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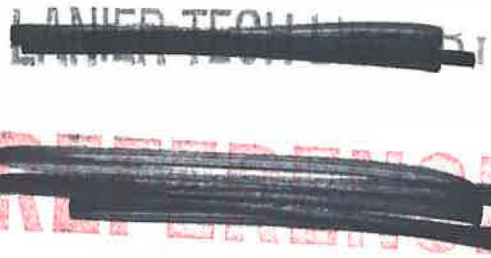
MORE THAN 18,000 ESSENTIAL TERMS

COVERS EVERY DISCIPLINE OF ELECTRICAL & COMPUTER ENGINEERING

PROVIDES SYNONYMS, ACRONYMS, AND ABBREVIATIONS

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Dictionary of Electrical and Computer Engineering

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Preface

The *McGraw-Hill Dictionary of Electrical and Computer Engineering* provides a compendium of more than 18,000 terms that are central to these fields as well as related fields. In addition to computer science, electronics, electricity, and electrical engineering, coverage includes terminology in control systems, engineering acoustics, systems engineering, and communications.

The definitions are drawn from the *McGraw-Hill Dictionary of Scientific and Technical Terms*, Sixth Edition (2003). Each one is classified according to the field with which it is primarily associated. The pronunciation of each term is provided along with synonyms, acronyms, and abbreviations where appropriate. A guide to the use of the *Dictionary* is included, explaining the alphabetical organization of terms, the format of the book, cross referencing, and how synonyms, variant spellings, abbreviations, and similar information are handled. A pronunciation key is also provided to assist the reader. An extensive appendix provides conversion tables for commonly used scientific and technical units as well as charts, a "family tree" of programming languages, and listings of useful mathematical, engineering, and scientific data, laws, and equations.

It is the editors' hope that this dictionary will serve the needs of scientists, engineers, specialists in information technology, students, teachers, librarians, and writers for high-quality information, and that it will contribute to scientific literacy and communication.

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Staff

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How to Use the Dictionary

ALPHABETIZATION. The terms in the *McGraw-Hill Dictionary of Electrical and Computer Engineering* are alphabetized on a letter-by-letter basis; word spacing, hyphen, comma, and solidus in a term are ignored in the sequencing. For example, an ordering of terms would be:

absolute-value computer
absolute vector
accuracy control system
ac/dc receiver
airborne radar
air capacitor

FORMAT. The basic format for a defining entry provides the term in boldface, the field in small capitals, and the single definition in lightface:

term [FIELD] Definition.

A field may be followed by multiple definitions, each introduced by a boldface number:

term [FIELD] **1.** Definition. **2.** Definition. **3.** Definition.

A term may have difinitions in two or more fields:

term [COMMUN] Definition. [COMPUT SCI] Definition.

A simple cross-reference entry appears as:

term *See* another term.

A cross reference may also appear in combination with definitions:

term [COMMUN] Definition. [COMPUT SCI] *See* another term.

CROSS REFERENCING. A cross-reference entry directs the user to the defining entry. For example, the user looking up "chroma band-pass amplifier" finds:

chroma band-pass amplifier *See* burst amplifier.

The user then turns to the "B" terms for the definition. Cross references are also made from variant spellings, acronyms, abbreviations, and symbols.

ACK *See* acknowledge character.
A-O-I gate *See* AND-OR-INVERT gate.
bps *See* bit per second.
chip *See* microchip.

ALSO KNOWN AS . . . , etc. A definition may conclude with a mention of a synonym of the term, a variant spelling, an abbreviation for the term, or other such information, introduced by "Also known as . . . ," "Also spelled . . . ," "Abbreviated . . . ," "Symbolized . . . ," "Derived from . . . ." When a term has more than one definition, the positioning of any of these phrases conveys the extent of applicability. For example:

term [COMPUT SCI] **1.** Definition. Also known as synonym. **2.** Definition. Symbolized T.

In the above arrangement, "Also known as . . . " applies only to the first definition; "Symbolized . . . " applies only to the second definition.

term [COMMUN] **1.** Definition. **2.** Definition. [COMPUT SCI] Definition. Also known as synonym.

In the above arrangement, "Also known as . . . " applies only to the second field.

term [COMMUN] Also known as synonym. **1.** Definition. **2.** Definition. [COMPUT SCI] Definition.

In the above arrangement, "Also known as . . . " applies only to both definitions in the first field.

term Also known as synonym. [COMMUN] **1.** Definition. **2.** Definition. [COMPUT SCI] Definition.

In the above arrangement, "Also known as . . . " applies to all definitions in both fields.

Fields and Their Scope

[COMMUN] **communications**—The science and technology by which information is collected from an originating source; converted into a form suitable for transmission; transmitted over a pathway such as a satellite channel, underwater acoustic channel, telephone cable, or fiber-optic link; and reconverted into a form suitable for interpretation by a receiver.

[COMPUT SCI] **computer science**—The study of computing, including computer hardware, software, programming, networking, database systems, information technology, interactive systems, and security.

[CONT SYS] **control systems**—The study of those systems in which one or more outputs are forced to change in a desired manner as time progresses.

[ELEC] **electricity**—The science of physical phenomena involving electric charges and their effects when at rest and when in motion.

[ELECTROMAG] **electromagnetism**—The branch of physics dealing with the observations and laws relating electricity to magnetism, and with magnetism produced by an electric current.

[ELECTR] **electronics**—The technological area involving the manipulation of voltages and electric currents through the use of various devices for the purpose of performing some useful action with the currents and voltages; this field is generally divided into analog electronics, in which the signals to be manipulated take the form of continuous currents or voltages, and digital electronics, in which signals are represented by a finite set of states.

[ENG] **engineering**—The science by which the properties of matter and the sources of power in nature are made useful to humans in structures, machines, and products.

[ENG ACOUS] **engineering acoustics**—The field of acoustics that deals with the production, detection, and control of sound by electrical devices, including the study, design, and construction of such things as microphones, loudspeakers, sound recorders and reproducers, and public address sytems.

[GEOPHYS] **geophysics**—The branch of geology in which the principles and practices of physics are used to study the earth and its environment, that is, earth, air, and (by extension) space.

[MATER] **materials**—A multidisciplinary field concerned with the properties and uses of materials in terms of composition, structure, and processing.

[MATH] **mathematics**—The deductive study of shape, quantity, and dependence; the two main areas are applied mathematics and pure mathematics, the former arising from the study of physical phenomena, the latter involving the intrinsic study of mathematical structures.

[NAV] **navigation**—The science or art of directing the movement of a craft, such as a ship, small marine craft, underwater vehicle, land vehicle, aircraft, missile, or spacecraft, from one place to another with the assistance of onboard equipment, objects, or devices, or of systems external to the craft.

[OPTICS] **optics**—The study of phenomena associated with the generation, transmission, and detection of electromagnetic radiation in the spectral range extending from the long-wave edge of the x-ray region to the short-wave edge of the radio region; and the science of light.

[PHYS] **physics**—The science concerned with those aspects of nature which can be understood in terms of elementary principles and laws.

[SOLID STATE] **solid-state physics**—The branch of physics centering on the physical properties of solid materials; it is usually concerned with the properties of crystalline materials only, but it is sometimes extended to include the properties of glasses or polymers.

[STAT] **statistics**—The science dealing with the collection, analysis, interpretation, and presentation of masses of numerical data.

[SYS ENG] **systems engineering**—The branch of engineering dealing with the design of a complex interconnection of many elements (a system) to maximize an agreed-upon measure of system performance.

Pronunciation Key

Vowels

a	as in b**a**t, th**a**t
ā	as in b**ai**t, cr**a**te
ä	as in b**o**ther, f**a**ther
e	as in b**e**t, n**e**t
ē	as in b**ee**t, tr**ea**t
i	as in b**i**t, sk**i**t
ī	as in b**i**te, l**igh**t
ō	as in b**oa**t, n**o**te
ȯ	as in b**ough**t, t**au**t
u̇	as in b**oo**k, p**u**ll
ü	as in b**oo**t, p**oo**l
ə	as in b**u**t, sof**a**
au̇	as in cr**ow**d, p**ow**er
ȯi	as in b**oi**l, sp**oi**l
yə	as in form**u**la, spectac**u**lar
yü	as in f**ue**l, m**u**le

Semivowels/Semiconsonants

w	as in **w**ind, t**w**in
y	as in **y**et, on**ion**

Stress (Accent)

ˈ	precedes syllable with primary stress
ˌ	precedes syllable with secondary stress
ˈˌ	precedes syllable with variable or indeterminate primary/ secondary stress

Consonants

b	as in **b**i**bb**le, dri**bb**le
ch	as in **ch**arge, stre**tch**
d	as in **d**og, ba**d**
f	as in **f**ix, sa**f**e
g	as in **g**ood, si**g**nal
h	as in **h**and, be**h**ind
j	as in **j**oint, di**g**it
k	as in **c**ast, bri**ck**
k̲	as in Ba**ch** (used rarely)
l	as in **l**oud, be**ll**
m	as in **m**ild, su**mm**er
n	as in **n**ew, de**n**t
n̲	indicates nasalization of preceding vowel
ŋ	as in ri**ng**, si**ng**le
p	as in **p**ier, sli**p**
r	as in **r**ed, sca**r**
s	as in **s**ign, pos**t**
sh	as in **su**gar, **sh**oe
t	as in **t**imid, ca**t**
th	as in **th**in, brea**th**
t̲h̲	as in **th**en, brea**th**e
v	as in **v**eil, wea**v**e
z	as in **z**oo, cru**is**e
zh	as in bei**g**e, trea**s**ure

Syllabication

·	Indicates syllable boundary when following syllable is unstressed

A

a *See* ampere.
A *See* ampere.
aΩ *See* abohm.
$(aΩ)^{-1}$ *See* abmho.
A+ *See* A positive.
aA *See* abampere.
aA/cm^2 *See* abampere per square centimeter.
A AND NOT B gate *See* AND NOT gate. { 'ā an nöt 'bē ,gāt }
abampere [ELEC] The unit of electric current in the electromagnetic centimeter-gram-second system; 1 abampere equals 10 amperes in the absolute meter-kilogram-second-ampere system. Abbreviated aA. Also known as Bi; biot. { ab'am·pēr }
abampere per square centimeter [ELEC] The unit of current density in the electromagnetic centimeter-gram-second system. Abbreviated aA/cm^2. { ab'am·pēr pər 'skwer 'sen·tə,mēd·ər }
A battery [ELECTR] The battery that supplies power for filaments or heaters of electron tubes in battery-operated equipment. { 'ā ,bat·ə·rē }
abbreviated dialing [COMMUN] A feature which requires less than the usual number of dialing operations to connect two or more subscribers. { ə'brē·vē·ād·əd 'dī·liŋ }
ABC *See* automatic brightness control.
abcoulomb [ELEC] The unit of electric charge in the electromagnetic centimeter-gram-second system, equal to 10 coulombs. Abbreviated aC. { ab'kü·lōm }
abcoulomb centimeter [ELEC] In the electromagnetic centimeter-gram-second system of units, the unit of electric dipole moment. Abbreviated aCcm. { ab'kü·lōm 'sen·tə,mēd·ər }
abcoulomb per cubic centimeter [ELEC] The electromagnetic centimeter-gram-second unit of volume density of charge. Abbreviated aC/cm^3. { ab'kü·lōm pər 'kyü·bik 'sen·tə,mēd·ər }
abcoulomb per square centimeter [ELEC] The electromagnetic centimeter-gram-second unit of surface density of charge, electric polarization, and displacement. Abbreviated aC/cm^2. { ab'kü·lōm pər skwer 'sen·tə,mēd·ər }
abeam *See* on the beam. { ə'bēm }
abend [COMPUT SCI] An unplanned program termination that occurs when a computer is directed to execute an instruction or to process information that it cannot recognize. Also known as blow up; bomb; crash. { 'ab·end }
abfarad [ELEC] A unit of capacitance in the electromagnetic centimeter-gram-second system equal to 10^9 farads. Abbreviated aF. { ab'far·ad }
abhenry [ELEC] A unit of inductance in the electromagnetic centimeter-gram-second system of units which is equal to 10^{-9} henry. Abbreviated aH. { ab'hen·rē }
able [COMPUT SCI] A name for the hexadecimal digit whose decimal equivalent is 10. { 'ā·bəl }
abmho [ELEC] A unit of conductance in the electromagnetic centimeter-gram-second system of units equal to 10^9 mhos. Abbreviated $(aΩ)^{-1}$. Also known as absiemens (aS). { 'ab,mō }
Abney level *See* clinometer. { 'ab·nē 'lev·əl }
abnormal glow discharge [ELECTR] A discharge of electricity in a gas tube at currents somewhat higher than those of an ordinary glow discharge, at which point the glow covers the entire cathode and the voltage drop decreases with increasing current. { ab'nȯr·məl ,glō 'dis·chärj }
abnormal propagation [COMMUN] Phenomena of unstable or changing atmospheric or ionospheric conditions acting upon transmitted radio waves, preventing such waves from following their normal path, thereby causing difficulties and disruptions of communications. { ab'nȯr·məl ,präp·ə'gā·shən }
abnormal statement [COMPUT SCI] An element of a FORTRAN V (UNIVAC) program which specifies that certain function subroutines must be called every time they are referred to. { ab'nȯr·məl 'stāt·mənt }
abohm [ELEC] The unit of electrical resistance in the centimeter-gram-second system; 1 abohm equals 10^{-9} ohm in the meter-kilogram-second system. Abbreviated aΩ. { a'bōm }
abohm centimeter [ELEC] The centimeter-gram-second unit of resistivity. Abbreviated aΩcm. { a'bōm 'sen·tə,mē·dər }
abort [COMPUT SCI] To terminate a procedure, such as the running of a computer program or the printing of a document, while it is still in progress. { ə'bȯrt }
abort branch [CONT SYS] A branching instruction in the program controlling a robot that causes a test to be performed on whether the tool-center point is properly positioned, and to reposition it if it drifts out of the acceptable range. { ə'bȯrt ,branch }

AB power pack [ELEC] **1.** Assembly in a single unit of the A battery and B battery for a battery-operated vacuum-tube circuit. **2.** Unit that supplies the necessary A and B direct-current voltages from an alternating-current source of power. { ˌā¦bē 'paù·ər ˌpak }

abrupt junction [ELECTR] A *pn* junction in which the concentration of impurities changes suddenly from acceptors to donors. { ə'brəpt 'jəŋk·shən }

abs [COMPUT SCI] A special function occurring in ALGOL, which yields the absolute value, or modulus, of its argument.

absiemens *See* abmho. { ab'sē·mənz }

absolute address [COMPUT SCI] The numerical identification of each storage location which is wired permanently into a computer by the manufacturer. { 'ab·səˌlüt ə'dres }

absolute addressing [COMPUT SCI] The identification of storage locations in a computer program by their physical addresses. { 'ab·sə ˌlüt ə'dres·iŋ }

absolute category rating mean opinion score [COMMUN] Methodology for subjectively testing audio quality where participants are presented with sound samples, one at a time, and are asked to grade them on a 5-point scale. For the NRSC FM IBOC tests, the MOS scale used was 5 = excellent, 4 = good, 3 = fair, 2 = poor, 1 = bad. Abbreviated ACR-MOS. { ¦ab·səˌlut kad·əˌgór·ē rād·iŋ mēn 'ə·'pin·yən ˌskōr }

absolute cell reference [COMPUT SCI] A cell reference used in a formula in a spreadsheet program that does not change when the formula is copied or moved. { ¦ab·səˌlüt 'sel ˌref·rəns }

absolute code [COMPUT SCI] A code used when the addresses in a program are to be written in machine language exactly as they will appear when the instructions are executed by the control circuits. { 'ab·səˌlüt 'kōd }

absolute efficiency [ENG ACOUS] The ratio of the power output of an electroacoustic transducer, under specified conditions, to the power output of an ideal electroacoustic transducer. { 'ab·sə ˌlüt ə'fish·ən·sē }

absolute electrometer [ELEC] A very precise type of attracted disk electrometer in which the attraction between two disks is balanced against the force of gravity. { 'ab·səˌlüt əˌlek'träm·əd·ər }

absolute gain of an antenna [ELECTROMAG] Gain in a given direction when the reference antenna is an isotropic antenna isolated in space. Also known as isotropic gain of an antenna. { 'ab·sə ˌlüt ˌgān əv ən an'ten·ə }

absolute index of refraction *See* index of refraction. { 'ab·səˌlüt 'inˌdeks əv ri'frak·shən }

absolute instruction [COMPUT SCI] A computer instruction in its final form, in which it can be executed. { 'ab·səˌlüt in'strək·shən }

absolute programming [COMPUT SCI] Programming with the use of absolute code. { 'ab·sə ˌlüt 'prō·gram·iŋ }

absolute refractive constant *See* index of refraction. { 'ab·səˌlüt ri'frak·tiv 'kän·stənt }

absolute-value computer [COMPUT SCI] A computer that processes the values of the variables rather than their increments. { 'ab·səˌlüt 'val·yü kəm'pyüd·ər }

absolute vector [COMPUT SCI] In computer graphics, a vector whose end points are given in absolute coordinates. { 'ab·səˌlüt 'vek·tər }

absorbed charge [ELEC] Charge on a capacitor which arises only gradually when the potential difference across the capacitor is maintained, due to gradual orientation of permanent dipolar molecules. { əb'sȯrbd 'chärj }

absorber [ELECTR] A material or device that takes up and dissipates radiated energy; may be used to shield an object from the energy, prevent reflection of the energy, determine the nature of the radiation, or selectively transmit one or more components of the radiation. { əb'sȯr·bər }

absorber control *See* absorption control. { əb'sȯr·bər kən'trōl }

absorption [ELEC] The property of a dielectric in a capacitor which causes a small charging current to flow after the plates have been brought up to the final potential, and a small discharging current to flow after the plates have been short-circuited, allowed to stand for a few minutes, and short-circuited again. Also known as dielectric soak. [ELECTROMAG] Taking up of energy from radiation by the medium through which the radiation is passing. { əb'sȯrp·shən }

absorption circuit [ELECTR] A series-resonant circuit used to absorb power at an unwanted signal frequency by providing a low impedance to ground at this frequency. { əb'sȯrp·shən 'sər·kət }

absorption control *See* absorption modulation. { əb'sȯrp·shən kən'trōl }

absorption current [ELEC] The component of a dielectric current that is proportional to the rate of accumulation of electric charges within the dielectric. { əb'sȯrp·shən 'kər·ənt }

absorption fading [COMMUN] Slow type of fading, primarily caused by variations in the absorption rate along the radio path. { əb'sȯrp·shən 'fād·iŋ }

absorption loss [COMMUN] That part of the transmission loss due to the dissipation or conversion of either sound energy or electromagnetic energy into other forms of energy, either within the medium or attendant upon a reflection. { əb'sȯrp·shən ˌlȯs }

absorption meter [ENG] An instrument designed to measure the amount of light transmitted through a transparent substance, using a photocell or other light detector. { əb'sȯrp·shən 'mēd·ər }

absorption modulation [ELECTR] A system of amplitude modulation in which a variable-impedance device is inserted in or coupled to the output circuit of the transmitter. Also known as absorption control; loss modulation. { əb'sȯrp·shən mäd·yü'lā·shən }

absorption wavemeter [ELECTR] A frequency- or wavelength-measuring instrument consisting of

a calibrated tunable circuit and a resonance indicator. { əb'sȯrp·shən 'wāv,mēd·ər }

abstract automata theory [COMPUT SCI] The mathematical theory which characterizes automata by three sets: input signals, internal states, and output signals; and two functions: input functions and output functions. { 'abz·trakt ȯ'tam·ə·tə 'thē·ə·rē }

abstract data type [COMPUT SCI] A mathematical model which may be used to capture the essentials of a problem domain in order to translate it into a computer program; examples include queues, lists, stacks, trees, graphs, and sets. Abbreviated ADT. { 'abz·trakt 'dad·ə ,tīp }

abvolt [ELEC] The unit of electromotive force in the electromagnetic centimeter-gram-second system; 1 abvolt equals 10^{-8} volt in the absolute meter-kilogram-second system. Abbreviated aV. { 'ab,vōlt }

abvolt per centimeter [ELEC] In the electromagnetic centimeter-gram-second system of units, the unit of electric field strength. Abbreviated aV/cm. { 'ab,vōlt pər 'sen·tə,mēd·ər }

abwatt [ELEC] The unit of electrical power in the centimeter-gram-second system; 1 abwatt equals 1 watt in the absolute meter-kilogram-second system. { 'ab,wät }

ac *See* alternating current.

aC *See* abcoulomb.

ACAS *See* airborne collision avoidance system.

accelerated graphics port [COMPUT SCI] A personal computer graphics bus that transfers data at a greater rate than a PCI bus. { ak,sel·ə,rād·əd 'graf·iks ,pȯrt }

accelerated test [ELEC] A test of the serviceability of an electric cable in use for some time by applying twice the voltage normally carried. { ak'sel·ər,ā·dəd 'test }

accelerating electrode [ELECTR] An electrode used in cathode-ray tubes and other electron tubes to increase the velocity of the electrons that contribute the space current or form a beam. { ak'sel·ər,ād·iŋ i'lek,trōd }

accelerating potential [ELECTR] The energy potential in electron-beam equipment that imparts additional speed and energy to the electrons. { ak'sel·ər,ād·iŋ pə'ten·shəl }

accelerating relay [ELEC] Any relay that is used to assist in starting a motor or increasing its speed. { ak'sel·ə,rād·iŋ 'rē,lā }

acceleration-error constant [CONT SYS] The ratio of the acceleration of a controlled variable of a servomechanism to the actuating error when the actuating error is constant. { ak,sel·ə'rā·shən 'er·ər 'kän·stənt }

acceleration switch [ELEC] A switch that opens or closes in the presence of acceleration that 0 exceeds a certain value. { ak,sel·ə'rā·shən ,swich }

acceleration time [COMPUT SCI] The time required for a magnetic tape transport or any other mechanical device to attain its operating speed. { ak,sel·ə'rā·shən ,tīm }

acceleration tolerance [ENG] The degree to which personnel or equipment withstands acceleration. { ak,sel·ə'rā·shən 'täl·ər·əns }

acceleration voltage [ELECTR] The voltage between a cathode and accelerating electrode of an electron tube. { ak,sel·ə'rā·shən 'vōl·təj }

accentuation [ELECTR] The enhancement of signal amplitudes in selected frequency bands with respect to other signals. { ak,sen·chə'wā·shən }

accentuator [ELECTR] A circuit that provides for the first part of a process for increasing the strength of certain audio frequencies with respect to others, to help these frequencies override noise or to reduce distortion. Also known as accentuator circuit. { ak'sen·chə,wād·ər }

accentuator circuit *See* accentuator. { ak'sen·chə,wād·ər 'sər·kət }

accept [COMPUT SCI] A data transmission statement which is used in FORTRAN when the computer is in conversational mode, and which enables the programmer to input, through the teletypewriter, data the programmer wishes stored in memory. { ak'sept }

acceptor [SOLID STATE] An impurity element that increase the number of holes in a semiconductor crystal such as germanium or silicon; aluminum, gallium, and indium are examples. Also known as acceptor impurity; acceptor material. { ak'sep·tər }

acceptor circuit [ELECTR] A series-resonant circuit that has a low impedance at the frequency to which it is tuned and a higher impedance at all other frequencies. { ak'sep·tər 'sər·kət }

acceptor impurity *See* acceptor. { ak'sep·tər im 'pyür·ə·dē }

acceptor material *See* acceptor. { ak'sep·tər mə 'tir·ē·əl }

access [COMPUT SCI] The reading of data from storage or the writing of data into storage. { 'ak ,ses }

access arm [COMPUT SCI] The mechanical device which positions the read/write head on a magnetic storage unit. { 'ak,ses ,ärm }

access code [COMMUN] **1.** Numeric identification for internetwork or facility switching. **2.** The preliminary digits that a user must dial to be connected through an automatic PBX to the serving switching center. [COMPUT SCI] A sequence of characters which a user must enter into a terminal in order to use a computer system. { 'ak,ses ,kōd }

access control [COMPUT SCI] A restriction on the operations that a user of a computer system may perform on files and other resources of the system. { 'ak,ses kən,trōl }

access-control list [COMPUT SCI] A column of an access matrix, containing the access rights of various users of a computer system to a given file or other resource of the system. { 'ak,ses kən,trōl ,list }

access-control mechanism *See* reference monitor. { 'ak,ses kən'trōl ,me·kə·ni·zəm }

access-control register [COMPUT SCI] A storage device which controls the word-by-word transmission over a given channel. { 'ak,ses kən'trōl ,rej·ə·stər }

access-control words [COMPUT SCI] Permanently wired instructions channeling transmitted words into reserved locations. {ak,ses kən'trōl ,wərdz }

access gap *See* memory gap. { 'ak,ses ,gap }

access line [COMMUN] Four-wire circuit between a subscriber or a local PBX to the serving switching center. { 'ak,ses ,līn }

access management [COMPUT SCI] The use of techniques to allow various components of a computer's operating system to be used only by authorized personnel. { 'ak,ses ,man·ij·mənt }

access matrix [COMPUT SCI] A method of representing discretionary authorization information, with rows representing subjects or users of the system, columns corresponding to objects or resources of the system, and cells (intersections of rows and columns) composed of allowable operations that a subject may apply to an object. { 'ak,ses ,mā·triks }

access mechanism [COMPUT SCI] The mechanism of positioning reading or writing heads onto the required tracks of a magnetic disk. { 'ak,ses 'mek·ə,niz·əm }

access method [COMMUN] The procedures required to obtain access to a communications network. [COMPUT SCI] A set of programming routines which links programs and the data that these programs transfer into and out of memory. { 'ak,ses ,meth·əd }

access mode [COMPUT SCI] A programming clause in COBOL which is required when using a random-access device so that a specific record may be read out of or written into a mass storage bin. { 'ak,ses ,mōd }

access privileges [COMPUT SCI] The extent to which a user of a computer in a network is allowed to use and read, write to, and execute files in other computers in the network. { 'ak ,ses ,priv·ə·ləj·əs }

access protocol [COMMUN] A set of rules observed by all nodes in a local-area network so that one node can get the attention of another and its data packet can be transferred, and so that no two data packets can be simultaneously transmitted over the same medium. { 'ak,ses ,prōd·ə,kȯl }

access provider *See* service provider. { 'ak,ses prə,vīd·ər }

access time [COMPUT SCI] The time period required for reading out of or writing into the computer memory. { 'ak·ses ,tīm }

access type [COMPUT SCI] One of the allowable operations that a given user of a computer system governed by access controls may perform on a file or other resource of the system, such as own, read, write, or execute. { 'ak·ses ,tīp }

aCcm *See* abcoulomb centimeter.

aC/cm² *See* abcoulomb per square centimeter.

aC/cm³ *See* abcoulomb per cubic centimeter.

accommodation [CONT SYS] Any alteration in a robot's motion in response to the robot's environment; it may be active or passive. { ə,käm·ə'dā·shən }

accommodation time [ELECTR] The time from the production of the first electron to the production of a steady electric discharge in a gas. { ə,käm·ə'dā·shən ,tīm }

accordion cable [ELEC] A flat, multiconductor cable prefolded into a zigzag shape and used to make connections to movable equipment such as a chassis mounted on pullout slides. { ə'kȯrd·ē·ən 'kā·bəl }

accounting package [COMPUT SCI] A set of special routines that allow collection of information about the usage level of various components of a computer system by each production program. { ə'kaunt·iŋ 'pak·ij }

accumulator [COMPUT SCI] A specific register, in the arithmetic unit of a computer, in which the result of an arithmetic or logical operation is formed; here numbers are added or subtracted, and certain operations such as sensing, shifting, and complementing are performed. Also known as accumulator register; counter. [ELEC] *See* storage battery. { ə'kyü·myə,lād·ər }

accumulator battery *See* storage battery. { ə'kyü·myə,lād·ər 'bad·ə·rē }

accumulator jump instruction [COMPUT SCI] An instruction which programs a computer to ignore the previously established program sequence depending on the status of the accumulator. Also known as accumulator transfer instruction. { ə'kyü·myə,lād·ər ,jəmp in'strək·shən }

accumulator register *See* accumulator. { ə'kyü·myə,lād·ər 'rej·ə·stər }

accumulator shift instruction [COMPUT SCI] A computer instruction which causes the word in a register to be displaced a specified number of bit positions to the left or right. { ə'kyü·myə,lād·ər 'shift in'strək·shən }

accumulator transfer instruction *See* accumulator jump instruction. { ə'kyü·myə,lād·ər 'trans·fər in'strək·shən }

accuracy control system [COMPUT SCI] Any method which attempts error detection and control, such as random sampling and squaring. { 'ak·yə·rə·sē kən'trōl ,sis·təm }

ac/dc motor *See* universal motor. { ,ā·sē,dē·sē 'mōd·ər }

ac/dc receiver [ELECTR] A radio receiver designed to operate from either an alternating- or direct-current power line. Also known as universal receiver. { ,ā·sē,dē·sē ri'sēv·ər }

ACK *See* acknowledge character.

acknowledge character [COMPUT SCI] A signal that a receiving station transmits in order to indicate that a block of information has been received and that its validity has been checked. Also known as acknowledgement. Abbreviated ACK. { ak'nä·lij 'kar·ək·tər }

acknowledgement *See* acknowledge character. { ak'nä·lij·mənt }

aΩcm *See* abohm centimeter.

