure greater than atmospheric. [METEOROL] An individual cyclonic-scale feature of atmospheric circulation, commonly used to denote either a high or a low, less frequently a ridge or a trough. { 'presh·ər ,sɪs·təm }

pressure tank [CHEM ENG] A pressurized tank into which timber is inserted for impregnation with preservative. [CIV ENG] An airtight water tank in which air is compressed to exert pressure on the water and which is used in connection with a water distribution system. { 'presh·ər ,tæŋk }

pressure tap [ENG] A small perpendicular hole in the wall of a pressurized, fluid-containing pipe or vessel; used for connection of pressure-sensitive elements for the measurement of static pressures. Also known as piezometer opening; static pressure tap. { 'presh·ər ,tæp }

pressure tendency [METEOROL] The character and amount of atmospheric pressure change for a 3-hour or other specified period ending at the time of observation. Also known as barometric tendency. { 'presh·ər ,ten·dən·sē }

pressure-tendency chart See pressure-change chart. { 'presh·ər ,ten·dən·sē ,çɑrt }

pressure tensor [PL PHYS] A tensor which plays a role in magnetohydrodynamics analogous to that of the pressure in ordinary fluid mechanics. { 'presh·ər ,ten·sər }

pressure thrust [AERO ENG] In rocketry, the product of the cross-sectional area of the exhaust jet leaving the nozzle exit and the difference between the exhaust pressure and the ambient pressure. { 'presh·ər ,θrəst }

pressure topography See height pattern. { 'presh·ər tɒ,pə·grə·fə }

pressure transducer [ENG] An instrument component that detects a fluid pressure and produces an electrical signal related to the pressure. Also known as electrical pressure transducer. { 'presh·ər tranz,dü·sər }

processor-limited

producing reserves

1677

of a computer program because a parity check indicates an error in a word that has been transferred to or within the central processing unit. { 'prä,ses-ər | ər-ər | int-ə, rəpt }

processor-limited [COMPUT SCI] Property of a computer system whose processing time is determined by the speed of its central processing unit rather than by the speed of its peripheral equipment. Also known as process-limited. { 'prä,ses-ər | lim-əd-əd }

processor-memory-switch notation See PMS notation. { 'prä,ses-ər | mem-rē | swich nō,tā-shən }

processor stack pointer [COMPUT SCI] A programmable register used to access all temporary-storage words related to an interrupt-service routine which was halted when a new service routine was called in. { 'prä,ses-ər | stak | point-ər }

processor status word [COMPUT SCI] A word comprising a set of flag bits and the interrupt-mask status. { 'prä,ses-ər | stad-əs | wərd }

process piping [ENG] In an industrial facility, pipework whose function is to convey the materials used for the manufacturing processes. { 'prä,ses | pip-ig }

process planning [IND ENG] Determining the conditions necessary to convert material from one state to another. { 'prä,ses | plan-ig }

process printing [GRAPHICS] The printing from a series of two or more halftone plates to produce intermediate colors and shades. { 'prä,ses | print-ig }

process reengineering [SYS ENG] The study, capture, and modification of the internal mechanisms or functionality of an existing process or systems-engineering life cycle in order to reconstitute it in a new form and with new functional and nonfunctional features, often to take advantage of newly emerged or desired organizational or technological capabilities without changing the inherent purpose of the process that is being reengineered. { 'prä'ses | rē, en-jo | nīr-ig }

process research [SCI TECH] Applied research with a new or improved process in view. { 'prä,ses | ri, sərç }

process schizophrenia [PSYCH] Schizophrenia having a slow, insidious onset; the person exhibits poor adjustment before hospitalization. { 'prä,ses | skit-sə'frē-nē-ə }

process sequencing [IND ENG] Specification of the appropriate order for the processes required to manufacture a part. { 'prä,ses | sē-kwəns-ig }

process simulation [COMPUT SCI] The use of computer programming, computer vision, and feedback to simulate manufacturing techniques. { 'prä,ses | sim-yə,lā-shən }

process time [IND ENG] 1. Time needed for completion of the machine-controlled portion of a work cycle. 2. Time required for completion of an entire process. { 'prä,ses | tīm }

process variable [CHEM ENG] Any of those varying operational and physical conditions associated with a chemical processing operation, such as temperature, pressure, flowrate, density, pH, viscosity, or chemical composition. { 'prä,ses | ver-ē-ə-bəl }

prochirality [ORG CHEM] The property displayed by a molecule or atom which contains (or is bonded to) two constitutionally identical ligands; Also known as prostereoisomerism. { 'prō-kī'ral-əd-ē }

PROC LIB See procedure library. { 'präk,lib }

procoagulant [BIOCHEM] Any of blood clotting factors V to VIII; accelerates the conversion of prothrombin to thrombin in the presence of thromboplastin and calcium. { 'prō-kō'ag-yə-lənt }

Procoela [VERT ZOO] A suborder of the Anura characterized by a procoelous vertebral column and a free coccyx articulating with a double condyle. { 'prō'sel-ə }

procoelous [VERT ZOO] The form of a vertebra that is concave anteriorly and convex posteriorly. { 'prō'sel-əs }

procollagen [BIOCHEM] A high-molecular-weight form of collagen that is found in intracellular spaces and is believed to be the precursor of collagen. { 'prō'käl-ə-jən }

Procolophonia [PALEON] A subclass of extinct cotylosaurian reptiles. { 'präk-ə-lə'fō-nē-ə }

proctiger [INV ZOO] The cone-shaped, reduced terminal segment of the abdomen of an insect which contains the anus. { 'präk-tə-jər }

proctitis [MED] Inflammation of the anus or rectum. { 'präk'tid-əs }

proctodone [INV ZOO] An insect hormone that causes diapause to end. { 'präk-tə,dōn }

proctology [MED] A branch of medicine concerned with the structure and disease of the anus, rectum, and sigmoid colon. { 'präk'täl-ə-jē }

proctoscope [MED] An instrument for inspecting the anal canal and rectum. { 'präk-tə,sköp }

proctosigmoidectomy [MED] The abdominoperineal excision of the anus and rectosigmoid, usually with the formation of an abdominal colostomy. { 'präk-tō,sig,mōi'dek-tə-mē }

Proctotrupidae [INV ZOO] A family of hymenopteran insects in the superfamily Proctotrupoidea. { 'präk-tə'trū-pə,dē }

Proctotrupoidea [INV ZOO] A superfamily of parasitic Hymenoptera in the suborder Apocrita. { 'präk-tə-trə'pōid-ē-ə }

procumbent [BOT] Having stems that lie flat on the ground but do not root at the nodes. [SCI TECH] 1. Lying stretched out. 2. Slanting forward. 3. Lying face down. { 'prō 'kəm-bənt }

procurement [ORD] 1. The complete action or process of acquiring or obtaining personnel, materiel, services, or property from outside a military service by means authorized in pertinent directives. 2. More specifically, the action or process of acquiring or obtaining materiel, property, or services at the operational level, for example, purchasing, contracting, and negotiating directly with the source of supply. { 'prə'kyūr-mənt }

procurement lead time [ORD] The time elapsing between the initiation of procurement action and the receipt into the supply system of the materiel procured. { 'prə'kyūr-mənt 'led,tīm }

Procyon [ASTRON] A star of magnitude 0.3, of spectral type F5, and 11 light-years (1.04×10^{17} meters) from earth; one of a binary. Also known as α Canis Minoris. { 'prō'sē,än }

Procyonidae [VERT ZOO] A family of carnivoran mammals in the superfamily Canoidea, including raccoons and their allies. { 'prō'sē'än-ə,dē }

prod See test prod. { 'präd }

prod cast [GEOL] The cast of a prod mark. Also known as impact cast. { 'präd,kast }

prodelta [GEOL] The part of a delta lying beyond the delta front, and sloping gently down to the basin floor of the delta; it is entirely below the water level. { 'prō,del-tə }

prodelta clay [GEOL] Fine sand, silt, and clay transported by the river and deposited on the floor of a sea or lake beyond the main body of a delta. { 'prō,del-tə,klä }

Prodinoceratinae [PALEON] A subfamily of extinct herbivorous mammals in the family Untatheriidae; animals possessed a carnivorelike body of moderate size. { 'präd-ən-ō-sə'rat-ən,ē }

prod mark [GEOL] A short tool mark oriented parallel to the current and gradually deepening downcurrent. Also known as impact mark. { 'präd,märk }

prodrome [MED] 1. An early or premonitory manifestation of impending disease before the specific symptoms begin. 2. An aura. { 'prō,drōm }

prodrug [PHYSIOL] An inactive precursor of a drug that is activated via the body's metabolism. { 'prō,drəg }

producer [ECOL] An autotrophic organism of the ecosystem; any of the green plants. { 'prə'dü-sər }

producer gas [MATER] Fuel gas high in carbon monoxide and hydrogen, produced by burning a solid fuel with a deficiency of air or by passing a mixture of air and steam through a bed of incandescent fuel; used as a cheap, low-Btu industrial fuel. { 'prə'dü-sər,gas }

producer's risk [IND ENG] The probability that in an acceptance sampling plan, material of an acceptable quality level will be rejected. { 'prə'dü-sərz'risk }

producing gas-oil ratio [PETRO ENG] The ratio of gas to oil (GOR, or gas-oil ratio) from a producing well; an increase in GOR is a danger signal in the efficient control of reservoir performance. { 'prə'düs-ig 'gas 'oil 'rā-shō }

producing horizon [PETRO ENG] A reservoir bed within the stratigraphic series of an oil province from which gas or liquid hydrocarbons can be obtained by drilling a well. { 'prə'düs-ig hō,riz-ən }

producing reserves [PETRO ENG] Developed (proved) petroleum reserves to be produced by existing wells in that portion of a reservoir subjected to full-scale secondary-recovery operations. { 'prə'düs-ig ri,zərvz }

PROCUMBENT



The procumbent stem of purslane.

ratchet

ratchet [DES ENG] A wheel, usually toothed, operating with a catch or a pawl so as to rotate in only a single direction. { 'rach-ət }

ratchet coupling [MECH ENG] A coupling between two shafts that uses a ratchet to allow the driven shaft to be turned in one direction only, and also to permit the driven shaft to overrun the driving shaft. { 'rach-ət ,kəp-lɪŋ }

ratchet jack [DES ENG] A jack operated by a ratchet mechanism. { 'rach-ət jak }

ratchet tool [DES ENG] A tool in which torque or force is applied in one direction only by means of a ratchet. { 'rach-ət ,tʊl }

rat distillate [CHEM ENG] A refinery designation for gasoline and other fuels as they come from the condenser, before undesirable substances are removed by further processing. { 'ræt ,dɪst-əl-ət }

rate [SCI TECH] The amount of change of some quantity during a time interval divided by the length of the time interval. { 'ræt }

rate action *See* derivative action. { 'ræt ,ək-ʃən }

Rateau formula [FL MECH] A formula, $m = A_2 p_1 (16.367 - 0.96 \log p_1) / 1000$, for determining the discharge m of saturated steam in pounds per second through a well-rounded convergent orifice; A_2 is the area of the orifice in square inches, and p_1 the reservoir pressure in pounds per square inch. { 'ræt-ə ,fɔr-myə-lə }

rate climb [AERO ENG] The climb of an aircraft to higher altitudes at a constant rate. { 'ræt ,klɪm }

rate constant [PHYS CHEM] Numerical constant in a rate-of-reaction equation; for example, $r_A = k C_A^a C_B^b$, where C_A , C_B , and C_C are reactant concentrations, k is the rate constant (specific reaction rate constant), and a , b , and c are empirical constants. { 'ræt ,kæn-stənt }

rate control [CONT SYS] A form of control in which the position of a controller determines the rate or velocity of motion of a controlled object. Also known as velocity control. { 'ræt kən-trɒl }

rated capacity [MECH ENG] The maximum capacity for which a boiler is designed, measured in pounds of steam per hour delivered at specified conditions of pressure and temperature. { 'ræt-əd kə'pas-əd-ē }

rated engine speed [MECH ENG] The rotative speed of an engine specified as the allowable maximum for continuous reliable performance. { 'ræt-əd 'en-jən ,spɛd }

rate descent [AERO ENG] An aircraft descent from higher altitudes at a constant rate. { 'ræt dɪ-sent }

rate-determining step [CHEM] In a multistep chemical reaction, the step with the lowest velocity, which determines the rate of the overall reaction. { 'ræt dɪ'tɜr-mən-ɪŋ ,step }

rated flow [ENG] 1. Normal operating flow rate at which a fluid product is passed through a vessel or piping system. 2. Flow rate for which a vessel or process system is designed. { 'ræt-əd 'flə }

rated horsepower [MECH ENG] The normal maximum, allowable, continuous power output of an engine, turbine motor, or other prime mover. { 'ræt-əd 'hɔrs,pau-ər }

rated load [MECH ENG] The maximum load a machine is designed to carry. { 'ræt-əd 'ləd }

rated relieving capacity [DES ENG] The measured relieving capacity for which the pressure relief device is rated in accordance with the applicable code or standard. { 'ræt-əd rɪ'li:v-ɪŋ kə'pas-əd-ē }

rated speed [COMPUT SCI] The maximum operating speed that can be sustained by a data-processing device or communications line, not allowing for periodic pauses for various reasons such as carriage return on a printer. { 'ræt-əd 'spɛd }

rate effect [ELECTR] The phenomenon of a *pnpn* device switching to a high-conduction mode when anode voltage is applied suddenly or when high-frequency transients exist. { 'ræt i,fekt }

rate feedback [ELECTR] The return of a signal, proportional to the rate of change of the output of a device, from the output to the input. { 'ræt 'fɛd,bæk }

rate-grown transistor [ELECTR] A junction transistor in which both impurities (such as gallium and antimony) are placed in the melt at the same time and the temperature is suddenly raised and lowered to produce the alternate *p*-type and *n*-type layers of rate-grown junctions. Also known as graded-junction transistor. { 'ræt 'grɒn tran'zɪs-tər }

rate gyroscope [MECH ENG] A gyroscope that is suspended in just one gimbal whose bearings form its output axis and which is restrained by a spring; rotation of the gyroscope frame about an axis perpendicular to both spin and output axes produces precession of the gimbal within the bearings proportional to the rate of rotation. { 'ræt 'dʒɪ-rə'skɒp }