acorn tube [ELECTR] An ultra-high-frequency electron tube resembling an acorn in shape and size. { 'ā,kȯrn ,tüb }

acoustic amplifier [ELECTR] A device that amplifies mechanical vibrations directly at audio and

ultrasonic frequencies. Also known as acoustoelectric amplifier. { ə'küs·tik 'am·plə,fī·ər }

acoustic array [ENG ACOUS] A sound-transmitting or sound-receiving system whose elements are arranged to give desired directional characteristics. { ə'küs·tik ə'rā }

acoustic bridge [ELECTR] A device, based on the principle of the electrical Wheatstone bridge, used for analysis of deafness. { ə'küs·tik 'brij }

acoustic center [ENG ACOUS] The center of the spherical sound waves radiating outward from an acoustic transducer. { ə'küs·tik 'sen·tər }

acoustic clarifier [ENG ACOUS] System of cones loosely attached to the baffle of a loudspeaker and designed to vibrate and absorb energy during sudden loud sounds to suppress these sounds. { ə'küs·tik 'klar·ə,fī·ər }

acoustic convolver *See* convolver. { ə'küs·tik kən 'välv·ər }

acoustic coupler [ENG ACOUS] A device used between the modem of a computer terminal and a standard telephone line to permit transmission of digital data in either direction without making direct connections. { ə'küs·tik 'kəp·lər }

acoustic delay [ENG ACOUS] A delay which is deliberately introduced in sound reproduction by having the sound travel a certain distance along a pipe before conversion into electric signals. { ə'küs·tik di'lā }

acoustic delay line [ELECTR] A device in which acoustic signals are propagated in a medium to make use of the sonic propagation time to obtain a time delay for the signals. Also known as sonic delay line. { ə'küs·tik di'lā ,līn }

acoustic detector [ELECTR] The stage in a receiver at which demodulation of a modulated radio wave into its audio component takes place. { ə'küs·tik di'tek·tər }

acoustic feedback [ENG ACOUS] The reverberation of sound waves from a loudspeaker to a preceding part of an audio system, such as to the microphone, in such a manner as to reinforce, and distort, the original input. Also known as acoustic regeneration. { ə'küs·tik 'fēd ,bak }

acoustic filter *See* filter. { ə'küs·tik 'fil·tər }

acoustic generator [ENG ACOUS] A transducer which converts electrical, mechanical, or other forms of energy into sound. { ə'küs·tik 'jen·ə ,rād·ər }

acoustic hologram [ENG] The phase interference pattern, formed by acoustic beams, that is used in acoustical holography; when light is made to interact with this pattern, it forms an image of an object placed in one of the beams. { ə'küs·tik 'häl·ə,gram }

acoustic horn *See* horn. { ə'küs·tik 'hȯrn }

acoustic jamming [ENG ACOUS] The deliberate radiation or reradiation of mechanical or electroacoustic signals with the objectives of obliterating or obscuring signals which the enemy is attempting to receive and of deterring enemy weapons systems. { ə'küs·tik 'jam·iŋ }

acoustic labyrinth [ENG ACOUS] Special baffle arrangement used with a loudspeaker to prevent cavity resonance and to reinforce bass response. { ə'küs·tik 'lab·ə,rinth }

acoustic line [ENG ACOUS] The acoustic equivalent of an electrical transmission line, involving baffles, labyrinths, or resonators placed at the rear of a loudspeaker and arranged to help reproduce the very low audio frequencies. { ə'küs·tik 'līn }

acoustic radiator [ENG ACOUS] A vibrating surface that produces sound waves, such as a loudspeaker cone or a headphone diaphragm. { ə'küs·tik 'rād·ē,ād·ər }

acoustic radiometer [ENG] An instrument for measuring sound intensity by determining the unidirectional steady-state pressure caused by the reflection or absorption of a sound wave at a boundary. { ə'küs·tik ,rād·ə'ä·məd·ər }

acoustic ratio [ENG ACOUS] The ratio of the intensity of sound radiated directly from a source to the intensity of sound reverberating from the walls of an enclosure, at a given point in the enclosure. { ə'küs·tik 'rā·shō }

acoustic receiver [ELECTR] The complete equipment required for receiving modulated radio waves and converting them into sound. { ə'küs·tik rə'sēv·ər }

acoustic reflex enclosure [ENG ACOUS] A loudspeaker cabinet designed with a port to allow a low-frequency contribution from the rear of the speaker cone to be radiated forward. { ə'küs·tik 'rē,fleks in,klō·zhər }

acoustic regeneration *See* acoustic feedback. { ə'küs·tik rē,jen·ə'rā·shən }

acoustic seal [ENG ACOUS] A joint between two parts to provide acoustical coupling with low losses of energy, such as between an earphone and the human ear. { ə'küs·tik 'sēl }

acoustic spectrometer [ENG ACOUS] An instrument that measures the intensities of the various frequency components of a complex sound wave. Also known as audio spectrometer. { ə'küs·tik spek'träm·əd·ər }

acoustic transducer [ENG ACOUS] A device that converts acoustic energy to electrical or mechanical energy, such as a microphone or phonograph pickup. { ə'küs·tik tranz'dü·sər }

acoustic transformer [ENG ACOUS] A device, such as a horn or megaphone, for increasing the efficiency of sound radiation. { ə'küs·tik tranz 'fȯr·mər }

acoustic-wave amplifier [ELECTR] An amplifier in which the charge carriers in a semiconductor are coupled to an acoustic wave that is propagated in a piezoelectric material, to produce amplification. { ə'küs·tik wāv 'am·plə,fī·ər }

acoustoelectric amplifier *See* acoustic amplifier. { ə¦küs·tō·ə¦lek·trik 'am·plə,fī·ər }

acoustoelectric effect [ELECTR] **1.** The development of a direct-current voltage in a semiconductor or metal by an acoustic wave traveling parallel to the surface of the material. Also known as electroacoustic effect. **2.** The amplification of a sound wave propagating in a piezoelectric semiconductor subject to a steady electric field that is strong enough that the resulting electron

drift velocity exceeds the speed of sound. {ə,küs·tō·ə'lek·trik i,fekt}

acoustoelectronics [ENG ACOUS] The branch of electronics that involves use of acoustic waves at microwave frequencies (above 500 megahertz), traveling on or in piezoelectric or other solid substrates. Also known as pretersonics. {ə¦küs·tō·ə,lek¦trän·iks}

acoustooptical cell [ELEC] An electric-to-optical transducer in which an acoustic or ultrasonic electric input signal modulates or otherwise acts on a beam of light. {ə¦küs·tō¦äp·tə·kəl 'sel}

acoustooptic interaction [OPTICS] A way to influence the propagation characteristics of an optical wave by applying a low-frequency acoustical field to the medium through which the wave passes. {ə¦küs·tō¦äp·tik ,in·tə'rak·shən}

acoustooptic modulator [OPTICS] A device utilizing acoustooptic interaction ultrasonically to vary the amplitude or the phase of a light beam. Also known as Bragg cell. {ə¦küs·tō¦äp·tik 'mäd·yə,lād·ər}

acoustooptics [OPTICS] The science that deals with interactions between acoustic waves and light. {ə¦küs·tō¦äp·tiks}

acquire [ELECTR] **1.** Of acquisition radars, the process of detecting the presence and location of a target in sufficient detail to permit identification. **2.** Of tracking radars, the process of positioning a radar beam so that a target is in that beam to permit the effective employment of weapons. Also known as target acquisition. {ə'kwīr}

acquisition [ELECTR] Also known as target acquisition. **1.** Of acquisition radars, the process of detecting and locating a target so as to permit reliable tracking and possible identification of it or other determinations about it. **2.** Of precision tracking radars, the detecting and tracking of a target designated to it by another radar or other initial data source to support continued intended action. [ENG] The process of pointing an antenna or a telescope so that it is properly oriented to allow gathering of tracking and telemetry data from a satellite or space probe. {,ak·wə'zish·ən}

acquisition and tracking radar [ENG] A radar set capable of locking onto a received signal and tracking the object emitting the signal; the radar may be airborne or on the ground. {,ak·wə'zish·ən ən 'trak·iŋ ,rā,där}

acquisition tone [COMPUT SCI] An audible tone that verifies entry into a computer. {,ak·wə'zish·ən ,tōn}

ACR-MOS *See* absolute category rating mean opinion score.

ACSR *See* aluminum cable steel-reinforced.

actinodielectric [ELEC] Of a substance, exhibiting an increase in electrical conductivity when electromagnetic radiation is incident upon it. {,ak·tə·nō,dī·ə'lek·trik}

actinoelectricity [ELEC] The electromotive force produced in a substance by electromagnetic radiation incident upon it. {,ak·tə·nō·i ,lek'tris·ə·dē}

action entries [COMPUT SCI] The lower right-hand portion of a decision table, indicating which of the various possible actions result from each of the various possible conditions. {'ak·shən ,en·trēz}

action period [ELECTR] The period of time during which data in a Williams tube storage device can be read or new data can be written into this storage. {'ak·shən ,pir·ē·əd}

action portion [COMPUT SCI] The lower portion of a decision table, comprising the action stub and action entries. {'ak·shən ,pōr·shən}

action stub [COMPUT SCI] The lower left-hand portion of a decision table, consisting of a single column listing the various possible actions (transformations to be done on data and materials). {'ak·shən ,stəb}

activate [ELEC] To make a cell or battery operative by addition of a liquid. [ELECTR] To treat the filament, cathode, or target of a vacuum tube to increase electron emission. {'ak·tə,vāt}

activated cathode [ELECTR] A thermionic cathode consisting of a tungsten filament to which thorium has been added, and then brought to the surface, by a process such as heating in the absence of an electric field in order to increase thermionic emission. {'ak·tə,vād·əd 'kath,ōd}

activation [ELEC] The process of adding liquid to a manufactured cell or battery to make it operative. [ELECTR] The process of treating the cathode or target of an electron tube to increase its emission. Also known as sensitization. {,ak·tə'vā·shən}

activation record [COMPUT SCI] A variable part of a program module, such as data and control information, that may vary with different instances of execution. {,ak·tə'vā·shən 'rek·ərd}

active accommodation [CONT SYS] The alteration of preprogrammed robotic motions by the integrated effects of sensors, controllers, and the robotic motion itself. {'ak·tiv ə,käm·ə'dā·shən}

active area [ELECTR] The area of a metallic rectifier that acts as the rectifying junction and conducts current in the forward direction. {'ak·tiv 'er·ē·ə}

active array [ELECTROMAG] A radar antenna composed of many radiating elements, each of which contains an amplifier, generally solid state in nature, for the final amplification of the signal transmitted; when the elements are also phased controlled for electronic beam steering, the term active phased array is used. {¦ak·tiv ə'rā}

active balance [COMMUN] Summation of all return currents, in telephone repeater operation, at a terminal network balanced against the impedance of the local circuit or drop. {'ak·tiv 'bal·əns}

active cell [COMPUT SCI] The cell that continues the value being used or modified in a spreadsheet program, and that is highlighted by the cell pointer. Also known as current cell. { |ak·tiv 'sel }

active communications satellite [ENG] Satellite which receives, regenerates, and retransmits signals between stations. { 'ak·tiv kə ˌmyü·nə'kā·shənz 'sad·əˌlīt }

active component [ELEC] In the phasor representation of quantities in an alternating-current circuit, the component of current, voltage, or apparent power which contributes power, namely, the active current, active voltage, or active power. Also known as power component. [ELECTR] *See* active element. { 'ak·tiv kəm'pō·nənt }

active computer [COMPUT SCI] When two or more computers are installed, the one that is on-line and processing data. { 'ak·tiv kəm'pyüd·ər }

active current [ELEC] The component of an electric current in a branch of an alternating-current circuit that is in phase with the voltage. Also known as watt current. { 'ak·tiv 'kə·rənt }

active detection system [ENG] A guidance system which emits energy as a means of detection; for example, sonar and radar. { 'ak·tiv di'tek·shən ˌsis·təm }

active device [ELECTR] A component, such as an electron tube or transistor, that is capable of amplifying the current or voltage in a circuit. { 'ak·tiv di'vīs }

active electric network [ELEC] Electric network containing one or more sources of energy. { 'ak·tiv ə'lek·trik 'netˌwərk }

active electronic countermeasures [ELECTR] The major subdivision of electronic countermeasures that concerns electronic jamming and electronic deceptions. { 'ak·tiv əˌlek'trän·ik 'kaunt·ərˌmezh·ərz }

active element [ELECTR] Any generator of voltage or current in an impedance network. Also known as active component. { 'ak·tiv 'el·ə·mənt }

active file [COMPUT SCI] A collection of records that is currently being used or is available for use. { 'ak·tiv 'fīl }

active filter [ELECTR] A filter that uses an amplifier with conventional passive filter elements to provide a desired fixed or tunable pass or rejection characteristic. { 'ak·tiv 'fil·tər }

active jamming *See* jamming. { 'ak·tiv 'jam·iŋ }

active leg [ELECTR] An electrical element within a transducer which changes its electrical characteristics as a function of the application of a stimulus. { 'ak·tiv 'leg }

active logic [ELECTR] Logic that incorporates active components which provide such functions as level restoration, pulse shaping, pulse inversion, and power gain. { 'ak·tiv 'läj·ik }

active master file [COMPUT SCI] A relatively active computer master file, as determined by usage data. { 'ak·tiv 'mas·tər 'fīl }

active master item [COMPUT SCI] A relatively active item in a computer master file, as determined by usage data. { 'ak·tiv 'mas·tər 'ī·təm }

active material [ELEC] **1.** A fluorescent material used in screens for cathode-ray tubes. **2.** An energy-storing material, such as lead oxide, used in the plates of a storage battery. **3.** A material, such as the iron of a core or the copper of a winding, that is involved in energy conversion in a circuit. **4.** In a battery, the chemically reactive material in either of the electrodes that participates in the charge and discharge reactions. [ELECTR] The material of the cathode of an electron tube that emits electrons when heated. { 'ak·tiv mə'tir·ē·əl }

active-matrix liquid-crystal display [ELEC] A liquid-crystal display that has an active element, such as a transistor or diode, on every picture element. Abbreviated AMLCD. { |ak·tiv |mā·triks |lik·wid 'kris·təl diˌsplā }

active power [ELEC] The product of the voltage across a branch of an alternating-current circuit and the component of the electric current that is in phase with the voltage. { 'ak·tiv 'paù·ər }

active-RC filter [ELEC] An active filter whose frequency-sensitive mechanism is the charging of a capacitor (C) through a resistor (R), giving a characteristic frequency at which the impedances of the resistor and the capacitor are equal. { |ak·tiv |ärˌsē 'fil·tər }

active region [ELECTR] The region in which amplifying, rectifying, light emitting, or other dynamic action occurs in a semiconductor device. { 'ak·tiv 'rē·jən }

active-RLC filter [ELEC] An integrated-circuit filter that uses both inductors (L), made as spirals of metallization on the top layer, and amplifiers, connected to simulate negative resistors (R), that enhance the performance of the inductors as well as capacitors (C). { |ak·tiv |ärˌel'sē fil·tər }

active satellite [ENG] A satellite which transmits a signal. { 'ak·tiv 'sad·əˌlīt }

active sonar [ENG] A system consisting of one or more transducers to send and receive sound, equipment for the generation and detection of the electrical impulses to and from the transducer, and a display or recorder system for the observation of the received signals. { 'ak·tiv 'sōˌnär }

active system [ENG] In radio and radar, a system that requires transmitting equipment, such as a beacon or transponder. { 'ak·tiv 'sis·təm }

active termination [COMPUT SCI] A means of ending a chain of peripheral devices connected to a small computer system interface (SCSI) port, suitable for longer chains, where it can reduce electrical interference. { ¦ak·tiv ¸tər·mə'nā·shən }

active transducer [ELECTR] A transducer whose output is dependent upon sources of power, apart from that supplied by any of the actuating signals, which power is controlled by one or more of these signals. { 'ak·tiv tranz'düs·ər }

active voltage [ELEC] In an alternating-current circuit, the component of voltage which is in phase with the current. { 'ak·tiv 'vōl·tij }

active window [COMPUT SCI] In a windowing environment, the window in which the user is currently working and which receives keyboard input. { ¦ak·tiv 'win¸dō }

activity [COMPUT SCI] The use or modification of information contained in a file. { ¸ak'tiv·əd·ē }

activity level [COMPUT SCI] **1.** The value assumed by a structural variable during the solution of a programming problem. **2.** A measure of the number of times that use or modification is made of the information contained in a file. { ¸ak'tiv·əd·ē 'lev·əl }

activity ratio [COMPUT SCI] The ratio between used or modified records and the total number of records in a file. { ¸ak'tiv·əd·ē ¸rā·shō }

activity sequence method [COMPUT SCI] A method of organizing records in a file so that the records most frequently used are located where they can be found most quickly. { ak'tiv·əd·ē 'sē·kwəns ¸meth·əd }

actual argument [COMPUT SCI] The variable which replaces a dummy argument when a procedure or macroinstruction is called up. { 'ak·chə·wəl 'är·gyə·mənt }

actual decimal point [COMPUT SCI] The period appearing on a printed report as opposed to the virtual point defined only by the data structure within the computer. { 'ak·chə·wəl 'des·məl ¦point }

actual instruction See effective instruction. { 'ak·chə·wəl in'strək·shən }

actual key [COMPUT SCI] A data item in COBOL computer language which can be used as an address. { 'ak·chə·wəl 'kē }

actuating system [CONT SYS] An electric, hydraulic, or other system that supplies and transmits energy for the operation of other mechanisms or systems. { 'ak·chə¸wād·iŋ ¸sis·təm }

actuator [CONT SYS] A mechanism to activate process control equipment by use of pneumatic, hydraulic, or electronic signals. [ENG ACOUS] An auxiliary external electrode used to apply a known electrostatic force to the diaphragm of a microphone for calibration purposes. Also known as electrostatic actuator. { 'ak·chə¸wād·ər }

acyclic feeding [COMPUT SCI] A method employed by alphanumeric readers in which the trailing edge or some other document characteristic is used to activate the feeding of the succeeding document. { ā'sik·lik 'fēd·iŋ }

acyclic machine See homopolar generator. { ā'sik·lik mə'shēn }

Ada [COMPUT SCI] A computer language that was chosen by the United States Department of Defense to support the development of embedded systems, and uses the language Pascal as a base to meet the reliablity and efficiency requirements imposed by these systems. { 'ä·də }

adapter [COMPUT SCI] A device which converts bits of information received serially into parallel bit form for use in the inquiry buffer unit. [ENG] A device used to make electrical or mechanical connections between items not originally intended for use together. { ə'dap·tər }

adapter transformer [ELEC] A transformer designed to supply a single electric lamp; its primary terminals are designed to fit into an ordinary lampholder, its secondary terminals into a lampholder of a low-voltage lamp. { ə'dap·tər tranz¸fȯr·mər }

adaptive antenna [ELECTROMAG] An antenna that adjusts its pattern automatically to be the inverse to any nonuniform distribution in angle of offending interference sources, tending to "whiten" or make appear uniform the noise in angle and minimizing the effects of strong jamming. { ə'dap·tiv an'ten·ə }

adaptive branch [CONT SYS] A branch instruction in the computer program controlling a robot that may lead the robot to execute a series of instructions, depending on external conditions. { ə'dap·tiv 'branch }

adaptive communications [COMMUN] A communications system capable of automatic change to meet changing inputs or changing characteristics of the device or process being controlled. Also known as self-adjusting communications, self-optimizing communications. { ə'dap·tiv kə ¸myü·nə'kā·shənz }

adaptive control [CONT SYS] A control method in which one or more parameters are sensed and used to vary the feedback control signals in order to satisfy the performance criteria. { ə'dap·tiv kən'trōl }

adaptive differential pulse-code modulation [COMMUN] A method of compressing speech and music signals in which the transmitted signals represent differences between input signals and predicted signals, and these predicted signals are synthesized by predictors with response functions representative of the short- and long-term correlation inherent in the signal. Abbreviated ADPCM. { ə¦dap·tiv ¸dif·ə¦ren·chəl 'pəls ¸cōd ¸mäj·ə¸lā·shən }

adaptive equalization [COMMUN] A signal-processing technique designed to compensate for impairments in received signals over a communications channel resulting from imperfect transmission characteristics. { ə'dap·tiv ¸ē·kwə·lə¸zā·shən }

adaptive filter [ELECTR] An electric filter whose frequency response varies with time, as a function of the input signal. { ə¸dap·tiv 'fil·tər }

adaptive robot [CONT SYS] A robot that can alter its responses according to changes in the environment. { ə'dap·tiv 'rō¸bät }

adaptive signal processing [COMMUN] The design of adaptive systems for signal-processing applications. { ə|dap·tiv |sig·nəl 'prä·sə·siŋ }

adaptive structure [ENG] A structure whose geometric and inherent structural characteristics can be changed beneficially in response to external stimulation by either remote commands or automatic means. { ə,dap·tiv 'strək·chər }

adaptive system [SYS ENG] A system that can change itself in response to changes in its environment in such a way that its performance improves through a continuing interaction with its surroundings. { ə'dap·tiv 'sis·təm }

adaptive system theory [COMPUT SCI] The branch of automata theory dealing with adaptive, or self-organizing, systems. { ə'dap·tiv 'sis·təm ,thē·ə·rē }

adaptor [COMPUT SCI] A printed circuit board that is plugged into an expansion slot in a computer to communicate with an external peripheral device. { ə'dap·tər }

Adcock antenna [ELECTROMAG] A pair of vertical antennas separated by a distance of one-half wavelength or less and connected in phase opposition to produce a radiation pattern having the shape of a figure eight. { 'ad·käk ,an'ten·ə }

Adcock direction finder [NAV] A radio direction finder utilizing one or more pairs of Adcock antennas. { 'ad·käk də'rek·shən ,fīn·dər }

ADCON *See* address constant. { 'ad,kän }

adconductor cathode [ELECTR] A cathode in which adsorbed alkali metal atoms provide electron emission in a glow or arc discharge. { |ad·kən|dək·tər 'kath,ōd }

add *See* add operation. { ad }

adder [COMPUT SCI] A computer device that can form the sum of two or more numbers or quantities. [ELECTR] A circuit in which two or more signals are combined to give an output-signal amplitude that is proportional to the sum of the input-signal amplitudes. Also known as adder circuit. { 'ad·ər }

adder circuit *See* adder. { 'ad·ər ,sər·kət }

add-in [COMPUT SCI] An electronic component that can be placed on a printed circuit board already installed in a computer to enhance the computer's capability. { 'ad ,in }

adding circuit [ELECTR] A circuit that performs the mathematical operation of addition. { 'ad·iŋ 'sər·kət }

adding machine [COMPUT SCI] A device which performs the arithmetical operation of addition and subtraction. { 'ad·iŋ mə,shēn }

add-in program [COMPUT SCI] A computer program that enhances the capabilities of a particular application. { 'ad,in ,prō·grəm }

addition item [COMPUT SCI] An item which is to be filed in its proper place in a computer. { ə'di·shən 'īd·əm }

addition record [COMPUT SCI] A new record inserted into an updated master file. { ə'di·shən ,rek·ərd }

addition table [COMPUT SCI] The part of memory that holds the table of numbers used in addition in a computer employing table look-up techniques to carry out this operation. { ə'di·shən ,tā·bəl }

additive synthesis [ENG ACOUS] A method of synthesizing complex tones by adding together an appropriate number of simple sine waves at harmonically related frequencies. { |ad·ə·div 'sin·thə·səs }

additive white Gaussian noise [COMMUN] Noise that contains equal energy per frequency across the spectrum of the noise employed. Also known as white noise. Abbreviated AWGN. { 'ad·əd·iv wīt |gaú·sē·ən 'nȯiz }

add-on [COMPUT SCI] A peripheral device, such as a printer or disk drive, that is added to a basic computer. { 'ad,ȯn }

add-on memory [COMPUT SCI] Computer storage that is added to the original main storage to enhance the computer's processing capability. { 'ad,ȯn 'mem·rē }

add operation [COMPUT SCI] An operation in computer processing in which the sum of two or more numbers is placed in a storage location previously occupied by one of the original numbers. Also known as add. { 'ad ,äp·ə,rā·shən }

address [COMPUT SCI] The number or name that uniquely identifies a register, memory location, or storage device in a computer. { 'ad·res }

addressable [COMPUT SCI] Capable of being located by a computer through an addressing technique. { ə'dres·ə·bəl }

addressable cursor [COMPUT SCI] A cursor that can be moved by software or keyboard controls to any point on the screen. { ə'dres·ə·bəl 'kər·sər }

address book [COMPUT SCI] A feature in an e-mail program for storing e-mail addresses. { 'ad·rəs ,bůk }

address bus [COMPUT SCI] An internal computer communications channel that carries addresses from the central processing unit to components under the unit's control. { 'ad·res ,bəs }

address computation [COMPUT SCI] The modification by a computer of an address within an instruction, or of an instruction based on results obtained so far. Also known as address modification. { 'ad·res ,käm·pyə'tā·shən }

address constant [COMPUT SCI] A value, or its expression, used in the calculation of storage addresses from relative addresses for computers. Abbreviated ADCON. Also known as base address; presumptive address; reference address. { 'ad·res ,kän·stənt }

address conversion [COMPUT SCI] The use of an assembly program to translate symbolic or relative computer addresses. { 'ad·res kən,vər·zhən }

address counter [COMPUT SCI] A counter which increments an initial memory address as a block of data is being transferred into the memory locations indicated by the counter. { 'ad·res ,kaůnt·ər }

address field [COMPUT SCI] The portion of a computer program instruction which specifies where a particular piece of information is located in the computer memory. { 'ad·res ,fēld }

address format [COMPUT SCI] A description of the number of addresses included in a computer instruction. { 'ad·res ˌfȯr·mat }

address-free program [COMPUT SCI] A computer program in which all addresses are represented as displacements from the expected contents of a base register. { 'ad·res ˌfrē 'prō·grəm }

address generation [COMPUT SCI] An addressing technique which facilitates addressing large storages and implementing dynamic program relocation; the effective main storage address is obtained by adding together the contents of the base register of the index register and of the displacement field. { 'ad·res ˌjen·ə'rā·shən }

addressing [COMPUT SCI] **1.** The methods of locating and gaining access to information in a computer's storage. **2.** The methods of selecting a particular peripheral device from several that are available at a given time. { ə'dres·iŋ }

addressing mode [COMPUT SCI] The specific technique by means of which a memory reference instruction will be spelled out if the computer word is too small to contain the memory address. { ə'dres·iŋ ˌmōd }

addressing system [COMPUT SCI] A labeling technique used to identify storage locations within a computer system. { ə'dres·iŋ ˌsis·təm }

address interleaving [COMPUT SCI] The assignment of consecutive addresses to physically separate modules of a computer memory, making possible the very-high-speed access of a sequence of contiguously addressed words, since all modules operate nearly simultaneously. { 'ad·res ˌin·tər'lēv·iŋ }

addressless instruction format *See* zero-address instruction format. { ə'dres·ləs ˌin'strək·shən 'fȯr·mat }

address modification *See* address computation. { 'ad·res ˌmäd·ə·fə'kā·shən }

address part [COMPUT SCI] That part of a computer instruction which contains the address of the operand, of the result, or of the next instruction. { 'ad·res ˌpärt }

address register [COMPUT SCI] A register wherein the address part of an instruction is stored by a computer. { 'ad·res ˌrej·ə·stər }

address resolution [COMPUT SCI] **1.** The process of obtaining the actual machine address needed to perform an operation. **2.** The process by which the address used to identify a workstation on a local-area network is translated to an address that can be handled on the Internet. { 'ad·res ˌrez·ə,lü·shən }

address sort routine [COMPUT SCI] A debugging routine which scans all instructions of the program being checked for a given address. { 'ad·res 'sȯrt ˌrü'tēn }

address space [COMPUT SCI] The number of storage locations available to a computer program. { 'ad·rəs ˌspās }

address track [COMPUT SCI] A path on a magnetic tape, drum, or disk on which are recorded addresses used in the retrieval of data stored on other tracks. { 'ad·res ˌtrak }

address translation [COMPUT SCI] The assignment of actual locations in a computer memory to virtual addresses in a computer program. { 'ad·res tranz'lā·shən }

add-subtract time [COMPUT SCI] The time required to perform an addition or subtraction, exclusive of the time required to obtain the quantities from storage and put the sum or difference back into storage. { 'ad səb'trakt ˌtīm }

add time [COMPUT SCI] The time required by a computer to perform an addition, not including the time needed to obtain the addends from storage and put the sum back into storage. { 'ad ˌtīme }

add-to-memory technique [COMPUT SCI] In direct-memory-access systems, a technique which adds a data word to a memory location; permits linear operations such as data averaging on process data. { ˌad tə ˌmem·rē 'tek·nēk }

adequacy [ELEC] The existence of sufficient facilities within an electric power system to satisfy the customer load requirement under static system conditions. { 'ad·ə·kwə·sē }

ADF *See* automatic direction finder.

ad hoc inquiry [COMPUT SCI] A single request for a piece of information, such as a report. { 'ad ˌhäk in'kwī·rē }

A-display [ELECTR] A radar display in cartesian coordinates; the targets appear as vertical deflection lines; their Y coordinates are proportional to signal intensity; their X coordinates are proportional to distance to targets. Also known as A-indicator; A-scan; A-scope. { 'ādiˌsplā }

adjacency [COMPUT SCI] A condition in character recognition in which two consecutive graphic characters are separated by less than a specified distance. { ə'jās·ən·sē }

adjacent-channel interference [COMMUN] Interference that is caused by a transmitter operating in an adjacent channel. Also known as A-scan; A-scope. { ə'jās·ənt 'chan·əl in·tər'fir·əns }

adjacent-channel selectivity [ELECTR] The ability of a radio receiver to respond to the desired signal and to reject signals in adjacent frequency channels. { ə'jās·ənt 'chan·əl səˌlek'tiv·əd·ē }

adjustable resistor [ELEC] A resistor having one or more sliding contacts whose position may be changed. { ə'jəs·tə·bəl ri'zis·tər }

adjustable transformer *See* variable transformer. { ə'jəs·tə·bəl tranz'fȯr·mər }

adjusted decibel [ELECTR] A unit used to show the relationship between the interfering effect of a noise frequency, or band of noise frequencies, and a reference noise power level of −85 dBm. Abbreviated dBa. Also known as decibel adjusted. { ə'jəs·təd 'des·əˌbel }

admittance [ELEC] A measure of how readily alternating current will flow in a circuit; the

reciprocal of impedance, it is expressed in siemens. { əd'mit·əns }

admittance matrix [ELEC] A matrix Y whose elements are the mutual admittances between the various meshes of an electrical network, it satisfies the matrix equation I = YV, where I and V are column vectors whose elements are the currents and voltages in the meshes. { əd'mit·əns 'mā·triks }

ADP *See* automatic data processing.

ADPCM *See* adaptive differential pulse-code modulation.

ADR studio [ENG ACOUS] A sound-recording studio used in motion-picture and television production to allow an actor who did not intelligibly record his or her speech during the original filming or video recording to do so by watching himself or herself on the screen and repeating the original speech with lip synchronism; it is equipped with facilities for recreating the acoustical liveness and background sound of the environment of the original dialog. Derived from -automatic dialog replacement studio. Also known as postsynchronizing studio. { ¦ā¦dē'är ˌstüd·ē·ō }

ADSEL *See* Mode S.

ADSL *See* asymmetric digital subscriber line; asynchronous digital subscriber loop. { a·dē·es 'el *or* 'ad·səl }

ADT *See* abstract data type.

advanced battery [ELEC] A large battery storage system designed to harness solar or wind energy or to store excess electricity during low-demand periods for use during higher-demand periods. { əd'vanst 'bad·ə·rē }

Advanced Research Projects Agency Network [COMPUT SCI] The computer network developed by the U.S. Department of Defense in 1969 from which the Internet originated. Abbreviated ARPANET. { əd,vanst ri'sərch ˌprä,jeks ˌā·jən·sē ˌnet,wərk }

advanced signal-processing system [COMPUT SCI] A portable data-processing system for military use; its complete configuration may consist of the analyzer unit, a postprocessing unit (for data-processing and control tasks), and an advanced signal-processing display unit. Also known as Proteus. { əd'vanst 'sig·nəl 'präs·əs·iŋ ˌsis·təm }

Advanced Television Technology Center [COMMUN] A private, nonprofit corporation organized by members of the television broadcasting and consumer products industries to test and recommend technologies for the delivery and reception of new U.S. digital services. Abbreviated ATTC. { əd'vanst 'tel·ə,vizh·ən tek'näl·ə·jē sen·tər }

aerial *See* antenna. { 'e·rē·əl }

aerogenerator [ELEC] A generator that is driven by the wind, designed to utilize wind power on a commercial scale. { ˌe·rō'jen·əˌrād·ər }

aeronautical mobile satellite service [COMMUN] A mobile satellite service in which the mobile earth stations are located on board aircraft. Abbreviated AMSS. { ˌer·əˌnód·ə·kəl ˌmō·bəl 'sad·əl,īt ˌsər·vəs }

aeronautical mobile service [COMMUN] A mobile service between aircraft stations and land stations, or between aircraft stations, in which survival craft stations may also participate. { ˌer·ə ¦nód·ə·kəl ¦mō·bəl 'sər·vəs }

aerophare *See* radio beacon. { 'e·rəˌfer }

aerospace electronics [ELECTR] The field of electronics as applied to aircraft and spacecraft. { ¦e·rō¦spās i,lek'trän·iks }

aF *See* abfarad.

AFC *See* automatic frequency control.

affinity [COMPUT SCI] A specific relationship between data processing elements that requires one to be used with the other, where a choice might otherwise exist. { ə'fin·əd·ē }

a format [COMPUT SCI] A nonexecutable statement in FORTRAN which permits alphanumeric characters to be transmitted in a manner similar to numeric data. { 'ā 'fȯrˌmat }

AGC *See* automatic gain control.

age coating [ELEC] The black deposit that is formed on the inner surface of an electric lamp by material evaporated from the filament. { āj 'kōd·iŋ }

agenda [COMPUT SCI] **1.** The sequence of control statements required to carry out the solution of a computer problem. **2.** A collection of programs used for manipulating a matrix in the solution of a problem in linear programming. { ə'jen·də }

aggregate data type *See* scalar data type. { 'ag·rə·gət 'da·də tīp }

aggregate function [COMPUT SCI] A command in a database management program that performs an arithmetic operation on the values in a specified column or field in all the records in the database, such as computing their sum or average or counting the number of records that satisfy particular criteria. { ¦ag·rə·gət 'fəŋk·shən }

aggressive device [COMPUT SCI] A unit of a computer that can initiate a request for communication with another device. { ə'gres·iv di'vīs }

aging [ELEC] Allowing a permanent magnet, capacitor, meter, or other device to remain in storage for a period of time, sometimes with a voltage applied, until the characteristics of the device become essentially constant. [ENG] **1.** The changing of the characteristics of a device due to its use. **2.** Operation of a product before shipment to stabilize characteristics or detect early failures. { 'āj·iŋ }

AGP *See* accelerated graphics port.

agricultural robot [CONT SYS] A robot used to pick and harvest farm products and fruits. { ¦ag·rə ¦kəl·chə·rəl 'rōˌbät }

aH *See* abhenry.

Ah *See* ampere-hour.

aided tracking [ENG] A system of radar-tracking a target signal in bearing, elevation, or range, or any combination of these variables, in which the rate of motion of the tracking equipment is machine-controlled in collaboration with an operator so as to minimize tracking error. { 'ād·əd 'trak·iŋ }

aided-tracking mechanism [ENG] A device consisting of a motor and variable-speed drive

which provides a means of setting a desired tracking rate into a director or other fire-control instrument, so that the process of tracking is carried out automatically at the set rate until it is changed manually. { 'ād·əd 'trak·iŋ ˌmek·ə ˌniz·əm }

aided-tracking ratio [ENG] The ratio between the constant velocity of the aided-tracking mechanism and the velocity of the moving target. { 'ād·əd 'trak·iŋ ˌrā·shō }

A/in.^{2} *See* ampere per square inch.

A-indicator *See* A-display. { 'ā ˌin·dəˌkād·ər }

air battery [ELEC] A connected group of two or more air cells; also, a single air cell. { 'er 'bad·ə·rē }

airblast circuit breaker [ELEC] An electric switch which, on opening, utilizes a high-pressure gas blast (air or sulfur hexafluoride) to break the arc. { 'erˌblast 'sər·kət 'brāk·ər }

airborne collision avoidance system [NAV] A navigation system for preventing collisions between aircraft that relies primarily on equipment carried on the aircraft itself, but which may make use of equipment already employed in the ground-based air-traffic control system. Abbreviated ACAS. { 'erˌbȯrn kə'lizh·ən ə'vȯid·əns ˌsis·təm }

airborne collision warning system [ENG] A system such as a radar set or radio receiver carried by an aircraft to warn of the danger of possible collision. { 'erˌbȯrn kə'lizh·ən 'wȯrn·iŋ ˌsis·təm }

airborne detector [ENG] A device, transported by an aircraft, whose function is to locate or identify an air or surface object. { 'erˌbȯrn di 'tek·tər }

airborne electronic survey control [ENG] The airborne portion of very accurate positioning systems used in controlling surveys from aircraft. { 'erˌbȯrn iˌlek'trän·ik 'sər·vā kən'trōl }

airborne intercept radar [ENG] Airborne radar used to track and "lock on" to another aircraft to be intercepted or followed. { 'erˌbȯrn 'in·tərˌsept ˌrāˌdär }

airborne profile recorder [ENG] An electronic instrument that emits a pulsed-type radar signal from an aircraft to measure vertical distances between the aircraft and the earth's surface. Abbreviated APR. Also known as terrain profile recorder (TPR). { 'erˌbȯrn 'prōˌfīl riˌkȯrd·ər }

airborne radar [ENG] Radar equipment carried by aircraft to assist in navigation by pilotage, to determine drift, and to locate weather disturbances; a very important use is locating other aircraft either for avoidance or attack. { 'erˌbȯrn 'rāˌdär }

airborne self-protection jammer [ELECTR] An electronic system carried by an aircraft to prevent detection by enemy radar by emitting signals that deceive the radar, causing confusion and uncertainty. { 'erˌbȯrn ¦self·prə'tek·shən ˌjam·ər }

air-break switch *See* air switch. { 'er¦brāk ˌswich }

air capacitor [ELEC] A capacitor having only air as the dielectric material between its plates. Also known as air condenser. { 'er kə'pas·əd·ər }

air cell [ELECTR] A cell in which depolarization at the positive electrode is accomplished chemically by reduction of the oxygen in the air. { 'er ˌsel }

air check [ENG ACOUS] A recording made of a live radio broadcast for filing purposes at the broadcasting facility. { 'er ˌchek }

air condenser *See* air capacitor. { 'er ˌkən'dens·ər }

air-control center [COMMUN] An area set aside in a submarine for the control of aircraft; it is the equivalent of a combat information center on an aircraft or a ship. { 'er kən'trōl ˌsent·ər }

air-cooled condenser *See* air condenser. { 'er ˌküld kən'dens·ər }

air-core coil [ELECTR] An inductor without a magnetic core. { 'er ˌkȯr ˌkȯil }

aircraft antenna [ELECTR] An airborne device used to detect or radiate electromagnetic waves. { 'erˌkraft an'ten·ə }

aircraft detection [ENG] The sensing and discovery of the presence of aircraft; major techniques include radar, acoustical, and optical methods. { 'erˌkraft di'tek·shən }

air-depolarized battery [ELEC] A primary battery which is kept depolarized by atmospheric oxygen rather than chemical compounds. Also known as metal-air battery. { 'er dē'pōl·əˌrīzd 'bad·ə·rē }

air gap [ELECTR] **1.** A gap or an equivalent filler of nonmagnetic material across the core of a choke, transformer, or other magnetic device. **2.** A spark gap consisting of two electrodes separated by air. **3.** The space between the stator and rotor in a motor or generator. { 'er ˌgap }

air-ground communication [COMMUN] Two-way communication between aircraft and stations on the ground. { ¦er ¦graůnd kəˌmyü·nə'kā·shən }

air-insulated substation [ELEC] An electric power substation that has the busbars and equipment terminations generally open to air and utilizes insulation properties of ambient air for insulation to ground. { 'er 'in·sə'lād·əd 'səbˌstā·shən }

air mileage indicator [ENG] An instrument on an airplane which continuously indicates mileage through the air. { ¦er ˌmī·lij 'in·də'kād·ər }

air mileage unit [ENG] A device which derives continuously and automatically the air distance flown, and feeds this information into other units, such as an air mileage indicator. { 'er ˌmī·lij ˌyü·nət }

air navigation [NAV] The process of directing and monitoring the progress of an aircraft between selected geographic points or with respect to some predetermined plan. Also known as aviagation. { ¦er ˌnav·ə'gā·shən }

airport surface detection equipment [ENG] Radar and other equipment specifically designed to assist in the control of aircraft and the many other vehicles that must use taxiways and other surface routes in the airport area. Also known as surface movement radar. { 'erˌpȯrt 'sər·fəs di'tek·shən iˌkwip·mənt }

airport surveillance radar [ENG] Radar designed for air surveillance and to assist in air traffic management in the area of airports; designated as ASR in the United States nomenclature;

usually composed of both primary and secondary radars. { 'er,pōrt sər'vā·ləns ,rā,där }

air-route surveillance radar [ENG] Radar designed for air surveillance along established air routes to assist, through netted data operation, in air traffic management. Often in rather remote locations, such radars are designed for minimum on-site operator and maintenance attention. Abbreviated ARSR. { ¦er ,rüt sər¦vā·ləns ,rā,där }

air-spaced coax [ELECTROMAG] Coaxial cable in which air is basically the dielectric material, the conductor may be centered by means of a spirally wound synthetic filament, beads, or braided filaments. { 'er ,spāst 'kō,aks }

airspeed indicator [ENG] A device that computes and displays the speed of an aircraft relative to the air mass in which the aircraft is flying. { ¦er ,spēd ,in·də,kād·ər }

air surveillance [ENG] Systematic observation of the airspace by visual, electronic, or other means, primarily for identifying all aircraft in that airspace, and determining their movements. { 'er sər'vā·ləns }

air surveillance radar [ENG] Radar of moderate range providing position of aircraft by azimuth and range data without elevation data; used for air-traffic control. { ¦er sər¦vā·ləns ¦ra,där }

air survey *See* aerial survey. { ¦er ¦sər,vā }

air switch [ELEC] A switch in which the breaking of the electric circuit takes place in air. Also known as air-break switch. { 'er ,swich }

air terminal [ELEC] A structure, such as a tower, that serves as a lightning arrester. { 'er ,tərm·ən·əl }

air-traffic control radar beacon system [NAV] A system adopted by the Federal Aviation Agency for use in controlling air traffic over the United States; the aircraft carry identification transponders designed to transmit an airplane identity code, altitude, and additional message when interrogated by an air-traffic controller's equipment. Abbreviated ATCRBS. { 'er ¦traf·ik kən'trōl ¦rā,där 'bē·kən ,sis·təm }

air-variable capacitor [ELEC] A device with one rotating and one fixed set of metal plates positioned in meshed fashion and separated by air; capacitance is varied by rotating one set of plates to vary the overlap with the fixed plates. { 'er ¦ver·ē·ə·bəl kə'pas·əd·ər }

airwave [ELECTR] A radio wave used in radio and television broadcasting. { 'er,wāv }

alarm signal [ELECTR] The international radiotelegraph alarm signal transmitted to actuate automatic devices that sound an alarm indicating that a distress message is about to be broadcast. { ə'lärm ,sig·nəl }

alarm system [ENG] A system which operates a warning device after the occurrence of a dangerous or undesirable condition. { ə'lärm ,sis·təm }

ALC *See* automatic level control.

alert box [COMPUT SCI] A dialog box that warns of an existing condition or the consequences of a command that has been given, or explains why a command cannot be executed. { ə'lərt ,bäks }

alerting signal [COMMUN] Specific signal that is applied to subscriber access lines to indicate an incoming call. { ə'lərt·iŋ 'sig·nəl }

Alexanderson antenna [ELECTROMAG] An antenna, used at low or very low frequencies, consisting of several base-loaded vertical radiators connected together at the top and fed at the bottom of one radiator. { ,al·ig'zan·dər·sən an,ten·ə }

Alford loop [ELECTROMAG] An antenna utilizing multielements which usually are contained in the same horizontal plane and adjusted so that the antenna has approximately equal and in-phase currents uniformly distributed along each of its peripheral elements and produces a substantially circular radiation pattern in the plane of polarization; it is known for its purity of polarization. { 'ōl·fərd ,lüp }

algebraic computation system *See* symbolic system. { al·jə,brā·ik ,käm·pyə'tā·shən ,sis·təm }

algebraic manipulation language [COMPUT SCI] A programming language used in the solution of analytic problems by symbolic computation. { ¦al·jə¦brā·ik mə·ni·pyə'lā·shən ,laŋ·gwij }

Algol [COMPUT SCI] An algorithmic and procedure-oriented computer language used principally in the programming of scientific problems. { 'al ,gōl }

algorithmic error [COMPUT SCI] An error in computer processing resulting from imprecision in the method used to carry out mathematical computations, usually associated with either rounding or truncation of numbers. { ¦al·gə ¦rith·mik 'er·ər }

algorithmic language [COMPUT SCI] A language in which a procedure or scheme of calculations can be expressed accurately. { ¦al·gə¦rith·mik 'laŋ·gwij }

algorithm translation [COMPUT SCI] A step-by-step computerized method of translating one programming language into another programming language. { 'al·gə,rith·əm tranz'lā·shən }

alias [COMPUT SCI] **1.** An alternative entry point in a computer subroutine at which its execution may begin, if so instructed by another routine. **2.** An alternative name for a file or device. { 'ā·lē·əs }

aliasing [COMPUT SCI] In computer graphics, the jagged appearance of diagonal lines on printouts and on video monitors. { 'āl·yəs·iŋ }

alignment [ELECTR] The process of adjusting components of a system for proper interrelationship, including the adjustment of tuned circuits for proper frequency response and the time synchronization of the components of a system. { ə'līn·mənt }

alignment wire *See* ground wire. { ə'līn·mənt ,wīr }

alive *See* energized. { ə'līv }

alkaline cell [ELEC] A primary cell that uses an alkaline electrolyte, usually potassium hydroxide, and delivers about 1.5 volts at much higher current rates than the common carbon-zinc cell. Also known as alkaline-manganese cell. { 'al·kə ,līn ,sel }

alkaline-manganese cell See alkaline cell. { |al·kə,līn |maŋ·gə,nēs ,sel }

alkaline storage battery [ELEC] A storage battery in which the electrolyte consists of an alkaline solution, usually potassium hydroxide. { 'al·kə ,līn 'stȯr·ij ,bad·ə·rē }

all-channel tuning [COMMUN] The ability of a television set to receive ultra-high-frequency as well as very-high-frequency channels. { 'ȯl ,chan·əl 'tün·iŋ }

all-diffused monolithic integrated circuit [ELECTR] Microcircuit consisting of a silicon substrate into which all of the circuit parts (both active and passive elements) are fabricated by diffusion and related processes. { |ȯl dəˈfyüzd ,män·əˈlith·ik ˈin·tə,grād·əd ˈsər·kət }

all-digital AM IBOC [COMMUN] The final mode of the AM IBOC system approved by the Federal Communications Commission for use in the United States that increases data capacity by increasing signal power and adjusting the bandwidth of the digital sidebands to minimize adjacent channel interference; uses four frequency partitions and no analog carrier. In this mode, the digital audio data rate can change from 40 to 60 kbits/s, and the corresponding ancillary data rate will remain at 0.4 kbits/s. { |ȯl dij·əd·əl ˈā ,em ˈī,bäk }

all-digital FM IBOC [COMMUN] The third of three modes in the FM IBOC system approved by the Federal Communications Commission for use in the United States that increases data capacity by adding additional digital carriers; uses four frequency partitions and no analog carrier. In this mode, the digital audio data rate can range from 64 to 96 kbits/s, and the corresponding ancillary data rate can range from 213 kbits/s for 64-kbits/s audio to 181 kbits/s for 96-kbits/s audio. { |ȯl dij·əd·əl ˈef,em ˈī,bäk }

alligator clip [ELEC] A long, narrow spring clip with meshing jaws; used with test leads to make temporary connections quickly. Also known as crocodile clip. { ˈal·ə,gād·ər ,klip }

allocate [COMPUT SCI] To place a portion of a computer memory or a peripheral unit under control of a computer program, through the action of an operator, program instruction, or executive program. { ˈa·lō,kāt }

allotter [COMMUN] A telephone term referring to a distributor, which allots an idle line-finder in preparation for an additional call. { əˈläd·ər }

alloy junction [ELECTR] A junction produced by alloying one or more impurity metals to a semiconductor to form a *p* or *n* region, depending on the impurity used. Also known as fused junction. { ˈa,lȯi ,jəŋk·shən }

alloy-junction diode [ELECTR] A junction diode made by placing a pill of doped alloying material on a semiconductor material and heating until the molten alloy melts a portion of the semiconductor, resulting in a *pn* junction when the dissolved semiconductor recrystallizes. Also known as fused-junction diode. { ˈa,lȯi ¦jəŋk·shən ˈdī ,ōd }

alloy-junction transistor [ELECTR] A junction transistor made by placing pellets of a *p*-type impurity such as indium above and below an *n*-type wafer of germanium, then heating until the impurity alloys with the germanium to give a *pnp* transistor. Also known as fused-junction transistor. { ˈa,lȯi ¦jəŋk·shən tranzˈis·tər }

all-pass network [ELECTR] A network designed to introduce a phase shift in a signal without introducing an appreciable reduction in energy of the signal at any frequency. { ¦ȯl ¦pas ˈnet ,wərk }

all-translational system [CONT SYS] A simple robotic system in which there is no rotation of the robot or its components during movements of the robot's body. { ¦ȯl ,tranzˈlā·shən·əl ˈsis·təm }

all-wave receiver [ELECTR] A radio receiver capable of being tuned from about 535 kilohertz to at least 20 megahertz; some go above 100 megahertz and thus cover the FM band also. { ¦ȯl ¦wāv riˈsē·vər }

aloha [COMMUN] A radio-channel random-access technique that depends on positive acknowledgement of correct receipt for error control. { əˈlō·ə }

alpha [ELECTR] The ratio between the change in collector current and the change in emitter current of a transistor. { ˈal·fə }

alphabetic character [COMPUT SCI] A letter or other symbol used to form data, other than a digit. { ¦al·fə¦bed·ik ˈkar·ik·tər }

alphabetic coding [COMPUT SCI] **1.** Abbreviation of words for computer input. **2.** A system of coding with a number system of base 26, the letters of the alphabet being used instead of the cardinal numbers. { ¦al·fə¦bed·ik ˈkōd·iŋ }

alphabetic string See character string. { ¦al·fə ¦bed·ik ˈstriŋ }

alpha cutoff frequency [ELECTR] The frequency at the high end of a transistor's range at which current amplification drops 3 decibels below its low-frequency value. { ˈal·fə ˈkəd,ȯf ,frē·kwən·sē }

alphageometric technique See alphamosaic technique. { ¦al·fə,jē·əˈme·trik ,tek,nēk }

alphameric characters See alphanumeric characters. { ¦al·fə¦mer·ik ˈkar·ik·tərz }

alphameric typebar [COMPUT SCI] A metal bar containing the alphabet, the ten numerical characters, and the ampersand, in use in electromechanical accounting machines. { ¦al·fə¦mer·ik ˈtīp,bär }

alphamosaic technique [COMPUT SCI] In computer graphics, a technique for displaying very-low-resolution images by constructing them from a set of elementary graphics characters. Also known as alphageometric technique. { ¦al·fə·mōˈzā·ik ,tek,nēk }

alphanumeric characters [COMPUT SCI] All characters used by a computer, including letters, numerals, punctuation marks, and such signs as $, @, and #. Also known as alphameric characters. { ¦al·fə·nü¦mer·ik 'kar·ik·tərz }

alphanumeric display device [ELECTR] A device which visibly represents alphanumeric output information from some signal source. { ¦al·fə·nü ¦mer·ik dis'plā ˌdī,vīs }

alphanumeric instruction [COMPUT SCI] The name given to instructions which can be read equally well with alphabetic or numeric kinds of fields of data. { ¦al·fə·nü¦mer·ik in'strək·shən }

alphanumeric pager [COMMUN] A receiver in a radio paging system that contains a device which can display text or numeric messages. { ¦al·fə·nü¦mer·ik 'pā·jər }

alphanumeric reader [ELECTR] A device capable of reading alphabetic, numeric, and special characters and punctuation marks. { ¦al·fə·nü ¦mer·ik 'rēd·ər }

alpha test [COMPUT SCI] A test of software carried out at the user's location and using actual data. { 'al·fə ˌtest }

alpha test site [COMPUT SCI] A place where a complete computer system is tested with actual data and transactions. { 'al·fə ˌtest ˌsīt }

alternate-channel interference [COMMUN] Interference that is caused in one communications channel by a transmitter operating in the next channel beyond an adjacent channel. Also known as second-channel interference. { ¦öl·tər·nət ¦chan·əl in·tər'fir·əns }

alternate index *See* secondary index. { 'öl·tər·nət 'inˌdeks }

alternate key [COMPUT SCI] A key on a computer keyboard that does not itself generate a character but changes the nature of the character generated by another key when depressed simultaneously with it; similar to the control and shift keys. Abbreviated ALT key. { 'öl·tər·nət ˌkē }

alternate routing [COMMUN] The operation of a switching center when all circuits are found busy in a programmed route to the destination, and the call is offered to another programmed route. { 'öl·tər·nət 'rüt·iŋ }

alternate track [COMPUT SCI] The disk track used if, after a disk volume is initialized, a defective track is sensed by the system. { 'öl·tər·nət 'trak }

alternating current [ELEC] Electric current that reverses direction periodically, usually many times per second. Abbreviated ac. { ¦öl·tərˌnād·iŋ ¦kər·ənt }

alternating-current circuit theory [ELEC] The mathematical description of conditions in an electric circuit driven by an alternating source or sources. { ¦öl·tərˌnād·iŋ ¦kər·ənt 'sər·kət ˌthē·ə·rē }

alternating-current coupling [ELECTR] A coupling which passes alternating-current signals but blocks direct-current signals. { ¦öl·tər ˌnād·iŋ ¦kər·ənt 'kəp·liŋ }

alternating-current/direct-current [ELECTR] Pertaining to electronic equipment capable of operation from either an alternating-current or direct-current primary power source. { ¦öl·tər ˌnād·iŋ ¦kər·ənt di¦rekt ¦kər·ənt }

alternating-current dump [ELECTR] The removal of all alternating-current power from a computer intentionally, accidentally, or conditionally. { ¦öl·tərˌnād·iŋ ¦kər·ənt 'dəmp }

alternating-current erase [ELECTR] The use of an alternating current to energize a tape recorder erase head in order to remove previously recorded signals from a tape. { ¦öl·tərˌnād·iŋ ¦kər·ənt ə'rās }

alternating-current erasing head [ELECTR] In magnetic recording, an erasing head which uses alternating current to produce the magnetic field necessary for erasing. { ¦öl·tərˌnād·iŋ ¦kər·ənt ə'rās·iŋ ˌhed }

alternating-current generator [ELEC] A machine, usually rotary, which converts mechanical power into alternating-current electric power. { ¦öl·tər ˌnād·iŋ ¦kər·ənt 'jen·əˌrād·ər }

alternating-current magnetic biasing [ELECTR] Biasing with alternating current, usually well above the signal frequency range, in magnetic tape recording. { ¦öl·tərˌnād·iŋ ¦kər·ənt mag'ned·ik 'bī·əs·iŋ }

alternating-current motor [ELEC] A machine that converts alternating-current electrical energy into mechanical energy by utilizing forces exerted by magnetic fields produced by the current flow through conductors. { ¦öl·tərˌnād·iŋ ¦kər·ənt 'mōd·ər }

alternating-current network [ELEC] An electrical network that has elements with both resistance and reactance. { ¦öl·tərˌnād·iŋ ¦kər·ənt 'net ˌwərk }

alternating-current power supply [ELEC] A power supply that provides one or more alternating-current output voltages, such as an ac generator, dynamotor, inverter, or transformer. { ¦öl·tər ˌnād·iŋ ¦kər·ənt 'paù·ər səˌplī }

alternating-current resistance *See* high-frequency resistance. { ¦öl·tərˌnād·iŋ ¦kər·ənt ri'zis·təns }

alternating-current transmission [ELECTR] In television, that form of transmission in which a fixed setting of the controls makes any instantaneous value of signal correspond to the same value of brightness for only a short time. { ¦öl·tərˌnād·iŋ ¦kər·ənt tranz'mish·ən }

alternating voltage [ELEC] Periodic voltage, the average value of which over a period is zero. { 'öl·tərˌnād·iŋ 'vōl·tij }

alternator [ELEC] A mechanical, electrical, or electromechanical device which supplies alternating current. { 'öl·tərˌnād·ər }

altitude delay [ELECTR] Synchronization delay introduced between the time of transmission of the radar pulse and the start of the trace on the indicator to eliminate the altitude/height hole on the plan position indicator-type display. { 'al·təˌtüd di'lā }

altitude hole [ELECTR] The blank area in the center of a plan position indicator-type radarscope display caused by the time interval between transmission of a pulse and the receipt of the first ground return. { 'al·təˌtüd ˌhōl }

altitude signal [ELECTR] The radio signals returned to an airborne electronics device by the ground or sea surface directly beneath the aircraft. { 'al·tə,tüd ,sig·nəl }

ALT key *See* alternate key. { 'ólt 'kē }

ALU *See* arithmetical unit.

aluminum arrester *See* aluminum-cell arrester. { ə'lüm·ə·nəm ə'res·tər }

aluminum cable steel-reinforced [ELEC] A type of power transmission line made of an aluminum conductor provided with a core of steel. Abbreviated ACSR. { ə'lüm·ə·nəm 'kā·bəl 'stēl ,rē·in'fórst }

aluminum-cell arrester [ELEC] A lightning arrester consisting of a number of electrolytic cells in series formed from aluminum trays containing electrolyte. Also known as aluminum arrester; electrolytic arrester. { ə'lüm·ə·nəm ,sel ə'res·tər }

aluminum conductor [ELEC] Any of several aluminum alloys employed for conducting electric current, because its weight is one-half that of copper for the same conductance, it is used in high-voltage transmission lines. { ə'lüm·ə·nəm kən'dək·tər }

A/m² *See* ampere per square meter.

AM *See* amplitude modulation.

amateur bands [COMMUN] Bands of frequencies assigned to licensed radio amateurs. { 'a·mə·chər ,banz }

amateur radio [ELECTR] A radio used for two-way radio communications by private individuals as leisure-time activity. Also known as ham radio. { 'a·mə·chər 'rād·ē,ō }

ambiguity [ELECTR] The condition in which a synchro system or servosystem seeks more than one null position. [ELECTROMAG] In radar, the consequence of using a periodic waveform in estimating a target's range and, in coherent radar, its radial velocity by Doppler sensing; deliberate change of periodicity is used to help resolve these ambiguities. { ,am·bə'gyü·əd·ē }

ambiguity error [COMPUT SCI] An error in reading a number represented in a digital display that can occur when this representation is changing, for example, the number 699 changing to 700 might be read as 799 because of imprecise synchronization in the changing of digits. { ,am·bə'gyü·əd·ē ,er·ər }

ambiguous name [COMPUT SCI] A name of a file or other item which is only partially specified, it is useful in conducting a search of all the items to which it might apply. { am'big·yə·wəs 'nām }

AMC *See* automatic modulation control.

Amdahl's law [COMPUT SCI] A law stating that the speed-up that can be achieved by distributing a computer program over p processors cannot exceed $1/(f + (1 - f)/p)$, where f is the fraction of the work of the program that must be done in serial mode. { 'am,dälz ,lò }

amendment record *See* change record. { ə'mend·mənt ,rek·ərd }

American Standard Code for Information Interchange [COMMUN] Coded character set to be used for the general interchange of information among information-processing systems, communications systems, and associated equipment; the standard code, comprising characters 0 through 127, includes control codes, upper- and lower-case letters, numerals, punctuation marks, and commonly used symbols; an additional set is known as extended ASCII. Abbreviated ASCII. { ə'mer·ə·kən 'stan·dərd 'kōd fər in·fər'mā·shən 'in·tər,chānj }

AM field signature [ELECTR] The characteristic pattern of an alternating magnetic field, as displayed by detection and classification equipment. { ¦ā¦em 'fēld ,sig·nə·chər }

A min *See* ampere-minute.

AML *See* automatic modulation limiting.

AMLCD *See* active-matrix liquid-crystal display.

ammeter [ENG] An instrument for measuring the magnitude of electric current flow. Also known as electric current meter. { 'a,mēd·ər }

amorphous memory array [COMPUT SCI] An array of memory switches made of amorphous material. { ə'mór·fəs 'mem·rē ə,rā }

amortisseur winding *See* damper winding. { a¦mórd·ə¦sər 'wīnd·iŋ }

amp *See* amperage; ampere. { amp }

ampacity [ELEC] Current-carrying capacity in amperes; used as a rating for power cables. { am'pas·əd·ē }

amperage [ELEC] The amount of electric current in amperes. Abbreviated amp. { 'am·prij }

ampere [ELEC] The unit of electric current in the rationalized meter-kilogram-second system of units; defined in terms of the force of attraction between two parallel current-carrying conductors. Abbreviated A; amp. { 'am,pir }

Ampère balance *See* current balance. { 'äm,per ,bal·əns }

ampere-hour [ELEC] A unit for the quantity of electricity, obtained by integrating current flow in amperes over the time in hours for its flow; used as a measure of battery capacity. Abbreviated Ah; amp-hr. { 'am,pir ¦aú·ər }

ampere-hour capacity [ELEC] The charge, measured in ampere-hours, that can be delivered by a storage battery up to the limit to which the battery may be safely discharged. { 'am,pir ¦aú·ər kə'pas·əd·ē }

ampere-hour meter [ENG] A device that measures the total electric charge that passes a given point during a given period of time. { 'am,pir ¦aú·ər ,mēd·ər }

ampere-minute [ELEC] A unit of electrical charge, equal to the charge transported in 1 minute by a current of 1 ampere, or to 60 coulombs. Abbreviated A min. { ¦am,pir ¦min·ət }

ampere per square inch [ELEC] A unit of current density, equal to the uniform current density of a current of 1 ampere flowing through an area of 1 square inch. Abbreviated A/in². { 'am,pir pər ,skwer 'inch }

ampere per square meter [ELEC] The SI unit of current density. Abbreviated A/m². { 'am,pir pər ,skwer 'mēd·ər }

amp-hr *See* ampere-hour.

amplitude-versus-frequency distortion [ELECTR] The distortion caused by the nonuniform attenuation or gain of the system, with respect to frequency under specified terminal conditions. { 'am·pla,tüd ¦vər·səs ¦frē·kwən·sē di'stȯr·shən }

AM radio *See* amplitude-modulation radio. { ¦ā ¦em 'rād·ē,ō }

AM signature [COMMUN] A graphic representation of the significant identifying characteristics of an amplitude-modulated signal. { ¦ā¦em 'sig·nə·chər }

AMSS *See* aeronautical mobile satellite service.

analog [ELECTR] **1.** A physical variable which remains similar to another variable insofar as the proportional relationships are the same over some specified range, for example, a temperature may be represented by a voltage which is its analog. **2.** Pertaining to devices, data, circuits, or systems that operate with variables which are represented by continuously measured voltages or other quantities. { 'an·ə|,äg }

analog adder [ELECTR] A device with one output voltage which is a weighted sum of two input voltages. { 'an·ə|,äg 'ad·ər }

analog channel [ELECTR] A channel on which the information transmitted can have any value between the channel limits, such as a voice channel. { 'an·ə|,äg 'chan·əl }

analog communications [COMMUN] System of telecommunications employing a nominally continuous electric signal that varies in frequency, amplitude, or other characteristic, in some direct correlation to nonelectrical information (sound, light, and so on) impressed on a transducer. { 'an·ə|,äg kə,myü·nə'kā·shənz }

analog comparator [ELECTR] **1.** A comparator that checks digital values to determine whether they are within predetermined upper and lower limits. **2.** A comparator that produces high and low digital output signals when the sum of two analog voltages is positive and negative, respectively. { 'an·ə|,äg kəm'par·əd·ər }

analog computer [COMPUT SCI] A computer in which quantities are represented by physical variables; problem parameters are translated into equivalent mechanical or electrical circuits as an analog for the physical phenomenon being investigated. { 'an·ə|,äg kəm'pyüd·ər }

analog data [COMPUT SCI] Data represented in a continuous form, as contrasted with digital data having discrete values. { 'an·ə|,äg 'dad·ə }

analog-digital computer *See* hybrid computer. { 'an·ə|,äg 'dij·ə·təl kəm,pyüd·ər }

analog indicator [ELECTR] A device in which the result of a measurement is indicated by a pointer deflection or other visual quantity. { 'an·ə|,äg 'in·də,kād·ər }

analog monitor [ELECTR] A display unit that accepts only analog signals, which must be converted from digital signals by the computer's video display board. { 'an·əl·äg ,män·əd·ər }

analog multiplexer [ELECTR] A multiplexer that provides switching of analog input signals to allow use of a common analog-to-digital converter. { 'an·ə|,äg 'məl·tə,plek·sər }

analog multiplier [ELECTR] A device that accepts two or more inputs in analog form and then produces an output proportional to the product of the input quantities. { 'an·ə|,äg 'məl·tə ,plī·ər }

analog network [ELECTR] A circuit designed so that circuit variables such as voltages are proportional to the values of variables in a system under study. { 'an·ə|,äg 'net,wərk }

analog output [CONT SYS] Transducer output in which the amplitude is continuously proportional to a function of the stimulus. { 'an·ə|,äg 'au̇t,pu̇t }

analog recording [ELECTR] Any method of recording in which some characteristic of the recording signal, such as amplitude or frequency, is continuously varied in a manner analogous to the time variations of the original signal. { 'an·ə|,äg ri'kȯrd·iŋ }

analog signal [ELECTR] A nominally continuous electrical signal that varies in amplitude or frequency in response to changes in sound, light, heat, position, or pressure. { 'an·ə|,äg 'sig·nəl }

analog simulation [COMPUT SCI] The representation of physical systems and phenomena by variables such as translation, rotation, resistance, and voltage. { 'an·ə|,äg ,sim·yə'lā·shən }

analog switch [ELECTR] **1.** A device that either transmits an analog signal without distortion or completely blocks it. **2.** Any solid-state device, with or without a driver, capable of bilaterally switching voltages or current. { 'an·ə|,äg ,swich }

analog-to-digital converter [ELECTR] A device which translates continuous analog signals into proportional discrete digital signals. { ¦an·ə|,äg tə ¦dij·ət·əl kən'vərd·ər }

analog-to-frequency converter [ELECTR] A converter in which an analog input in some form other than frequency is converted to a proportional change in frequency. { ¦an·ə|,äg tə ¦frē·kwən·sē kən'vərd·ər }

analog voltage [ELECTR] A voltage that varies in a continuous fashion in accordance with the magnitude of a measured variable. { 'an·ə|,äg 'vōl·tij }

analysis by synthesis [COMMUN] A method of determining the parameters of a speech coder in which the consequence of choosing a particular value of a coder parameter is evaluated by locally decoding the signal and comparing it to the original input signal. { ə¦nal·ə·sis ,bī 'sin·thə·səs }

analytical engine [COMPUT SCI] An early-19th-century form of mechanically operated digital computer. { ,an·ə'lid·ə·kəl 'en·jən }

analytical function generator [ELECTR] An analog computer device in which the dependence of an output variable on one or more input variables is given by a function that also appears in a physical law. Also known as natural function generator; natural law function generator. { ,an·ə'lid·ə·kəl 'fəŋk·shən ,jen·ə,rād·ər }

analytic hierarchy [MATH] A systematic procedure for representing the elements of any

problem which breaks down the problem into its smaller constituents and then calls for only simple pairwise comparison judgments to develop priorities at each level. { ˌan·əlˈid·ik ˈhī·ərˌär·kē }

analyzer [COMPUT SCI] **1.** A routine for the checking of a program. **2.** One of several types of computers used to solve differential equations. [ENG] A multifunction test meter, measuring volts, ohms, and amperes. Also known as set analyzer. { ˈan·əˌlīz·ər }

anchor [COMPUT SCI] A tag that indicates either the source or destination of a hyperlink; for example, HTML anchors are used to create links within a document or to another document. { ˈaŋ·kər }

anchored graphic [COMPUT SCI] A picture or graph that remains at a fixed position on a page of a document rather than being attached to the text. { ˈaŋ·kərd ˈgraf·ik }

anchor frame [COMMUN] In MPEG-2, a video frame that is used for prediction. I-frames and P-frames are generally used as anchor frames, but B-frames are never anchor frames. { ˈaŋ·kərˌfrām }