rate integrating gyroscope [MECH ENG] A single-degree-of-freedom gyro having primarily viscous restraint of its spin axis about the output axis; an output signal is produced by gimbal angular displacement, relative to the base, which is proportional to the integral of the angular rate of the base about the input axis. { 'ræt ɪnt-ə'grəd-ɪŋ 'dʒɪ-rə'skɒp }

rate meter *See* counting rate meter. { 'ræt ,mɛd-ər }

rate multiplier [COMPUT SCI] An integrator in which the quantity to be integrated is held in a register and is added to the number standing in an accumulator in response to pulses which arrive at a constant rate. { 'ræt ,mʌl-tɪ-plɪ-ər }

rate of approach [AERO ENG] The relative speed of two aircraft when the distance between them is decreasing. { 'ræt əv ə'prəʊʃ }

rate of change *See* derivative. { 'ræt əv 'tʃeɪŋ }

rate-of-change map [GEOL] A derived stratigraphic map that shows the rate of change of structure, thickness, or composition of a given stratigraphic unit. { 'ræt əv 'tʃeɪŋ ,map }

rate of change of acceleration [MECH] Time rate of change of acceleration; this rate is a factor in the design of some items of ammunition that undergo large accelerations. { 'ræt əv 'tʃeɪŋ əv ɪk'sel-ə'reɪ-ʃən }

rate of climb [AERO ENG] Ascent of aircraft per unit time, usually expressed as feet per minute. { 'ræt əv 'klɪm }

rate-of-climb indicator [AERO ENG] A device used to indicate changes in the vertical position of an aircraft by comparing the actual outside air pressure to a reference volume that lags the outside pressure because a calibrated restrictor imposes a lag-time constant to the reference pressure volume. Also known as rate-of-descent indicator; vertical speed indicator. { 'ræt əv 'klɪm ɪn-də,kæd-ər }

rate of departure [AERO ENG] The relative speed of two aircraft when the distance between them is increasing. { 'ræt əv dɪ'pɑr-tʃər }

rate-of-descent indicator *See* rate-of-climb indicator. { 'ræt əv dɪ'sent ɪn-də,kæd-ər }

rate of detonation [ORD] Rate at which detonation of an explosive progresses; usually expressed in meters or yards per second. { 'ræt əv ,det-ən-ə'shən }

rate of flow *See* flow rate. { 'ræt əv 'flə }

rate-of-flow control valve *See* flow control valve. { 'ræt əv 'flə kən-trɒl ,vɒlv }

rate-of-rainfall gage *See* rain-intensity gage. { 'ræt əv 'ræn ,fɒl ,gæj }

rate of reaction [CHEM] A measurement based on the mass of reactant consumed in a chemical reaction during a given period of time. { 'ræt əv rɪ'æk-ʃən }

rate of return [AERO ENG] Aircraft relative to its base, either fixed or moving. { 'ræt əv rɪ'tɜrn }

rate of rise [ENG] The time rate of pressure increase during an isolation test for leaks. { 'ræt əv 'rɪz }

rate of sedimentation [GEOL] The amount of sediment accumulated in an aquatic environment over a given period of time, usually expressed as thickness of accumulation per unit time. Also known as sedimentation rate. { 'ræt əv ,sed-ə-mən-tə'shən }

rate of strain hardening [MET] Rate of change of true stress with respect to true strain in the plastic range. Also known as modulus of strain hardening. { 'ræt əv 'stræn 'hɑrd-ən-ɪŋ }

rate process [PHYS] Any process in which the derivatives with respect to time of one or more variables, evaluated at any given time t_0 , depend on the values of the variables at time t_0 and possibly at times earlier than t_0 . { 'ræt ,prə'ses }

rate receiver [ELECTROMAG] A guidance antenna that receives a signal from a launched missile as to its rate of speed. { 'ræt rɪ,sɛ-vər }

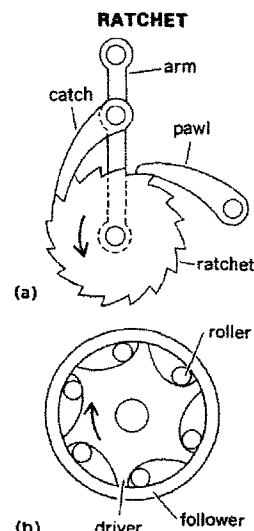
rate response [ENG] Quantitative expression of the output rate of a control system as a function of its input signal. { 'ræt rɪ,spsns }

rate servomechanism *See* velocity servomechanism. { 'ræt 'sɜ:v-ə'mek-ə,nɪz-əm }

rate test [COMPUT SCI] A test that verifies that the time

rate test

1751



Ratchet mechanisms. (a) Toothed ratchet is driven in direction of arrow by catch when arm moves to left; pawl holds ratchet during return stroke of catch. (b) In roller ratchet, rollers become wedged between driver and follower when driver turns faster than follower in direction of arrow.

regulating reservoir

Reinartz crystal oscillator

1779

splits to cause air to flow into the splits of high resistance. { 'reg-yə,ləd-əd 'split }

regulating reservoir [CIV ENG] A reservoir that regulates the flow in a water-distributing system. { 'reg-yə,ləd-ɪŋ 'rez-əv,wär }

regulating rod [NUCLEO] A control rod intended to accomplish rapid, fine, and sometimes continuous adjustment of the reactivity of a nuclear reactor; it usually can move much more rapidly than a shim rod but makes a smaller change in reactivity. { 'reg-yə,ləd-ɪŋ ,rəd }

regulating station [ORD] A command agency established to control all movements of personnel and supplies into or out of a given area. { 'reg-yə,ləd-ɪŋ ,stā-shən }

regulating system See automatic control system. { 'reg-yə,ləd-ɪŋ ,sis-təm }

regulating transformer [ELEC] Transformer having one or more windings excited from the system circuit or a separate source and one or more windings connected in series with the system circuit for adjusting the voltage or the phase relation or both in steps, usually without interrupting the load. { 'reg-yə,ləd-ɪŋ ,tranz,för-mər }

regulating winding [ELEC] Of a transformer, a supplementary winding connected in series with one of the main windings to change the ratio of transformation or the phase relation, or both, between circuits. { 'reg-yə,ləd-ɪŋ ,wɪnd-ɪŋ }

regulation [CONT SYS] The process of holding constant a quantity such as speed, temperature, voltage, or position by means of an electronic or other system that automatically corrects errors by feeding back into the system the condition being regulated; regulation thus is based on feedback, whereas control is not. [ELEC] The change in output voltage that occurs between no load and full load in a transformer, generator, or other source. [ELECTR] The difference between the maximum and minimum tube voltage drops within a specified range of anode current in a gas tube. { ,reg-yə'lā-shən }

regulation of constant-current transformer [ELEC] Maximum departure of the secondary current from its rated value expressed in percent of the rated secondary current, with rated primary voltage and frequency applied. { ,reg-yə'lā-shən əv 'kän-stənt 'kə-rənt ,tranz,för-mər }

regulative egg [EMBRYO] An egg in which unfertilized fragments develop as complete, normal individuals. { 'reg-yə,ləd-iv 'eg }

regulator [CONT SYS] A device that maintains a desired quantity at a predetermined value or varies it according to a predetermined plan. [MIN ENG] An opening in a wall or door in the return airway of a district to increase its resistance and reduce the volume of air flowing. { 'reg-yə,ləd-ər }

regulator gene [GEN] A gene that controls the rate of transcription of one or more other genes. { 'reg-yə,ləd-ər ,jēn }

regulator pin [HOROL] A pin in a watch to adjust the effective length of the hairspring and thereby adjust the speed of the watch. { 'reg-yə,ləd-ər ,pin }

regulator problem See linear regulator problem. { 'reg-yə,ləd-ər ,prəb-ləm }

regulatory control function [CONT SYS] That level in the functional decomposition of a large-scale control system which interfaces with the plant to implement the decisions of the optimizing controller inputted in the form of set points, desired trajectories, or targets. Also known as direct control function. { 'reg-yə-lə,tör-ē ,kən'tröl ,fəŋk-shən }

regulatory sequence [CELL MOL] A sequence of deoxyribonucleic acid to which gene regulatory proteins bind to control the rate of transcription. { 'reg-yə-lə,tör-ē ,sē-kwəns }

regulatory site [BIOCHEM] A site on an enzyme, other than the active site, at which certain molecules bind, thereby affecting the enzyme's activity. { 'reg-yə-lə,tör-ē ,sit }

regulon [GEN] In bacteria, a system of genes, formed by one or more operons, which regulate enzyme induction and whose activity is controlled by a single repressor substance. { 'reg-yə,län }

regulus [MET] Impure metal formed beneath the slag during smelting or reduction of ores. { 'reg-yə-ləs }

Regulus [ASTRON] A star of stellar magnitude 1.34, about 67 light-years from the sun, spectral classification B8, in the constellation Leo; the star α Leonis. Also known as Little Ruler. [ORD] A United States surface-to-surface, jet-powered guided missile; it is equipped with a nuclear warhead,

and launched from a surfaced submarine or a cruiser. { 'reg-yə-ləs }

regur [GEOL] One of a group of calcareous, intrazonal soils characterized by dark color and a high clay content. Also known as black cotton soil. { 'reg-ər }

regurgitation [MED] Reverse circulation of blood in the heart due to defective functioning of the valves. [PHYSIO] Bringing back into the mouth undigested food from the stomach. { ,ri,gər-'jə-tā-shən }

rehabilitation [MED] The restoration to a disabled individual of maximum independence commensurate with his limitations by developing his residual capacity. { ,rē-ə,bil-ə'tā-shən }

rehabilitation engineering [ENG] The use of technology to make disabled persons as independent as possible by providing assistive devices to compensate for disability. { ,rē-ə,bil-ə'tā-shən ,en-'jə,nir-ɪŋ }

Rehbinder effect [PHYS] The reduction in the hardness and ductility of a material by a surface-active molecular film. { ,rā,bīn-dər i,fekt }

Rehbock weir formula [FL MECH] Probably the most accurate formula for the rate of flow of water over a rectangular suppressed weir; it includes a correction for the velocity of approach for normal, or fairly uniform, velocity distribution in the upstream channel; the formula is

$$Q = [3.234 + 5.347/(320h - 3) + 0.428h/d_0]lh^{3/2}$$

where Q is the flow rate in cubic feet per second, l is the width of the weir in feet, h is the head of water above the crest of the weir in feet, and d_0 is the height of weir or depth of water at zero head in feet. { ,rā,bāk 'wer ,för-myə-lə }

reheating [ASTRON] A scenario suggested by the original calculations of the inflationary universe cosmology in which, following inflation, the universe quickly thermalizes to a temperature that is comparable to the energy density stored in the original symmetric pre-inflationary phase of matter. [THERMO] A process in which the gas or steam is reheated after a partial isentropic expansion to reduce moisture content. Also known as resuperheating. { ,rē'hēd-ɪŋ }

Rehfuß tube [MED] A stomach tube designed for the removal of specimens of gastric contents for analysis after administration of a test meal. { ,rā-fūs ,tüb }

Reichenbach's lamellae [GEOL] Thin, platy inclusions of foreign minerals (usually troilite, schreibersite, or chromite) occurring in iron meteorites. { ,rī-kən,bäks lə'mel-ē }

Reichert-Meissl number [ANALY CHEM] An indicator of the measure of volatile soluble fatty acids. { ,rī-kärt 'mīs-əl ,nəm-bər }

Reichert's cartilage [EMBRYO] The cartilage of the hyoid arch in a human embryo. { ,rī-kärts ,kärt-lij }

Reich process [CHEM ENG] Process to purify carbon dioxide produced during fermentation; organic impurities in the gas are oxidized and absorbed, then the gas is dehydrated. { ,rīk ,präs-səs }

Reid equation [PETRO ENG] Relation of gas-well flow rate to pitot-tube readings for various impact pressures. { ,rēd i,kwā-zhən }

Reid vapor pressure [ENG] A measure in a test bomb of the vapor pressure in pounds pressure of a sample of gasoline at 100°F (37.8°C). { ,rēd 'vā-pər ,presh-ər }

Reighardiidae [INV ZOO] A monotypic family of arthropods in the order Cephalobaenida; the posterior end of the organism is rounded, without lobes, and the cuticula is covered with minute spines. { ,rī-gär'dī-ə,dē }

reimbursed time [COMPUT SCI] The machine time which is loaned or rented to another office, agency, or organization, either on a reimbursable or reciprocal basis. { ,rē-əm,bərst 'tīm }

Reimer-Tiemann reaction [ORG CHEM] Formation of phenolic aldehydes by reaction of phenol with chloroform in the presence of an alkali. { ,rīm-ər ,tē-mən rē,ak-shən }