AND circuit *See* AND gate. { ˈandˌsər·kət }

Anderson bridge [ELECTR] A six-branch modification of the Maxwell-Wien bridge, used to measure self-inductance in terms of capacitance and resistance; bridge balance is independent of frequency. { ˈan·dər·sənˌbrij }

AND gate [ELECTR] A circuit which has two or more input-signal ports and which delivers an output only if and when every input signal port is simultaneously energized. Also known as AND circuit; passive AND gate. { ˈandˌgāt }

AND/NOR gate [ELECTR] A single logic element whose operation is equivalent to that of two AND gates with outputs feeding into a NOR gate. { ˈandˈnórˌgāt }

AND NOT gate [ELECTR] A coincidence circuit that performs the logic operation AND NOT, under which a result is true only if statement A is true and statement B is not. Also known as A AND NOT B gate. { ˈandˈnätˌgāt }

AND-OR circuit [ELECTR] Gating circuit that produces a prescribed output condition when several possible combined input signals are applied; exhibits the characteristics of the AND gate and the OR gate. { ˈandˈórˌsər·kət }

AND-OR-INVERT gate [ELECTR] A logic circuit with four inputs, a_1, a_2, b_1, and b_2, whose output is 0 only if either a_1 and a_2 or b_1 and b_2 are 1. Abbreviated A-O-I gate. { ˈandˈórinˈvərtˌgāt }

angel echo [ENG] A radar echo from a region where there are no visible targets; may be caused by insects, birds, or refractive index variations in the atmosphere. { ˈān·jəlˌek·ō }

angle diversity [COMMUN] Diversity reception in which beyond-the-horizon tropospheric scatter signals are received at slightly different angles, equivalent to paths through different scatter volumes in the troposphere. { ˈaŋ·gəl dəˈvər·səd·ē }

angle jamming [ELECTR] Electronic countermeasures used to introduce large errors in angle-measuring radars; methods involve producing a false echo with pulse-to-pulse modulation that is inverse to that otherwise produced by a radar using conical scanning, or the generation of multiple interfering signals that may confuse monopulse radars. { ˈaŋ·gəlˌjam·iŋ }

angle marker *See* azimuth marker. { ˈaŋ·gəlˌmärk·ər }

angle modulation [ELECTR] The variation in the angle of a sine-wave carrier; particular forms are phase modulation and frequency modulation. Also known as sinusoidal angular modulation. { ˈaŋ·gəl mäj·əˈlā·shən }

angle of deflection [ELECTR] The angle through which the electron beam in a cathode-ray tube is diverted from a straight path. { ˈaŋ·gəl əv diˈflek·shən }

angle of departure *See* angle of radiation. { ˈaŋ·gəl əv diˈpär·chər }

angle of divergence [ELECTR] The angular spread of an electron beam in an oscilloscope. { ˈaŋ·gəl əv dəˈvərj·əns }

angle tracking noise [ELECTR] Deviation of the tracking axis or other angle estimate from the true angle of a radar target; it results from target reflective behavior and propagation path characteristics (such as fluctuation, glint, and scintillation) and also from the radar's own receiver, mechanical or computational noise. { ˈaŋ·gəl ˈtrak·iŋ ˌnóiz }

angular error of closure *See* error of closure. { ˈan·gyə·lər ˈer·ər əv ˈklōzh·ər }

angular resolver *See* resolver. { ˈaŋ·gyə·lər riˈzälv·ər }

ANL *See* automatic noise limiter.

annotation [COMPUT SCI] Any comment or note included in a program or flow chart in order to clarify some point at issue. { ˌan·əˈtā·shən }

annual service availability index [ELEC] The ratio of customer-hours of service supplied by an electrical utility during one year to the customer-hours requested, expressed as a percentage. { ˈan·yə·wəl ˈsər·vəs əˌvāl·əˈbil·əd·ē ˌindeks }

annular conductor [ELEC] A number of wires stranded in three reversed concentric layers around a saturated hemp core. { ˈan·yə·lər kənˈdək·tər }

annular transistor [ELECTR] Mesa transistor in which the semiconductor regions are arranged in concentric circles about the emitter. { ˈan·yə·lər tranˈzis·tər }

annunciator [ENG] A signaling apparatus which operates electromagnetically and serves to indicate visually, or visually and audibly, whether a current is flowing, has flowed, or has changed direction of flow in one or more circuits. { əˈnən·sēˌād·ər }

anode [ELEC] The terminal at which current enters a primary cell or storage battery; it is positive with respect to the device, and negative with respect to the external circuit. [ELECTR] **1.** The collector of electrons in an electron tube.

Also known as plate; positive electrode. **2.** In a semiconductor diode, the terminal toward which forward current flows from the external circuit. { 'a,nōd }

anode balancing coil |ELEC| A set of mutually coupled windings used to maintain approximately equal currents in anodes operating in parallel from the same transformer terminal. { 'a,nōd |bal·əns·iŋ ,kȯil }

anode characteristic |ELECTR| Relationship of anode current to anode voltage in a vacuum tube. { 'a,nōd ,kar·ik·tə'ris·tik }

anode circuit |ELECTR| Complete external electrical circuit connected between the anode and the cathode of an electron tube. Also known as plate circuit. { 'a,nōd ,sər·kət }

anode-circuit detector |ELECTR| Detector functioning by virtue of a nonlinearity in its anode-circuit characteristic. Also known as plate-circuit detector. { 'a,nōd |sər·kət di,tek·tər }

anode current |ELECTR| The electron current flowing through an electron tube from the cathode to the anode. Also known as plate current. { 'a,nōd ,kər·ənt }

anode dark space |ELECTR| A thin, dark region next to the anode glow in a glow-discharge tube. { 'a,nōd 'därk ,spās }

anode detector |ELECTR| A detector in which rectification of radio-frequency signals takes place in the anode circuit of an electron tube. Also known as plate detector. { 'a,nōd di,tek·tər }

anode dissipation |ELECTR| Power dissipated as heat in the anode of an electron tube because of bombardment by electrons and ions. { 'a,nōd dis·ə'pā·shən }

anode drop *See* anode fall. { 'a,nōd ,dräp }

anode efficiency |ELECTR| The ratio of the ac load circuit power to the dc anode power input for an electron tube. Also known as plate efficiency. { 'a,nōd i,fish·ən·sē }

anode fall |ELECTR| **1.** A very thin space-charge region in front of an anode surface, characterized by a steep potential gradient through the region. **2.** The voltage across this region. Also known as anode drop. { 'a,nōd ,fȯl }

anode glow |ELECTR| A thin, luminous layer on the surface of the anode in a glow-discharge tube. { 'a,nōd ,glō }

anode impedance |ELECTR| Total impedance between anode and cathode exclusive of the electron stream. Also known as plate impedance; plate-load impedance. { 'a,nōd im ,pēd·əns }

anode input power |ELECTR| Direct-current power delivered to the plate (anode) of a vacuum tube by the source of supply. Also known as plate input power. { 'a,nōd 'in,pút ,paù·ər }

anode modulation |ELECTR| Modulation produced by introducing the modulating signal into the anode circuit of any tube in which the carrier is present. Also known as plate modulation. { 'a,nōd ,mäj·ə'lā·shən }

anode neutralization |ELECTR| Method of neutralizing an amplifier in which the necessary 180° phase shift is obtained by an inverting network in the plate circuit. Also known as plate neutralization. { 'a,nōd ,nü·trə·lə'zā·shən }

anode pulse modulation |ELECTR| Modulation produced in an amplifier or oscillator by application of externally generated pulses to the plate circuit. Also known as plate-pulse modulation. { 'a,nōd 'pəls ,mäj·ə'lā·shən }

anode rays |ELECTR| Positive ions coming from the anode of an electron tube; generally due to impurities in the metal of the anode. { 'a,nōd ,rāz }

anode resistance |ELECTR| The resistance value obtained when a small change in the anode voltage of an electron tube is divided by the resulting small change in anode current. Also known as plate resistance. { 'a,nōd ri,zis·təns }

anode saturation |ELECTR| The condition in which the anode current of an electron tube cannot be further increased by increasing the anode voltage; the electrons are then being drawn to the anode at the same rate as they are emitted from the cathode. Also known as current saturation; plate saturation; saturation; voltage saturation. { 'a,nōd ,sach·ə'rā·shən }

anode sheath |ELECTR| The electron boundary which exists in a gas-discharge tube between the plasma and the anode when the current demanded by the anode circuit exceeds the random electron current at the anode surface. { 'a,nōd ,shēth }

anodized dielectric film |ELEC| An insulating film produced on a conducting surface by anodizing; used for producing thin-film capacitors, trimming resistor values, and passivation in the manufacture of integrated circuits. { 'an·ə,dīzd dī·ə|lek·trik 'film }

anomalous Funkel effect |ELECTR| Current fluctuations in an electron tube resulting from positive ions entering the space-charge region in front of the cathode. { ə|näm·ə·ləs 'fəŋ·kəl i ,fekt }

anomalous skin effect |ELEC| The skin effect at very low temperatures and high frequencies at which the thickness of the conducting skin layer is less than the electron mean free path, so that the classical theory of electrical conductivity breaks down. { ə|näm·ə·ləs 'skin i,fekt }

anomaly detection |COMPUT SCI| The technology that seeks to identify an attack on a computer system by looking for behavior that is out of the norm. { ə'näm·ə·lē di,tek·shən }

anonymous FTP |COMPUT SCI| A public FTP (file transfer protocol) site at which users can log in and download documents by entering

"anonymous" as their user ID, and their e-mail address as password. { ə,nän·ə·məs ¦ef¦tē'pē }

anotron [ELECTR] A cold-cathode glow-discharge diode having a copper anode and a large cathode of sodium or other material. { 'an·ə,trän }

A-N radio range [NAV] A type of radio beacon station whose signals provide definite track guidance for aircraft by establishing four radial lines of position which can be identified by a continuous-tone signal made up of keyed pulses of equal amplitude representing the Morse code letters A and N. { ¦ā ¦en 'rād·ē,ō ,rānj }

answer back [COMPUT SCI] The ability of a device such as a computer or terminal to automatically identify itself when it is contacted by another communicating device. { 'an·sər ¦bak }

answering cord [ELEC] Cord nearest the face of the switchboard which is used for answering subscribers' calls and incoming trunks. { 'an·sər·iŋ ,kȯrd }

answering jack [ELEC] Jack on which a station calls in and is answered by an operator. { 'an·sər·iŋ ,jak }

answer lamp [ELEC] Telephone switchboard lamp that lights when an answer cord is plugged into a line jack; the lamp goes out when the call is completed. { 'an·sər ,lamp }

answer-only modem [COMMUN] A modem that can answer but not initiate a call. { ¦an·sər ,ōn·lē 'mō,dem }

antenna [ELECTROMAG] A device used for radiating or receiving radio waves. Also known as aerial; radio antenna. { an'ten·ə }

antenna amplifier [ELECTROMAG] One or more stages of wide-band electronic amplification placed within or physically close to a receiving antenna to improve signal-to-noise ratio and mutually isolate various devices receiving their feed from the antenna. { an'ten·ə 'am·plə,fī·ər }

antenna circuit [ELECTR] A complete electric circuit which includes an antenna. { an'ten·ə ,sər·kət }

antenna coil [ELECTROMAG] Coil through which antenna current flows. { an'ten·ə ,kȯil }

antenna counterpoise *See* counterpoise. { an'ten·ə 'kaunt·ər,pȯiz }

antenna coupler [ELECTROMAG] A radio-frequency transformer, tuned line, or other device used to transfer energy efficiently from a transmitter to a transmission line or from a transmission line to a receiver. { an'ten·ə ,kəp·lər }

antenna crosstalk [ELECTROMAG] The ratio or the logarithm of the ratio of the undesired power received by one antenna from another to the power transmitted by the other. { an' ten·ə 'krȯs ,tȯk }

antenna directive gain [ELECTROMAG] The ratio of the spatial power density on transmit, or sensitivity on receive, experienced at a distant point for using an idealized (lossless) directive antenna, as in radar, to that density of sensitivity experienced had an imaginary isotropic antenna been used. { ¦an'ten·ə 'də'rek·tiv ,gān }

antenna directivity diagram [ELECTROMAG] Curve representing, in polar or cartesian coordinates, a quantity proportional to the gain of an antenna in the various directions in a particular plane or cone. { an'ten·ə di·rek'tiv·əd·ē 'dī·ə,gram }

antenna effect [ELECTROMAG] A distortion of the directional properties of a loop antenna caused by an input to the direction-finding receiver which is generated between the loop and ground, in contrast to that which is generated between the two terminals of the loop. Also known as electrostatic error; vertical component effect. { an'ten·ə i'fekt }

antenna efficiency [ELECTROMAG] The ratio of the amount of power radiated into space by an antenna to the total energy received by the antenna. { an'ten·ə i,fish·ən·sē }

antenna field [ELECTROMAG] A group of antennas placed in a geometric configuration. { an'ten·ə ,fēld }

antenna gain [ELECTROMAG] A measure of the effectiveness of a directional antenna as compared to a standard nondirectional antenna. Also known as gain. { an'ten·ə ,gān }

antenna loading [ELECTR] **1.** The amount of inductance or capacitance in series with an antenna, which determines the antenna's electrical length. **2.** The practice of loading an antenna in order to increase its electrical length. { an'ten·ə ,lōd·iŋ }

antenna matching [ELECTROMAG] Process of adjusting impedances so that the impedance of an antenna equals the characteristic impedance of its transmission line. { an'ten·ə ,mach·iŋ }

antenna pair [ELECTROMAG] Two antennas located on a base line of accurately surveyed length, sometimes arranged so that the array may be rotated around an axis at the center of the base line; used to produce directional patterns and in direction finding. { an'ten·ə ,per }

antenna pattern *See* radiation pattern. { an'ten·ə ,pad·ərn }

antenna polarization [ELECTROMAG] The orientation of the electric field lines in the electromagnetic field radiated or received by the antenna. { an'ten·ə ,pō·lə·rə'zā·shən }

antenna power [ELECTROMAG] Radio-frequency power delivered to an antenna. { an'ten·ə ,paù·ər }

antenna power gain [ELECTROMAG] The ratio of the spatial power density on transmit, or sensitivity on receive, experienced at a distant point for using an actual directive antenna, as in radar, to that density or sensitivity experienced had an imaginary isotropic antenna been used. Power gain will, then, be slightly less than directive gain, differing by the insertion loss of the actual antenna, and is the gain actually measured in constructed antennas and used in most calculations about radar performance. { an'ten·ə 'paù·ər ,gān }

antenna resistance [ELECTROMAG] The power supplied to an entire antenna divided by the square of the effective antenna current measured at the point where power is supplied to the antenna. { an'ten·ə ri,zis·təns }

antenna scanner [ELECTROMAG] A microwave feed horn which moves in such a way as to illuminate sequentially different reflecting elements of an antenna array and thus produce the desired field pattern. { an'ten·ə ,skan·ər }

antenna tilt error [ENG] Angular difference between the tilt angle of a radar antenna shown on a mechanical indicator, and the electrical center of the radar beam. { an'ten·ə 'tilt ,er·ər }

antialiasing technique [COMPUT SCI] In computer graphics, a technique for smoothing the jagged appearance of diagonal lines on printouts and on video monitors. { ,an·tē'āl·ē·əs·iŋ ,tek,nēk }

anticapacitance switch [ELECTR] A switch designed to have low capacitance between its terminals when open. { ,an·tē·kə'pas·ə·təns ,swich }

anticathode [ELECTR] The anode or target of an x-ray tube, on which the stream of electrons from the cathode is focused and from which x-rays are emitted. { ¦an·tē'kath,ōd }

anticipatory staging [COMPUT SCI] Moving blocks of data from one storage device to another prior to the actual request for them by the program. { 'an'tis·ə·pə,tȯr·ē 'stāj·iŋ }

anticlutter gain control [ELECTR] Device which automatically and smoothly increases the gain of a radar receiver from a low level to the maximum, within a specified period after each transmitter pulse, so that short-range echoes producing clutter are amplified less than long-range echoes. { ,an·tē'kləd·ər 'gān kən,trōl }

anticoincidence circuit [ELECTR] Circuit that produces a specified output pulse when one (frequently predesignated) of two inputs receives a pulse and the other receives no pulse within an assigned time interval. { ,an·tē,kō'in·sə·dəns ,sər·kət }

anticollision radar [ENG] A radar set designed to give warning of possible collisions during movements of ships or aircraft. { ,an·tē·kə'li·zhən ,rā,där }

antifading antenna [ELECTR] An antenna designed to confine radiation mainly to small angles of elevation to minimize the fading of radiation directed at larger angles of elevation. { ¦an·tē¦fād·iŋ an'ten·ə }

antiglare shield [COMPUT SCI] A sheet of nonreflective material placed over the screen of an electronic display to reduce the amount of light reflected from the screen. { 'an·tē,gler 'shēld }

anti-g suit *See* g suit. { ¦an·tē¦jē ,süt }

antihunt circuit [ELECTR] A stabilizing circuit used in a closed-loop feedback system to prevent self-oscillations. { 'an·tē,hənt ,sər·kət }

anti-intrusion technology [COMPUT SCI] One of the different ways in which an attack on a computer system can be detected and countered, including prevention, deterrence, detection, deflection, and diminution. { ,an·tē,in'trü·zhən ,tek¦näl·ə·jē }

antijamming [ELECTR] Any system or technique used to counteract the jamming of communications or of radar operation; part of electronic protection. { ,an·tē'jam·iŋ }

antimagnetic [ENG] Constructed so as to avoid the influence of magnetic fields, usually by the use of nonmagnetic materials and by magnetic shielding. { ,an·tē,mag'ned·ik }

antinoise microphone [ENG ACOUS] Microphone with characteristics which discriminate against acoustic noise. { ¦an·tē¦nȯiz 'mi·krə ,fōn }

antireflection coating [ENG] The application of a thin film of dielectric material to a surface to reduce its reflection and to increase its transmission of light or other electromagnetic radiation. { ,an·tē·ri'flek·shən ,kōd·iŋ }

antiresonance *See* parallel resonance. { ,an·tē'res·ən·əns }

antiresonant circuit *See* parallel resonant circuit. { ,an·tē'rez·ən·ənt 'sər·kət }

anti-sidetone circuit [ELEC] Telephone circuit which prevents sound, introduced in the local transmitter, from being reproduced in the local receiver. { ¦an·tē¦sīd,tōn ,sər·kət }

antistatic mat [COMPUT SCI] A floor mat placed in front of a device such as a tape drive that is sensitive to discharges of static electricity to safeguard against loss of data from such discharges during human handling of the device. { ¦an·tē¦stad·ik 'mat }

anti-transmit-receive tube [ELECTR] A switching tube that prevents the received echo signal from being dissipated in the transmitter. { ¦an·tē·tranz¦mit ri¦sēv ,tüb }

antivirus software [COMPUT SCI] Software that is designed to protect against computer viruses. { ¦an·tē,vī·rəs 'sȯf,wer }

A-O-I gate *See* AND-OR-INVERT gate. { ,ā,ō'ī ,gāt }

APC *See* automatic phase control.

aperiodic antenna [ELECTROMAG] Antenna designed to have constant impedance over a wide range of frequencies because of the suppression of reflections within the antenna system; includes terminated wave and rhombic antennas. { ¦a,pir·ē¦äd·ik an'ten·ə }

aperiodic waves [ELEC] The transient current wave in a series circuit with resistance R, inductance L, and capacitance C when $R^2C = 4L$. { ¦a,pir·ē¦äd·ik 'wāvz }

aperture [ELECTR] An opening through which electrons, light, radio waves, or other radiation can pass. { 'ap·ə,chər }

aperture antenna [ELECTROMAG] Antenna in which the beam width is determined by the dimensions of a horn, lens, or reflector. { 'ap·ə ,chər an'ten·ə }

aperture grill picture tube [ELECTR] An in-line gun-type picture tube in which the shadow mask is perforated by long, vertical stripes and the screen is coated with vertical phosphor stripes. { 'ap·ə,chər ,gril 'pik·chər ,tüb }

aperture mask *See* shadow mask. { 'ap·ə,chər ,mask }

aperture plate [ELECTR] A small part of a piece of perforated ferromagnetic material that forms a magnetic cell. { 'ap·ə,chər ˌplāt }

API See application program interface.

APL [COMPUT SCI] An interactive computer language whose operators accept and produce arrays with homogeneous elements of type number or character.

apodization [ELECTR] A technique for modifying the response of a surface acoustic wave filter by varying the overlap between adjacent electrodes of the interdigital transducer. { ˌa·pə·də'zā·shən }

A positive [ELEC] Symbolized A+. **1.** Positive terminal of an A battery or positive polarity of other sources of filament voltage. **2.** Denoting the terminal to which the positive side of the filament voltage source should be connected. { ¦ā 'päz·əd·iv }

A power supply See A supply. { 'ā 'paù·ər səˌplī }

apparent power [ELEC] The product of the root-mean-square voltage and the root-mean-square current delivered in an alternating-current circuit, no account being taken of the phase difference between voltage and current. { ə'pa·rənt 'paù·ər }

apparent source See effective center. { ə'pa·rənt 'sȯrs }

Applegate diagram [ELECTR] A graph of the electron paths in a two-cavity klystron tube, showing how electron bunching occurs. { 'ap·əlˌgāt 'dī·əˌgram }

applet [COMPUT SCI] A small program, typically written in Java. { 'ap·lət }

appliance [ENG] A piece of equipment that draws electric or other energy and produces a desired work-saving or other result, such as an electric heater, a radio, or an electronic range. { ə'plī·ənts }

appliance panel [ENG] In electric systems, a metal housing containing two or more devices (such as fuses) for protection against excessive current in circuits which supply portable electric appliances. { ə'plī·ənsˌpan·əl }

application [COMPUT SCI] A computer program that performs a specific task, for example, a word processor, a Web browser, or a spread sheet. { ˌap·lə'kā·shən }

application development language [COMPUT SCI] A very-high-level programming language that generates coding in a conventional programming language or provides the user of a database management system with a programming language that is easier to implement than conventional programming languages. { ˌap·lə'kā·shən di'vel·əp·mənt ˌlaŋ·gwij }

application development system [COMPUT SCI] An integrated group of software products used to assist in the efficient development of computer programs and systems. { ˌap·lə'kā·shən di'vel·əp·mənt ˌsis·təm }

application generator [COMPUT SCI] A commercially prepared software package used to create applications programs or parts of such programs. { ˌap·lə'kā·shən ˌjen·əˌrād·ər }

application package [COMPUT SCI] A combination of required hardware, including remote inputs and outputs, plus programming of the computer memory to produce the specified results. { ˌap·lə'kā·shən ˌpak·ij }

application processor [COMPUT SCI] A computer that processes data. { ˌap·lə¦kā·shən 'präˌses·ər }

application program [COMPUT SCI] A program written to solve a specific problem, produce a specific report, or update a specific file. { ˌap·lə'kā·shən ˌprō·gram }

application program interface [COMPUT SCI] A language that enables communication between computer programs, in particular between application programs and control programs. Abbreviated API. { ˌap·lə¦kā·shən ¦prō·gram 'in·tərˌfās }

application server [COMPUT SCI] A computer that executes commands requested by a Web server to fetch data from databases. Also known as app server. { ˌap·lə'kā·shən ˌsər·vər }

application-specific integrated circuit [ELECTR] An integrated circuit that is designed for a particular application by integrating standard cells from a library, making possible short design times and rapid production cycles. Abbreviated ASIC. { ˌap·ləˌkā·shən spi¦sif·ik ˌint·iˌgrād·əd 'sər·kət }

application study [COMPUT SCI] The detailed process of determining a system or set of procedures for using a computer for definite functions of operations, and establishing specifications to be used as a base for the selection of equipment suitable to the specific needs. { ap·lə'kā·shən ˌstəd·ē }

application system [COMPUT SCI] A group of related applications programs designed to perform a specific function. { ˌap·lə'kā·shən ˌsis·təm }

application window [COMPUT SCI] In a graphical user interface, the chief window of an application program, with a title bar, a menu bar, and a work area. { ˌap·lə'kā·shən ˌwinˌdō }

applicative language [COMPUT SCI] A programming language in which functions are repeatedly applied to the results of other functions and, in its pure form, there are no statements, only expressions without side effects. { 'ap·ləˌkād·iv 'laŋ·gwij }

applied epistemology [COMPUT SCI] The use of machines or other models to simulate processes such as perception, recognition, learning, and selective recall, or the application of principles assumed to hold for human categorization, perception, storage, search, and so on, to the design of machines, machine programs, scanning, storage, and retrieval systems. { ə'plīd iˌpis·tə ¦mäl·ə·jē }

appliqué circuit [ELEC] Special circuit which is provided to modify existing equipment to allow for special usage; for example, some carrier telephone equipment designed for ringdown manual operation can be modified through the use of an appliqué circuit to allow for use between points having dial equipment. { ¦ap·lə ¦kā ¦sər·kət }

approach vector [CONT SYS] A vector that describes the orientation of a robot gripper and points in the direction from which the gripper approaches a workpiece. { ə'prōch ,vek·tər }
app server *See* application server. { 'ap ,sər·vər }
APT *See* Automatic Programming Tool.
APT system *See* automatic picture-transmission system. { ,ā,pē'tē ,sis·təm }
aquadag [ELECTR] Graphite coating on the inside of certain cathode-ray tubes for collecting secondary electrons emitted by the face of the tube. { 'ak·wə,dag }
arbiter [COMPUT SCI] A computer unit that determines the priority sequence in which two or more processor inputs are connected to a single functional unit such as a multiplier or memory. { 'är·bəd·ər }
arbitrary function generator *See* general-purpose function generator. { 'är·bə,trer·ē 'fəŋk·shən ,jen·ə,rād·ər }
arbitration [COMPUT SCI] The set of rules in a computer's operating system for allocating the resources of the computer, such as its peripheral devices or memory, to more than one program or user. { ,är·bə'trā·shən }
arc *See* electric arc. { ärk }
arcback [ELECTR] The flow of a principal electron stream in the reverse direction in a mercury-vapor rectifier tube because of formation of a cathode spot on an anode; this results in failure of the rectifying action. Also known as backfire. { 'ärk ,bak }
arc chute [ELEC] A collection of insulating barriers in a circuit breaker for confining the arc and preventing it from causing damage. { 'ärk ,shüt }
arc converter [ELECTR] A form of oscillator using an electric arc as the generator of alternating or pulsating current. { 'ärk kən,vər·dər }
arc discharge [ELEC] A direct-current electrical current between electrodes in a gas or vapor, having high current density and relatively low voltage drop. { 'ärk 'dis,chärj }
Archie [COMPUT SCI] A system of file servers that searches for specific files that are publicly available in File Transfer Protocol archives on the Internet. { 'är·chē }
archival storage [COMPUT SCI] Storage of infrequently used or backup information that cannot be readily or immediately accessed by a computer system. { 'är,kīv·əl 'stór·ij }
archiving [COMPUT SCI] The storage of files in auxiliary storage media for very long periods, in the event it is necessary to regenerate the file due to subsequent errors introduced. { 'är,kīv·iŋ }
arcing contacts [ELEC] Special contacts on which the arc is drawn after the main contacts of a switch or circuit breaker have opened. { 'ärk·iŋ ,kän,taks }
arcing ring [ELEC] A metal ring attached to an insulator to protect it from damage by a power arc. { 'ärk·iŋ ,riŋ }
arcing time [ELEC] **1.** Interval between the parting, in a switch or circuit breaker, of the arcing contacts and the extension of the arc. **2.** Time elapsing, in a fuse, from the severance of the fuse link to the final interruption of the circuit under a specified condition. { 'ärk·iŋ ,tīm }
arc lamp [ELEC] An electric lamp in which the light is produced by an arc made when current flows through ionized gas between two electrodes. Also known as electric-arc lamp. { 'ärk ,lamp }
arc-over [ELEC] An unwanted arc resulting from the opening of a switch or the breakdown of insulation. { 'ärk ,ō·vər }
arc resistance [ELEC] **1.** A measure of the durability of an insulating or dielectric material against the formation of conductive paths along the surface by arc discharges. **2.** The ratio of the voltage that gives rise to an arc discharge to the current in the arc. { 'ärk ri,zis·təns }
arc-suppression coil [ELEC] A grounding reactor, used in alternating-current power transmission systems, which is designed to limit the current flowing to ground at the location of a fault almost to zero by setting up a reactive current to ground that balances the capacitive current to ground flowing from the lines. Also known as Petersen coil. { ¦ärk sə'presh·ən ¦kȯil }
arc-through [ELECTR] Of a gas tube, a loss of control resulting in the flow of a principal electron stream in the normal direction during a scheduled nonconducting period. { 'ärk ,thrü }
area [COMPUT SCI] A section of a computer memory assigned by a computer program or by the hardware to hold data of a particular type. { 'er·ē·ə }
area code [COMMUN] A three-digit prefix used in dialing long-distance telephone calls in the United States and Canada. { 'er·ē·ə ,kōd }
area effect [ELECTR] In general, the condition of the dielectric strength of a liquid or vacuum separating two electrodes being higher for electrodes of smaller area. { 'er·ē·ə i'fekt }
areal density [COMPUT SCI] The amount of data that can be stored on a unit area of the surface of a hard disk, floppy disk, or other storage device. { ,er·ē·əl 'den·səd·ē }
area search [COMPUT SCI] A computer search that examines only those records which satisfy some broad criteria. { 'er·ē·ə ,sərch }
A register *See* arithmetic register. { 'ā ,rej·ə·stər }
argument [COMPUT SCI] A value applied to a procedure, subroutine, or macroinstruction which is required in order to evaluate any of these. { 'är·gyə·mənt }
argument separator [COMPUT SCI] A comma or other punctuation mark that separates successive arguments in a command or statement in a computer program. { 'är·gyü·mənt ,sep·ə ,rād·ər }
arithmetic address [COMPUT SCI] An address in a computer program that results from performing an arithmetic operation on another address. { ¦a·rith¦med·ik ə'dres }
arithmetical element *See* arithmetical unit. { ¦a·rith¦med·ə·kəl 'el·ə·mənt }
arithmetical instruction [COMPUT SCI] An instruction in a computer program that directs the computer to perform an arithmetical operation