Reinartz crystal oscillator [ELECTR] Crystal-controlled vacuum-tube oscillator in which the crystal current is kept low by placing a resonant circuit in the cathode lead tuned to half the crystal frequency; the resulting regeneration at the crystal frequency improves efficiency without the danger of uncontrollable oscillation at other frequencies. { ,rīn,ärts 'krist-əl 'ās-ə,ləd-ər }

relativistic particle

relativity. **2.** The nonquantum mechanics of a system of particles or of a fluid interacting with an electromagnetic field, in the case when some of the velocities are comparable with the speed of light. { ,rel-ə-tə'vis-tik mī'kan-iks }

relativistic particle [RELAT] A particle moving at a speed comparable with the speed of light. { ,rel-ə-tə'vis-tik 'pārd-ə-kəl }

relativistic quantum theory [QUANT MECH] The quantum theory of particles which is consistent with the special theory of relativity, and thus can describe particles moving arbitrarily close to the speed of light. { ,rel-ə-tə'vis-tik 'kwānt-əm ,thē-ə-rē }

relativistic theory [PHYS] Any theory which is consistent with the special or general theory of relativity. { ,rel-ə-tə'vis-tik 'thē-ə-rē }

relativistic velocity [RELAT] A velocity comparable to the speed of light. { ,rel-ə-tə'vis-tik vəl'ās-əd-ē }

relativity [PHYS] Theory of physics which recognizes the universal character of the propagation speed of light and the consequent dependence of space, time, and other mechanical measurements on the motion of the observer performing the measurements; it has two main divisions, the special theory and the general theory. { ,rel-ə-tiv-əd-ē }

relaxation [GEOL] In experimental structural geology, the diminution of applied stress with time, as the result of any of various creep processes. [MATH] See relaxation method. [MECH] **1.** Relief of stress in a strained material due to creep. **2.** The lessening of elastic resistance in an elastic medium under an applied stress resulting in permanent deformation. [PHYS] A process in which a physical system approaches a steady state after conditions affecting it have been suddenly changed, and in which the presence of dissipative agents prevents the system from overshooting and then oscillating about this state. { ,rē,lak'sā-shən }

relaxation circuit [ELECTR] Circuit arrangement, usually of vacuum tubes, reactances, and resistances, which has two states or conditions, one, both, or neither of which may be stable; the transient voltage produced by passing from one to the other, or the voltage in a state of rest, can be used in other circuits. { ,rē,lak'sā-shən ,sər-kət }

relaxation inverter [ELECTR] An inverter that uses a relaxation oscillator circuit to convert direct-current power to alternating-current. { ,rē,lak'sā-shən in,vərd-ər }

relaxation kinetics [PHYS CHEM] A branch of kinetics that studies chemical systems by disturbing their states of equilibrium and making observations as they return to equilibrium. { ,rē,lak'sā-shən kī,nēd-iks }

relaxation method [MATH] A successive approximation method for solving systems of equations where the errors from an initial approximation are viewed as constraints to be minimized or relaxed within a tolerance limit. Also known as relaxation. { ,rē,lak'sā-shən ,meth-əd }

relaxation oscillations [PHYS] Oscillations having a sawtooth waveform in which the displacement increases to a certain value and then drops back to zero, after which the cycle is repeated. { ,rē,lak'sā-shən ,ās-ə-lā-shənz }

relaxation oscillator [ELECTR] An oscillator whose fundamental frequency is determined by the time of charging or discharging a capacitor or coil through a resistor, producing waveforms that may be rectangular or sawtooth. { ,rē,lak'sā-shən ,ās-ə-lād-ər }

relaxation test [ENG] A creep test in which the decrease of stress with time is measured while the total strain (elastic and plastic) is maintained constant. { ,rē,lak'sā-shən ,test }

relaxation time [PHYS] For many physical systems undergoing relaxation, a time τ such that the displacement of a quantity from its equilibrium value at any instant of time t is the exponential of $-t/\tau$. [SOLID STATE] The travel time of an electron in a metal before it is scattered and loses its momentum. { ,rē,lak'sā-shən ,tīm }

relaxed circular deoxyribonucleic acid [CELL MOL] A form of circular deoxyribonucleic acid in which the circle of one strand is broken. Also known as open-circle deoxyribonucleic acid. { ,ri'lakst 'sər-kyə-lər dē'āk-sē,ri-bō-nū'klē-ik 'as-əd }

relaxed peak process See deep inelastic collision. { ,ri'lakst 'pēk ,prās-əs }

relaxin [BIOCHEM] A hormone found in the serum of humans and certain other animals during pregnancy; probably acting

with progesterone and estrogen, it causes relaxation of pelvic ligaments in the guinea pig. { ,ri'lak-sən }

relay [COMMUN] A microwave or other radio system used for passing a signal from one radio communication link to another. [ELEC] A device that is operated by a variation in the conditions in one electric circuit and serves to make or break one or more connections in the same or another electric circuit. Also known as electric relay. { 'rē,lā }

relay center [COMMUN] A switching center in which messages are automatically routed according to data contained in the messages or message headers. { 'rē,lā ,sen-tər }

relay contact [ELEC] One of the pair of contacts that are closed or opened by the movement of the armature of a relay. { 'rē,lā ,kän,takt }

relay control system [CONTSYS] A control system in which the error signal must reach a certain value before the controller reacts to it, so that the control action is discontinuous in amplitude. { 'rē,lā kən'trōl ,sis-təm }

relay haulage [MIN ENG] Single-track, high-speed mine haulage from one relay station to another. Also known as intermediate haulage. { 'rē,lā ,hōl-ij }

relay intercropping [AGR] A form of intercropping in which two or more crops grow simultaneously during part of the life cycle of each; that is, a second crop is planted before the first crop matures. { 'rē,lā 'in-tər,krap-ij }

relay rack [DES ENG] A standardized steel rack designed to hold 19-inch (48.26-centimeter) panels of various heights, on which are mounted radio receivers, amplifiers, and other units of electronic equipment. Also known as rack. { 'rē,lā ,rak }

relay satellite See communications satellite. { 'rē,lā ,səd-əl-īt }

relay selector [ELEC] Relay circuit associated with a selector, consisting of a magnetic impulse counter, for registering digits and holding a circuit. { 'rē,lā si,lek-tər }

relay station See repeater station. { 'rē,lā ,stā-shən }

relay system [COMMUN] See radio relay system. [ELEC] Dial-switching equipment that does not use mechanical switches, but is made up principally of relays. { 'rē,lā ,sis-təm }

release [MECH ENG] A mechanical arrangement of parts for holding or freeing a device or mechanism as required. { ,ri'lēs }

release adiabat [MECH] A curve or locus of points which defines the succession of states through which a mass that has been shocked to a high-pressure state passes while monotonically returning to zero pressure. { ,ri'lēs 'ad-ē-ə,bat }

release agent [MATER] A lubricant, such as wax or silicone oil, used to coat a mold cavity to prevent the molded piece from sticking when removed. Also known as mold release; parting agent. { ,ri'lēs ,ā-jənt }

release altitude [AERO ENG] Altitude of an aircraft above the ground at the time of release of bombs, rockets, missiles, tow targets, and so forth. { ,ri'lēs ,al-tə,tüd }

released mineral [MINERAL] A mineral formed during the crystallization of a magma due to failure of an earlier phase to react with the liquid portion of the magma. { ,ri'lēst 'min-rəl }

release factor [MOI. BIO] Any protein that responds to termination codons in messenger ribonucleic acid and causes the release of the finished polypeptide. { ,ri'lēs ,fak-tər }

release fracture [GEOL] A fracture formed as a result of a decrease in the maximum principal stress. { ,ri'lēs ,frak-chər }

release joint See sheeting structure. { ,ri'lēs ,jōint }

releaser stimulus [ZOO] A stimulus which affects an animal by initiating an instinctual behavior pattern. { ,ri'lēs-ər ,stim-yə-ləs }

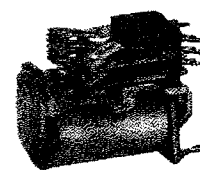
reliability [ENG] The probability that a component part, equipment, or system will satisfactorily perform its intended function under given circumstances, such as environmental conditions, limitations as to operating time, and frequency and thoroughness of maintenance for a specified period of time. [STAT] **1.** The amount of credence placed in a result. **2.** The precision of a measurement, as measured by the variance of repeated measurements of the same object. { ,ri,lī-ə'bīl-əd-ē }

relic [GEOL] **1.** A landform that remains intact after decay or disintegration or that remains after the disappearance of the major portion of its substance. **2.** A vestige of a particle in a sedimentary rock, such as a trace of a fossil fragment. { ,rel-ik }

relic

1783

RELAY



A multicontrol telephone-type auxiliary relay. When applied current or voltage in electric coil exceeds a threshold value, the coil activates an armature which opens or closes contacts. (C. P. Clare and Co.)

analysis or total being produced when a key change takes place.

{ ri'pòrt ,prò,grám }

report program generator [COMPUT SCI] A nonprocedural programming language that provides a convenient method of producing a wide variety of reports. Abbreviated RPG.

{ ri'pòrt ,prò,grám jén-ə,rád-ər }

report writer See report generator. { ri'pòrt ,ríd-ər }

repoussage [GRAPHICS] In etching, when a plate is repaired, scraped, and rubbed, there is a hollow left that will print a gray smudge; repoussage involves hammering out the hollow by putting the plate face down on a flat steel surface and tapping it gently from the back with a repoussage hammer.

{ rə'pü 'səzh }

repoussé [GRAPHICS] A method of producing a relief design on a thin sheet of metal or leather by hammering or otherwise working the reverse side. { rə'pü'sä }

Reppe process [CHEM ENG] A family of high-pressure, catalytic acetylene-reaction processes yielding (depending upon what the acetylene reacts with) butadiene, allyl alcohol, acrylonitrile, vinyl ethers and derivatives, acrylic acid esters, cyclooctatetraene, and resins. { rē'pə ,prə-səs }

representation [MATH] A representation of a group is given by a homomorphism of it onto some group either of matrices or unitary operators of a Hilbert space. { ,rē'p-ri ,zen'tā-shən }

representation condition [COMPUT SCI] The condition that, if one software entity is less than another entity in terms of a selected attribute, then any software metric for that attribute must associate a smaller number to the first entity than it does to the second entity. { ,rē'p-rə ,zen'tā-shən kən,dish-ən }

representation theory [MATH] 1. The study of groups by the use of their representations. 2. The determination of representations of specific groups. [QUANT MECH] Quantum-mechanical device in which one selects the common eigenfunctions of a complete set of quantum-mechanical operators as a basis of vectors in a Hilbert space, and expresses wave functions and operators in terms of column matrices and square matrices, respectively, which correspond to this basis. { ,rē'p-ri ,zen'tā-shən ,thē-ə-rē }

representative calculating time [COMPUT SCI] The time required to perform a specified operation or series of operations. { ,rē'p-ri ,zen'təd-iv 'kal-kyə ,lād-īŋ ,tīm }

representative fraction See natural scale. { ,rē'p-ri ,zen'təd-iv 'frak-shən }

representative sample [MIN ENG] In testing or valuation of a mineral deposit, a sample so large and average in composition as to be considered representative of a specified volume of the surrounding ore body. [STAT] A sample whose characteristics reflect those of the population from which it is drawn. { ,rē'p-ri ,zen'təd-iv 'sām-pəl }

repressing [BIOCHEM] The termination of enzyme synthesis when the products of the reaction catalyzed by the enzyme reach a critical concentration. [CELL MOL] Inhibition of transcription or translation due to binding of a repressor to an operator on a deoxyribonucleic acid molecule or to a specific messenger ribonucleic acid site. [MET] Applying pressure to a pressed and sintered compact to improve some physical property. { ri 'pres-īŋ }

repression [BIOCHEM] The termination of enzyme synthesis when the products of the reaction catalyzed by the enzyme reach a critical concentration. [CELL MOL] Inhibition of transcription or translation due to binding of a repressor to an operator on a deoxyribonucleic acid molecule or to a specific messenger ribonucleic acid site. [PSYCH] A defense mechanism whereby ideas, feelings, or desires, in conflict with the individual's conscious self-image or motives, are unconsciously dismissed from consciousness. { ri 'presh-ən }

repressor [BIOCHEM] An end product of metabolism which represses the synthesis of enzymes in the metabolic pathway. [GEN] The product of a regulator gene that acts to repress the transcription of another gene. { ri 'pres-ər }

repressuring [PETRO ENG] Forcing gas or water under pressure into an oil reservoir with the intention of increasing the recovery of crude oil. { rē'presh-ə-rīŋ }

repro See reproduction proof. { ,rē,prō }

reprocessed wool [TEXT] Yarn manufactured from previously processed fibers derived from an unused wool product, such as cloth cuttings. { ,rē'prə ,sɛst 'wūl }

reproduce head See playback head. { ,rē'prədüs ,hed }

reproducer [COMPUT SCI] A punched-card machine that

reads a punched card and duplicates part or all of its contents by punching another card. Also known as punched-card reproducer. { ,rē'prədüs-ər }

reproducing stylus See stylus. { ,rē'prədüs-īŋ ,stī-ləs }

reproducing system See sound-reproducing system. { ,rē'prədüs-īŋ ,sis-təm }

reproducing unit [COMPUT SCI] An electromechanical device which will duplicate a deck of cards. { ,rē'prədüs-īŋ ,yü-nät }

reproduction [BIOL] The mechanisms by which organisms give rise to other organisms of the same kind. { ,rē'prədək-shən }

reproduction proof [GRAPHICS] A page proof made with great care on smooth paper and used for photographic reproduction; it smudges easily and must be handled with care. Also known as repro; slick paper proof. { ,rē'prədək-shən ,pruf }

reproduction speed [COMMUN] Area of copy recorded per unit time in facsimile transmission. { ,rē'prədək-shən ,sped }

reproductive behavior [ZOO] The behavior patterns in different types of animals by means of which the sperm is brought to the egg and the parental care of the resulting young insured. { ,rē'prədək-tiv bi'hā-vyər }

reproductive distribution [ECOL] The range of areas where conditions are favorable to maturation, spawning, and early development of marine animals. { ,rē'prədək-tiv ,dis-trə'byü-shən }

reproductive system [ANAT] The structures concerned with the production of sex cells and perpetuation of the species. { ,rē'prədək-tiv ,sis-təm }

reproductive technology [MED] Any procedure undertaken to aid in conception, intrauterine development, and birth when natural processes do not function normally. { ,rē'prədək-tiv tek'nāl-ə-jē }

reproductive toxicity [MED] Adverse effects on the male and/or female reproductive systems caused by exposure to a toxic chemical. It may be expressed as alterations in sexual behavior, decreases in fertility, or fetal loss during pregnancy. Developmental toxicity may also be included. { ,rē'prədək-tiv tāk'sis-əd-ē }

reprographics [GRAPHICS] The generation of graphic images by using an interactive network linking several mechanical, electronic, and electromechanical devices, such as typewriters, optical character readers, magnetic disks, and computers capable of graphical outputs. { ,rē'prə'graf-iks }

Reptantia [INV ZOO] A suborder of the crustacean order Decapoda including all decapods other than shrimp. { rē'pant- chē-ə }

reptile [VERT ZOO] Any member of the class Reptilia. { ,rēp,tīl }

Reptilia [VERT ZOO] A class of terrestrial vertebrates composed of turtles, tuatara, lizards, snakes, and crocodilians; characteristically they lack hair, feathers, and mammary glands, the skin is covered with scales, they have a three-chambered heart, and the pleural and peritoneal cavities are continuous. { ,rēp'tīl-yə }

repulsion [MECH] A force which tends to increase the distance between two bodies having like electric charges, or the force between atoms or molecules at very short distances which keeps them apart. Also known as repulsive force. { ri 'pəl-shən }

repulsion-induction motor [ELEC] A repulsion motor that has a squirrel-cage winding in the rotor in addition to the repulsion-motor winding. { ri 'pəl-shən in'dək-shən ,mōd-ər }

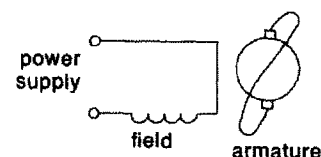
repulsion motor [ELEC] An alternating-current motor having stator windings connected directly to the source of ac power and rotor windings connected to a commutator; brushes on the commutator are short-circuited and are positioned to produce the rotating magnetic field required for starting and running. { ri 'pəl-shən ,mōd-ər }

repulsion-start induction motor [ELEC] An alternating-current motor that starts as a repulsion motor; at a predetermined speed the commutator bars are short-circuited to give the equivalent of a squirrel-cage winding for operation as an induction motor with constant-speed characteristics. { ri 'pəl-shən 'stārt in'dək-shən ,mōd-ər }

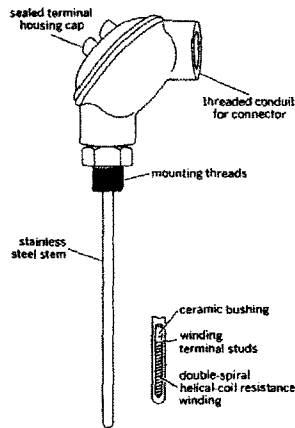
repulsive force See repulsion. { ri 'pəl-siv 'fòrs }

request/grant logic [COMPUT SCI] Logic circuitry which, in

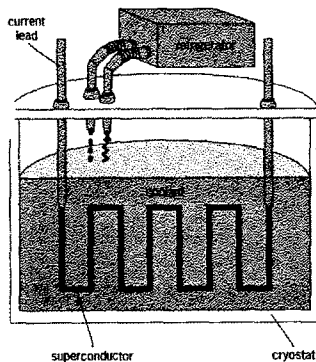
REPULSION MOTOR



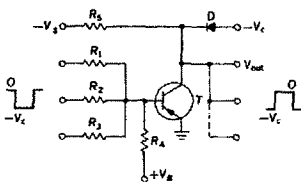
Schematic of a repulsion motor showing stator winding, which is connected to the ac power, and the rotor or armature winding, which is short-circuited through a commutator and brushes.

RESISTANCE THERMOMETER

Industrial-type resistance thermometer. (From D. M. Considine, ed., *Process Instruments and Controls Handbook*, McGraw-Hill, 1957)

RESISTIVE SUPERCONDUCTING FAULT-CURRENT LIMITER

Schematic diagram of the limiter.

RESISTOR-TRANSISTOR LOGIC

Resistor-transistor logic circuit: R_1 , R_2 , R_3 are resistors coupling the logic circuit to preceding logic circuits. With resistor R_4 and positive supply voltage $+V_{cc}$ they form the gate circuit. D is the diode and T the transistor. V_i = input signal voltage; V_{cc} = collector voltage; V_{out} = output voltage.

the size and shape of the electrodes (usually circular) control the size and shape of the welds. { ri'ziz-tans 'spät, weld-ig } **resistance-start motor** [ELEC] A split-phase motor having a resistance connected in series with the auxiliary winding; the auxiliary circuit is opened when the motor attains a predetermined speed. { ri'ziz-tans 'stärnt, möd-är }

resistance strain gage [ELECTR] A strain gage consisting of a strip of material that is cemented to the part under test and that changes in resistance with elongation or compression. { ri'ziz-tans 'strän, gäj }

resistance thermometer [ENG] A thermometer in which the sensing element is a resistor whose resistance is an accurately known function of temperature. Also known as electrical resistance thermometer; resistance pyrometer. { ri'ziz-tans thör'män-äd-är }

resistance transfer factor [GEN] A carrier of genetic information in bacteria which is considered to control the ability of self-replication and conjugal transfer of R factors. Abbreviated RTF. { ri'ziz-tans 'tranz-fär, fak-tär }

resistance welding [MET] Joining metals together under pressure by making use of heat developed by an electric current, the work being part of the electrical circuit. { ri'ziz-tans ,weld-ig }

resistance wire [MET] Wire made from a metal or alloy having high resistance per unit length, such as Nichrome; used in wire-wound resistors and heating elements. { ri'ziz-tans ,wör }

resistate [GEOL] A sediment consisting of minerals that are chemically resistant and are enriched in the residues of weathering processes. Also known as residual sediment. { ri'ziz,tät }

resist-dyeing [TEXT] A cross-dyeing method in which a chemical is applied to certain yarns before weaving so that, when the material is dyed, only the untreated yarns take the dye, producing a colorful pattern; the chemical is later removed from the fabric. { ri'zizt,df-ig }

resisting moment [MECH] A moment produced by internal tensile and compressive forces that balances the external bending moment on a beam. { ri'zizt-ig, mö-mänt }

resistive coupling See resistance coupling. { ri'ziz-tiv 'káp-lij }

resistive flowmeter [ENG] Liquid flow-rate measurement device in which flow rates are read electrically as the result of the rise or fall of a conductive differential-pressure manometer fluid in contact with a resistance-rod assembly. Also known as resistance-rate flowmeter. { ri'ziz-tiv 'flöd,möd-är }

resistive load [ELEC] A load whose total reactance is zero, so that the alternating current is in phase with the terminal voltage. Also known as nonreactive load. { ri'ziz-tiv 'löd }

resistive superconducting fault-current limiter [ELEC] A fault-current limiter in which a superconductor is directly connected in series to the line to be protected and is immersed in a coolant which is chilled by a refrigerant, and the connection from the line at room temperature to the superconductor is provided by special current leads, which are designed to minimize the heat transfer to the coolant. { ri'ziz-tiv 'sü-pär-kän,dök-tij 'fölt, kær-änt,lim-äd-är }

resistive unbalance [ELEC] Unequal resistance in the two wires of a transmission line. { ri'ziz-tiv än'bal-äns }

resistivity See electrical resistivity. { ,rē,ziz'tiv-äd-ē }

resistivity factor See formation factor. { ,rē,ziz'tiv-äd-ē ,fak-tär }

resistivity index [PETRO ENG] Ratio of the true electrical resistivity of a rock system at a specified water saturation, to the resistivity of the rock itself; used for calculation of electrical well-logging data. { ,rē,ziz'tiv-äd-ē ,in,dex }

resistivity method [ENG] Any electrical exploration method in which current is introduced in the ground by two contact electrodes and potential differences are measured between two or more other electrodes. { ,rē,ziz'tiv-äd-ē ,meth-äd }

resistivity well logging [PETRO ENG] The measurement of subsurface electrical resistivities (normal and lateral to the borehole) during electrical logging of oil wells. { ,rē,ziz'tiv-äd-ē 'wel, läg-ig }

resistojet [AERO ENG] A type of propulsion system in which propellant is heated by passing it over resistively heated surfaces and then through a converging-diverging nozzle. { ri'ziz-ia,jet }

resistor [ELEC] A device designed to have a definite amount

of resistance; used in circuits to limit current flow or to provide a voltage drop. Also known as electrical resistor. { ri'ziz-tär }

resistor bulb [ENG] A temperature-measurement device inside of which is a resistance winding; changes in temperature cause corresponding changes in resistance, varying the current in the winding. { ri'ziz-tär ,bälb }

resistor-capacitor-transistor logic [ELECTR] A resistor-transistor logic with the addition of capacitors that are used to enhance switching speed. { ri'ziz-tär káp-äs-äd-är tran'zis-tär ,läj-ik }

resistor-capacitor unit See rescap. { ri'ziz-tär káp-äs-äd-är ,yü-nät }

resistor color code [ELEC] Code adopted by the Electronic Industries Association to mark the values of resistance on resistors in a readily recognizable manner; the first color represents the first significant figure of the resistor value, the second color the second significant figure, and the third color represents the number of zeros following the first two figures; a fourth color is sometimes added to indicate the tolerance of the resistor. { ri'ziz-tär 'käl-är ,köd }

resistor core [ELEC] Insulating support on which a resistor element is wound or otherwise placed. { ri'ziz-tär ,kör }

resistor element [ELEC] That portion of a resistor which possesses the property of electric resistance. { ri'ziz-tär ,el-ä-mänt }

resistor furnace [ENG] An electric furnace in which heat is developed by the passage of current through distributed resistors (heating units) mounted apart from the charge. { ri'ziz-tär ,fär-näs }

resistor network [ELEC] An electrical network consisting entirely of resistances. { ri'ziz-tär 'net,work }

resistor oven [ENG] Heating chamber relying on an electrical-resistance element to create temperatures of up to 800°F (430°C); used for drying and baking. { ri'ziz-tär 'äv-an }

resistor termination [ELECTR] A thick-film conductor pad overlapping and contacting a thick-film resistor area. { ri'ziz-tär ,tär-mä'nä-shän }

resistor-transistor logic [ELECTR] One of the simplest logic circuits, having several resistors, a transistor, and a diode. Abbreviated RTL. { ri'ziz-tär tran'zis-tär ,läj-ik }

resite See C stage. { 're,zit }

resnatron [ELECTR] A microwave-beam tetrode containing cavity resonators, used chiefly for generating large amounts of continuous power at high frequencies. { 'rez-nä,trä'n }

resolution [CONF SYS] The smallest increment in distance that can be distinguished and acted upon by an automatic control system. [ELECTR] In television, the maximum number of lines that can be discerned on the screen at a distance equal to tube height; this ranges from 350 to 400 for most receivers. [ELECTROMAG] In radar, the minimum separation between two targets, in angle or range, at which they can be distinguished on a radar screen. Also known as resolving power. [MATH] For a vector, the determination of vectors parallel to specified (usually perpendicular) axes such that their sum equals the given vector. [OPTICS] See resolving power. [ORG CHEM] The process of separating a racemic mixture into the two component optical isomers. [PHYS] 1. For a measurement of energy or momentum of a collection of particles, the difference between the highest and lowest energies at which the response of an instrument to a beam of monoenergetic particles is at least half its maximum value, divided by the energy of the particles. 2. The procedure of breaking up a vectorial quantity into its components. [SPECT] See resolving power. { ,rez-ä'lü-shän }

resolution chart [COMMUN] See test pattern. [OPTICS] A device to test resolving power; usually alternate black and white lines of equal width arranged in groups of decreasing line width, identified as the number of line pairs per millimeter. { ,rez-ä'lü-shän ,chärt }

resolution error [COMPUT SCI] An error of an analog computing unit that results from its inability to respond to changes of less than a given magnitude. { ,rez-ä'lü-shän ,er-är }

resolution factor [COMPUT SCI] In information retrieval, the ratio obtained in dividing the total number of documents retrieved (whether relevant or not to the user's needs) by the total number of documents available in the file. { ,rez-ä'lü-shän ,fak-tär }

resolution in azimuth [ENG] The angle by which two targets must be separated in azimuth in order to be distinguished by

resonant-reed relay

response

1797

probability is enhanced at an energy corresponding to an energy level of one of the nuclei. { 'rez-ən-ənt rē,ak-shən }

resonant-reed relay [ELEC] A reed relay in which the reed switch closes only when the required frequency is applied to the operating coil, to make one of the reeds vibrate until its amplitude is sufficient to make contact with the other reed; used in selective paging systems. { 'res-ən-ənt 'rēd 'rē,lə }

resonant resistance [ELEC] Resistance value to which a resonant circuit is equivalent. { 'res-ən-ənt ri'zistəns }

resonant scattering [QUANT MECH] Scattering of a photon by a quantum-mechanical system (usually an atom or nucleus) in which the system first absorbs the photon by undergoing a transition from one of its energy states to one of higher energy, and subsequently reemits the photon by the exact inverse transition. { 'res-ən-ənt 'skad-ə-rɪŋ }

resonant ultrasound spectroscopy [ACOUST] An experimental technique for obtaining a complete set of elastic constants of a material in which a sample of the material of well-defined shape, usually a sphere or a rectangular parallelepiped, is held between two transducers, one of which excites the sample while the other measures its response, and the spectrum of free mechanical resonances of the sample is measured. { 'rez-ən-ənt ,ul-trə,saund spek'trəs-kə-pē }

resonant voltage step-up [ELEC] Ability of an inductor and a capacitor in a series resonant circuit to deliver a voltage several times greater than the input voltage of the circuit. { 'res-ən-ənt 'vɒl-tij 'step,əp }

resonant wavelength [ELECTROMAG] The wavelength in free space of electromagnetic radiation having a frequency equal to a natural resonance frequency of a cavity resonator. { 'res-ən-ənt 'wæv,leŋkθ }

resonant window [ELECTROMAG] A parallel combination of inductive and capacitive diaphragms, used in a waveguide structure to provide transmission at the resonant frequency and reflection at other frequencies. { 'res-ən-ənt 'win-dō }

resonate [ELEC] To bring to resonance, as by tuning. { 'rez-ən,ət }

resonating cavity [ELECTROMAG] Short piece of waveguide of adjustable length, terminated at either or both ends by a metal piston, an iris diaphragm, or some other wave-reflecting device; it is used as a filter, as a means of coupling between guides of different diameters, and as impedance networks corresponding to those used in radio circuits. { 'rez-ən,əd-ɪŋ 'kav-əd-ē }

resonator [PHYS] A device that exhibits resonance at a particular frequency, such as an acoustic resonator or cavity resonator. { 'rez-ən,əd-ər }

resonator grid [ELECTR] Grid that is attached to a cavity resonator in velocity-modulated tubes to provide coupling between the resonator and the electron beam. { 'rez-ən,əd-ər ,grɪd }

resonator wavemeter [ELECTROMAG] Any resonant circuit used to determine wavelength, such as a cavity-resonator frequency meter. { 'rez-ən,əd-ər 'wæv,mēd-ər }

resorbed reef [GEOL] A reef characterized by embayed margins and by the numerous isolated patches of reef that are closely distributed about the main mass. { rē'sɔrbd 'rēf }

resorcin See resorcinol. { rə'zɔrs-ən }

resorcinol [ORG CHEM] $C_6H_4(OH)_2$ Sweet-tasting, white, toxic crystals; soluble in water, alcohol, ether, benzene, and glycerol; melts at 111°C ; used for resins, dyes, pharmaceuticals, and adhesives, and as a chemical intermediate. Also known as resorcin. { rə'zɔrs-ən,əl }

resorcinol acetate [ORG CHEM] $HOC_6H_4OCOCH_3$ A viscous, combustible, yellow to amber liquid with burning taste; soluble in alcohol; boils at 283°C ; used in cosmetics and medicine. Also known as resorcinol monoacetate. { rə'zɔrs-ən,əl 'as-ə,tāt }

resorcinol diglycidyl ether [ORG CHEM] $C_{12}H_{14}O_2$ A straw yellow liquid with a boiling point of 172°C (at 0.8 mmHg or 100 pascals); used for epoxy resins. Abbreviated RDGE. { rə'zɔrs-ən,əl dɪ'glɪs-ə,dɪl ,ē-θər }