(addition, subtraction, multiplication, or division) upon specified items of data. { ¦a·rith ¦med·ə·kəl ,in'strək·shən }

arithmetical operation [COMPUT SCI] A digital computer operation in which numerical quantities are added, subtracted, multiplied, divided, or compared. { ¦a·rith¦med·ə·kəl ,äp·ə'rā·shən }

arithmetical unit [COMPUT SCI] The section of the computer which carries out all arithmetic and logic operations. Also known as arithmetical element; arithmetic-logic unit (ALU); arithmetic section; logic-arithmetic unit; logic section. { ¦a·rith¦med·ə·kəl 'yü·nət }

arithmetic check [COMPUT SCI] The verification of an arithmetical operation or series of operations by another such process; for example, the multiplication of 73 by 21 to check the result of multiplying 21 by 73. { ə'rith·mə,tik ,chek }

arithmetic circuitry [COMPUT SCI] The section of the computer circuitry which carries out the arithmetic operations. { ¦a·rith¦med·ik 'sər·kə·trē }

arithmetic coding [COMMUN] A method of data compression in which a long character string is represented by a single number whose value is obtained by repeatedly partitioning the range of possible values in proportion to the probabilities of the characters. { ¦a·rith¦med·ik 'cōd·iŋ }

arithmetic-logic unit *See* arithmetical unit. { ə¦rith·mə,tik 'läj·ik ,yü·nət }

arithmetic processor *See* numeric processor extension. { ə'rith·mə,tik ,präs,es·ər }

arithmetic register [COMPUT SCI] A specific memory location reserved for intermediate results of arithmetic operations. Also known as A register. { ¦a·rith¦med·ik 'rej·ə·stər }

arithmetic scan [COMPUT SCI] The procedure for examining arithmetic expressions and determining the order of execution of operators, in the process of compilation into machine-executable code of a program written in a higher-level language. { ¦a·rith¦med·ik ,skan }

arithmetic section *See* arithmetical unit. { ¦a·rith ¦med·ik ,sek·shən }

arithmetic shift [COMPUT SCI] A shift of the digits of a number, expressed in a positional notation system, in the register without changing the sign of the number. { ¦a·rith¦med·ik 'shift }

arithmetic symmetry [ELECTR] Property of a band-pass or band-rejection filter whose graph of amplitude versus frequency is symmetrical around a center frequency; that is, the left-hand side of the response is a mirror image of the right-hand side. { ¦a·rith¦med·ik 'sim·ə·trē }

arm [CONT SYS] A robot component consisting of an interconnected set of links and powered joints that move and support the wrist socket and end effector. [ELEC] *See* branch. [ENG ACOUS] *See* tone arm. { ärm }

armature contact *See* movable contact. { 'är·mə ,chər 'kän,takt }

armature resistance [ELEC] The ohmic resistance in the main current-carrying windings of an electric generator or motor. { 'är·mə,chər ri'zis·təns }

armor [ELEC] Metal sheath enclosing a cable, primarily for mechanical protection. { 'är·mər }

armored cable [ELEC] An electrical cable provided with a sheath of metal primarily for mechanical protection. { 'är·mərd 'kā·bəl }

arm solution [CONT SYS] The computation performed by a robot controller to calculate the joint positions required to achieve desired tool positions. { 'ärm sə,lü·shən }

Armstrong oscillator [ELECTR] Inductive feedback oscillator that consists of a tuned-grid circuit and an untuned-tickler coil in the plate circuit; control of feedback is accomplished by varying the coupling between the tickler and the grid circuit. { 'ärm,strōŋ 'äs·ə,lād·ər }

ARPA *See* automated radar plotting aid. { 'är·pə }

ARQ *See* automatic repeat request.

array [COMPUT SCI] A collection of data items with each identified by a subscript or key and arranged in such a way that a computer can examine the collection and retrieve data from these items associated with a particular subscript or key. [ELECTR] A group of components such as antennas, reflectors, or directors arranged to provide a desired variation of radiation transmission or reception with direction. { ə'rā }

array element [COMPUT SCI] A single data item in an array. { ə'rā, el·ə·mənt }

array processor [COMPUT SCI] A multiprocessor composed of a set of identical central processing units acting synchronously under the control of a common unit. { ə'rā 'präs,es·ər }

array radar [ENG] A radar incorporating a multiplicity of phased antenna elements. { ə'rā 'rā ,där }

array sonar [ENG] A sonar system incorporating a phased array of radiating and receiving transducers. { ə'rā 'sō,när }

arrester *See* lightning arrester. { ə'res·tər }

ARSR *See* air-route surveillance radar.

articulation [COMMUN] The percentage of speech units understood correctly by a listener in a communications system; it generally applies to unrelated words, as in code messages, in distinction to intelligibility. [CONT SYS] The manner and actions of joining components of a robot with connecting parts or links that allow motion. { är ,tik·yə'lā·shən }

articulation equivalent [COMMUN] Of a complete telephone connection, a measure of the articulation of speech reproduced over it, expressed numerically in terms of the trunk loss of a working reference system when the latter is adjusted to give equal articulation. { är,tik·yə'lā·shən i'kwiv·ə·lənt }

artifact [COMMUN] Any component of a signal that is extraneous to the variable represented by the signal. { 'ärd·ə,fakt }

artificial antenna *See* dummy antenna. { ¦ärd·ə ¦fish·əl an'ten·ə }

artificial atom [ELECTR] A structure, typically 50–100 nanometers in diameter, that is fabricated in a semiconductor crystal and holds a small number of electrons which are trapped in a bowllike potential well. { ,ärd·ə,fish·əl 'ad·əm }

artificial crystal *See* superlattice. { ¦ärd·ə¦fish·əl 'krist·əl }

artificial delay line *See* delay line. { ¦ärd·ə¦fish·əl di'lā ˌlīn }

artificial ear [ENG ACOUS] A device designed to duplicate the frequency response, acoustic impedance, threshold sensitivity, and relative perception of loudness, consisting of a special microphone enclosed in a box with properties similar to those of the human ear. { ¦ärd·ə ¦fish·əl 'ir }

artificial ground [ELEC] A common correction for a radio-frequency electrical or electronic circuit that is not directly connected to the earth. { ¦ärd·ə¦fish·əl 'graund }

artificial intelligence [COMPUT SCI] The property of a machine capable of reason by which it can learn functions normally associated with human intelligence. { ¦ärd·ə¦fish·əl in'tel·ə·jəns }

artificial ionization [COMMUN] Introduction of an artificial reflecting or scattering layer into the atmosphere to permit beyond-the-horizon communications. { ¦ärd·ə¦fish·əl ˌī·ə·nə'zā·shən }

artificial language [COMPUT SCI] A computer language that is specifically designed to facilitate communication in a particular field, but is not yet natural to that field; opposite of a natural language, which evolves through long usage. { ¦ärd·ə¦fish·əl 'laŋ·gwij }

artificial line [ELEC] Circuit made up of lumped constants, which is used to simulate various characteristics of a transmission line. { ¦ärd·ə ¦fish·əl 'līn }

artificial line duct [ELEC] Balancing network simulating the impedance of the real line and distant terminal apparatus, which is employed in a duplex circuit to make the receiving device unresponsive to outgoing signal currents. { ¦ärd·ə ¦fish·əl 'līn ˌdəkt }

artificial load [ELEC] Dissipative but essentially nonradiating device having the impedance characteristics of an antenna, transmission line, or other practical utilization circuit. { ¦ärd·ə¦fish·əl 'lōd }

artificially layered structure *See* superlattice. { ¦ärd·ə¦fish·əl·ē ¦lā·ərd 'strək·chər }

artificial radio aurora [COMMUN] Modification of the ionosphere by high-power high-frequency radio transmitters to improve scatter and auroral long-distance communication. Also known as radio aurora. { ¦ärd·ə¦fish·əl 'rād·ē,ō ə'ror·ə }

artificial reality *See* virtual reality. { ˌärd·ə'fish·əl rē'al·əd·ē }

artificial voice [ENG ACOUS] **1.** Small loudspeaker mounted in a shaped baffle which is proportioned to simulate the acoustical constants of the human head; used for calibrating and testing close-talking microphones. **2.** Synthetic speech produced by a multiple tone generator; used to produce a voice reply in some real-time computer applications. { ¦ärd·ə¦fish·əl 'vòis }

aS *See* abmho.

A-scan *See* A-display. { 'ā ˌskan }

ascending sort [COMPUT SCI] The arrangement of records or other data into a sequence running from the lowest to the highest in a specified field. { ə'send·iŋ 'sȯrt }

ASCII *See* American Standard Code for Information Interchange. { 'as,kē }

ASCII file [COMPUT SCI] A data or text file that contains only codes that constitute the 128-character ASCII set. { ¦as,kē ¦fīl }

ASCII protocol [COMMUN] A protocol for the simplest mode of transmitting ASCII data, with little or no error checking. { ¦as,kē ¦prōd·ə,kȯl }

ASCII sort order [COMPUT SCI] A sort order determined by the numbering of characters in the American Standard Code for Information Interchange. { ¦as,kē 'sȯrt ˌȯrd·ər }

A-scope *See* A-display. { 'ā skōp }

asdic [ELECTR] British term for sonar and underwater listening devices. Derived from Anti-Submarine Detection Investigation Committee. { 'az,dik }

ASIC *See* application-specific integrated circuit. { 'ā,sik *or* ¦ā¦es¦ī'sē }

ASK *See* amplitude shift keying.

aspect ratio [COMPUT SCI] In computer graphics, the ratio between the width and height of an image. [ENG] The ratio of frame width to frame height in television; in the United States and Britain it is 4:3 for standard television and 16:9 for high-definition television. { 'a,spekt ˌrā·shō }

assembler [COMPUT SCI] A program designed to convert symbolic instruction into a form suitable for execution on a computer. Also known as assembly program; assembly routine. { ə'sem·blər }

assembler directive [COMPUT SCI] A statement in an assembly-language program that gives instructions to the assembler and does not generate machine language. { ə'sem·blər di¸rek·tiv }

assembler language *See* assembly language. { ə'sem·blər ˌlaŋ·gwij }

assembler program [COMPUT SCI] A program that is written in assembly language. { ə'sem·blər ˌprō·grəm }

assembly [COMPUT SCI] The automatic translation into machine language of a computer program written in symbolic language. { ə'sem·blē }

assembly language [COMPUT SCI] A symbolic, nonbinary format for instructions (human-readable version of machine language) that allows mnemonic names to be used for instructions and data; for example, the instruction to add the number 39321 to the contents of register D1 in the central processing unit might be written as ADD#39321, D1 in assembly language, as opposed to a string of 0's and 1's in machine language. { ə'sem·blē ˌlaŋ·gwij }

assembly list [COMPUT SCI] A printed list which is the by-product of an assembly procedure; it lists

in logical instruction sequence all details of a routine, showing the coded and symbolic notation next to the actual notations established by the assembly procedure; this listing is highly useful in the debugging of a routine. { ə'sem·blē ˌlist }

assembly program *See* assembler. { ə'sem·blē 'prō·gram }

assembly robot [COMPUT SCI] A robot that positions, mates, fits, and assembles components or parts and adjusts the finished product to function as intended. { ə'sem·blē ˌrō,bät }

assembly routine *See* assembler. { ə'sem·blē rü'tēn }

assembly system [COMPUT SCI] An automatic programming software system with a programming language and machine-language programs that aid the programmer by performing different functions such as checkout and updating. { ə'sem·blē ˌsis·təm }

assembly unit [COMPUT SCI] **1.** A device which performs the function of associating and joining several parts or piecing together a program. **2.** A portion of a program which is capable of being assembled into a larger program. { ə'sem·blē ˌyü·nət }

assign [COMPUT SCI] A control statement in FORTRAN which assigns a computed value *i* to a variable *k*, the latter representing the number of the statement to which control is then transferred. { ə'sīn }

assignment problem [COMPUT SCI] A special case of the transportation problem in a linear program, in which the number of sources (assignees) equals the number of designations (assignments) and each supply and each demand equals 1. { ə'sīn·mənt 'präb·ləm }

assignment statement [COMPUT SCI] A statement in a computer program that assigns a value to a variable. { ə'sīn·mənt ˌstāt·mənt }

assisted panel [COMPUT SCI] In an interactive system, a screen that explains a question the computer has asked, the available options, the expected format, and so forth. { ə'sis·təd 'pan·əl }

associated document [COMPUT SCI] A file that is linked to the application program in which it was created, so that the application can be started by choosing such a file. { ə,sō·sē,ād·əd 'däk·yə·mənt }

association trail [COMPUT SCI] A linkage between two or more documents or items of information, discerned during the process of their examination and recorded with the aid of an information retrieval system. { ə,sō·sē'ā·shən ˌtrāl }

associative dimensioning system [COMPUT SCI] A system for making automatic changes in the dimensions of workpieces manufactured by machine tools. { ə'sō·sē,ād·iv di'men·shən·iŋ 'sis·təm }

associative key [COMPUT SCI] In a computer system with an associative memory, a field used to reference items through comparing the value of the field with corresponding fields in each memory cell and retrieving the contents of matching cells. { ə'sō·sē,ād·iv 'kē }

associative memory [COMPUT SCI] A data-storage device in which a location is identified by its informational content rather than by names, addresses, or relative positions, and from which the data may be retrieved. Also known as associative storage. { ə'sō·sē,ād·iv 'mem·rē }

associative processor [COMPUT SCI] A digital computer that consists of a content-addressable memory and means for searching rapidly changing random digital data stored within, at speeds up to 1000 times faster than conventional digital computers. { ə'sō·sē,ād·iv 'präs,es·ər }

associative storage *See* associative memory. { ə'sō·sē,ād·iv 'stȯr·ij }

associator [COMPUT SCI] A device for bringing like entities into conjunction or juxtaposition. { ə'sō·sē,ād·ər }

assumed decimal point [COMPUT SCI] For a decimal number stored in a computer or appearing on a printout, a position in the number at which place values change from positive to negative powers of 10, but to which no location is assigned or at which no printed character appears, as opposed to an actual decimal point. Also known as virtual decimal point. { ə'sümd 'des·məl ˌpȯint }

astable circuit [ELECTR] A circuit that alternates automatically and continuously between two unstable states at a frequency dependent on circuit constants; for example, a blocking oscillator. { 'ā'stā·bəl 'sər·kət }

astable multivibrator [ELECTR] A multivibrator in which each active device alternately conducts and is cut off for intervals of time determined by circuit constants, without use of external triggers. Also known as free-running multivibrator. { ā'stā·bəl ˌməlt·i'vī,brād·ər }

astatic wattmeter [ENG] An electrodynamic wattmeter designed to be insensitive to uniform external magnetic fields. { ā'stad·ik 'wät,mēd·ər }

A station [NAV] In loran, the designation applied to one transmitting station of a pair, the signal of which always occurs less than half a repetition period after the preceding signal and more than half a repetition period before the succeeding signal of the other station, designated a B station. { 'ā ¦stā·shən }

astigmatism [ELECTR] In an electron-beam tube, a focus defect in which electrons in different axial planes come to focus at different points. { ə'stig·mə,tiz·əm }

Aston dark space [ELECTR] A dark region in a glow-discharge tube which extends for a few millimeters from the cathode up to the cathode glow. { 'as·tən ¦därk ˌspās }

astrionics [ELECTR] The science of adapting electronics to aerospace flight. { ˌas·trē'än·iks }

A supply [ELECTR] Battery, transformer filament winding, or other voltage source that supplies power for heating filaments of vacuum tubes. Also known as A power supply. { 'ā sə,plī }

asymmetrical cell [ELECTR] A cell, such as a photoelectric cell, in which the impedance to the flow of current in one direction is greater than in the other direction. { ¦ā·sə¦me·tri·kəl 'sel }

asymmetrical conductivity [ELEC] A variation in the conductivity of a conductor over its cross section that is not symmetric about the conductor's central axis. { ¦ā·sə¦me·tri·kəl ˌkän ˌdək'tiv·əd·ē }

asymmetrical deflection [ELECTR] A type of electrostatic deflection in which one deflector plate is maintained at a fixed potential and the deflecting voltage is supplied to the other plate. { ¦ā·sə¦me·tri·kəl di'flek·shən }

asymmetrical modem [COMMUN] A modem that simultaneously transmits and receives data, but at different speeds. { ˌā·si¦me·trə·kəl 'mōˌdem }

asymmetrical-sideband transmission *See* vestigial-sideband transmission. { ¦ā·sə¦me·tri·kəl 'sīdˌband ˌtranz'mish·ən }

asymmetric digital subscriber line [COMMUN] A broadband communication technology designed for use on conventional telephone lines, which reserves more bandwidth for receiving data than for sending data. Abbreviated ADSL. { ¦ā·sə'me·trik ¦dij·ə·dəl ˌsəb'skrī·bər ˌlīn }

asynchronous [COMPUT SCI] Operating at a speed determined by the circuit functions rather than by timing signals. { ā'siŋ·krə·nəs }

asynchronous communications [COMMUN] The transmission and recognition of a single character at a time. { ā'siŋ·krə·nəs kəˌmyü·nə'kā·shənz }

asynchronous communications adaptor [COMPUT SCI] A device connected to a computer to allow it to carry out asynchronous communications over a telephone line. { ā'siŋ·krə·nəs kəˌmyü·nə'kā·shənz əˌdap·tər }

asynchronous computer [COMPUT SCI] A computer in which the performance of any operation starts as a result of a signal that the previous operation has been completed, rather than on a signal from a master clock. { ā'siŋ·krə·nəs kəm'pyüd·ər }

asynchronous control [CONT SYS] A method of control in which the time allotted for performing an operation depends on the time actually required for the operation, rather than on a predetermined fraction of a fixed machine cycle. { ā'siŋ·krə·nəs kən'trōl }

asynchronous data [COMPUT SCI] Information which is sampled at irregular intervals with respect to another operation. { ā'siŋ·krə·nəs 'dad·ə }

asynchronous device [CONT SYS] A device in which the speed of operation is not related to any frequency in the system to which it is connected. { ā'siŋ·krə·nəs di'vīs }

asynchronous digital subscriber loop *See* asymmetric digital subscriber line. { ā'siŋ·krə·nəs 'dij·əd·əl səb'skrīb·ər ˌlüp }

asynchronous input/output [COMPUT SCI] The ability to receive input data while simultaneously outputting data. { ā'siŋ·krə·nəs 'inˌpůt 'aůtˌpůt }

asynchronous inputs [ELECTR] The terminals in a flip-flop circuit which affect the output state of the flip-flop independently of the clock. { ā'siŋ·krə·nəs 'inˌpůts }

asynchronous logic [ELECTR] A logic network in which the speed of operation depends only on the signal propagation through the network. { ā'siŋ·krə·nəs 'läj·ik }

asynchronous machine [ELEC] An ac machine whose speed is not proportional to the frequency of the power line. { ā'siŋ·krə·nəs mə'shēn }

asynchronous operation [ELECTR] An operation that is started by a completion signal from a previous operation, proceeds at the maximum speed of the circuits until finished, and then generates its own completion signal. { ā'siŋ·krə·nəs ˌäp·ə'rā·shən }

asynchronous tie [ELEC] An installation at which power is transmitted between two alternating-current power systems, operating at the same nominal frequency but with different frequency controls, by a direct-current link. { ā'siŋ·krə·nəs 'tī }

asynchronous time-division multiplexing [COMMUN] A data-transmission technique in which several users utilize a single channel by means of a system which assigns time slots only to active channels. { ā'siŋ·krə·nəs 'tīm də'vi·zhən 'məlt·iˌpleks·iŋ }

asynchronous transfer mode [COMMUN] A high-speed packet-switching technology based on cell-oriented switching and multiplexing that uses 53-byte packets to transfer different types of information, such as voice, video, and data, over the same communications network at different speeds. Abbreviated ATM. { ˌā¦siŋ·krə·nəs 'tranz·fər ˌmōd }

asynchronous transmission [COMMUN] Data transmission in which each character contains its own start and stop pulses and there is no control over the time between characters. { ā'siŋ·krə·nəs ˌtranz'mish·ən }

asynchronous working [COMPUT SCI] The mode of operation of a computer in which an operation is performed only at the end of the preceding operation. { ā'siŋ·krə·nəs 'wərk·iŋ }

asyndetic [COMPUT SCI] **1.** Omitting conjunctions or connectives. **2.** Pertaining to a catalog without cross references. { ¦as·ən¦ded·ik }

ATCRBS *See* air-traffic control radar beacon system.

ATDM *See* asynchronous time-division multiplexing.

ATM *See* asynchronous transfer mode; automatic teller machine.

atmospheric attenuation [GEOPHYS] The loss of radar or radio signals sent through earth's (or other) atmosphere due to the thermal agitation of various gas molecules as the electromagnetic wave passes through; oxygen and water vapor are the two most sensitive gases in the microwave region, with severity generally, but very linearly, increasing with frequency. { ¦at·mə¦sfir·ik əˌten·yə'wā·shən }

atmospheric noise [ELECTR] Noise heard during radio reception due to atmospheric interference. { ¦at·mə¦sfir·ik 'nȯiz }

atmospheric radio wave [ELECTROMAG] Radio wave that is propagated by reflection in the

atmosphere; may include either the ionospheric wave or the tropospheric wave, or both. { ¦at·mə ¦sfir·ik 'rād·ē·ō ˌwāv }

atom [COMPUT SCI] A primitive data element in a data structure. { 'ad·əm }

atomic fallout *See* fallout. { ə'täm·ik 'fȯlˌaůt }

atomic operation [COMPUT SCI] An operation that cannot be broken up into smaller parts that could be performed by different processors. { ə'täm·ik ˌäp·ə'rā·shən }

A trace [ELECTR] The first trace of an oscilloscope, such as the upper trace of a loran indicator. { 'ā ˌtrās }

ATR tube *See* anti-transmit-receive tube. { 'ā'tē ˌär ˌtüb }

attached processing [COMPUT SCI] A method of data processing in which several relatively inexpensive computers dedicated to specific tasks are connected together to provide a greater processing capability. { ə'tacht 'präs,es·iŋ }

attached processor [COMPUT SCI] A computer that is electronically connected to and operates under the control of another computer. { ə'tacht 'präs,es·ər }

attaching gas [ELECTR] A gas in which electron attachment takes place. { ə'tach·iŋ ˌgas }

attachment [COMPUT SCI] An additional file sent with an e-mail message. { ə'tach·mənt }

attachment coefficient [ELECTR] The probability that an electron drifting through a gas under the influence of a uniform electric field will undergo electron attachment in a unit distance of drift. { ə'tach·mənt ˌkō·əˌfish·ənt }

attachment plug [ELEC] A device having an attached flexible cord containing conductors, and capable of being inserted in a receptacle so as to form an electrical connection between the conductors in the cord and conductors permanently connected to the receptacle. { ə'tach·mənt ˌpləg }

attachment unit interface [COMMUN] A 15-pin connector on an Ethernet card for connecting a network cable. Abbreviated AUI. { ə¦tach·mənt ˌyü·nət 'in·tərˌfās }

attack director [COMPUT SCI] An electromechanical analog computer which is designed for surface antisubmarine use and which computes continuous solution of several lines of submarine attack; it is part of several antisubmarine fire control systems. { ə'tak di'rek·tər }

ATTC *See* Advanced Television Technology Center.

attendant's switchboard [COMMUN] Switchboard of one or more positions in a central-office location which permits the central-office operator to receive, transmit, or cut in on a call to or from one of the lines which the office services. { ə'ten·dəns 'swichˌbȯrd }

attended time [COMPUT SCI] The time in which a computer is either switched on and capable of normal operation (including time during which it is temporarily idle but still watched over by computer personnel) or out of service for maintenance work. { ə'tend·əd ¦tīm }

attenuate [ENG ACOUS] To weaken a signal by reducing its level. { ə'ten·yəˌwāt }

attenuation [ELEC] The exponential decrease with distance in the amplitude of an electrical signal traveling along a very long uniform transmission line, due to conductor and dielectric losses. { əˌten·yə'wā·shən }

attenuation constant [PHYS] A rating for a line or medium through which a plane wave is being transmitted, equal to the relative rate of decrease of an amplitude of a field component, voltage, or current in the direction of propagation, in nepers per unit length. { əˌten·yə'wā·shən ˌkän·stənt }

attenuation distortion [COMMUN] **1.** In a circuit or system, departure from uniform amplification or attenuation over the frequency range required for transmission. **2.** The effect of such departure on a transmitted signal. { əˌten·yə'wā·shən dis ˌtȯr·shən }

attenuation equalizer [ELECTR] Corrective network which is designed to make the absolute value of the transfer impedance, with respect to two chosen pairs of terminals, substantially constant for all frequencies within a desired range. Also known as attenuation factor. { əˌten·yə 'wā·shən 'ē·kwəˌlīz·ər }

attenuation network [ELECTR] Arrangement of circuit elements, usually impedance elements, inserted in circuitry to introduce a known loss or to reduce the impedance level without reflections. { əˌten·yə'wā·shən 'netˌwərk }

attenuator [ELECTR] An adjustable or fixed transducer for reducing the amplitude of a wave without introducing appreciable distortion. { ə'ten·yəˌwād·ər }

attracted-disk electrometer [ELEC] A type of electrometer in which the attraction between two oppositely charged disks is measured. { ə¦trak·təd ¦disk iˌlek'träm·əd·ər }

attraction gripper [CONT SYS] A robot component that uses adhesion, suction, or magnetic forces to grasp a workpiece. { ə'trak·shən ˌgrip·ər }

attribute [COMPUT SCI] **1.** A data item containing information about a variable. **2.** A characteristic of computer-generated characters, such as underline, boldface, or reverse image. { 'a·trəˌbyüt }

audible feedback [COMPUT SCI] A feature of a computer keyboard that generates sound each time a key is depressed sufficiently to generate a character on the screen. { ˌȯd·ə·bəl 'fēdˌbak }

audio adapter *See* sound board. { ˌȯd·ē·ō ə'dap·tər }

audio amplifier *See* audio-frequency amplifier. { 'ȯd·ē·ō 'am·pləˌfī·ər }

audio-frequency amplifier [ELECTR] An electronic circuit for amplification of signals within, and in some cases above, the audible range of frequencies in equipment used to record and reproduce sound. Also known as audio amplifier. { 'ȯd·ē·ō ¦frē·kwən·sē ¦am·pləˌfī·ər }

audio-frequency meter [ENG] One of a number of types of frequency meters usable in the audio range; for example, a resonant-reed frequency meter. { 'ȯd·ē·ō ¦frē·kwən·sē ˌmēd·ər }

audio-frequency oscillator [ELECTR] An oscillator circuit using an electron tube, transistor, or other nonrotating device to produce an audio-frequency alternating current. Also known as audio oscillator. { 'ȯd·ē·ō ¦frē·kwən·sē 'äs·ə ˌlād·ər }

audio-frequency peak limiter [ELEC] A circuit used in an audio-frequency system to cut off signal peaks that exceed a predetermined value. Also known as audio peak limiter. { 'ȯd·ē·ō ¦frē·kwən·sē 'pēk ˌlim·əd·ər }

audio-frequency shift modulation [COMMUN] System of facsimile transmission over radio, in which the frequency shift required is applied through a change in audio signal, rather than shifting the radio transmitter frequency; the radio signal is modulated by the shifting audio signal, usually at 1500 to 2300 hertz. { 'ȯd·ē·ō ¦frē·kwən·sē ˌshift mäj·ə'lā·shən }

audio-frequency transformer [ELEC] An iron-core transformer that is used for coupling audio-frequency circuits. Also known as audio transformer. { 'ȯd·ē·ō ¦frē·kwən·sē tranz'fȯr·mər }

audio oscillator *See* audio-frequency oscillator. { 'ȯd·ē·ō 'äs·ə·lād·ər }

audio patch bay [ENG ACOUS] Specific patch panels provided to terminate all audio circuits and equipment used in a channel and technical control facility; this equipment can also be found in transmitting and receiving stations. { 'ȯd·ē·ō ¦pach ˌbā }

audio peak limiter *See* audio-frequency peak limiter. { 'ȯd·ē·ō 'pēk ˌlim·ə·dər }

audio response [COMMUN] A form of computer output in which prerecorded spoken syllables, words, or messages are selected and put together by a computer as the appropriate verbal response to a keyboarded inquiry on a time-shared on-line information system. { 'ȯd·ē·ō ri'späns }

audio response unit [COMMUN] A system that provides voice response to an inquiry; the inquiry is typically made using the dual-tone multifrequency (DTMF) dial on a telephone set. { 'ȯd·ē·ō ri'späns ˌyü·nət }

audio spectrometer *See* acoustic spectrometer. { 'ȯd·ē·ō spek'träm·əd·ər }

audio system *See* sound-reproducing system. { 'ȯd·ē·ō ˌsis·təm }

audio taper [ENG ACOUS] A special type of potentiometer used in a volume-control apparatus to compensate for the nonlinearity of human hearing and give the impression of a linear increase in audibility as volume is raised. Also known as linear taper. { 'ȯd·ē·ō ˌtā·pər }

audio transformer *See* audio-frequency transformer. { 'ȯd·ē·ō tranz'fȯr·mər }

audiovisual [COMMUN] Pertaining to methods of education and training that make use of both hearing and sight. { ¦ȯd·ē·ō¦vizh·ə·wəl }

audiphone [ENG ACOUS] A device that enables persons with certain types of deafness to hear, consisting of a plate or diaphragm that is placed against the teeth and transmits sound vibrations to the inner ear. { 'ȯd·əˌfōn }

audit [COMPUT SCI] The operations developed to corroborate the evidence as regards authenticity and validity of the data that are introduced into the data-processing problem or system. { 'ȯd·ət }

audit total [COMPUT SCI] A count or sum of a known quantity, calculated in order to verify data. { 'ȯd·ət ˌtōd·əl }

audit trail [COMPUT SCI] A system that provides a means for tracing items of data from processing step to step, particularly from a machine-produced report or other machine output back to the original source data. { 'ȯd·ət ˌtrāl }

augmented operation code [COMPUT SCI] An operation code which is further defined by information from another portion of an instruction. { 'ȯg·men·təd äp·ə'rā·shən ˌkōd }

AUI *See* attachment unit interface.