resorcinol-formaldehyde resin [ORG CHEM] A phenol-formaldehyde resin, soluble in water, ketones, and alcohol; used to make fast-curing adhesives for wood gluing. { rə'zɔrs-ən,əl fɔr'mal-də,hɪd 'rez-ən }

resorcinol monoacetate See resorcinol acetate. { rə'zɔrs-ən,əl 'mān-ō-as-ə,tāt }

β-resorcylic acid [ORG CHEM] $(OH)_2C_6H_3COOH$ Combustible, white needles; soluble in alcohol and ether, very slightly soluble in water; decomposes at 220°C ; used as a dyestuff and a pharmaceutical intermediate, and in the manufacture of fine chemicals. { 'bād-ə 'rē-zɔr'sɪl-ɪk 'as-əd }

resorption [PETR] The process by which a magma redissolves previously crystallized minerals. [PHYS] Absorption or, less commonly, adsorption of material by a body or system from which the material was previously released. { rē'sɔr-p-shən }

resource [SCI TECH] A reserve source of supply, such as a material or mineral. { 'rē,sɔrs }

resource allocation in multiproject scheduling [IND ENG] A system that employs network analysis as an aid in making the best assignment of resources which must be stretched over a number of projects. Abbreviated RAMPS. { 'rē,sɔrs ,al-ə'kə-shən ɪn 'mʌl-tɪ'prɔj-ekt 'sked-jə-lɪŋ }

respiration [PHYSIO] 1. The processes by which tissues and organisms exchange gases with their environment. 2. The act of breathing with the lungs, consisting of inspiration and expiration. { ,res-pə'rɪə-shən }

respirator [ENG] A device for maintaining artificial respiration to protect the respiratory tract against irritating and poisonous gases, fumes, smoke, and dusts, with or without equipment supplying oxygen or air; some types have a fitting which covers the nose and mouth. { 'res-pə,rɪəd-ər }

respiratory arrest [MED] Sudden cessation of spontaneous respiration due to failure of the respiratory center. { 'res-prə,tɔr-ē 'ar-est }

respiratory center [PHYSIO] A large area of the brain involved in regulation of respiration. { 'res-prə,tɔr-ē 'sen-tər }

respiratory dead space [PHYSIO] That part of the respiratory system which has no alveoli and in which little or no exchange of gas between air and blood takes place. { 'res-prə,tɔr-ē 'ded ,spæs }

respiratory distress syndrome of newborn [MED] A disease occurring during the first days of life, characterized by respiratory distress and cyanosis; a hyaline membrane lines the alveoli when the disease persists for more than several hours. Abbreviated RDS. { 'res-prə,tɔr-ē dɪ'stres ,sɪn,drɒm əv 'nʊ,bɔrn }

respiratory epithelium [HISTOL] The ciliated pseudostratified epithelium lining the respiratory tract. { 'res-prə,tɔr-ē ,ep-ə'thē-lē-əm }

respiratory minute volume [PHYSIO] The total amount of air which moves in and out of the lungs in a minute. { 'res-prə,tɔr-ē 'mɪn-ət 'vɒl-yəm }

respiratory pigment [BIOCHEM] Any of various conjugated proteins that function in living organisms to transfer oxygen in cellular respiration. { 'res-prə,tɔr-ē 'pɪg-mənt }

respiratory quotient [PHYSIO] The ratio of volumes of carbon dioxide evolved and oxygen consumed during a given period of respiration. Abbreviated RQ. { 'res-prə,tɔr-ē 'kwɔ-shənt }

respiratory syncytial virus [VIROL] An enveloped, single-stranded RNA animal virus belonging to the Paramyxoviridae genus *Pneumovirus*; associated with a large proportion of respiratory illnesses in very young children, particularly bronchiolitis and pneumonia. { 'res-prə,tɔr-ē sɪn'sɪʃ-əl 'vɪ-rəs }

respiratory system [ANAT] The structures and passages involved with the intake, expulsion, and exchange of oxygen and carbon dioxide in the vertebrate body. { 'res-prə,tɔr-ē 'sɪs-təm }

respiratory tree [ANAT] The trachea, bronchi, and bronchioles. [INV ZOO] Either of a pair of branched tubular appendages of the cloaca in certain holothurians that is thought to have a respiratory function. { 'res-prə,tɔr-ē ,trē }

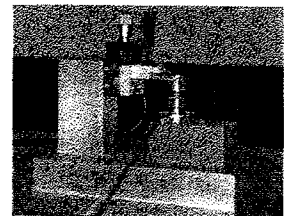
respirometer [ENG] 1. An instrument for studying respiration. 2. A diver's helmet containing a compressed air supply for replenishing oxygen used by the diver. { ,res-pə'rɪm-əd-ər }

responder [ELECTR] The transmitter section of a radar beacon. { rɪ'spān-dər }

responder beacon [ELECTR] The radar beacon that serves to emit the signals of the responder in a transponder. { rɪ'spān-dər ,bē-kən }

response [COMMUN] See reply. [CONT SYS] A quantitative expression of the output of a device or system as a function

RESONANT ULTRASOUND SPECTROSCOPY



Resonant ultrasound spectroscopy transducer with a mounted sample. (Dynamic Resonance Systems Inc.)

response characteristic

of the input. Also known as system response. [STAT] The value of some measurable quantity after a treatment has been applied. { rɪˈspɒns }
response characteristic [CONT SYS] The response as a function of an independent variable, such as direction or frequency, often presented in graphical form. { rɪˈspɒns ˌkærɪk-
 tərɪstɪk }

response time [COMPUT SCI] The delay experienced in time sharing between request and answer, a delay which increases when the number of users on the system increases. [CONT SYS] The time required for the output of a control system or element to reach a specified fraction of its new value after application of a step input or disturbance. [ELEC] The time it takes for the pointer of an electrical or electronic instrument to come to rest at a new value, after the quantity it measures has been abruptly changed. { rɪˈspɒns ˌtaɪm }

responder [ELECTR] The receiving section of an interrogator-responder. { rɪˈspɒn-sər }

restart [AERO ENG] The act of firing a stage of a rocket after a previous powered flight. [COMPUT SCI] To go back to a specific planned point in a routine, usually in the case of machine malfunction, for the purpose of rerunning the portion of the routine in which the error occurred; the length of time between restart points in a given routine should be a function of the mean free error time of the machine itself. { rɪˈstɑːrt }

rest density [RELAT] The density of a small portion of a fluid in a Lorentz frame in which that portion of the fluid is at rest. { ˈrest ˌdeɪn-sə-ɪ }
rest energy [RELAT] The energy equivalent to the rest mass m_0 of a particle or body; that is, the quantity of $m_0 c^2$, where c is the speed of light; often expressed in electronvolts. { ˈrest ˌen-ɜːdʒi }

rest frame [RELAT] The Lorentz frame in which the total momentum of a system equals zero; for an accelerated system, the rest frame varies from instant to instant. { ˈrest ˌfræm }

rest hardening [MET] The increase of strength, with time, of a clay subsequent to its deposition, resolidifying, or modification by the application of shear stress. { ˈrest ˌhɑːrd-ən-ɪŋ }

restiform body See inferior cerebellar peduncle. { ˈres-
 təˌfɔːm ˌbɒd-ɪ }

resting cell [CELL MOL] An interphase cell. { ˈres-ɪŋ ˌsel }

resting frequency See carrier frequency. { ˈres-ɪŋ ˌfrɪ-
 kwən-si }

resting metabolism [PHYSIO] The metabolism of a person at rest while seated or standing in a normal position. { ˈres-
 ɪŋ me-tə-bɒ-lɪz-əm }

resting potential [PHYSIO] The potential difference between the interior cytoplasm and the external aqueous medium of the living cell. { ˈres-ɪŋ pɒ-ten-ʃəl }

resting spore [BOT] A spore that remains dormant for long periods before germination, withstanding adverse conditions; usually invested in a thickened cell wall. { ˈres-ɪŋ ˌspɔːr }

Restionales [BOT] A large family of monocotyledonous plants in the order Restionales characterized by unisexual flowers, wholly cauline leaves, unilocular anthers, and a more or less open inflorescence. { ˌres-təˈnə-si-ə-ɪ }
Restionales [BOT] An order of monocotyledonous plants in the subclass Commelinidae having reduced flowers and a single, pendulous, orthotropous ovule in each of the one to three locules of the ovary. { ˌres-təˈnə-si-ə-ɪ }

restitution coefficient See coefficient of restitution. { ˌres-
 təˈtʃuː-ʃən ˌkɒ-ɪ-fɪʃ-ənt }

restless legs syndrome [MED] A condition that is characterized by intense disagreeable feelings in the legs at rest and repose with compulsion to move the legs to get relief from these symptoms; peak onset usually occurs during middle age, and the disorder tends to become more severe with age. { ˌrest-ləs ˈleɪɡz ˌsɪn drɒm }

rest magma [GEO] The part of magma that remains after many minerals have crystallized from it during a long series of differentiations. Also known as residual liquid. { ˈrest ˌmæɡ-mə }

rest mass [RELAT] The mass of a particle in a Lorentz reference frame in which it is at rest. { ˈrest ˌmæs }

restoration [ECOL] A conservation measure involving the correction of past abuses that have impaired the productivity of the resources base. { ˌres-təˈrɛɪ-ʃən }

restoration ecology [ECOL] The application of ecological

restricted proper motion

principles and field methodologies to the successful restoration of damaged ecosystems. { ˌres-təˈrɛɪ-ʃən ˌɛk-ə-lɔː-dʒi }

restorative dentistry [MED] A branch of dentistry that focuses on the preservation and restoration of decayed, defective, missing, and traumatized teeth. { ˌrɛstəˈrəd-iv ˌdent-ə-
 sɪ }
restorative immunotherapy [IMMUNOL] Immunotherapy that involves the direct and indirect restoration of deficient immunological function through any means other than the direct transfer of cells. { ˌrɛstəˈrəd-iv ˌɪm-juːn-əˈlɪ-er-ə-pi }

restore [COMPUT SCI] In computers, to regenerate, to return a cycle index or variable address to its initial value, or to some again. [ELEC] Periodic charge regeneration of volatile computer storage systems. { ˈrɪstɔːr }

restorer See direct-current restorer. { ˈrɪstɔːr-ər }

restorer pulses [ELECTR] In computers, pairs of complement pulses, applied to restore the coupling-capacitor charge in an alternating-current flip-flop. { ˈrɪstɔːr-ər ˌpʊls-ɪz }

restoring logic [ELECTR] Circuitry designed so that even with an imperfect input pulse a standard output occurs at the exit of each successive logic gate. { ˈrɪstɔːr-ɪŋ ˌlɒj-ɪk }

rest point [ENG] On a balance, the position of the pointer with respect to the pointer scale when the beam has ceased moving. { ˈrest ˌpɔɪnt }

rest potential [ELEC] Residual potential difference remaining between an electrode and an electrolyte after the electrode has become polarized. { ˈrest pɒ-ten-ʃəl }

restrainer [GRAPHICS] The ingredient of a developer which prevents too rapid development and chemical fog. { ˌrɪs-
 træn-ər }

restraint of loads [DNL] The process of binding, lashing, and weighing items into one unit and/or into its transporter in a manner that will ensure immobility during transit. { ˌrɪstræɪnt ˌəv ˌlɒd }
restricted [GEO] Referring to tectonic transport or movement in which elongation of particles is transverse to the direction of movement. { ˌrɪstrɪk-təd }

restricted adhesive [MATER] An adhesive which for any reason cannot satisfactorily pass its evaluation test; as a result, the maximum time required for curing, that is, its usable life, cannot be assigned; it cannot be used for structural bonding. { ˌrɪstrɪk-təd ˌəd-hɪ-zɪv }

restricted air cargo [IND ENG] Cargo which is not highly dangerous under normal conditions, but which possesses certain qualities which require extra precautions in packing and handling. { ˌrɪstrɪk-təd ˌer ˌkɑːrɡə }

restricted area [NAV] 1. An airspace of defined dimensions identified by an area on the surface of the earth within which the flight of aircraft is subject to restrictions. 2. An area within which vessels may be navigated subject to prohibitions with respect to anchoring, trawling, fishing, and so on. { ˌrɪstrɪk-təd ˌer-ə }

restricted basin [GEO] A depression in the floor of the ocean in which the water circulation is topographically restricted and therefore generally is oxygen depleted. Also known as barred basin; silled basin. { ˌrɪstrɪk-təd ˌbæ-sɪn }

restricted function [COMPUT SCI] A function of the operating system that cannot be used by application programs. { ˌrɪstrɪk-təd ˌfʌŋk-ʃən }

restricted gate [ENG] Small opening between runner and cavity in an injection or transfer mold which breaks cleanly when the piece is ejected. { ˌrɪstrɪk-təd ˌɡeɪt }

restricted internal rotation [PHYS CHEM] Restrictions on the rotational motion of molecules or parts of molecules in some substances, such as solid methane, at certain temperatures. { ˌrɪstrɪk-təd ɪn-tɪr-nəl rɒ-tə-ʃən }

restricted job [IND ENG] A task whose performance time is governed by a machine, a process, another task, or the nature of the job itself, rather than being under the control of the worker. { ˌrɪstrɪk-təd ˌdʒɒb }

restricted limit See limit inferior. { ˌrɪstrɪk-təd ˌlɪm-ɪt }

restricted propellant [AERO ENG] A solid propellant having only a portion of its surface exposed for burning while the other surfaces are covered by an intubator. { ˌrɪstrɪk-təd prɒˈpel-lənt }

restricted proper motion [ASTRON] The rate of change of a star's apparent position relative to surrounding stars, corrected for precession, nutation, and aberration. { ˌrɪstrɪk-təd prɒp-
 ər ˌmɔː-ʃən }

seaward

and encroachment by the sea. Also known as sea bank. [GEOL.] A steep-faced, long embankment situated by powerful storm waves along a seacoast at high-water mark. { 'sē,wōl }

seaward [NAV] The direction or side in which the sea is located; the direction or side away from the land. { 'sē,wōd }

seawater [OCEANOGR] Water of the seas, distinguished by high salinity. Also known as salt water. { 'sē,wōd-ər }

seawater thermometer [ENG] A specially designed thermometer to measure the temperature of a sample of seawater; an instrument consisting of a mercury-in-glass thermometer protected by a perforated metal case. { 'sē,wōd-ər θər'mā-mē-tər }

seaway [NAV] 1. The motion or rate of motion of a vessel. 2. Headway of a vessel. 3. The sea as a route of travel from one place to another; a shipping lane. Also known as sea-lane. { 'sē,wā }

seaweed [BOT] A marine plant, especially algae. { 'sē,wēd }

seaworthiness [NAV ARCH] The fitness of a ship to sail on the sea and meet any usual condition, or to sail on a specific voyage. { 'sē-wər-thē-nəs }

sebaceous gland [PHYSIO] A gland, arising in association with a hair follicle, which produces and liberates sebum. { 'sē-bā-shəs 'glānd }

sebacic acid [ORG CHEM] $\text{COOH}(\text{CH}_2)_8\text{COOH}$ Combustible, white crystals; slightly soluble in water, soluble in alcohol and ether; melts at 133°C ; used in perfumes, paints, and hydraulic fluids and to stabilize synthetic resins. { 'sē-bā-sik 'as-əd }

sebacylic acid See sebacic acid. { 'sē-bā-sil-ik 'as-əd }

sebastianite [PETR] A plutonic rock composed of euhedral anorthite, biotite, and some augite and apatite, but without feldspathoids and quartz. { 'sē-bā-si-ān-īt }

sebcha See sebkha. { 'sēb-kā }

Sebekidae [INV ZOO] A family of pentastomid arthropods in the suborder Porocephaloidea. { 'sēb-ē-kā-dē }

sebkha See sebkha. { 'sēb-kā }

sebkha [GEOL] A geologic feature, in North Africa, which is a smooth, flat, plain usually high in salt; after a rain the plain may become a marsh or a shallow lake until the water evaporates. Also known as sabkha; sebcha; sebkā; sibjet. { 'sēb-kā }

seborrheic dermatitis [MED] An acute inflammation of the skin, occurring usually on oily skin; characterized by scales, crusting yellowish patches, and itching. { 'sē-bōr-ē-ik ,dər-mā'tīd-ās }

sebum [PHYSIO] The secretion of sebaceous glands, composed of fat, cellular debris, and keratin. { 'sē-bəm }

sec See secant; second; secondary winding.

SEC See secondary-electron conduction.

seca [METEOROL] A drought, or dry wind, in Brazil. { 'sē-kā }

secalose [BIOCHEM] A polysaccharide consisting of fructose units; occurs in green rye and oats, and in rye flour. { 'sek-ə,lōs }

secant [MATH] 1. The function given by the reciprocal of the cosine function. Abbreviated sec. 2. The secant of an angle A is $1/\cos A$. 3. A line of unlimited length that intersects a given curve. { 'sē,kant }

secant conic chart See conic chart with two standard parallels. { 'sē,kant 'kōn-ik 'chārt }

secant conic projection See conic projection with two standard parallels. { 'sē,kant 'kōn-ik prō'jek-shən }

Secchi disk [ENG] An opaque white disk used to measure the transparency or clarity of seawater by lowering the disk into the water horizontally and noting the greatest depth at which it can be visually detected. { 'sek-ē ,disk }

Secernentea [INV ZOO] A class of the phylum Nematoda in which the primary excretory system consists of intracellular tubular canals joined anteriorly and ventrally in an excretory sinus, into which two ventral excretory gland cells may also open. { 'sē-sər-nen-chā }

sech See hyperbolic secant. { sek }

sechard [METEOROL] A dry, warm foehn wind over Lake Geneva in Switzerland. { 'se'chär }

seclusion [METEOROL] A special case of the process of occlusion, where the point at which the cold front first overtakes the warm front (or quasi-stationary front) is at some distance from the apex of the wave cyclone. { 'sē-klū-zhən }

secondary clay

1879

secobarbital [PHARM] $\text{C}_{12}\text{H}_{18}\text{N}_2\text{O}_3$ 5-Allyl-5-(1-methyl-butyl) barbituric acid, a short-acting barbiturate; white powder with bitterish taste; very soluble in alcohol and ether, slightly soluble in water; melts at 82°C ; used as a sedative and hypnotic, frequently as the sodium derivative. Also known as quinol-barbitone; Seconal (trade name). { 'se-kō'bär-bā,tōl }

secodont [VERT ZOO] Having teeth adapted for cutting. { 'sek-ə,dānt }

secohm See international henry. { 'sek,ōm }

Seconal See secobarbital. { 'sek-ən,ōl }

second [MATH] A unit of plane angle, equal to $1/60$ minute, or $1/3,600$ degree, or $\pi/648,000$ radian. [PHYS] The fundamental unit of time equal to 9,192,631,770 periods of the radiation corresponding to the transition between the two hyperfine levels of the ground state of an atom of cesium-133. Abbreviated s; sec. { 'sek-ənd }

secondary [ELEC] Low-voltage conductors of a power distributing system. [ELECTROMAG] See secondary winding. [GEOL] A term with meanings that changed from early to late in the 19th century, when the term was confined to the entire Mesozoic era; it was finally replaced by Mesozoic era. { 'sek-ən,der-ē }

secondary air [MECH ENG] Combustion air introduced over the burner flame to enhance completeness of combustion. { 'sek-ən,der-ē 'er }

secondary alcohol [ORG CHEM] An organic alcohol with molecular structure $\text{R}_1\text{R}_2\text{CHOH}$, where R_1 and R_2 designate either identical or different groups. { 'sek-ən,der-ē 'al-kō,hōl }

secondary allocation [COMPUT SCI] An area of disk storage that is assigned to a file which has become too large for the area originally assigned to it. { 'sek-ən,der-ē ,al-ə'kā-shən }

secondary amine [ORG CHEM] An organic compound that may be written $\text{R}_1\text{R}_2\text{NH}$, where R_1 and R_2 designate either identical or different groups. { 'sek-ən,der-ē 'am,ēn }

secondary amyloidosis [MED] Amyloidosis that usually follows chronic suppurative, inflammatory diseases, such as tuberculosis, osteomyelitis, and bronchiectasis. { 'sek-ən,der-ē ,am-ə,lōi'dō-səs }

secondary area [NAV] In air operations, that area within a segment in which ROC (required obstacle clearance) is reduced as distance from the prescribed course is increased. { 'sek-ən,der-ē 'er-ē-ə }

secondary armament [ORD] In ships with multiple-size guns installed, that battery consisting of guns next largest to those of the main battery. { 'sek-ən,der-ē 'är-mə-mənt }

secondary battery See storage battery. { 'sek-ən,der-ē 'bad-ə-rē }

secondary biliary cirrhosis [MED] A type of cirrhosis caused by obstruction of the bile duct by calculi (stones). { 'sek-ən,der-ē ,bil-ē,er-ē sər'ō-səs }

secondary blast injuries [ORD] Those injuries sustained from the indirect effects, such as falling rubble from a collapsed building, or missiles (debris or objects) which have been picked up by the generated winds and hurled against an individual; also includes injuries resulting from individuals being hurled against stationary objects. { 'sek-ən,der-ē 'blast ,in-jə-rēz }

secondary bomb damage [ORD] Nonphysical bomb damage. { 'sek-ən,der-ē 'bām ,dām-ij }

secondary bow See secondary rainbow. { 'sek-ən,der-ē 'bō }

secondary cache [COMPUT SCI] High-speed memory between the primary cache and main memory that supplies the processor with the most frequently requested data and instructions. Also known as level 2 cache. { 'sek-ən,der-ē 'kash }

secondary cambium [BOT] One of the tissue layers formed after the initial cambial layers in certain plant roots, and that produce a ring of tissue. { 'sek-ən,der-ē 'kam-bē-əm }

secondary carbon atom [ORG CHEM] A carbon atom that is singly bonded to two other carbon atoms. { 'sek-ən,der-ē 'kär-bān 'ad-əm }

secondary cell See storage cell. { 'sek-ən,der-ē 'sel }

secondary circle See secondary great circle. { 'sek-ən,der-ē 'sär-kəl }

secondary circuit [ELEC] The wiring connected to the secondary winding of a transformer, induction coil, or similar device. [MET] The part of a welding machine which conducts secondary current between transformer and electrodes or between electrodes and workpiece. { 'sek-ən,der-ē 'sär-kət }

secondary clay [GEOL] A clay that has been transported

seismic efficiency [GEOPHYS] The proportion of the total available strain energy which is radiated as seismic waves. { 'sɪz-mik i'fɪʃ-ən-si }
seismic-electric effect [GEOPHYS] The variation of resistivity with elastic deformation of rocks. { 'sɪz-mik i'lek-trik i,fekt }

seismic event [GEOPHYS] An earthquake or a somewhat similar transient earth motion caused by an explosion. { 'sɪz-mik i,vent }

seismic exploration [ENG] The exploration for economic deposits by using seismic techniques, usually involving explosions, to map subsurface structures. { 'sɪz-mik ,ek-splə'rə-shən }

seismic gradient [GEOPHYS] The variation of seismic velocity with distance in a specified direction. Also known as velocity gradient. { 'sɪz-mik 'græd-ē-ənt }

seismic hazard [GEOPHYS] Any physical phenomenon, such as ground shaking or ground failure, that is associated with an earthquake and that may produce adverse effects on human activities. { 'sɪz-mik 'haz-əd }

seismic intensity [GEOPHYS] The average rate of flow of seismic-wave energy through a unit section perpendicular to the direction of propagation. { 'sɪz-mik in'ten-səd-ē }

seismicity [GEOPHYS] The phenomena of earth movements. Also known as seismic activity. { sɪz'mis-əd-ē }

seismic load [ENG] The force on a structure caused by acceleration induced on its mass by an earthquake. { 'sɪz-mik 'lɒd }

seismic map [GEOPHYS] A contour map constructed from seismic data, the z coordinate of which could be either time or depth. { 'sɪz-mik 'mæp }

seismic profiler [ENG] A continuous seismic reflection system used to study the structure beneath the sea floor to depths of 10,000 feet (3000 meters) or more, using a rotating drum to record reflections. { 'sɪz-mik 'prɒ,fɪl-ər }

seismic prospecting [GEOPHYS] Geophysical prospecting based on the analysis of elastic waves generated in the earth by artificial means. { 'sɪz-mik 'prəs,pek-tɪŋ }

seismic ray [GEOL] The path along which seismic energy travels. { 'sɪz-mik 'ræ }

seismic reflector [GEOPHYS] A subsurface profile that is generated by seismic data and indicates a distinctive type of sediment geometry produced by sea-level changes; used to correlate stratigraphic sequences. { 'sɪz-mik rɪ'flek-tər }

seismic risk [GEOPHYS] 1. An assortment of earthquake effects that range from ground shaking, surface faulting, and landsliding to economic loss and casualties. 2. The probability that social or economic consequences of earthquakes will equal or exceed specified values at a site, at several sites, or in an area, during a specified exposure time. { 'sɪz-mik 'rɪsk }

seismic shooting [ENG] A method of geophysical prospecting in which elastic waves are produced in the earth by the firing of explosives. { 'sɪz-mik 'ʃuːd-ɪŋ }

seismic stratigraphy [GEOL] A branch of stratigraphy in which sediments and sedimentary rocks are interpreted in a geometrical context from seismic reflectors. { 'sɪz-mik strə'tɪg-rə-fē }

seismic survey See reflection survey. { 'sɪz-mik 'sər,və }

seismic tomography [GEOPHYS] The estimation of seismic wave velocities throughout a region of interest from the travel times of either transmitted or reflected waves, generally through numerical models and iterative procedures. { 'sɪz,mɪk tɒ'məg-rə-fē }

seismic velocity [GEOPHYS] The rate of propagation of an elastic wave, usually measured in kilometers per second. { 'sɪz-mik vɒ'læs-əd-ē }

seismic vertical [GEOL] 1. The point on the earth's surface directly over the point within the earth from which an earthquake impulse originates. 2. The vertical line between the surface point and the point of origin. { 'sɪz-mik 'vɛrd-ə-kəl }

seismochronograph [ENG] A chronograph for determining the time at which an earthquake shock appears. { 'sɪz-mə'kræn-ə,græf }

seismogram [ENG] The record made by a seismograph. { 'sɪz-mə,græm }

seismograph [ENG] An instrument that records vibrations in the earth, especially earthquakes. { 'sɪz-mə,græf }

seismology [GEOPHYS] 1. The study of earthquakes. 2.