auralization *See* virtual acoustics. { ˌór·əl·ə'zā·shən }

aural radio range [ELECTR] A radio-range station providing lines of position by virtue of aural identification or comparison of signals at the output of a receiver. { 'ȯr·əl 'rād·ēˌō ˌrānj }

aural transmitter [COMMUN] Radio equipment used for transmitting aural (sound) signals from a television broadcast station. { 'ȯr·əl ˌtranz'mid·ər }

aurora *See* corona discharge. { ə'ród·ə }

aurora gating [ELECTR] Operator-controlled gating to eliminate undesirable radar returns from aurora. { ə'ród·ə ¦gād·iŋ }

auroral propagation [COMMUN] The propagation of radio waves that are reflected from the aurora in the presence of unusual solar activity. { ə'ród·əl ˌpräp·ə'gā·shən }

authentication [COMMUN] Security measure designed to protect a communications system against fraudulent transmissions and establish the authenticity of a message. { əˌthent·ə'kā·shən }

authenticator [COMMUN] Letter, numeral, or groups of letters or numerals attesting to the authenticity of a message or transmission. { ə'thent·əˌkād·ər }

authoring language [COMPUT SCI] A programming language designed to be convenient for authors of computer-based learning materials. { 'ȯ·thər·iŋ 'laŋ·gwij }

authorization code [COMPUT SCI] A password or identifying number that is used to gain access to a computer system. { ˌȯth·ə·rə'zā·shən ˌkōd }

authorized carrier frequency [COMMUN] A specific carrier frequency authorized for use, from which the actual carrier frequency is permitted to deviate, solely because of frequency instability, by an amount not to exceed the frequency tolerance. { 'ȯ·thəˌrīzd 'kar·ē·ər ˌfrē·kwən·sē }

authorized library [COMPUT SCI] A group of authorized programs. { 'ȯ·thəˌrīzed 'liˌbrer·ē }

authorized program [COMPUT SCI] A computer program that can alter the fundamental operation or status of a computer system. { 'ȯ·thə ˌrizd 'prō·grəm }

auto-abstract [COMPUT SCI] **1.** To select key words from a document, commonly by an automatic or machine method, for the purpose of forming an abstract of the document. **2.** The material abstracted from a document by machine methods. { ¦ȯd·ō 'ab,strakt }

autoadaptivity [CONT SYS] The ability of an advanced robot to sense the environment, accept commands, and analyze and execute operations. { ¦ȯd·ō·ə,dap'tiv·əd·ē }

autoalarm *See* automatic alarm receiver. { 'ȯd·ō·ə,lärm }

auto answer [COMMUN] The feature of a modem that receives the telephone ring for an incoming call and accepts the call to establish a connection. { ¦ȯd·ō 'an·sər }

auto bypass [COMPUT SCI] The ability of a computer network to bypass a terminal or other device if it fails, allowing other devices connected to the network to continue operation. { ¦ȯd·ō 'bī ,pas }

autocall [COMPUT SCI] The automatic placing of a telephone call by a computer or a computer-controlled modem. Also known as automatic call origination. { 'ȯd·ō,kȯl }

autocode [COMPUT SCI] The process of using a computer to convert automatically a symbolic code into a machine code. Also known as automatic code. { 'ȯd·ō,kōd }

autocoder [COMPUT SCI] A person or machine producing or using autocode as a part or the whole of a task. { 'ȯd·ō,kōd·ər }

autocorrelation [ELECTR] A technique used to detect cyclic activity in a complex signal. { ¦ȯd·ō ,kär·ə'lā·shən }

autocorrelator [ELECTR] A correlator in which the input signal is delayed and multiplied by the undelayed signal, the product of which is then smoothed in a low-pass filter to give an approximate computation of the autocorrelation function; used to detect a nonperiodic signal or a weak periodic signal hidden in noise. { ,ȯd·ō'kär·ə,lād·ər }

autodecrement addressing [COMPUT SCI] An addressing mode of computers in which the register is first decremented and then used as a pointer. { ,ȯd·ō'dek·rə·mənt ə'dres·iŋ }

auto dial [COMMUN] The feature of a modem that automatically opens a telephone line and dials the telephone of a receiving computer to establish a connection. { ¦ȯd·ō 'dīl }

autodyne circuit [ELECTR] A circuit in which the same tube elements serve as oscillator and detector simultaneously. { 'ȯd·ō,dīn ,sər·kət }

autodyne reception [COMMUN] System of heterodyne reception through the use of a device which is both an oscillator and a detector. { 'ȯd·ō,dīn ri'sep·shən }

autoincrement addressing [COMPUT SCI] An addressing mode of minicomputers in which the operand address is gotten from the specified register which is then incremented. { ¦ȯd·ō'iŋ·krə·mənt ə'dres·iŋ }

autoindexing *See* automatic indexing. { ¦ȯd·ō'in,deks·iŋ }

automata theory [MATH] A theory concerned with models used to simulate objects and processes such as computers, digital circuits, nervous systems, cellular growth and reproduction. { ȯ'täm·əd·ə 'thē·ə·rē }

automated decision making [COMPUT SCI] The use of computers to carry out tasks requiring the generation or selection of options. { ¦ȯd·ə ,mād·əd di'sizh·ən ,māk·iŋ }

automated guided vehicle system [CONT SYS] A computer-controlled system that uses pallets and other interface equipment to transport workpieces to numerically controlled machine tools and other equipment in a flexible manufacturing system, moving in a predetermined pattern to ensure automatic, accurate, and rapid work-machine contact. { 'ȯd·ə,mād·əd ¦gīd·əd 'vē·ə·kəl ,sis·təm }

automated identification system [COMPUT SCI] In a data processing system, the use of a technology such as bar coding, image recognition, or voice recognition instead of keyboarding for data entry. { ,ȯd·ə¦mād·əd ī,den·tə·fə'ka·shən ,sis·təm }

automated radar plotting aid [NAV] A marine computer-based anticollision system that automatically processes time coordinates of radar echo signals into space coordinates in digital form, determines consecutive coordinates and motion parameters of targets, calculates the predicted closest point of approach and time to closest point of approach and presents them in graphic or alphanumeric form on the radar display, and switches on alarms if there is a danger of collision. { 'ȯd·ə,mād·əd ¦rā,där 'plād·iŋ ,ād }

automated tape library [COMPUT SCI] A computer storage system consisting of several thousand magnetic tapes and equipment under computer control which automatically brings the tapes from storage, mounts them on tape drives, dismounts the tapes when the job is completed, and returns them to storage. { 'ȯd·ə,mād·əd 'tāp ¦lī,brer·ē }

automatic [ENG] Having a self-acting mechanism that performs a required act at a predetermined time or in response to certain conditions. { ¦ȯd·ə¦mad·ik }

automatic abstracting [COMPUT SCI] Techniques whereby, on the basis of statistical properties, a subset of the sentences in a document is selected as representative of the general content of that document. { ¦ȯd·ə¦mad·ik 'ab,strakt·iŋ }

automatic acceleration *See* dynamic resolution. { ¦ȯd·ə¦mad·ik ik,sel·ə'rā·shən }

automatic alarm receiver [ELECTR] A complete receiving, selecting, and warning device capable of being actuated automatically by intercepted radio-frequency waves forming the international automatic alarm signal. Also known as autoalarm. { ¦ȯd·ə¦mad·ik ə'lärm ri,sē·vər }

automatic-alarm-signal keying device [COMMUN] A device capable of automatically keying

the radiotelegraph transmitter on board a vessel to transmit the international automatic-alarm signal, or to respond to receipt of an internationally agreed-upon distress signal and wake up the radio operator on ships not having a 24-hour radio watch. { ¦ȯd·ə¦mad·ik ə'lärm ˌsig·nəl 'kē·iŋ di,vīs }

automatic back bias [ELECTR] Radar technique which consists of one or more automatic gain control loops to prevent overloading of a receiver by large signals, whether jamming or actual radar echoes. { ¦ȯd·ə¦mad·ik 'bak ˌbī·əs }

automatic background control *See* automatic brightness control. { ¦ȯd·ə¦mad·ik 'bak,graund kən,trōl }

automatic bass compensation [ELECTR] A circuit related to the volume control in some radio receivers and audio amplifiers to make bass notes sound properly balanced, in the audio spectrum, at low volume-control settings. { ¦ȯd·ə¦mad·ik 'bās käm·pən'sā·shən }

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. { ¦ȯd·ə¦mad·ik 'bī·əs }

automatic brightness control [ELECTR] A circuit used in an analog television receiver to keep the average brightness of the reproduced image essentially constant. Abbreviated ABC. Also known as automatic background control. { ¦ȯd·ə¦mad·ik 'brīt·nəs kən,trōl }

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. { ¦ȯd·ə¦mad·ik ˌkal·ə'brā·shən }

automatic calling unit [COMPUT SCI] A device that enables a business machine or computer to automatically dial calls over a communications network. { ¦ȯd·ə¦mad·ik 'kól·iŋ ˌyü·nət }

automatic call origination *See* autocall. { ¦ȯd·ə ¦mad·ik 'kól ə,rij·ə'nā·shən }

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. { ¦ȯd·ə¦mad·ik 'kar·ij }

automatic C bias *See* self-bias. { ¦ȯd·ə¦mad·ik 'sē ˌbī·əs }

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. { ¦ȯd·ə¦mad·ik 'kar·ik·tər ˌrek·ig'nish·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. { ¦ȯd·ə¦mad·ik 'chek }

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. { ¦ȯd·ə¦mad·ik 'chek,aůt ˌsis·təm }

automatic chroma control *See* automatic color control. { ¦ȯd·ə¦mad·ik 'krōm·ə kən,trōl }

automatic chrominance control *See* automatic color control. { ¦ȯd·ə¦mad·ik 'krōm·ə·nəns kən ˌtrōl }

automatic code *See* autocode. { ¦ȯd·ə¦mad·ik 'kōd }

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. { ¦ȯd·ə¦mad·ik 'kōd·iŋ }

automatic color control [ELECTR] A circuit used in an analog 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. { ¦ȯd·ə¦mad·ik 'kəl·ər kən,trōl }

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

automatic connection [ELECTR] Ability of electronic switching equipment to make a connection between users without human intervention. { ¦ȯd·ə¦mad·ik kə'nek·shən }

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. { ¦ȯd·ə ¦mad·ik 'kän,trast kən,trōl }

automatic control [CONT SYS] Control in which regulating and switching operations are performed automatically in response to predetermined conditions. Also known as automatic regulation. { ¦ȯd·ə¦mad·ik kən,trōl }

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. { ¦ȯd·ə¦mad·ik kən'trōl 'bläk ˌdī·ə ˌgram }

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. { ¦ȯd·ə¦mad·ik kən'trōl 'er·ər ˌkō·ə'fish·ənt }

automatic-control frequency response [CONT SYS] The steady-state output of an automatic control system for sinusoidal inputs of varying frequency. { ¦ȯd·ə¦mad·ik 'frē·kwən·sē ri ˌspäns }

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. { ¦ȯd·ə¦mad·ik kən¦trōl·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. { ¦ȯd·ə ¦mad·ik kən'trōl 'sər·vō ˌvalv }

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. { ¦ȯd·ə¦mad·ik kən'trōl stəˌbil·ə·dē }

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. { ¦ȯd·ə¦mad·ik kən'trōl ˌsis·təm }

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. { ¦ȯd·ə¦mad·ik 'kədˌaůt }

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. { ¦ȯd·ə¦mad·ik ¦dad·ə 'präsˌəs·iŋ }

automatic degausser [ELECTR] An arrangement of degaussing coils mounted around a color television picture tube, combined with a circuit that energizes these coils only while the set is warming up; demagnetizes any parts of the receiver that have been affected by the magnetic field of the earth or of any nearby devices. { ¦ȯd·ə¦mad·ik dē'gaůs·ər }

automatic detection [ELECTR] A computer-based process in radar wherin the receiver's output video is examined, compared to appropriate thresholds and contacts (detections) reported; augments or replaces the similar role played by the human operator viewing an analog display of the video in more elementary radar. { ¦ȯd·ə ¦mad·ik di'tek·shən }

automatic dialer [ELECTR] A device in which a telephone number up to some maximum number of digits can be stored in a memory and then activated, directly into the line, by the caller's pressing a button. { ¦ȯd·ə¦mad·ik 'dīl·ər }

automatic dictionary [COMPUT SCI] Any table within a computer memory which establishes a one-to-one correspondence between two sets of characters. { ¦ȯd·ə¦mad·ik 'dik·shəˌner·ē }

automatic direction finder [ELECTR] A direction finder that without manual manipulation indicates the direction of arrival of a radio signal. Abbreviated ADF. Also known as radio compass. { ¦ȯd·ə¦mad·ik di'rek·shən ˌfīnd·ər }

automatic error correction [COMMUN] A technique, usually requiring the use of special codes or automatic retransmission, which detects and corrects errors occurring in transmission; the degree of correction depends upon coding and equipment configuration. { ¦ȯd·ə¦mad·ik 'er·ər kə'rek·shən }

automatic exchange [ELECTR] A telephone, teletypewriter, or data-transmission exchange in which communication between subscribers is effected, without the intervention of an operator, by devices set in operation by the originating subscriber's instrument (for example, the dial n a telephone). Also known as automatic switching system; machine switching system. { ¦ȯd·ə ¦mad·ik iks'chanj }

automatic fine-tuning control [ELECTR] A circuit used in a color television receiver to maintain the correct oscillator frequency in the tuner for best reception by compensating for drift and incorrect tuning. { ¦ȯd·ə¦mad·ik ˌfīn 'tün·iŋ kənˌtrōl }

automatic frequency control [ELECTR] Abbreviated AFC. **1.** A circuit used to maintain the frequency of an oscillator within specified limits, as in a transmitter. **2.** A circuit used to keep a superheterodyne receiver tuned accurately to a given frequency by controlling its local oscillator, as in an FM receiver. **3.** A circuit used in radar superheterodyne receivers to vary the local oscillator frequency so as to compensate for changes in the frequency of the received echo signal. **4.** A circuit used in television receivers to make the frequency of a sweep oscillator correspond to the frequency of the synchronizing pulses in the received signal. { ¦ȯd·ə¦mad·ik 'frē·kwən·sē kənˌtrōl }

automatic gain control [ELECTR] A control circuit that automatically changes the gain (amplification) of a receiver or other piece of equipment so that the desired output signal remains essentially constant despite variations in input signal strength. Abbreviated AGC. { ¦ȯd·ə¦mad·ik 'gān kənˌtrōl }

automatic grid bias *See* self-bias. { ¦ȯd·ə¦mad·ik 'grid ˌbī·əs }

automatic head parking [COMPUT SCI] A feature that moves the read/write head of a hard disk over the landing zone whenever power is shut off to ensure against a head crash. { ¦ȯd·ə¦mad·ik 'hed ˌpärk·iŋ }

automatic indexing [COMPUT SCI] Selection of key words from a document by computer for use as index entries. Also known as autoindexing. [CONT SYS] The procedure for determining the orientation and position of a workpiece with respect to an automatically controlled machine, such as a robot manipulator, that is to perform an operation on it. { ¦ȯd·ə¦mad·ik 'in ˌdeks·iŋ }

automatic intercept [COMMUN] Telephone service that automatically records messages a caller may leave when the called party is away from his telephone. This may be an answering machine or a function provided by an automatic exchange. { ¦ȯd·ə¦mad·ik 'in·tərˌsept }

automatic interrupt [COMPUT SCI] Interruption of a computer program brought about by a hardware device or executive program acting as a result of some event which has occurred independently of the interrupted program. { ˌȯd·əˈmad·ik ˈin·təˌrəpt }

automatic level compensation [COMMUN] System which automatically compensates for amplitude variations in a circuit. { ˌȯd·əˈmad·ik ˈlev·əl ˌkäm·penˈsā·shən }

automatic level control [ELECTR] A circuit that keeps the output of a radio transmitter, tape recorder, or other device essentially constant, even in the presence of large changes in the input amplitude. Abbreviated ALC. { ˌȯd·əˈmad·ik ˈlev·əl kənˌtrōl }

automatic light control [ELECTR] Automatic adjustment of illumination reaching a film, television camera, or other imaging device as a function of scene brightness. { ˌȯd·əˈmad·ik ˈlīt kənˌtrōl }

automatic mathematical translator [COMPUT SCI] An automatic-programming computer capable of receiving a mathematical equation from a remote input and returning an immediate solution. { ˌȯd·əˈmad·ik ˌmath·əˈmad·ə·kəl ˈtranzˌlād·ər }

automatic message accounting [COMMUN] System whereby toll calls are automatically recorded and timed. { ˌȯd·əˈmad·ik ˈmes·ij əˌkaunt·iŋ }

automatic message-switching center [COMMUN] A center in which messages are automatically routed according to information in them. { ˌȯd·əˈmad·ik ˈmes·ij ˌswich·iŋ ˌsen·tər }

automatic modulation control [ELECTR] A transmitter circuit that reduces the gain for excessively strong audio input signals without affecting the strength of normal signals, thereby permitting higher average modulation without overmodulation. Abbreviated AMC. { ˌȯd·əˈmad·ik ˌmäj·əˈlā·shən kənˌtrōl }

automatic modulation limiting [COMMUN] A circuit that prevents overmodulation in some citizen-band radio transmitters by reducing the gain of one or more audio amplifier stages when the voice signal becomes stronger. Abbreviated AML. { ˌȯd·əˈmad·ik mäj·əˈlā·shən ˌlim·əd·iŋ }

automatic noise limiter [ELECTR] A circuit that clips impulse and static noise peaks, and sets the level of limiting or clipping according to the strength of the incoming signal, so that the desired signal is not affected. Abbreviated ANL. { ˌȯd·əˈmad·ik ˈnȯiz ˌlim·əd·ər }

automatic peak limiter See limiter. { ˌȯd·əˈmad·ik ˈpēk ˌlim·əd·ər }

automatic phase control [ELECTR] **1.** A circuit used in color television receivers to reinsert a 3.58-megahertz carrier signal with exactly the correct phase and frequency by synchronizing it with the transmitted color-burst signal. **2.** An automatic frequency-control circuit in which the difference between two frequency sources is fed to a phase detector that produces the required control signal. Abbreviated APC. { ˌȯd·əˈmad·ik ˈfāz kənˌtrōl }

automatic picture control [ELECTR] A multiple-contact switch used in some color television receivers to disconnect one or more of the regular controls and make connections to corresponding preset controls. { ˌȯd·əˈmad·ik ˈpik·chər kən ˌtrōl }

automatic picture-transmission system [ELECTR] A system in which a meteorological satellite continuously scans and transmits a view of a transverse swath directly beneath it; transmissions can be recorded by simple ground equipment to reconstruct an image of the cloud patterns within a thousand kilometers of the ground station. Abbreviated APT system. { ˌȯd·əˈmad·ik ˈpik·chər tranzˈmish·ən ˌsis·təm }

automatic programming [COMPUT SCI] The preparation of machine-language instructions by use of a computer. { ˌȯd·əˈmad·ik ˈprōˌgram·iŋ }

Automatic Programming Tool [COMPUT SCI] A computer language used to program numerically controlled machine tools. Abbreviated APT. { ˌȯd·əˈmad·ik ˈprōˌgram·iŋ ˌtül }

automatic regulation See automatic control. { ˌȯd·əˈmad·ik ˌreg·yəˈlā·shən }

automatic regulator See automatic controller. { ˌȯd·əˈmad·ik ˈreg·yəˌlād·ər }

automatic relay [COMMUN] Means of selective switching which causes automatic equipment to record and retransmit communications. { ˌȯd·ə ˈmad·ik ˈrēˌlā }

automatic repeat request [COMPUT SCI] A request from a receiving device to retransmit the most recent block of data. Abbreviated ARQ. { ˌȯd·əˈmad·ik riˈpēt riˌkwest }

automatic routine [COMPUT SCI] A routine that is executed independently of manual operations, but only if certain conditions occur within a program or record, or during some other process. { ˌȯd·əˈmad·ik rüˈtēn }

automatic scanning receiver [ELECTR] A receiver which can automatically and continuously sweep across a preselected frequency, either to stop when a signal is found or to plot signal occupancy within the frequency spectrum being swept. { ˌȯd·əˈmad·ik ˈskan·iŋ riˌsē·vər }

automatic sensitivity control [ELECTR] Circuit used for automatically maintaining receiver sensitivity at a predetermined level; it is similar to automatic gain control, but it affects the receiver constantly rather than during the brief interval selected by the range gate. { ˌȯd·ə ˈmad·ik senˌsəˈtiv·əd·ē kənˌtrōl }

automatic sequences [COMPUT SCI] The characteristic of a computer that can perform successive operations without human intervention. { ˌȯd·ə ˈmad·ik ˈsē·kwən·səs }

automatic short-circuiter [ELEC] Device designed to automatically short-circuit the commutator bars in some forms of single-phase commutator motors. { ˌȯd·əˈmad·ik ˌshȯrt ˈsər·kəd·ər }

automatic shutdown [COMPUT SCI] A procedure whereby a network or computer system stops work in an orderly fashion with as little data loss and other damage as possible when the system's software determines that it has encountered

unacceptable conditions. { ¦ȯd·ə¦mad·ik 'shət ˌdaůn }

automatic speed sensing [COMPUT SCI] The capability of a modem to automatically determine the maximum rate of data transfer over a connection. { ¦ȯd·ə¦mad·ik 'spēd ˌsen·siŋ }

automatic stop [COMPUT SCI] An automatic halting of a computer processing operation as the result of an error detected by built-in checking devices. { ¦ȯd·ə¦mad·ik 'stäp }

automatic switchboard [COMMUN] Telephone switchboard in which the connections are made by using remotely controlled switches. { ¦ȯd·ə ¦mad·ik 'swichˌbȯrd }

automatic switching system *See* automatic exchange. { ¦ȯd·ə¦mad·ik 'swich·iŋ ˌsis·təm }

automatic teller machine [COMPUT SCI] A banking terminal that is activated by inserting a magnetic card containing the user's account number, and that accepts deposits, dispenses cash, provides information about current balances, and may perform other services such as making payments and transfers and providing account statements. Abbreviated ATM. { ¦ȯd·ə¦mad·ik 'telˌər mə ˌshēn }

automatic threshold variation [ELECTR] Constant false-alarm rate scheme that is an open-loop of automatic gain control in which the decision threshold is varied continuously in proportion to the incoming intermediate frequency and video noise level. { ¦ȯd·ə¦mad·ik 'threshˌhōld ˌver·ē'ā·shən }

automatic time switch [ENG] Combination of a switch with an electric or spring-wound clock, arranged to turn an apparatus on and off at predetermined times. { ¦ȯd·ə¦mad·ik ˌtīm ˌswich }

automatic tint control [ELECTR] A circuit used in color television receivers to maintain correct flesh tones by correcting phase errors before the chroma signal is demodulated. { ¦ȯd·ə¦mad·ik 'tint kənˌtrōl }

automatic tracking [ELECTR] A computer-based process in radar wherein successive contacts (detections) are associated and tracks of targets are estimated and updated with further observations. [NAV] **1.** Tracking in which a servomechanism autpmatically follows some characteristic of the signal; specifically, a process by which tracking or data-acquisition systems are enabled to keep their antennas continuously directed at a moving target without manual operation. **2.** An instrument which displays the actual course made good through the use of navigation derived from several sources. { ¦ȯd·ə¦mad·ik 'trak·iŋ }

automatic track shift [ENG ACOUS] A system used with multiple-track magnetic tape recorders to index the tape head, after one track is played, to the correct position for the start of the next track. { ¦ȯd·ə¦mad·ik 'trak ˌshift }

automatic transfer equipment [ELEC] Equipment which automatically transfers a load so that a source of power may be selected from one of several incoming lines. { ¦ȯd·ə¦mad·ik 'tranzˌfər iˌkwip·mənt }

automatic tuning system [CONT SYS] An electrical, mechanical, or electromechanical system that tunes a radio receiver or transmitter automatically to a predetermined frequency when a button or lever is pressed, a knob turned, or a telephone-type dial operated. { ¦ȯd·ə¦mad·ik 'tün·iŋ ˌsis·təm }

automatic video noise leveling [ELECTR] Constant false-alarm rate scheme in which the video noise level at the output of the receiver is sampled at the end of each range sweep and the receiver gain is readjusted accordingly to maintain a constant video noise level at the output. { ¦ȯd·ə¦mad·ik ¦vid·ē·ō 'nȯiz ˌlev·əl·iŋ }

automatic voltage regulator *See* voltage regulator. { ¦ȯd·ə¦mad·ik 'vol·tij ˌreg·yəˌlād·ər }

automatic volume compressor *See* volume compressor. { ¦ȯd·ə¦mad·ik 'väl·yəm kəmˌpres·ər }

automatic volume control [ELECTR] An automatic gain control that keeps the output volume of a radio receiver essentially constant despite variations in input-signal strength during fading or when tuning from station to station. Abbreviated AVC. { ¦ȯd·ə¦mad·ik 'väl·yəm kənˌtrōl }

automatic volume expander *See* volume expander. { ¦ȯd·ə¦mad·ik 'väl·yəm ikˌspand·ər }

automation [ENG] **1.** The use of technology to ease human labor or extend the mental or physical capabilities of humans. **2.** The mechanisms, machines, and systems that save or eliminate labor, or imitate actions typically associated with human beings. { ˌȯd·ə'mā·shən }

automaton [COMPUT SCI] A robot which functions without step-by-step guidance by a human operator. { ȯ'täm·əˌtän }

automechanism [CONT SYS] A machine or other device that operates automatically or under control of a servomechanism. { ¦ȯd·ō'mekˌə ˌniz·əm }

automonitor [COMPUT SCI] A computer program used in debugging which instructs a computer to make a record of its own operations. { ¦ȯd·ō ¦män·əd·ər }

automotive alternator [ELEC] An ac generator used in an automotive vehicle to provide current for the vehicle's electrical systems. { ¦ȯd·ə ¦mōd·iv 'ȯl·təˌnād·ər }

automotive voltage regulator [ELEC] A device in the automotive electrical system to prevent generator or alternator overvoltage. { ¦ȯd·ə'mōd·iv 'vōl·tij ˌreg·yəˌlād·ər }

autonomous channel operation [COMPUT SCI] The rapid transfer of data between computer peripherals and the main store in which an entire block of data is transferred, word by word; the cycles of storage time for the word transfer are stolen from those available to the central processing unit. { ȯ'tän·ə·məs ¦chan·əl ˌäp·ə'rā·shən }

autonomous robot [ENG] A robot that not only can maintain its own stability as it moves, but also can plan its movements. { ȯ¦tän·ə·məs 'rō ˌbät }

autonomous vehicle [ENG] A vehicle that is able to plan its path and to execute its plan

without human intervention. { ȯ¦tän·ə·məs 'vē·ə·kəl }

autopatch [ELECTR] A device for connecting radio transceivers to telephone lines by remote control, generally through the use of repeaters. { 'ȯd·ō,pach }

autoplotter [COMPUT SCI] A machine which automatically draws a graph from input data. { 'ȯd·ō ,plät·ər }

autopolarity [ELECTR] Automatic interchanging of connections to a digital meter when polarity is wrong; a minus sign appears ahead of the value on the digital display if the reading is negative. { ,ȯd·ō·pə'lär·əd·ē }

autostability [CONT SYS] The ability of a device (such as a servomechanism) to hold a steady position, either by virtue of its shape and proportions, or by control by a servomechanism. { ¦ȯd·ō·stə'bil·əd·ē }

autostarter [ELEC] **1.** Automatic starting and switchover generating system consisting of a standby generator coupled to the station load through an automatic power transfer control unit. **2.** *See* autotransformer starter. { 'ȯd·ō ,stärd·ər }

autostart routine [COMPUT SCI] A set of instructions that is permanently stored in a computer memory and activated when the computer is turned on, to perform diagnostic tests and then load the operating system. { 'ȯd·ō,stärt rü,tēn }

autotest program [COMPUT SCI] A computer program within the operating system that aids in testing and debugging programs. { 'ȯd·ō,test 'prō·grəm }

autotrace [COMPUT SCI] A routine that locates outlines of raster graphics images and transforms them into vector graphics, usually at higher resolution. { 'ȯd·ō,trās }

autotransformer [ELEC] A power transformer having one continuous winding that is tapped; part of the winding serves as the primary and all of it serves as the secondary, or vice versa; small autotransformers are used to start motors. { ¦ȯd·ō·tranz¦fȯr·mər }

autotransformer starter [ELEC] Motor starter having an autotransformer to furnish a reduced voltage for starting; includes the necessary switching mechanism. Also known as autostarter. { ¦ȯd·ō·tranz¦fȯr·mər ,stärd·ər }

auxiliary channel [COMMUN] A secondary path for low-speed communication that uses the same circuit as a higher-speed stream of data. { ȯg'zil·yə·rē 'chan·əl }

auxiliary contacts [ELEC] Contacts, in a switching device, in addition to the main circuit contacts, which function with the movement of the latter. { ȯg'zil·yə·rē 'kän,taks }

auxiliary equipment *See* off-line equipment. { ȯg'zil·yə·rē ə'kwip·mənt }

auxiliary instruction buffer [COMPUT SCI] A section of storage in the instruction unit, 16 bytes in length, used to hold prefetched instructions. { ȯg'zil·yə·rē in'strək·shən ,bəf·ər }

auxiliary memory [COMPUT SCI] **1.** A high-speed memory that is in a large main frame or supercomputer, is not directly addressable by the central processing unit, and is connected to the main memory by a high-speed data channel. **2.** *See* auxiliary storage. { ȯg¦zil·yə·rē 'mem·rē }

auxiliary operation [COMPUT SCI] An operation performed by equipment not under continuous control of the central processing unit of a computer. { ȯg'zil·yə·rē ,äp·ə'rā·shən }

auxiliary processor [COMPUT SCI] Any equipment which performs an auxiliary operation in a computer. { ȯg'zil·yə·rē 'präs,es·ər }

auxiliary relay [ELEC] Relay that operates in response to the opening or closing of its operating circuit to assist another relay or device in performing a function. { ȯg'zil·yə·rē 'rē,lā }

auxiliary routine [COMPUT SCI] A routine designed to assist in the operation of the computer and in debugging other routines. { ȯg'zil·yə·rē rü'tēn }

auxiliary storage [COMPUT SCI] Storage device in addition to the main storage of a computer; for example, magnetic tape, magnetic or optical disk, or magnetic drum. Also known as auxiliary memory. { ȯg'zil·yə·rē 'stȯr·ij }

auxiliary switch [ELEC] A switch actuated by the main device (such as a circuit breaker) for signaling, interlocking, or other purposes. { ȯg'zil·yə·rē 'swich }

aV *See* abvolt.

availability [COMPUT SCI] Of data, data channels, and input-output devices in computers, the condition of being ready for use and not immediately committed to other tasks. { ə,vāl·ə'bil·ə·dē }

available line [ELECTR] Portion of the length of the scanning line which can be used specifically for picture signals in a facsimile system. { ə'vāl·ə·bəl 'līn }

available power [ELECTR] The power which a linear source of energy is capable of delivering into its conjugate impedance. { ə'vāl·ə·bəl 'paù·ər }

available-power gain [ELECTR] Ratio, in an electronic transducer, of the available power from the output terminals of the transducer, under specified input termination conditions, to the available power from the driving generator. { ə'vāl·ə·bəl 'paù·ər ,gān }

available space list [COMPUT SCI] A pool of inactive memory cells, available for use in a list-processing system, to which cells containing items deleted from data lists are added, and from which cells needed for newly inserted data items are removed. { ə'vāl·ə·bəl 'spās ,list }

available time *See* up time. { ə'vāl·ə·bəl 'tīm }

avalanche [ELECTR] **1.** The cumulative process in which an electron or other charged particle accelerated by a strong electric field collides with and ionizes gas molecules, thereby releasing new electrons which in turn have more collisions, so that the discharge is thus self-maintained. Also known as avalanche effect; cascade; cumulative ionization; electron avalanche; Townsend avalanche; Townsend ionization. **2.** Cumulative multiplication of carriers in a semiconductor as a result of avalanche breakdown. Also known as avalanche effect. { 'av·ə,lanch }

avalanche breakdown [ELECTR] Nondestructive breakdown in a semiconductor diode when the electric field across the barrier region is strong enough so that current carriers collide with valence electrons to produce ionization and cumulative multiplication of carriers. { 'av·ə ˌlanch 'brāk,daůn }

avalanche diode [ELECTR] A semiconductor breakdown diode, usually made of silicon, in which avalanche breakdown occurs across the entire *pn* junction and voltage drop is then essentially constant and independent of current; the two most important types are IMPATT and TRAPATT diodes. { 'av·ə,lanch 'dī,ōd }

avalanche effect *See* avalanche. { 'av·ə,lanch i ˌfekt }

avalanche impedance [ELECTR] The complex ratio of the reverse voltage of a device that undergoes avalanche breakdown to the reverse current. { 'av·ə,lanch im'pēd·əns }

avalanche-induced migration [ELECTR] A technique of forming interconnections in a field-programmable logic array by applying appropriate voltages for shorting selected base-emitter junctions. { 'av·ə,lanch in¦düsd ˌmī'grā·shən }

avalanche noise [ELECTR] **1.** A junction phenomenon in a semiconductor in which carriers in a high-voltage gradient develop sufficient energy to dislodge additional carriers through physical impact; this agitation creates ragged current flows which are indicated by noise. **2.** The noise produced when a junction diode is operated at the onset of avalanche breakdown. { 'av·ə,lanch ˌnȯiz }

avalanche oscillator [ELECTR] An oscillator that uses an avalanche diode as a negative resistance to achieve one-step conversion from direct-current to microwave outputs in the gigahertz range. { 'av·ə,lanch ¦äs·ə,lād·ər }

avalanche photodiode [ELECTR] A photodiode operated in the avalanche breakdown region to achieve internal photocurrent multiplication, thereby providing rapid light-controlled switching operation. { 'av·ə,lanch ˌfōd·ō'dī,ōd }

avalanche transistor [ELECTR] A transistor that utilizes avalanche breakdown to produce chain generation of charge-carrying hole-electron pairs. { 'av·ə,lanch tran'zis·tər }

avalanche voltage [ELECTR] The reverse voltage required to cause avalanche breakdown in a *pn* semiconductor junction. { 'av·ə,lanch ˌvōl·tij }

avatar [COMPUT SCI] A virtual representation of a person or a person's interactions with others in a virtual environment, conveying a sense of someone's presence (known as telepresence) by providing the location (position and orientation) and identity; examples include the graphical human figure model, the talking head, and the real-time reproduction of a three-dimesional human image. { 'av·ə,tär }

AVC *See* automatic volume control.

aV/cm *See* abvolt per centimeter.

average acoustic output [ENG ACOUS] Vibratory energy output of a transducer measured by a radiation pressure balance; expressed in terms of watts per unit area of the transducer face. { 'av·rij ə'kü·stik 'aůt,půt }

average-calculating operation [COMPUT SCI] A common or typical calculating operation longer than an addition and shorter than a multiplication; often taken as the mean of nine additions and one multiplication. { 'av·rij ¦kal·kyə,lād·iŋ ˌäp·ə,rā·shən }

average-edge line [COMPUT SCI] The imaginary line which traces or smooths the shape of any written or printed character to be recognized by a computer through optical, magnetic, or other means. { 'av·rij ¦ej ˌlīn }

average effectiveness level *See* effectiveness level. { 'av·rij i'fek·tiv·nəs ˌlev·əl }

average information content [COMMUN] The average of the information content per symbol emitted from a source. { 'av·rij ˌin·fər'mā·shən ˌkän·tent }

average noise figure [ELECTR] Ratio in a transducer of total output noise power to the portion thereof attributable to thermal noise in the input termination, the total noise being summed over frequencies from zero to infinity, and the noise temperature of the input termination being standard (290 K). { 'av·rij 'nȯiz ˌfig·yər }

average power output [ELECTR] Radio-frequency power, in an audio-modulation transmitter, delivered to the transmitter output terminals, averaged over a modulation cycle. { 'av·rij 'paů·ər 'aůt,půt }

averaging [CONT SYS] The reduction of noise received by a robot sensor by screening it over a period of time. { 'av· rij·iŋ }

avigation *See* air navigation. { ˌa·və'gā·shən }

avionics [ENG] The design and production of airborne electrical and electronic devices; term is derived from aviation electronics. { ˌā·vē'än·iks }