The science of strain-wave propagation in the earth. { sɪz'mäl-ə-jē }

seismometer [ENG] An instrument that detects movements in the earth. { sɪz'mäm-əd-ər }

seismoscope [ENG] An instrument for recording only the occurrence or time of occurrence (not the magnitude) of an earthquake. { 'sɪz-mə,sköp }

Seisonacea [INV ZOO] A monofamilial order of the class Rotifera characterized by an elongated jointed body with a small head, a long slender neck region, a thick fusiform trunk, and an elongated foot terminating in a perforated disk. { ,sɪ-sə'nä-shə }

Seisonidea [INV ZOO] The equivalent name for Seisonacea. { ,sɪ-sə'nɪd-ē-ə }

seistan [METEOROL] A strong wind of monsoon origin which blows from between the northwest and north-northwest and sets in about the end of May or early June in the historic Seistan district of eastern Iran and Afghanistan; it continues almost without cessation until about the end of September, because of its duration it is known as the wind of 120 days (bad-i-sad-o-bistroz). { 'sæ,stän }

Seitz filter [MICROBIO] A bacterial filter made of asbestos and used to sterilize solutions without the use of heat. { 'sɪtz ,fɪl-tər }

seizing [ENG] Abrasive damage to a metal surface caused when the surface is rubbed by another metal surface. [MET] Welding a workpiece to a die member under the combined forces of pressure and sliding friction. { 'sɛz-ɪŋ }

seizure [MED] 1. The sudden onset or recurrence of a disease or an attack. 2. Specifically, an epileptic attack, fit, or convulsion. { 'sɛ-zhər }

Sejourner process [MET] During hot extrusion, the lubrication and insulation of a metal billet with molten glass. Also known as Ugine Sejourner process. { sə-zhür'nä ,prə-səs }

sejunction water [HYD] Capillary water bounded by menisci, and in static equilibrium in the soil above the capillary fringe. { sə'jɔŋk-shən ,wɒd-ər }

sekaninaite [MINERAL] A violet variety of cordierite in which magnesium is largely replaced by ferrous iron. Also known as iron cordierite. { sə'kän-ən-ə,ɪt }

Selachii [VERT ZOO] An order of elasmobranchs including all fossil sharks, except Cladoselachii and Pleuracanthodii. { sə'læk-ē,j }

Selaginellales [BOT] The plant order of small club mosses, containing one living genus, *Selaginella*; distinguished from other lycopods in being heterosporous and in having a ligule borne on the upper base of the leaf. { sə,laj-ə-nə'lä-lēz }

selagite [PETR] A mica trachyte characterized by abundant tabular biotite crystals in a holocrystalline groundmass of orthoclase and diopside, and possibly quartz and olivine. { 'sel-ə,jɪt }

selatan [METEOROL] Strong, dry, southerly winds of the southeast monsoon in the Netherlands East Indies and the Celebes. { sə'lä,tän }

select [COMPUT SCI] 1. To choose a needed subroutine from a file of subroutines. 2. To take one alternative if the report on a condition is of one state, and another alternative if the report on the condition is of another state. 3. To pull from a mass of data certain items that require special attention; selection of individual cards is accomplished automatically by either the sorter or collator, according to the type of selection. { si'lekt }

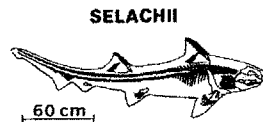
select bit [COMPUT SCI] The bit (or bits) in an input/output instruction word which selects the function of a specified device. Also known as subdevice bit. { si'lekt ,bit }

selected areas See Kapetyn selected areas. { si'lek-təd 'er-ē-əz }

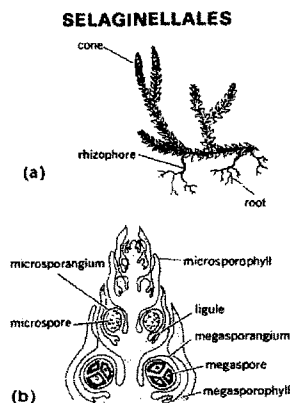
selected mine [ORD] A controlled underwater mine which has been connected, through the selector assembly, to the control equipment at the shore station; it is exclusive of all other mines in its group and may be fired, tested, or disarmed independently of the remainder of the group. { si'lek-təd 'mɪn }

selected time [IND ENG] An observed actual time value for an element, measured by time study, which is identified as being the most representative of the situation observed. { si'lek-təd 'tɪm }

selectin [CELL MOL] Any of a family of carbohydrate-binding, calcium-dependent cell adhesion molecules that play an



Primitive selachian *Hybodus hauffianus*, a Mesozoic shark.



Selaginella, or small club moss. (a) Plant with creeping, dichotomous stems bearing numerous, tiny leaves and leafless branches, or rhizophores. (b) Diagram of a longitudinal section through a cone.

common application is the conversion of analog signals to digital form, and vice versa, using pulse density modulation to create a high-rate stream of single-amplitude pulses in either case. Also known as delta-sigma converter. { 'sig-mə, 'del-tə kən'vərd-ər }

sigma-delta digital-to-analog converter [ELECTR] A converter that uses a digital circuit to convert numeric values from a digital processor to a pulse stream and then uses an analog low-pass filter to produce an analog waveform. { 'sig-mə, 'del-tə, 'dij-əd-əl tū, 'an-ə, 'læɡ kən'vərd-ər }

sigma-delta modulator [ELECTR] The circuit used to generate a pulse stream in a sigma-delta converter. Also known as delta-sigma modulator. { 'sig-mə, 'del-tə 'mæj-ə, 'læd-ər }

sigma factor [MOL BIO] A regulatory protein in prokaryotes that combines with the ribonucleic acid (RNA) polymerase enzyme to facilitate the initiation of RNA synthesis. { 'sig-mə, 'fak-tər }

sigma field See sigma algebra. { 'sig-mə, 'fild }

sigma finite [MATH] A measure is sigma finite on a space X if X is a countable disjoint union of sets each of which is measurable and has finite measure. { 'sig-mə, 'fi, nīt }

sigma function [THERMO] A property of a mixture of air and water vapor, equal to the difference between the enthalpy and the product of the specific humidity and the enthalpy of water (liquid) at the thermodynamic wet-bulb temperature; it is constant for constant barometric pressure and thermodynamic wet-bulb temperature. { 'sig-mə, 'fæŋk-shən }

sigma hyperon [PART PHYS] 1. The collective name for three semistable baryons with charges of +1, 0, and -1 times the proton charge, designated Σ^+ , Σ^0 , and Σ^- , all having masses of approximately 1193 megaelectronvolts, spin of $1/2$, and positive parity; they form an isotopic spin multiplet with a total isotopic spin of 1 and a hypercharge of 0. 2. Any baryon belonging to an isotopic spin multiplet having a total isotopic spin of 1 and a hypercharge of 0; designated $\Sigma_J^P(m)$, where m is the mass of the baryon in megaelectronvolts, and J and P are its spin and parity; the $\Sigma_{1/2}^+(1385)$ is sometimes designated Σ^* . { 'sig-mə, 'hi-pə, rən }

sigma-minus hyperonic atom [ATOM PHYS] An atom consisting of a negatively charged sigma hyperon orbiting around an ordinary nucleus. Designated Σ^- hyperonic atom. { 'sig-mə, 'mi-nəs 'hi-pə, rən-ik 'ad-əm }

sigma phase [MET] A brittle, nonmagnetic phase of tetragonal structure occurring in many transition-metal alloys; frequently encountered in high chromium stainless steels. { 'sig-mə, 'fæz }

sigma pile [NUCLEO] An assembly of moderating material containing a neutron source, used to study the absorption cross sections and other neutron properties of the material. { 'sig-mə, 'pil }

sigma ring [MATH] A ring of sets where any countable union of its members is also a member. { 'sig-mə, 'rɪŋ }

sigmaspire [INV ZOO] An S-shaped sponge spicule. { 'sig-mə, 'spɪr }

sigma-T [OCEANOGR] An abbreviated value of the density of a sea-water sample of temperature T and salinity S : $\sigma_T = [\rho(S, T) - 1] \times 10^3$, where $\rho(S, T)$ is the value of the sea-water density in centimeter-gram-second units at standard atmospheric pressure. { 'sig-mə, 'tɛ }

sigmatron [NUCLEO] A cyclotron and betatron operating in tandem to produce billion-volt x-rays. { 'sig-mə, 'træn }

sigmatropic shift [ORG CHEM] A rearrangement reaction that consists of the migration of a sigma bond (that is, the sigma electrons) and the group of atoms that are attached to it from one position in a chain or ring into a new position. { 'sig-mə, 'trəp-ik 'shift }

sigmoid [BIOL] S-shaped. { 'sig, 'mɔɪd }

sigmoidal dune [GEOL] A dune with an S-shaped ridge crest formed by the merger of crescentic dunes. { 'sig'mɔɪd-əl 'dūn }

sigmoidal fold [GEOL] A recumbent fold having an axial surface which resembles the Greek letter sigma. { 'sig'mɔɪd-əl 'fɔld }

sigmoid colon [ANAT] The S-shaped portion of the colon between the descending colon and the rectum. { 'sig, 'mɔɪd 'kɔ-lən }

sigmoid distortion [OPTICS] A distortion present in line-scan imagery, causing straight lines cut obliquely to appear as sigmoid curves. { 'sig, 'mɔɪd dɪ'stɔr-shən }

sigmoiditis [MED] Inflammation of the sigmoid flexure of the colon. { 'sig, 'mɔɪ'dɪd-əs }

sigmoidoscope [MED] An appliance for the inspection, by artificial light, of the sigmoid colon; it differs from the proctoscope in its greater length and diameter. { 'sig'mɔɪd-ə, 'skɒp }

sign [COMMUN] In semiotics, an entity that signifies some other thing, and may be interpreted. [MATH] 1. A symbol which indicates whether a quantity is greater than zero or less than zero; the signs are often the marks + and - respectively, but other arbitrarily selected symbols are used, especially in automatic data processing. 2. A unit of plane angle, equal to 30° or $\pi/6$ radians. { 'sɪn }

signage [GRAPHICS] Environmental graphic communications whose functions include direction, identification, information or orientation, regulation, warning, or restriction. { 'sɪn-ij }

signal [COMMUN] 1. A visual, aural, or other indication used to convey information. 2. The intelligence, message, or effect to be conveyed over a communication system. 3. See signal wave. { 'sɪg-nəl }

signal area [NAV] That part of an airport used for the display of visual ground signals for the benefit of aircraft in flight. { 'sɪg-nəl, 'er-ē-ə }

signal bias [COMMUN] Form of teletypewriter signal distortion brought about by the lengthening or shortening of pulses during transmission; when marking pulses are all lengthened, a marking signal bias results; when marking pulses are all shortened, a spacing signal bias results. { 'sɪg-nəl, 'bi-əs }

signal carrier See carrier. { 'sɪg-nəl, 'kær-ē-ər }

signal center [COMMUN] A combination of signal communication facilities operated by the U.S. Army in the field and consisting of a communications center, telephone switching central, and appropriate means of signal communications. { 'sɪg-nəl, 'sen-tər }

signal channel [COMMUN] A signal path for transmitting electric signals; such paths may be separated by frequency division or time division. { 'sɪg-nəl, 'chan-əl }

signal conditioning [COMMUN] Processing the form or mode of a signal so as to make it intelligible to or compatible with a given device, such as a data transmission line, including such manipulation as pulse shaping, pulse clipping, digitizing, and linearizing. { 'sɪg-nəl kən, 'dɪʃ-ən-ɪŋ }

signal correction [ENG] In seismic analysis, a correction to eliminate the time differences between reflection times, resulting from changes in the outgoing signal from shot to shot. { 'sɪg-nəl kə, 'rek-shən }

signal detection theory [PSYCH] A theory which characterizes not only the acuity of an individual's discrimination but also the psychological factors that bias his judgment. { 'sɪg-nəl dɪ'tek-shən, 'θe-ə-rē }

signal distance [COMPUT SCI] The number of bits that are not the same in two binary words of equal length. Also known as hamming distance. { 'sɪg-nəl, 'dɪs-təns }

signal distortion generator [ELECTR] Instrument designed to apply known amounts of distortion on a signal for the purpose of testing and adjusting communications equipment such as teletypewriters. { 'sɪg-nəl dɪ'stɔr-shən, 'jen-ə, 'ræd-ər }

signal effect [ENG] In seismology, variation in arrival times of reflections recorded with identical filter settings, as a result of changes in the outgoing signal. { 'sɪg-nəl i, 'fekt }

signal flare [ENG] A pyrotechnic flare of distinct color and character used as a signal. { 'sɪg-nəl, 'fler }

signal-flow graph [SYS ENG] An abbreviated block diagram in which small circles, called nodes, represent variables of the system, and the nodes are connected by lines, called branches, which represent one-way signal multipliers; an arrow on the line indicates direction of signal flow, and a letter near the arrow indicates the multiplication factor. Also known as flow graph. { 'sɪg-nəl 'flɔ 'graf }

signal generator [ENG] An electronic test instrument that delivers a sinusoidal output at an accurately calibrated frequency that may be anywhere from the audio to the microwave range; the frequency and amplitude are adjustable over a wide range, and the output usually may be amplitude- or frequency-modulated. Also known as test oscillator. { 'sɪg-nəl, 'jen-ə, 'ræd-ər }

signal in band [COMMUN] To send control signals at frequencies within the frequency range of the data signal. { 'sɪg-nəl in 'bænd }

standards that enable electronic communication and interaction independently of the computer platforms or specific technologies used by the communication parties. { 'web, serv-ə-səs }

Web site [COMPUT SCI] A collection of thematically related, hyperlinked World Wide Web services, mainly HTML documents, usually located on a specific Web server and reachable through a URL assigned to the site. { 'web, sit }

websterite See aluminite. { 'web-stə,rit }

Weddell Current [OCEANOGR] A surface current which flows in an easterly direction from the Weddell Sea outside the limit of the West Wind Drift. { 'we'del 'kə-rənt }

weddellite [MINERAL] $\text{CaC}_2\text{O}_4 \cdot 2\text{H}_2\text{O}$ A colorless to white or yellowish-brown to brown, tetragonal mineral consisting of calcium oxalate dihydrate. { 'wə'de,lit }

Wedener-Bergeron process See Bergeron-Findeisen theory. { 'vā-dən-ər 'ber-zhə'rən, 'prā-səs }

wedge [COMMON] A convergent pattern of equally spaced black and white lines, used in a television test pattern to indicate resolution. [DES ENG] A piece of resistant material whose two major surfaces make an acute angle. [ELECTROMAG] A waveguide termination consisting of a tapered length of dissipative material introduced into the guide, such as carbon. [ENG] In ultrasonic testing, a device which directs waves of ultrasonic energy into the test piece at an angle. [MATH] A polyhedron whose base is a rectangle and whose lateral faces consist of two equilateral triangles and two trapezoids. [METEOROL] See ridge. [OPTICS] 1. An optical filter in which the transmission decreases continuously or in steps from one end to the other.

2. A refracting prism of very small angle, inserted in an optical train to introduce a bend in the ray path. { 'wej }

wedge-base lamp [ELEC] A small indicator lamp that has wire leads folded back on opposite sides of a flat glass base. { 'wej 'bās 'lamp }

wedge bit [DES ENG] A tapered-nose noncoring bit, used to ream out the borehole alongside the steel deflecting wedge in hole-deflection operations. Also known as bull-nose bit; wedge reaming bit; wedging bit. { 'wej, 'bit }

wedge bonding [ENG] A type of thermocompression bonding in which a wedge-shaped tool is used to press a small section of the lead wire onto the bonding pad of an integrated circuit. { 'wej, 'bānd-ŋ }

wedge core lifter [MECH ENG] A core-gripping device consisting of a series of three or more serrated-face, tapered wedges contained in slotted and tapered recesses cut into the inner surface of a lifter case or sleeve; the case is threaded to the inner tube of a core barrel, and as the core enters the inner tube, it lifts the wedges up along the case taper; when the barrel is raised, the wedges are pulled tight, gripping the core. { 'wej 'kōr, 'lif-tər }

wedge filter [NUCLEO] A radiation filter so constructed that its thickness or transmission characteristics vary continuously or in steps from one edge to the other; used to increase the uniformity of radiation in certain types of treatment. { 'wej, 'fil-tər }

wedge photometer [ENG] A photometer in which the luminous flux density of light from two sources is made equal by pushing into the beam from the brighter source a wedge of absorbing material; the wedge has a scale indicating how much it reduces the flux density, so that the luminous intensities of the sources may be compared. { 'wej fə'tɪm-əd-ər }

wedge product [MATH] A product defined on forms such that a wedge product of a p -form and a q -form results in a $p+q$ form. { 'wej, 'präd-əkt }

wedge reaming bit See wedge bit. { 'wej 'rēm-ŋ, 'bit }

wedge spectrograph [SPECT] A spectrograph in which the intensity of the radiation passing through the entrance slit is varied by moving an optical wedge. { 'wej 'spek-trə-graf }

wedging [ENG] 1. A method used in quarrying to obtain large, regular blocks of building stones; a row of holes is drilled, either by hand or by pneumatic drills, close to each other so that a longitudinal crevice is formed into which a gently sloping steel wedge is driven, and the block of stone can be detached without shattering. 2. The act of changing the course of a borehole by using a deflecting wedge. 3. The lodging of two or more wedge-shaped pieces of core inside a core barrel, and therefore blocking it. 4. The material, moss, or wood used to render the shaft lining tight. { 'wej-ŋ }

wedging bit See wedge bit. { 'wej-ŋ, 'bit }

weed [BOT] A plant that is useless or of low economic value,

especially one growing on cultivated land to the detriment of the crop. { 'wəd }

week [ASTRON] A time period of 7 days which has been accepted from ancient Babylon; the 7 days of the week were first given names of the seven celestial bodies: the sun, moon, and five visible planets. { 'wēk }

weep hole [CIV ENG] A hole in a wood sill, retaining wall, or other structure to allow accumulated water to escape. { 'wēp, 'hōl }

weeping core [PETRO ENG] A core cut that is covered with tearlike drops of fluid when it is brought to the surface; usually indicative of a deposit that will produce little oil. { 'wēp-ŋ 'kōr }

weeping spring See spring seepage. { 'wēp-ŋ 'sprɪŋ }

weevil [INV ZOO] Any of various snout beetles whose larvae destroy crops by eating the interior of the fruit or grain, or bore through the bark into the pith of many trees. { 'wē-vəl }

weft See filling. { 'weft }

weft knitting [TEXT] A knitting process in which a continuous yarn is carried in crosswise rows. { 'weft, 'nɪd-ŋ }

Wegener's granulomatosis [MED] A rare disease of unknown causation characterized by necrotizing granulomas in the air passages, necrotizing vasculitis, and glomerulitis. { 'vā-gə-nərz, 'gran-yə-lə-mə'tō-səs }

Wehnelt cathode See oxide-coated cathode. { 'vān,elt, 'kath,əd }

wehrlite [MINERAL] BiTe A mineral that is a native alloy of bismuth and tellurium. Also known as mirror glance. [PETR] A peridotite composed principally of olivine and clinopyroxene with accessory opaque oxides. { 'wer,lit }

Weibull distribution [STAT] A distribution that describes life-time characteristics of parts and components. { 'wi,bul, 'dis-trə-byū-shən }

weibullite [MINERAL] $\text{Pb}_4\text{Bi}_6\text{S}_{10}\text{Se}_4$ A steel gray mineral consisting of lead bismuth sulfide with selenium replacing the sulfide; occurs in indistinct prismatic crystals in massive form. { 'wi,bū,lit }

Weierstrass' approximation theorem [MATH] A continuous real-valued function on a closed interval can be uniformly approximated by polynomials. { 'vi-ər,shtrās ə,prāk-sə'mā-shən, 'thir-əm }

Weierstrass functions [MATH] Used in the calculus of variations, these determine functions satisfying the Euler-Lagrange equation and Jacobi's condition while maximizing a given definite integral. { 'vi-ər,shtrās, 'fəŋk-shənz }

Weierstrassian elliptic function [MATH] A function that plays a central role in the theory of elliptic functions; for z , g_2 and g_3 real or complex numbers, let y be that number such that

$$z = \int_y^{\infty} \frac{dt}{\sqrt{4t^3 - g_2t - g_3}};$$

the Weierstrassian elliptic function of z with parameters g_2 and g_3 is $p(z; g_2, g_3) = y$. { 'vi-ər,shtrās-é-ən i'lɪp-tɪk 'fəŋk-shən }

Weierstrass M test [MATH] An infinite series of numbers will converge or functions will converge uniformly if each term is dominated in absolute value by a nonnegative constant M_n , where these M_n form a convergent series. Also known as 'Weierstrass' test for convergence. { 'vi-ər,shtrās 'em, 'test }

Weierstrass' test for convergence See Weierstrass M test. { 'vi-ər,shtrās 'test fər kən'vər-jəns }

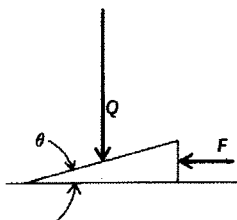
Weierstrass transform [MATH] This transform of a real function $f(y)$ is the function given by the integral from $-\infty$ to ∞ of $(4\pi t)^{-1/2} \exp[-(x-y)^2/4t] f(y) dy$, this is used in studying the heat equation. { 'vi-ər,shtrās 'tranz, 'fɔrm }

Weigert effect [OPTICS] Dichroism introduced in a silver-silver chloride photographic emulsion by a beam of linearly polarized light. { 'vi-gart i, 'fekt }

weighing rain gage [ENG] A type of recording rain gage, consisting of a receiver in the shape of a funnel which empties into a bucket mounted upon a weighing mechanism; the weight of the catch is recorded, on a clock-driven chart, as inches of precipitation; used at climatological stations. { 'wā-ŋ 'rān 'gāj }

weight [MATH] 1. The unique nonnegative integer assigned to an edge or arc in a network or directed network. 2. The sum of the weights (first definition) of all the arcs in an s - t cut. 3. The nonnegative integer assigned to a vertex in a

WEDGE



The shape of a wedge and a diagram of forces acting on it. F is smaller applied force, Q is larger force to be exerted, θ is angle between surfaces of wedge.

weight and balance sheet

Weisz ring oven

2287

generalized *s-t* network. 4. The sum of the weights of all the arcs and vertices is a generalized *s-t* cut. [MATH] 1. The gravitational force with which the earth attracts a body. 2. By extension, the gravitational force with which a star, planet, or satellite attracts a nearby body. [WAT]

weight and balance sheet [AERO ENG] A sheet which records the distribution of weight in an aircraft and shows the center of gravity of an aircraft at takeoff and landing. [WAT on 'bal-əns, shēt]

weight barometer [PHYS] A mercury barometer which measures atmospheric pressure by weighing the mercury in the column or the cistern. [WAT bə, rōm-əd-ər]

weight density [PHYS] The weight of a body or portion of a body divided by its volume. [WAT, den-səd-ē]

weighted aggregative index [STAT] A statistic for a collection of items weighted so as to reflect the relative importance of the items with regard to the overall phenomenon which the index is designed to describe, a price index is an example. [WAT-əd, ə-grə-gid-iv 'in-deks]

weighted area masks [COMPUT SCI] In character recognition, a set of characters (each character residing in the character reader in the form of weighted points) which theoretically render all input specimens unique, regardless of the size or style. [WAT-əd 'er-ə, māsks]

weighted average [STAT] The number obtained by adding the product of α_i times the i th number in a set of N numbers for $i = 1, 2, \dots, N$, where α_i are numbers (weights) such that $\alpha_1 + \alpha_2 + \dots + \alpha_N = 1$. Also known as weighted mean. [WAT-əd 'av-er-ij]

weighted code [COMPUT SCI] A method of representing a decimal digit by a combination of bits, in which each bit is assigned a weight, and the value of the decimal digit is found by multiplying each bit by its weight and then summing the results. [WAT-əd 'kōd]

weighted mean See weighted average. [WAT-əd 'mēn]

weighted moving average filter A method used for smoothing data in a time series in which each observation being averaged is given a weight which reflects its relative importance in calculating the average. [WAT-əd 'mūv-ig 'av-er-ij]

weighted oscillator strength See *gf*-value. [WAT-əd 'ās-ə-lid-ər, s-trəŋkθ]

weight factor [STAT MECH] The number of microstates that correspond to a given macrostate. [WAT fāk-tər]

weight function [MATH] 1. Two real valued functions f and g are orthogonal relative to a weight function σ on an interval if the integral over the interval of $f \cdot g \cdot \sigma$ vanishes. 2. A function defined on the edges of a network or the arcs of a directed network, whose value at each edge or arc is the unique nonnegative integer assigned to that edge or arc. 3. A function defined on the vertices of a generalized *s-t* network, whose value at each vertex is a nonnegative integer. [WAT fŋk-shən]

weighting [PHYS] The artificial adjustment of measurements to account for factors that, in the normal use of the device, would otherwise be different from conditions during the measurements. [TEXT] The chemical or mechanical process of adding weight or body to a fabric or yarn, especially silk, by the addition of various materials. [WAT-ig]

weighting network [ENG ACOUS] One of three or more circuits in a sound-level meter designed to adjust its response; the A and B weighting networks provide responses approximating the 40- and 70-phon equal loudness contours, respectively, and the C weighting network provides a flat response up to 8000 hertz. [WAT-ig, net, wɜ:k]

weightlessness [MECH] A condition in which no acceleration, whether of gravity or other force, can be detected by an observer within the system in question. Also known as zero gravity. [WAT-ləs-nəs]

weightlessness switch See zero-gravity switch. [WAT-ləs-nəs switʃ]

weight-loaded regulator [ENG] A pressure-regulator valve for pressure vessels or flow systems; the regulator is preloaded by counterbalancing weights to open (or close) at the upper (or lower) limit of a preset pressure range. [WAT lōd-əd 'reg-yə-ləd-ər]

weight thermometer [PHYS] A glass vessel for determining the thermal expansion coefficient of a liquid by measuring the mass of liquid needed to fill the vessel at two different temperatures. [WAT, t̄m-ə-mi-tər]

weight titration [ANALY CHEM] A titration in which the

amount of titrant required is determined in terms of the weight that must be added to reach the end point. [WAT t̄-trā-shən]

weight zone [ORD] A weight range having specified minimum and maximum weights; artillery projectiles of 75-millimeter caliber and larger are sometimes grouped into weight zones and marked with appropriate symbols; the selection of projectiles of a single weight zone for a specific firing problem results in improved ballistic uniformity. [WAT zōn]

Weiland effect [GRAPHICS] A photographic effect in which a photographic material undergoes greater blackening when exposed at a very high intensity for a short time and then at a lower intensity for a long time than with the reverse sequence. [Wai-lend i, fekt]

Weil-Felix test [IMMUNOL] An agglutination test for various rickettsial infections based on production of nonspecific agglutinins in the blood of infected patients, and using various strains of *Proteus vulgaris* as antigen. [Vil 'fē-lik-s, test]

Weill's disease [MED] A severe form of leptospirosis characterized by jaundice, oliguria, circulatory collapse, and tendency to hemorrhage. Also known as icterohemorrhagic fever; leptospirosis icterohemorrhagic; spirochetal jaundice. [Vilz di, zēz]

Weinberg-Salam theory [PART PHYS] A gauge theory in which the electromagnetic and weak nuclear interactions are described by a single unifying framework in which both have a characteristic coupling parameter equal to the fine-structure constant; it predicts the existence of intermediate vector bosons and neutral current interactions. Also known as Salam-Weinberg theory. [Wai-n, bɜ:rg sə-lām, thē-ə-rē]

Weingarten formulas [MATH] Equations concerning the normals to a surface at a point. [Wai-n, gart-ən, fōr-myə-las]

Weingarten surface [MATH] A surface such that either of the principal radii is uniquely determined by the other. [Wai-n, gart-ən, sərf-əs]

weinschenkite [MINERAL] 1. $\text{YPO}_4 \cdot 2\text{H}_2\text{O}$ A white mineral consisting of a hydrated yttrium phosphate. Also known as churchite. 2. A dark-brown variety of hornblende high in ferric iron, aluminum, and water. [Wai-n, shən, kit]

weir [CIV ENG] A dam in a waterway over which water flows, serving to regulate water level or measure flow. [wer]

weird number [MATH] An abundant number that is not a semiperfect number. [wird 'nəm-bər]

weir tank [PETRO ENG] A type of oil-field storage tank with high- and low-level weir boxes and liquid-level controls for metering the liquid content of the tank. [wer, tæŋk]

Weissenberg effect [PHYS MECH] An alteration of the normal stresses in a non-Newtonian fluid on account of elasticity, so that such a fluid, when placed between two concentric, rotating cylinders, can rise on the inner cylinder in spite of centrifugal forces. [Vai-sən, bɜ:rg i, fekt]

Weissenberg method [SOLID STATE] A method of studying crystal structure by x-ray diffraction in which the crystal is rotated in a beam of x-rays, and a photographic film is moved parallel to the axis of rotation; the crystal is surrounded by a sleeve which has a slot that passes only diffraction spots from a single layer of the reciprocal lattice, permitting positive identification of each spot in the pattern. [Vai-sən, bɜ:rg, mēth-əd]

weiselite [MINERAL] Cu_2Te_3 A dark bluish-black mineral consisting of copper telluride; occurs in massive form. [Wai, sit]

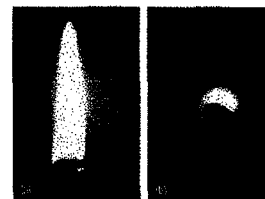
Weiss magneton [ATOM PHYS] A unit of magnetic moment, equal to 1.853×10^{-21} joule/tesla, about one fifth of the Bohr magneton; it is experimentally derived, the magnetic moments of certain molecules being close to integral multiples of this quantity. [Ves 'mag-nē-tlŋn]

Weiss molecular field [SOLID STATE] The effective magnetic field postulated in the Weiss theory of ferromagnetism, which acts on atomic magnetic moments within a domain, tending to align them, and is in turn generated by these magnetic moments. [Ves mōlek-yə-lər 'fi:ld]

Weiss theory [SOLID STATE] A theory of ferromagnetism based on the hypotheses that below the Curie point a ferromagnetic substance is composed of small, spontaneously magnetized regions called domains, and that each domain is spontaneously magnetized because a strong molecular magnetic field tends to align the individual atomic magnetic moments within the domain. Also known as molecular field theory. [Ves, thē-ə-rē]

Weisz ring oven [ANALY CHEM] A device for vaporization

WEIGHTLESSNESS



Effect of weightlessness on combustion. (a) Flame or Bunsen burner flame is elongated. (b) Flame in space forms a circle because the lack of convection does not allow waste material to flow away from the flame. (NASA)