AWGN *See* additive white Gaussian noise.

axial lead [ELEC] A wire lead extending from the end along the axis of a resistor, capacitor, or other component. { 'ak·sē·əl 'lēd }

axial ratio [ELECTR] The ratio of the major axis to the minor axis of the polarization ellipse of a waveguide. Also known as ellipticity. { 'ak·sē·əl 'rā·shō }

Ayrton-Jones balance [ELEC] A type of balance with which force between current-carrying conductors is measured; uses single-layer solenoids as the fixed and movable coils. { ¦er·tən ¦jōnz 'bal·əns }

Ayrton-Perry winding [ELEC] Winding of two wires in parallel but opposite directions to give better cancellation of magnetic fields than is obtained with a single winding. { ¦er·tən ¦per·ē ˌwind·iŋ }

Ayrton shunt [ELEC] A shunt used to increase the range of a galvanometer without changing the damping. Also known as universal shunt. { 'er·tən ˌshənt }

azel display [ELECTR] Modified type of plan position indicator presentation showing two separate radar displays on one cathode-ray screen; one display presents bearing information and the other shows elevation. { 'az·el dis,plā }

azimuth [ELECTR] Horizontal direction on the earth's surface, as represented by a radar plan position indicator. { 'az·ə·məth }

azimuth alignment [ENG ACOUS] The condition whereby the center lines of the playback- and recording-head gaps are exactly perpendicular to the magnetic tape and parallel to each other. { 'az·ə·məth ə'līn·mənt }

azimuth blanking [ELECTR] Blanking (disabling) either the radar receiver or transmitter or both in selected azimuth regions, to reduce interference or lessen radiation hazards. { 'az·ə·məth ˌblaŋk·iŋ }

azimuth error [ENG] An error in the indicated azimuth of a target detected by radar. { 'az·ə·məth ˌer·ər }

azimuth gain reduction [ELECTR] Technique which allows control of the radar receiver system throughout any two azimuth sectors. { 'az·ə·məth 'gān riˌdək·shən }

azimuth gating [ELECTR] The practice of selectively brightening and enhancing the gain-desired sectors of a radar plan position indicator display, usually by applying a step waveform to the automatic gain control circuit, or similar data separation by sectors in more automated systems. { 'az·ə·məth ˌgād·iŋ }

azimuth indicator [ENG] An approach-radar scope which displays azimuth information. { 'az·ə·məth ˌin·dəˌkād·ər }

azimuth marker [ELECTR] On a radar plan position indicator, a bright rotatable radial line used for bearing determination. Also known as angle marker; bearing marker. { 'az·ə·məth ˌmär·kər }

azimuth resolution [ELECTROMAG] Angle or distance by which two targets must be separated in azimuth to be distinguished by a radar set, when the targets are at the same range. { 'az·ə·məth ˌrez·ə'lü·shən }

azimuth-stabilized plan position indicator [ENG] A north-upward plan position indicator (PPI), a radarscope, which is stabilized by a gyrocompass so that either true or magnetic north is always at the top of the scope regardless of vehicle orientation. { 'az·ə·məth ¦sta·bəˌlīzd 'plan pə'zish·ən 'in·dəˌkād·ər }

azimuth versus amplitude [ELECTR] Electronic protection technique using a plan position indicator to display strobes due to jamming sources, particularly useful in making passive fixes when two or more radar sites operate together. { 'az·ə·məth ˌvər·səs 'am·pləˌtüd }

Azusa [ENG] A continuous-wave, high-accuracy, phase-comparison, single-station tracking system operating at C-band and giving two direction cosines and slant range which can be used to determine space position and velocity of a vehicle (usually a rocket or a missile). { ə'züs·ə }

B

babble [COMMUN] **1.** Aggregate crosstalk from a large number of channels. **2.** Unwanted disturbing sounds in a carrier or other multiple-channel system which result from the aggregate crosstalk or mutual interference from other channels. { 'bab·əl }

babs *See* blind approach beacon system. { babz }

baby spot [ELEC] A small spotlight, usually equipped with a hood, used (as in the theater) to concentrate light on an area or an object a small distance from the spotlight. { 'bā·bē ˌspät }

back bias [ELECTR] **1.** Degenerative or regenerative voltage which is fed back to circuits before its originating point; usually applied to a control anode of a tube or other device. **2.** Voltage applied to a grid of a tube (or tubes) or electrode of another device to reduce a condition which has been upset by some external cause. { 'bak ˌbī·əs }

backbone [COMPUT SCI] The portion of a communication network that handles the largest volume of traffic, usually employing a high-speed, high-capacity medium designed to transmit data over long distances. { 'bakˌbōn }

back contact [ELEC] Normally closed stationary contact on a relay that is opened when the relay is energized. { 'bak ˌkänˌtakt }

back diode [ELECTR] A special type of tunnel diode operated at low levels of reverse bias at which the device has negative resistance. { 'bak ˌdīˌōd }

back echo [ELECTROMAG] An echo signal produced on a radar screen by one of the minor back lobes of a search radar beam. { 'bak ˌek·ō }

back-echo reflection [ELECTR] A radar echo produced by radiation reflected to the target by a large, fixed obstruction; that is, the ray path is from the antenna to obstruction to target and back similarly, giving a false indication of target position; an indirect-path echo. { 'bak ˌek·ō riˈflek·shən }

back-emission electron radiography [ELECTR] A technique used in microradiography to visualize, among other things, the presence of material of different atomic numbers in the surface of the specimen being observed; the polished side of the specimen is facing and in close contact with the emulsion side of a fine-grain photographic plate; a light-tight cover holds the specimen and plate in place to be subjected to hardened x-rays. { 'bak iˈmish·ən iˈlek,trän ˌrād·ēˈäg·rə·fē }

back-end system [COMPUT SCI] A computer that operates on data which have been previously processed by another computer system. { 'bak ˌend ˌsis·təm }

backfire *See* arcback. { 'bakˌfīr }

backfire antenna [ELECTROMAG] An antenna which exhibits significant gain in a direction 180° from its principal lobe. { 'bakˌfīr anˈten·ə }

backflow preventer *See* vacuum breaker. { 'bak ˌflō priˈven·tər }

background [COMMUN] **1.** Picture white of the facsimile copy being scanned when the picture is black and white only. **2.** Undesired printing in the recorded facsimile copy of the picture being transmitted, resulting in shading of the background area. **3.** Noise heard during radio reception caused by atmospheric interference or the operation of the receiver at such high gain that inherent circuit noises become noticeable. { 'bakˌgraůnd }

background discrimination [ENG] The ability of a measuring instrument, circuit, or other device to distinguish signal from background noise. { 'bakˌgraůnd disˌkrim·əˈnā·shən }

background ink [COMPUT SCI] In optical character recognition, a highly reflective ink used to print the parts of a document that are to be ignored by the scanner. { 'bakˌgraůnd ˌiŋk }

background noise [ENG] The undesired signals that are always present in an electronic or other system, independent of whether or not the desired signal is present. { 'bakˌgraůnd ˌnóiz }

background processing [COMPUT SCI] **1.** The execution of lower-priority programs when higher-priority programs are not being handled by a data-processing system. **2.** Computer processing that is not interactive or visible on the display screen. { 'bakˌgraůnd 'prä·ses·iŋ }

background program [COMPUT SCI] A computer program that has low priority in a multiprogramming system. { 'bakˌgraůnd 'prō·grəm }

background reflectance [COMPUT SCI] The reflectance, relative to a standard, of the surface on which a printed or handwritten character has been inscribed in optical character recognition. { 'bakˌgraůnd riˈflek·təns }

background returns [ENG] **1.** Signals on a radar screen from objects which are of no interest. **2.** *See* clutter. { 'bak,graund ri'tərnz }

backhaul [COMMUN] Point-to-point satellite transmission of video from a remote site to a network distribution center in real time. { 'bak,hȯl }

backing [ELECTR] Flexible material, usually cellulose acetate or polyester, used on magnetic tape as the carrier for the oxide coating. { 'bak·iŋ }

backing storage [COMPUT SCI] A computer storage device whose capacity is larger, but whose access time is slower, than that of the computer's main storage or immediate access storage; usually slower than main storage. Also known as bulk storage. { 'bak·iŋ ˌstȯr·ij }

backlash [ELECTR] A small reverse current in a rectifier tube caused by the motion of positive ions produced in the gas by the impact of thermoelectrons. { 'bakˌlash }

backlit display [ELECTR] An electronic display that incorporates a light source in back of a liquid-crystal or other electronic display to increase readability, especially in daylight. { ¦bak ˌlit di'splā }

back lobe [ELECTROMAG] The three-dimensional portion of the radiation pattern of a directional antenna that is directed away from the intended direction. { 'bak ˌlōb }

backout [COMPUT SCI] To remove a change that was previously made in a computer program. { 'bakˌaůt }

backplane [ELECTR] A wiring board, usually constructed as a printed circuit, used in computers to provide the required connections between logic, memory, input/output modules, and other printed circuit boards which plug into it at right angles. { 'bakˌplān }

backplate lamp holder [ENG] A lamp holder, integrally mounted on a plate, which is designed for screwing to a flat surface. { 'bak ˌplāt 'lamp ˌhōl·dər }

back porch [ELECTR] The period of time in a television circuit immediately following a synchronizing pulse during which the signal is held at the instantaneous amplitude corresponding to a black area in the received picture. { 'bak ¦pȯrch }

back radiation *See* backscattering. { 'bak ˌrād·ē'ā·shən }

back resistance [ELECTR] The resistance between the contacts opposing the inverse current of a metallic rectifier. { 'bak ri'sis·təns }

backscatter gage [ENG] A radar instrument used to measure the radiation scattered at 180° to the direction of the incident wave. { 'bak ¦skad·ər ˌgāj }

backscattering [COMMUN] Propagation of extraneous signals by F- or E-region reflection in addition to the desired ionospheric scatter mode; the undesired signal enters the antenna through the back lobes. [ELECTROMAG] **1.** Radar echoes from a target. **2.** Undesired radiation of energy to the rear by a directional antenna. **3.** Also known as back radiation; backward scattering. { 'bak¦skad·ə·riŋ }

back solution [CONT SYS] The calculation of the tool-coordinated positions that correspond to specified robotic joint positions. { 'bak sə ˌlü·shən }

backspace [COMPUT SCI] To move a recording medium one unit in the reverse or background direction. { 'bakˌspās }

back-surface field [ELECTR] A p^+ layer that is added to a silicon solar cell to reduce electron-hole recombination at the cell's back surface and thereby increase the cell's efficiency. { 'bak ˌsər·fəs ˌfēld }

backtalk [COMPUT SCI] Passage of information from a standby computer to the active computer. { 'bakˌtȯk }

backtracking [COMPUT SCI] A method of solving problems automatically by a systematic search of the possible solutions; the invalid solutions are eliminated and are not retried. { 'bak ˌtrak·iŋ }

backup [COMPUT SCI] **1.** Logical or physical facilities to aid the process of restarting a computer system and recovering the information in it following a failure. **2.** The provision of such facilities. { 'bakˌəp }

backup arrangement *See* cascade. { 'bakˌəp ˌə'rānj·mənt }

backup relay [ELEC] A relay designed to protect a power system in case a primary relay fails to operate as desired. { 'bakˌəp 'rē·lā }

backup system [SYS ENG] A system, normally redundant but kept available to replace a system which may fail in operation. { 'bakˌəp ˌsis·təm }

Backus-Naur form [COMPUT SCI] A metalanguage that specifies which sequences of symbols constitute a syntactically valid program language. Abbreviated BNF. { ¦bäk·əs ¦naůr ˌfȯrm }

backward-acting regulator [ELECTR] Transmission regulator in which the adjustment made by the regulator affects the quantity which caused the adjustment. { 'bak·wərd 'ak·tiŋ 'reg·yəˌlād·ər }

backward chaining [COMPUT SCI] In artificial intelligence, a method of reasoning which starts with the problem to be solved and repeatedly breaks this goal into subgoals that are more readily solvable with the relevant data and the system's rules of inference. { ¦bak·wərd 'chān·iŋ }

backward compatibility *See* downward compatibility. { ¦bak·wərd kəmˌpad·ə'bil·əd·ē }

backward diode [ELECTR] A semiconductor diode similar to a tunnel diode except that it has no forward tunnel current; used as a low-voltage rectifier. { 'bak·wərd 'dīˌōd }

backward error analysis [COMPUT SCI] A form of error analysis which seeks to replace all errors made in the course of solving a problem by an equivalent perturbation of the original problem. { 'bak·wərd 'er·ər əˌnal·ə·səs }

backward read [COMPUT SCI] The transfer of data from a magnetic tape to computer storage when the tape is running in reverse. { 'bak·wərd 'rēd }

backward scattering *See* backscattering. { 'bak·wərd ¦skad·ə·riŋ }

backward search [COMPUT SCI] A search of a document or database that starts at the cursor's location and moves backwards toward the beginning of the document or database. { |bak·wərd 'sərch }

backward wave [ELECTROMAG] An electromagnetic wave traveling opposite to the direction of motion of some other physical quantity in an electronic device such as a traveling-wave tube or mismatched transmission line. { 'bak·wərd ˌwāv }

backward-wave magnetron [ELECTR] A magnetron in which the electron beam travels in a direction opposite to the flow of the radio-frequency energy. { 'bak·wərd ˌwāv 'mag·nəˌträn }

backward-wave oscillator [ELECTR] An electronic device which amplifies microwave signals simultaneously over a wide band of frequencies and in which the traveling wave produced is reflected backward so as to sustain the wave oscillations. Abbreviated BWO. Also known as carcinotron. { 'bak·wərd ˌwāv 'äs·əˌlād·ər }

backward-wave tube [ELECTR] A type of microwave traveling-wave electron tube in which electromagnetic energy on a slow-wave circuit flows opposite in direction to the travel of electrons in a beam. { 'bak·wərd ˌwāv ˌtüb }

bad branch [COMPUT SCI] An error in which execution of a computer program jumps to an incorrect instruction, usually as a result of errors in the program. { |bad 'branch }

bad page break [COMPUT SCI] A soft page break at an inappropriate location in a document, such as one that splits a table or leaves a single line of text at the top or bottom of a page. { |bad 'pāj ˌbrāk }

bad sector [COMPUT SCI] An area of disk storage that does not record data reliably and therefore is not used. { ˌbad 'sek·tər }

bad track [COMPUT SCI] A disk track that contains a bad sector. { ˌbad 'trak }

bad track table [COMPUT SCI] A listing of the bad sectors on a disk, which is packaged with or attached to a disk. { |bad 'trak ˌtā·bəl }

baffle [ELEC] Device for deflecting oil or gas in a circuit breaker. [ELECTR] An auxiliary member in a gas tube used, for example, to control the flow of mercury particles or deionize the mercury following conduction. [ENG] A plate that regulates the flow of a fluid, as in a steam-boiler flue or a gasoline muffler. [ENG ACOUS] A cabinet or partition used with a loudspeaker to reduce interaction between sound waves produced simultaneously by the two surfaces of the diaphragm. { 'baf·əl }

balance [ELEC] The state of an electrical network when it is adjusted so that voltage in one branch induces or causes no current in another branch. [ENG] An instrument for measuring mass or weight. { 'bal·əns }

balance coil [ELEC] An iron-core solenoid with adjustable taps near the center; used to convert a two-wire circuit to a three-wire circuit, the taps furnishing a neutral terminal for the latter. { 'bal·əns ˌkȯil }

balance control [ELECTR] A control used in a stereo sound system to vary the volume of one loudspeaker system relative to the other while maintaining their combined volume essentially constant. { 'bal·əns kən'trōl }

balanced amplifier [ELECTR] An electronic amplifier in which there are two identical signal branches connected so as to operate with the inputs in phase opposition and with the output connections in phase, each balanced to ground. { 'bal·ənst 'am·pləˌfī·ər }

balanced armature unit [ENG ACOUS] Driving unit used in magnetic loudspeakers, consisting of an iron armature pivoted between the poles of a permanent magnet and surrounded by coils carrying the audio-frequency current; variations in audio-frequency current cause corresponding changes in armature magnetism and corresponding movements of the armature with respect to the poles of the permanent magnet. { 'bal·ənst 'ärm·ə·chər ˌyü·nət }

balanced bridge [ELEC] Wheatstone bridge circuit which, when in a quiescent state, has an output voltage of zero. { 'bal·ənst 'brij }

balanced circuit [ELEC] **1.** A circuit whose two sides are electrically alike and symmetrical with respect to a common reference point, usually ground. **2.** An electric circuit that has been adjusted to neutralize the mutual induction of an adjacent circuit. { 'bal·ənst 'sər·kət }

balanced converter *See* balun. { 'bal·ənst kən 'vərd·ər }

balanced currents [ELEC] Currents flowing in the two conductors of a balanced line which, at every point along the line, are equal in magnitude and opposite in direction. Also known as push-pull currents. { 'bal·ənst 'kər·ənts }

balanced detector [ELECTR] A detector used in frequency-modulation receivers; in one form the audio output is the rectified difference between voltages produced across two resonant circuits, one being tuned slightly above the carrier frequency and one slightly below. { 'bal·ənst di'tek·tər }

balanced input [ELECTR] A symmetrical input circuit having equal impedance from both input terminals to reference. { 'bal·ənst |inˌpůt }

balanced line [ELEC] A transmission line consisting of two conductors capable of being operated so that the voltages of the two conductors at any transverse plane are equal in magnitude and opposite in polarity with respect to ground. { 'bal·ənst ˌlīn }

balanced load [ELEC] A load that presents the same impedance, with respect to ground, at both ends or terminals. { 'bal·ənst 'lōd }

balanced merge [COMPUT SCI] A merge or sort operation in which the data involved are divided equally between the available storage devices. { 'bal·ənst 'mərj }

balanced method [ENG] Method of measurement in which the reading is taken at zero; it may be a visual or audible reading, and in the latter case the null is the no-sound setting. { 'bal·ənst ¦meth·əd }

balanced modulator [ELECTR] A modulator in which the carrier and modulating signal are introduced in such a way that the output contains the two sidebands without the carrier. { 'bal·ənst 'maj·ə,lād·ər }

balanced network [ELEC] Hybrid network in which the impedances of the opposite branches are equal. { 'bal·ənst ¦net,wərk }

balanced oscillator [ELECTR] Any oscillator in which, at the oscillator frequency, the impedance centers of the tank circuits are at ground potential, and the voltages between either end and their centers are equal in magnitude and opposite in phase. { 'bal·ənst 'äs·ə,lād·ər }

balanced output [ELECTR] A three-conductor output (as from an amplifier) in which the signal voltage alternates above and below a third, neutral wire. { 'bal·ənst ¦aůt,půt }

balanced ring modulator [ELECTR] A modulator that uses tubes or diodes to suppress the carrier signal while providing double-sideband output. { 'bal·ənst ¦riŋ ˌmäj·ə,lād·ər }

balanced set [ELECTR] Two or more components, such as tubes or transistors, connected in parallel or push-pull configuration, that have been chosen on the basis of identical, or nearly identical, gain and load characteristics. { 'bal·ənst ˌset }

balanced transmission line [ELEC] Transmission line having equal conductor resistances per unit length and equal impedances from each conductor to earth and to other electrical circuits. { 'bal·ənst tranz'mish·ən ˌlīn }

balanced-tree [COMPUT SCI] A system of indexes that keeps track of stored data, and in which data keys are stored in a hierarchy that is continually modified in order to minimize access times. Abbreviated B-tree. { 'bal·ənst 'trē }

balanced voltages [ELEC] Voltages that are equal in magnitude and opposite in polarity with respect to ground. Also known as push-pull voltages. { 'bal·ənst ˌvōl·tij·əz }

balanced wire circuit [ELEC] Circuit wherein the two sides are electrically alike and symmetrical with respect to ground and other conductors. { 'bal·ənst ¦wīr ˌsər·kət }

balance error [COMPUT SCI] An error voltage that arises at the output of analog adders in an analog computer and is directly proportional to the drift error. { 'bal·əns ˌer·ər }

balance method *See* null method. { 'bal·əns ˌmeth·əd }

balancer [ELEC] A mechanism for equalizing the loads on the outer lines of a three-wire system for electric power distribution, consisting of two similar shunt or compound machines which are coupled together with the armatures connected in series across the outer lines. { 'bal·ən·sər }

balancer set [ELEC] Two coupled direct-current generators or motors that are used to equalize the voltage on each side of a three-wire system. { 'bal·ən·sər ˌset }

balance-to-unbalance transformer [ELEC] Device for matching a pair of lines, balanced with respect to earth, to a pair of lines not balanced with respect to earth. { 'bal·əns tü ¦ən,bal·əns tranz'for·mər }

balancing [COMPUT SCI] The distribution of workload among computing resources to optimize performance. { 'bal·ənsiŋ }

balancing capacitor [ELECTR] A variable capacitor used to improve the accuracy of a radio direction finder. Also known as compensating capacitor. { 'bal·ənsiŋ kə'pas·əd·ər }

balancing unit [ELEC] **1.** Antenna-matching device used to permit efficient coupling of a transmitter or receiver having an unbalanced output circuit to an antenna having a balanced transmission line. **2.** Device for converting balanced to unbalanced transmission lines, and vice versa, by placing suitable discontinuities at the junction between the lines instead of using lumped components. { 'bal·ənsiŋ,yü·nət }

ballast [ELEC] A circuit element that serves to limit an electric current or to provide a starting voltage, as in certain types of lamps, such as in fluorescent ceiling fixtures. { 'bal·əst }

ballast factor [ELEC] The ratio of the luminous output of a lamp when operated on a ballast to its luminous output when operated under standardized rating conditions. { 'bal·əst ˌfak·tər }

ballast lamp [ELEC] A light-producing electrical resistance device which maintains nearly constant current by increasing in resistance as the current increases. { 'bal·əst ˌlamp }

ballast reactor [ELEC] A coil wound on an iron core and connected in series with a fluorescent lamp to compensate for the negative-resistance characteristics of the lamp by providing an increased voltage drop as the current through the lamp is increased. { 'bal·əst rē'ak·tər }

ballast resistor [ELEC] A resistor that increases in resistance as current through it increases, and decreases in resistance as current decreases. Also known as barretter (British usage). { 'bal·əst ri'sis·tər }

ballast tube [ELEC] A ballast resistor mounted in an evacuated glass or metal envelope, like that of a vacuum tube, to reduce radiation of heat from the resistance element and thereby improve the voltage-regulating action. { 'bal·əst ˌtüb }

ball bonding [ENG] The making of electrical connections in which a flame is used to cut a wire, the molten end of which solidifies as a ball, which is pressed against the bonding pad on an integrated circuit. { 'bȯl ˌbänd·iŋ }

ballistic galvanometer [ELEC] A galvanometer having a long period of swing so that the deflection may measure the electric charge in a current pulse or the time integral of a voltage pulse. { bə'lis·tik ˌgal·və'näm·əd·ər }

ballistic magnetometer [ENG] A magnetometer designed to employ the transient voltage induced in a coil when either the magnetized sample or coil are moved relative to each other. { bə'lis·tik ˌmag·nə'täm·əd·ər }

ballistic tracking *See* dynamic resolution. { bə ˌlis·tik 'trak·iŋ }

ballistic transport [ELECTR] The passage of electrons through a semiconductor whose length is less than the mean free path of electrons in the semiconductor, so that most of the electrons pass through the semiconductor without scattering. { bə'lis·tik 'tranzˌpȯrt }

ballistic vehicle [ENG] A nonlifting vehicle; a vehicle that follows a ballistic trajectory. { bə'lis·tik 'vē·ə·kəl }

balun [ELEC] A device used for matching an unbalanced coaxial transmission line or system to a balanced two-wire line or system. Also known as balanced converter; bazooka; line-balance converter. { 'baˌlən }

banana jack [ELEC] A jack that fits a banana plug; generally designed for panel mounting. { bə'nan·əˌjak }

banana plug [ELEC] A plug having a spring-metal tip shaped like a banana and used on test leads or as terminals for plug-in components. { bə'nan·əˌpləg }

band [COMMUN] A range of electromagnetic-wave frequencies between definite limits, such as that assigned to a particular type of radio service. [COMPUT SCI] A set of circular or cyclic recording tracks on a storage device such as a magnetic drum, disk, or tape loop. { band }

bandage [ELEC] Rubber ribbon about 4 inches (10 centimeters) wide for temporarily protecting a telephone or coaxial splice from moisture. { 'ban·dij }

band-elimination filter *See* band-stop filter. { ¦band iˌlim·ə'nā·shən 'fil·tər }

band-pass [ELECTR] A range, in hertz or kilohertz, expressing the difference between the limiting frequencies at which a desired fraction (usually half power) of the maximum output is obtained. { 'bandˌpas }

band-pass amplifier [ELECTR] An amplifier designed to pass a definite band of frequencies with essentially uniform response. { 'bandˌpas ¦am·pləˌfī·ər }

band-pass filter [ELECTR] An electric filter which transmits more or less uniformly in a certain band, outside of which the frequency components are attenuated. { 'bandˌpasˌfil·tər }

band-pass response [ELECTR] Response characteristics in which a definite band of frequencies is transmitted uniformly. Also known as flat-top response. { 'bandˌpas ri'späns }

band-pass system [ENG ACOUS] A loudspeaker system, often used for subwoofers, in which the speaker is mounted inside an enclosure on a shelf that divides the enclosure into two parts, and one or both parts are coupled to the outside by a vent; the frequency response of the system is that of a fourth-order band-pass filter (one vent) or an asymmetrical sixth-order band-pass filter (two vents). { 'bandˌpasˌsis·təm }

band printer [COMPUT SCI] A line printer that uses a band of type characters as its printing mechanism. { 'band ¦print·ər }

band-rejection filter *See* band-stop filter. { 'band ri'jek·shənˌfil·tər }

band selector [ELECTR] A switch that selects any of the bands in which a receiver, signal generator, or transmitter is designed to operate and usually has two or more sections to make the required changes in all tuning circuits simultaneously. Also known as band switch. { 'band sə'lek·tər }

band spreading [COMMUN] Method of double-sideband transmission in which the frequency band of the modulating wave is shifted upward in frequency so that the sidebands produced by modulation are separated in frequency from the carrier by an amount at least equal to the bandwidth of the original modulating wave, and second-order distortion products may be filtered from the demodulator output. { 'band ˌspred·iŋ }

band-spread tuning control [ELECTR] A tuning control provided on some shortwave receivers to spread the stations in a single band of frequencies over an entire tuning dial. { 'band ˌspred 'tün·iŋ kən'trōl }

band-stop filter [ELECTR] An electric filter which transmits more or less uniformly at all frequencies of interest except for a band within which frequency components are largely attenuated. Also known as band-elimination filter; band-rejection filter. { 'bandˌstäpˌfil·tər }

band switch *See* band selector. { 'bandˌswich }

bandwidth [COMMUN] **1.** The difference between the frequency limits of a band containing the useful frequency components of a signal. **2.** A measure of the amount of data that can travel a communications path in a given time, usually expressed as thousands of bits per second (kbps) or millions of bits per second (Mbps). { 'bandˌwidth }

bang-bang circuit [ELECTR] An operational amplifier with double feedback limiters that drive a high-speed relay (1–2 milliseconds) in an analog computer; involved in signal-controlled programming. { ¦baŋ ¦baŋˌsər·kət }

bang-bang control [COMPUT SCI] Control of programming in an analog computer through a bang-bang circuit. [CONT SYS] A type of automatic control system in which the applied control signals assume either their maximum or minimum values. { ¦baŋ ¦baŋ kən'trōl }

bang-bang-off control *See* bang-zero-bang control. { ¦baŋ ¦baŋ 'ȯf kənˌtrōl }

bang-bang robot [CONT SYS] A simple robot that can make only two types of motions. { ¦baŋ ¦baŋ 'rōˌbät }

bang-zero-bang control [CONT SYS] A type of control in which the control values are at their maximum, zero, or minimum. Also known as bang-bang-off control. { ¦baŋ ˌzir-ō ˈbaŋ kənˌtrōl }

bank [ELEC] **1.** A number of similar electrical devices, such as resistors, connected together for use as a single device. **2.** An assemblage of fixed contacts over which one or more wipers or brushes move in order to establish electrical connections in automatic switching. { baŋk }

bank-and-wiper switch [ELEC] Switch in which electromagnetic ratchets or other mechanisms are used, first, to move the wipers to a desired group of terminals, and second, to move the wipers over the terminals of the group to the desired bank contacts. { ¦baŋk ən ˈwī-pərˌswich }

banked winding [ELECTR] A radio-frequency coil winding which proceeds from one end of the coil to the other without return by having side by side, many flat spirals formed by winding single turns one over the other, thereby reducing the distributed capacitance of the coil. { ˈbaŋkt ˈwīnd-iŋ }

bank select [COMPUT SCI] To activate and deactivate blocks of memory or other internal system components using electronic control signals. Also known as bank switch. { ˈbaŋk siˌlekt }

bank selected memory [COMPUT SCI] Auxiliary blocks of memory in a microcomputer that can be switched in to replace some or all of the internal memory by software-controlled switches located outside the microprocessor. { ˈbaŋk si¦lek-təd ˈmem-rē }

bank switch *See* bank select. { ˈbaŋkˌswich }

bantam tube [ELECTR] Vacuum tube having a standard octal base, but a considerably smaller glass tube than a standard glass tube. { ˈban-təm ¦tüb }

bar code [COMPUT SCI] The representation of alphanumeric characters by series of adjacent stripes of various widths, for example, the universal product code. { ˈbärˌkōd }

bar-code reader *See* bar-code scanner. { ˈbärˌkōd ˈrēd-ər }

bar-code scanner [COMPUT SCI] An optical scanning device that reads texts which have been converted into a special bar code. Also known as bar-code reader. { ˈbärˌkōd ˈskan-ər }

bare board [ELECTR] A printed circuit board with conductors but no electronic components. { ¦ber ˈbȯrd }

bare disk [ELECTR] A floppy-disk drive without electronic control circuits. { ¦ber ˈdisk }

bar generator [ELECTR] Generator of pulses or repeating waveforms that are equally separated in time; these pulses are synchronized by the synchronizing pulses of a television system, so that they can produce a stationary bar pattern on a television screen. { ˈbär ¦jen-əˌrād-er }

BARITT diode *See* barrier injection transit-time diode. { ˈbar-ət ¦dīˌōd }

barium fuel cell [ELEC] A fuel cell in which barium is used with either oxygen or chlorine to convert chemical energy into electrical energy. { ˈbar-ē-əm ˈfyül ˌsel }

Barkhausen criterion [ELECTR] A criterion used to determine the stability of an oscillator circuit which states that, if the circuit is seen as a loop consisting of an amplifier with gain A and a linear circuit whose gain $\beta(j\omega)$ depends on frequency ω, then the loop will oscillate with a perfect sine wave at some frequency ω_0 if at that frequency $A\beta(j\omega_0) = 1$ exactly, that is, if the magnitude of $A\beta(j\omega_0)$ is exactly 1 and its phase is 0° or 360°. { ˈbärk,haüz-ən krīˌtir-ē-ən }

Barkhausen interference [COMMUN] Interference caused by Barkhausen oscillations. { ˈbärk,haüz-ən in-tərˈfir-ənsˌ }

Barkhausen-Kurz oscillator [ELECTR] An oscillator of the retarding-field type in which the frequency of oscillation depends solely on the transit time of electrons oscillating about a highly positive grid before reaching the less positive anode. Also known as Barkhausen oscillator; positive-grid oscillator. { ˈbärk,haüz-ən ¦kərts ˈäs-əˌlād-ər }

Barkhausen oscillation [ELECTR] Undesired oscillation in the horizontal output tube of a television receiver, causing one or more ragged dark vertical lines on the left side of the picture. { ˈbärk,haüz-ən ˌäs-əˈlā-shən }

Barkhausen oscillator *See* Barkhausen-Kurz oscillator. { ˈbärk,haüz-ən ˈäs-əˌlād-ər }

barometric fuse [ENG] A fuse that functions as a result of change in the pressure exerted by the surrounding air. { barˌə-ˈmet-rik ˈfyüz }

bar pattern [ELECTR] Pattern of repeating lines or bars on a television screen. { ˈbärˌpad-ərn }

bar printer [COMPUT SCI] An impact printer in which the character heads are mounted on type bars. { ˈbärˌprint-ər }

barrage jamming [COMMUN] The simultaneous jamming of a number of radio frequencies or even multiple radar bands of frequencies. { bəˈräzhˌjam-iŋ }

barrel printer [COMPUT SCI] A computer printer in which the entire set of characters is placed around a rapidly rotating cylinder at each print position; computer-controlled print hammers opposite each print position strike the paper and press it against an inked ribbon between the paper and the cylinder when the appropriate character reaches a position opposite the print hammer. { ˈbar-əlˌprint-ər }

barretter [ELEC] Bolometer that consists of a fine wire or metal film having a positive temperature coefficient of resistivity, so that resistance increases with temperature, used for making power measurements in microwave devices. *See* ballast resistor. { bəˈred-ər }

barrier capacitance [ELECTR] The capacitance that exists between the *p*-type and *n*-type semiconductor materials in a semiconductor *pn* junction that is reverse-biased so that it does not conduct. Also known as depletion-layer capacitance; junction capacitance. { ˈbar-ē-ər kəˌpas-əd-əns }

barrier-grid storage tube *See* radechon. { 'bar·ē·ər ˌgrid 'stȯr·ij ˌtüb }

barrier injection transit-time diode [ELECTR] A microwave diode in which the carriers that traverse the drift region are generated by minority carrier injection from a forward-biased junction instead of being extracted from the plasma of an avalanche region. Abbreviated BARITT diode. { 'bar·ē·ər in'jek·shən 'trans·ət ˌtīm 'dīˌōd }

barrier layer *See* depletion layer. { 'bar·ē·ər ˌlā·ər }

barrier-layer cell *See* photovoltaic cell. { 'bar·ē·ər ˌlā·ər ˌsel }

barrier-layer photocell *See* photovoltaic cell. { 'bar·ē·ər ˌlā·ər 'fōd·ōˌsel }

barrier-layer rectification *See* depletion-layer rectification. { 'bar·ē·ər ˌlā·ər ˌrek·tə·fə'kā·shən }

barrier strip [ELECTR] A device for connecting two cables without using plugs in which bare wires from one cable are connected to lugs of screws on one side of the strip and wires from the other cable are attached at corresponding points on the opposite side. { 'bar·ē·ər ˌstrip }

barrier voltage [ELECTR] The voltage necessary to cause electrical conduction in a junction of two dissimilar materials, such as *pn* junction diode. { 'bar·ē·ər ˌvōl·tij }

bar winding [ELEC] An armature winding made up of a series of metallic bars connected at their ends. { 'bär ˌwīnd·iŋ }

base [COMPUT SCI] *See* root. [ELECTR] **1.** The region that lies between an emitter and a collector of a transistor and into which minority carriers are injected. **2.** The part of an electron tube that has the pins, leads, or other terminals to which external connections are made either directly or through a socket. **3.** The plastic, ceramic, or other insulating board that supports a printed wiring pattern. { bās }

base address *See* address constant. { bās ə'dres }

baseband [COMMUN] The band of frequencies occupied by all transmitted signals used to modulate the radio wave. { 'bāsˌband }

baseband frequency response [COMMUN] Frequency response characteristics of the frequency band occupied by all of the signals used to modulate a transmitted carrier. { 'bāsˌband 'frē·kwən·sē ri'spāns }

baseband system [COMMUN] A communications system in which information is transmitted over a single unmodulated band of frequencies. { 'bās ˌband ˌsis·təm }

base bias [ELECTR] The direct voltage that is applied to the majority-carrier contact (base) of a transistor. { 'bās ˌbī·əs }

base-displacement [COMPUT SCI] In machine-language programming, a technique in which addresses are specified relative to a base address where the beginning of the program is stored. { 'bās disˌplās·mənt }

base electrode [ELECTR] An ohmic or majority carrier contact to the base region of a transistor. { 'bās i'lekˌtrōd }

base font [COMPUT SCI] The font used in a document if none other is specified. { 'bās ˌfänt }

base insulator [ELEC] Heavy-duty insulator used to support the weight of an antenna mast and insulate the mast from the ground or some other surface. { 'bās 'in·səˌlād·ər }

base language [COMPUT SCI] The component of an extensible language which provides a complete but minimal set of primitive facilities, such as elementary data types, and simple operations and control constructs. { 'bās 'laŋ·gwij }

base line [ELECTR] The line traced on amplitude-modulated indicators which corresponds to the power level of the weakest echo detected by the radar; it is retraced with every pulse transmitted by the radar but appears as a nearly continuous display on the scope. Abbreviated BL. { 'bās ˌlīn }

baseline [ENG] The geographic line between transmitter and receiver locations in bistatic radar, or between pairs of radars or radio receivers in a network, used in calculations relative to the data. Abbreviated BL. { 'bāsˌlīn }

base-line break [ELECTR] Technique in radar which uses the characteristic break in the base line on an A-scope display due to a pulse signal of significant strength in noise jamming. { 'bās ˌlīn ˌbrāk }

base-line check *See* ground check. { 'bās ˌlīn ˌchek }

baseload [ELEC] Minimum load of a power generator over a given period of time. { 'bāsˌlōd }

base-loaded antenna [ELECTROMAG] Vertical antenna having an impedance in series at the base for loading the antenna to secure a desired electrical length. { 'bās ˌlōd·əd an'ten·ə }

base modulation [ELECTR] Amplitude modulation produced by applying the modulating voltage to the base of a transistor amplifier. { 'bās ˌmäj·ə'lā·shən }

base pin *See* pin. { 'bās ˌpin }

base rate area [COMMUN] Area within which service is given without mileage charges. { 'bās ˌrāt ˌer·ē·ə }

base register *See* index register. { 'bās ˌrej·ə·stər }

base-spreading resistance [ELECTR] Resistance which is found in the base of any transistor and acts in series with it, generally a few ohms in value. { 'bās ˌspred·iŋ ri'zis·təns }

base station [COMMUN] **1.** A land station, in the land mobile service, carrying on a service with land mobile stations (a base station may secondarily communicate with other base stations incident to communications with land mobile stations). **2.** A station in a land mobile system which remains in a fixed location and communicates with the mobile stations. { 'bās ˌstā·shən }

base system [COMPUT SCI] A computer system containing only program modules that carry out basic functions. { 'bās ˌsis·təm }

BASIC [COMPUT SCI] A procedure-level computer language designed to be easily learned and used by nonprofessionals, and well suited for

an interactive, conversational mode of operation. Derived from Beginners All-purpose Symbolic Instruction Code. { 'bā·sik }

basic batch [COMPUT SCI] The least complex level of computer processing, in which application systems are normally made up of small programs that are run through the computer one at a time and that can process transactions only from sequential files. { 'bā·sik 'bach }

basic disk operating system [COMPUT SCI] The part of a computer's operating system that handles the transfer of data between programs and disk units and the control of files. Abbreviated BDOS. { 'bā·sik ¦disk ˌäp·ə'rād·iŋ 'sis·təm }

basic input/output system [COMPUT SCI] The part of a computer's operating system that handles communications between a program and external devices such as printers and electronic displays. Abbreviated BIOS. { 'bā·sik 'inˌput 'aůtˌpůt ˌsis·təm }

basic instruction [COMPUT SCI] An instruction in a computer program which is systematically changed by the program to obtain the instructions which are actually carried out. Also known as presumptive instruction; unmodified instruction. { 'bā·sik in'strək·shən }

basic linkage [COMPUT SCI] Computer coding that provides a standard means of connecting a given routine or program with other routines and that can be used repeatedly according to the same rules. { 'bā·sik 'liŋ·kij }

basic processing unit [COMMUN] Principal controller and data processor within the communications system. { 'bā·sik 'präsˌes·iŋ ˌyü·nət }

basic Q *See* nonloaded Q. { 'bā·sik 'kyü }

basic software [COMPUT SCI] Software requirements that are taken into account in the design of the data-processing hardware and usually are provided by the original equipment manufacturer. { 'bā·sik 'sȯftˌwer }

basic telecommunications access method [COMPUT SCI] A method of controlling data transmission between a computer's main storage and its terminals and of providing applications programs with the capability of communicating with printers, terminals, and other devices. Abbreviated BTAM. { 'bā·sik ˌtel·ə·kəˌmyü·nəˌkā·shənz 'akˌses ˌmeth·əd }

basic variables [COMPUT SCI] The *m* variables in a basic feasible solution for a linear programming model. { 'bā·sik 'ver·ē·ə·bəlz }

basket coil *See* basket winding. { 'bas·kət ˌkȯil }

basket winding [ELECTR] A crisscross coil winding in which successive turns are far apart except at points of crossing, giving low distributed capacitance. Also known as basket coil. { 'bas·kət ˌwīnd·iŋ }

bass boost [ELECTR] A circuit that emphasizes the lower audio frequencies, generally by attenuating higher audio frequencies. { ¦bās ¦büst }

bass compensation [ELECTR] A circuit that emphasizes the low-frequency response of an audio amplifier at low volume levels to offset the lower sensitivity of the human ear to weak low frequencies. { 'bās ˌkäm·pən'sā·shən }

bass control [ELECTR] A manual tone control that attenuates higher audio frequencies in an audio amplifier and thereby emphasizes bass frequencies. { 'bās kən'trōl }

bass reflex baffle [ENG ACOUS] A loudspeaker baffle having an opening of such size that bass frequencies from the rear of the loudspeaker emerge to reinforce those radiated directly forward. { ¦bas 'rēˌfleks ˌbaf·əl }

bass response [ELECTR] A measure of the output of an electronic device or system as a function of an input of low audio frequencies. { 'bās riˌspäns }

bass trap [ENG ACOUS] Any device used in a sound-recording studio to absorb sound at frequencies less than about 100 hertz. { 'bāsˌtrap }

bassy [ENG ACOUS] Pertaining to sound reproduction that overemphasizes low-frequency notes. { 'bās·ē }

batch [COMPUT SCI] A set of items, records, or documents to be processed as a single unit. { bach }

batch-and-forward system [COMPUT SCI] A data-processing system in which data are collected for a time and then transmitted as a unit to a computer. { 'bach ən 'fȯr·wərd ˌsis·təm }

batching [COMPUT SCI] Grouping records for the purpose of processing them in a computer. { 'bach·iŋ }

batch job [COMPUT SCI] One of a group of jobs that are executed together by batch-processing techniques. { 'bach ˌjäb }

batch-oriented applications [COMMUN] Applications of data communications that involve the transfer of thousands or even millions of bytes of data and are usually point-to-point and computer-to-computer. { 'bach ˌȯr·ē¦ent·əd ˌap·lə'kā·shənz }

batch processing [COMPUT SCI] A technique that uses a single program loading to process many individual jobs, tasks, or requests for service. { 'bach ˌpräs·es·iŋ }

batch stream [COMPUT SCI] A group of batch processing programs that are scheduled to run on a computer. { 'bach ˌstrēm }

batch system [COMPUT SCI] A computer system that uses batch processing. { 'bach ˌsis·təm }

batch total [COMPUT SCI] The total for a specified constituent quantity in a batch; used to verify the accuracy of operations on the batch. { 'bach ¦tōd·əl }

bat-handle switch [ELEC] A toggle switch having an actuating lever shaped like a baseball bat. { 'batˌhand·əl ˌswich }

bathtub capacitor [ELEC] A capacitor enclosed in a metal housing having broadly rounded corners like those on a bathtub. { 'bathˌtəb kə'pas·əd·ər }

battery [ELEC] A direct-current voltage source made up of one or more units that convert chemical, thermal, nuclear, or solar energy into electrical energy. { 'bad·ə·rē }

battery charger [ELEC] A rectifier unit used to change alternating to direct power for

charging a storage battery. Also known as charger. { 'bad·ə·rē ,chär·jər }

battery clip [ELEC] A terminal of a connecting wire having spring jaws that can be quickly snapped on a terminal of a device, such as a battery, to which a temporary wire connection is desired. { 'bad·ə·rē ,klip }

battery eliminator [ELECTR] A device which supplies electron tubes with voltage from electric power supply mains. { 'bad·ə·rē ə'lim·ə,nād·ər }

battery, overvoltage, ringing, supervision, coding, hybrid and test access *See* BORSCHT. { 'bad·ə·rē ¦ō·vər¦vōl·tij 'riŋ·iŋ ,sü·pər'vizh·ən 'kōd·iŋ 'hī·brid ən 'test ,ak,ses }

battery separator [ELEC] An insulating plate inserted between the positive and negative plates of a battery to prevent them from touching. { 'bad·ə·rē ,sep·ə,rād·ər }

baud [COMMUN] A unit of telegraph signaling speed equal to the number of code elements (pulses and spaces) per second or twice the number of pulses per second. { bȯd }

Baudot code [COMMUN] A teleprinter code that uses a combination of five or six marking and spacing intervals of equal duration for each character; no longer in extensive use since it has been replace by ASCII code. { bō'dō ,kōd }

bay [COMPUT SCI] *See* drive bay. [ELECTROMAG] One segment of an antenna array. { bā }

Bayard-Alpert ionization gage [ELECTR] A type of ionization vacuum gage using a tube with an electrode structure designed to minimize x-ray-induced electron emission from the ion collector. { ¦bā·ərd ¦al,pərt ī·ən·ə'zā·shən ,gāj }

bayonet base [ELEC] A tube base or lamp base having two projecting pins on opposite sides of a smooth cylindrical surface to engage in corresponding slots in a bayonet socket and hold the base firmly in the socket. { ¦bā·ə'net ,bās }

bayonet Neil-Concelman connector *See* BNC connector. { ,bā·ə'net 'nēl 'käns·əl·mən kə,nek·tər }

bazooka *See* balun. { bə'zü·kə }

B battery [ELECTR] The battery that furnishes required direct-current voltages to the plate and screen-grid electrodes of the electron tubes in a battery-operated circuit. { 'bē ,bad·ə·rē }

BBD *See* bucket brigade device.

B box *See* index register. { 'bē ,bäks }

BBS *See* bulletin board system.

BCAS *See* beacon collision avoidance system.

BCD system *See* binary coded decimal system. { ¦bē¦sē'dē ,sis·təm }

B-display [ELECTR] The presentation of radar output data in rectangular coordinates in which range and azimuth are plotted on the coordinate axes. Also known as B-indicator; B-scan; B-scope; range-bearing display. { 'bē dis'plā }

BDOS *See* basic disk operating system. { 'bē,dȯs }

beacon [ELECTR] A radio transmitter and antenna used to indicate its location or that of the vehicle carrying it; a beacon that responds to an interrogation, as in secondary radar, is more properly called a transponder. { 'bē·kən }

beacon collision avoidance system [NAV] An airborne collision avoidance system that makes use of the air-traffic control radio beacon system (ATCRBS) transponders. Abbreviated BCAS. { 'bē·kən kə'lizh·ən ə'vȯid·əns ,sis·təm }

beacon delay [ELECTR] The amount of transponding delay within a beacon, that is, the time between the arrival of a signal and the response of the beacon. { 'bē·kən di'lā }

beacon presentation [ELECTR] The radar display resulting from receipt of signals from a beacon. { 'bē·kən ,prē·zən'tā·shən }

beacon skipping [ELECTR] A condition where transponder return pulses from a beacon are missing at the interrogating radar. { 'bē·kən ,skip·iŋ }

beacon stealing [ELECTR] Loss of beacon tracking by one radar due to stronger signals from other beacons, transponders, or interfering radars. { 'bē·kən ,stēl·iŋ }

beacon tracking [ENG] The tracking of a moving object by means of signals emitted from a transmitter or transponder within or attached to the object. { 'bē·kən ,trak·iŋ }

beacon-tracking radar [NAV] Radar equipment used in air-traffic control facilities for beacon tracking. { 'bē·kən ,trak·iŋ ¦rā,där }

bead [COMPUT SCI] A small subroutine. [ELECTROMAG] A glass, ceramic, or plastic insulator through which passes the inner conductor of a coaxial transmission line and by means of which the inner conductor is supported in a position coaxial with the outer conductor. { bēd }

beaded transmission line [ELECTROMAG] Line using beads to support the inner conductor in coaxial transmission lines. { 'bēd·əd tranz'mish·ən ,līn }

bead thermistor [ELEC] A thermistor made by applying the semiconducting material to two wire leads as a viscous droplet, which cements the leads upon firing. { 'bēd thər'mis·tər }

beam angle *See* beam width. { 'bēm ,aŋ·gəl }

beam antenna [ELECTROMAG] An antenna that concentrates its radiation into a narrow beam in a definite direction. { 'bēm an'ten·ə }

beam approach beacon system *See* blind approach beacon system. { 'bēm ə'prōch 'bē·kən ,sis·təm }

beam blank *See* blank. { 'bēm blaŋk }

beam box *See* wall box. { 'bēm ,bäks }

beam coupling [ELECTR] The production of an alternating current in a circuit connected between two electrodes that are close to, or in the path of, a density-modulated electron beam. { 'bēm ,kəp·liŋ }

beam current [ELECTR] The electric current determined by the number and velocity of electrons in an electron beam. { 'bēm ,kər·ənt }

beam-deflection tube [ELECTR] An electron-beam tube in which the current to an output electrode is controlled by transversely moving the electron beam. { 'bēm di'flek·shən ,tüb }

beam efficiency [ELECTROMAG] The fraction of the total radiated energy from an antenna contained in a single beam. { 'bēm i,fish·ən·sē }

beam-forming electrode [ELECTR] Electron-beam focusing elements in power tetrodes and cathode-ray tubes. { 'bēm ,fȯrm·iŋ i'lek,trōd }

beamguide [ELECTROMAG] A set of elements arranged and spaced so as to form and conduct a beam of electromagnetic radiation. { 'bēm ,gīd }

beam holding [ELECTR] Use of a diffused beam of electrons to regenerate the charges stored on the screen of a cathode-ray storage tube. { 'bēm ,hōl·diŋ }

beam-indexing tube [ELECTR] A single-beam color television picture tube in which the color phosphor strips are arranged in groups of red, green, and blue. { ¦bēm 'in,dek·siŋ ,tüb }

beam lead [ELECTR] A flat thick-film lead, sometimes of gold, deposited on a semiconductor chip chemically or by evaporation, as a connecting lead for a semiconductor device or integrated circuit. { 'bēm ,lēd }

beam lobe switching [ELECTR] Method of determining the direction of a remote object by comparison of the signals corresponding to two or more successive beam angles, differing slightly from the direction of the object. { 'bēm ,lōb ,swich·iŋ }

beam magnet *See* convergence magnet. { 'bēm ,mag·nət }

beam parametric amplifier [ELECTR] Parametric amplifier that uses a modulated electron beam to provide a variable reactance. { 'bēm ,par·ə'me·trik 'am·plə,fī·ər }

beam pattern *See* directivity pattern. { 'bēm ,pad·ərn }

beam power tube [ELECTR] A vacuum tube, most often an amplifier, used in radar and other microwave transmitters in which the electrons travel from the cathode in a well-focused beam, to interact with the electromagnetic signal being amplified. { 'bēm ¦paù·ər ,tüb }

beam recording [ELECTR] A method of using an electron beam to write data generated by a computer directly on microfilm. { 'bēm ri'kȯrd·iŋ }

beam splitting [ELECTR] Process for increasing angle accuracy in locating targets by radar by noting the azimuths at which one radar scan first discloses a target and at which the echoes cease, revealing the azimuth center, or by similarly intended algorithms in more automated systems. { 'bēm ,splid·iŋ }

beam spread [ENG] The angle of divergence from the central axis of an electromagnetic or acoustic beam as it travels through a material. { 'bēm ,spred }

beam steering [ELECTR] Changing the direction of the major lobe of a radiation pattern, usually by switching antenna elements. { 'bēm ,stir·iŋ }

beam switching [ELECTR] Method of obtaining more accurately the bearing or elevation of an object by comparing the signals received when the beam is in directions differing slightly in bearing or elevation; when these signals are equal, the object lies midway between the beam axes. Also known as lobe switching. { 'bēm ,swich·iŋ }

beam-switching tube [ELECTR] An electron tube which has a series of electrodes arranged around a central cathode and in which an electron beam is switched from one electrode to another. Also known as cyclophon. { 'bēm ,swich·iŋ ,tüb }

beam tetrode *See* beam power tube. { 'bēm 'te ,trōd }

beam width [ELECTROMAG] The angle, measured in a horizontal plane, between the directions at which the intensity of an electromagnetic beam, such as a radar or radio beam, is one-half its maximum value. Also known as beam angle. { 'bēm ,width }

bearing cursor [ENG] Of a radar set, the radial line inscribed on a transparent disk which can be rotated manually about an axis coincident with the center of the plan position indicator; used for bearing determination. Also known as mechanical bearing cursor. { 'ber·iŋ ,kər·sər }

bearing loss [ELEC] Loss of power in a machine caused by friction between the shaft and the bearing. { 'ber·iŋ ,lȯs }

bearing marker *See* azimuth marker. { 'ber·iŋ ,märk·ər }

bearing resolution [ELECTR] Minimum angular separation in a horizontal plane between two targets at the same range that will allow an operator to obtain data on either target. { 'ber·iŋ ,rez·ə ,lü·shən }

beat frequency [ELECTR] The frequency of a signal equal to the difference in frequencies of two signals which produce the signal when they are combined in a nonlinear circuit. { 'bēt ,frē·kwən·sē }

beat-frequency oscillator [ELECTR] An oscillator in which a desired signal frequency, such as an audio frequency, is obtained as the beat frequency produced by combining two different signal frequencies, such as two different radio frequencies. Abbreviated BFO. Also known as heterodyne oscillator. { 'bēt ,frē·kwən·sē 'äs·ə ,lād·ər }

beating-in [ELECTR] Interconnecting two transmitter oscillators and adjusting one until no beat frequency is heard in a connected receiver; the oscillators are then at the same frequency. { 'bēd·iŋ ¦in }

beat note [ELECTR] The beat frequency whose signal is produced by two signals having waves that are sinusoidal. { 'bēt ,nōt }

beat reception *See* heterodyne reception. { 'bēt ri'sep·shən }

beat-time programming [COMPUT SCI] A type of programming which requires that data be made available to the computer during some ongoing process prior to a particular point in time. { ¦bēt 'tīm 'prō,gram·iŋ }

beat tone [ENG ACOUS] Musical tone due to beats, produced by the heterodyning of two high-frequency wave trains. { 'bēt ,tōn }

beavertail [ELECTROMAG] Fan-shaped radar beam, wide in the horizontal plane and narrow in the vertical plane, which is swept up and down for height finding. { 'be·vər,tāl }

Beck effect [ELEC] An increase in the light intensity of an arc lamp whose carbon anode has been treated with rare-earth salts when a certain current is exceeded. { 'bek i'fekt }

Becquerel effect [ELEC] The phenomenon of a current flowing between two unequally illuminated electrodes of a certain type when they are immersed in an electrolyte. { ¦bek·ə¦rel *or* be'krel i'fekt }

bedspring array *See* billboard array. { 'bed,spriŋ ə'rā }

beetle *See* rammer. { 'bēd·əl }

BEGIN [COMPUT SCI] An enclosing statement of ALGOL used to indicate the beginning of a block; any variable in a block enclosed by BEGIN and END is normally local to this block. { bi'gin }

beginning-of-information marker [COMPUT SCI] A section of magnetic tape covered with reflective material that indicates the beginning of the area on which information is to be recorded. { bi'gin·iŋ əv ,in·fər'mā·shən ,mär·kər }

B eliminator [ELECTR] Power pack that changes the alternating-current powerline voltage to the direct-current source required by plant circuits of vacuum tubes or semiconductor devices. { 'bē i'lim·ə,nād·ər }

bell character [COMPUT SCI] A control character that activates a bell, alarm, or other audio device to get someone's attention. { 'bel ,kar·ik·tər }

bells and whistles [COMPUT SCI] Special hardware features that are likely to attract attention but may not be important or even practical. { 'belz ən 'wis·əlz }

bell transformer [ELEC] An iron-core, step-down transformer with a voltage step-down ratio of approximately 6 to 1 or 12 to 1, used in low-current power supplies and frequently in circuits for doorbells, alarm bells, and buzzers. { 'bel tranz,fȯr·mər }

bell wire [ELEC] A copper wire, usually solid rather than stranded, and soft-drawn rather than hard-drawn, used in low-current, low-voltage applications. { 'bel ,wīr }

belt printer [COMPUT SCI] A type of impact printer similar to a chain printer in which the characters are carried on a moving belt rather than a chain. { 'belt ,print·ər }

benchmark problem [COMPUT SCI] A problem to be run on computers to evaluate their performances relative to one another. { 'bench,märk ,präb·ləm }

benchmark test [COMPUT SCI] A test of computer software or hardware that is generally run on a number of products to compare their performance. { 'bench,märk ,test }

bender element [ELECTR] A combination of two thin strips of different piezoelectric materials bonded together so that when a voltage is applied, one strip increases in length and the other becomes shorter, causing the combination to bend. { 'ben·dər 'el·ə·mənt }

bent-pipe system [COMMUN] A transponder on board a communications satellite that performs no signal processing other than heterodyning (frequency-changing) the uplink frequency bands to those of the downlinks. { ,bent 'pīp ,sis·təm }

bergy-bit *See* growler. { 'bərg·ē ,bit }

beta [ELECTR] The current gain of a transistor that is connected as a grounded-emitter amplifier, expressed as the ratio of change in collector current to resulting change in base current, the collector voltage being constant. { 'bād·ə }

beta circuit [ELEC] The part of an amplifier circuit that is responsible for the feedback. { 'bād·ə ,sər·kət }

beta-cutoff frequency [ELECTR] The frequency at which the current amplification of an amplifier transistor drops to 3 decibels below its value at 1 kilohertz. { 'bād·ə 'kət,ȯf ,frē·kwən·sē }

beta rule *See* reduction rule. { 'bād·ə ,rül }

beta software [COMPUT SCI] An application or program that is in development and undergoing testing. Also known as beta version; betaware. { ,bād·ə 'sȯf,wer }

beta test [COMPUT SCI] The first test of a computer system outside the laboratory, in its actual working environment. { 'bād·ə ,test }

beta test site [COMPUT SCI] An organization or company that tests a software or hardware product under actual working conditions and reports the results to the vendor. { 'bād·ə ¦test ,sīt }

beta version *See* beta software. { 'bād·ə ,vər·zhən }

betaware *See* beta software. { 'bād·ə,wer }

Beverage antenna *See* wave antenna. { 'bev·rij an'ten·ə }

beyond-the-horizon communication *See* scatter propagation. { bē'yänd thə hə'rīz·ən kə ,myü·nə'kā·shən }

Bézier curve [COMPUT SCI] A curve in a drawing program that is defined mathematically, and whose shape can be altered by dragging either of its two interior determining points with a mouse. { ¦bāz·yā 'kərv }

BFL *See* buffered FET logic.

BFO *See* beat-frequency oscillator.

B-frames *See* bidirectional pictures. { 'bē,frāmz }

B-H meter [ENG] A device used to measure the intrinsic hysteresis loop of a sample of magnetic material. { ¦bē¦āch ,mēd·ər }

BI *See* abampere.

bias [ELEC] **1.** A direct-current voltage used on signaling or telegraph relays or electromagnets to secure desired time spacing of transitions from marking to spacing. **2.** The restraint of a relay armature by spring tension to secure a desired time spacing of transitions from marking to spacing. **3.** The effect on teleprinter signals produced by the electrical characteristics of the line and equipment. **4.** The force applied to a relay to hold it in a given position. [ELECTR] **1.** A direct-current voltage applied to a transistor control electrode to establish the desired operating point. **2.** *See* grid bias. { 'bī·əs }

bias cell [ELECTR] A small dry cell used singly or in series to provide the required negative bias for

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the grid circuit of an electron tube. Also known as grid-bias cell. { 'bī·əs ,sel }

bias current [ELECTR] **1.** An alternating electric current above about 40,000 hertz added to the audio current being recorded on magnetic tape to reduce distortion. **2.** An electric current flowing through the base-emitter junction of a transistor and adjusted to set the operating point of the transistor. { 'bī·əs ,kər·ənt }

bias distortion [ELECTR] Distortion resulting from the operation on a nonlinear portion of the characteristic curve of a vacuum tube or other device, due to improper biasing. { 'bī·əs dis 'tȯr·shən }

biased automatic gain control *See* delayed automatic gain control. { 'bī·əst ȯd·ə'mad·ik 'gān kən,trōl }

bias meter [COMMUN] A meter used in teletypewriter work for measuring signal bias directly in percent; a positive reading indicates a marking signal bias; a negative reading, a spacing signal bias. { 'bī·əs ,mēd·ər }

bias oscillator [ELECTR] An oscillator used in a magnetic recorder to generate the alternating-current signal that is added to the audio current being recorded on magnetic tape to reduce distortion. { 'bī·əs ,äs·ə,lād·ər }

bias register [COMPUT SCI] A computer device that stores a number that is added to the memory address each time the computer memory is referenced by the program, thus offsetting the program addresses by a fixed amount. { 'bī·əs ,rej·ə·stər }

bias resistor [ELECTR] A resistor used in the cathode or grid circuit of an electron tube to provide a voltage drop that serves as the bias. { 'bī·əs ri'sis·tər }

bias voltage [ELECTR] A voltage applied or developed between two electrodes as a bias. { 'bī·əs ,vōl·tij }

bias winding [ELEC] A control winding that carries a steady direct current which serves to establish desired operating conditions in a magnetic amplifier or other magnetic device. { 'bī·əs ,wīn·diŋ }

BiCMOS technology [ELECTR] An integrated circuit technology that combines bipolar transistors and CMOS devices on the same chip. { ¦bī'sē ,mȯs tek,näl·ə·jē }

biconditional gate *See* equivalence gate. { ,bī·kən'dish·ən·əl 'gāt }

biconical antenna [ELECTROMAG] An antenna consisting of two metal cones having a common axis with their vertices coinciding or adjacent and with coaxial-cable or waveguide feed to the vertices. { bī'kän·ə·kəl an'ten·ə }

bidirectional [ENG] Being directionally responsive to inputs in opposite directions. { ,bī·də'rek·shən·əl }

bidirectional antenna [ELECTROMAG] An antenna that radiates or receives most of its energy in only two directions. { ,bī·də'rek·shən·əl an'ten·ə }

bidirectional clamping circuit [ELECTR] A clamping circuit that functions at the prescribed time irrespective of the polarity of the signal source at the time the pulses used to actuate the clamping action are applied. { ,bī·də'rek·shən·əl 'klam·piŋ ,sər·kət }

bidirectional clipping circuit [ELECTR] An electronic circuit that prevents transmission of the portion of an electrical signal that exceeds a prescribed maximum or minimum voltage value. { ,bī·də'rek·shən·əl 'klip·iŋ ,sər·kət }

bidirectional counter *See* forward-backward counter. { ,bī·də'rek·shən·əl 'kaůn·tər }

bidirectional data bus [COMPUT SCI] A channel over which data can be transmitted in either direction within a computer system. { ,bī·də'rek·shən·əl 'dad·ə ,bəs }

bidirectional microphone [ENG ACOUS] A microphone that responds equally well to sounds reaching it from the front and rear, corresponding to sound incidences of 0 and 180°. { ,bī·də'rek·shən·əl 'mī·krə,fōn }

bidirectional parallel port [COMPUT SCI] A parallel port that can transfer data in both directions, and at speeds much greater than a standard parallel port. { ,bī·də,rek·shən·əl ,par·ə,lel 'pȯrt }

bidirectional pictures [COMMUN] In MPEG-2, pictures that use both future and past pictures as a reference. This technique is termed bidirectional prediction; bidirectional pictures provide the most compression and do not propagate coding errors as they are never used as a reference. Also known as B-frames; B-pictures. { ,bī·də'rek·shən·əl 'pik·chərz }

bidirectional printer [COMPUT SCI] A printer in which printing can be done in both a left-to-right and a right-to-left direction. { ,bī·də'rek·shən·əl 'print·ər }

bidirectional pulse-amplitude modulation *See* double-polarity pulse-amplitude modulation. { ,bī·də'rek·shən·əl ¦pəls ¦am·plə,tüd ,mäj·ə'lā·shən }

bidirectional transducer [ELECTR] A transducer capable of measuring in both positive and negative directions from a reference position. Also known as bilateral transducer. { ,bī·də'rek·shən·əl tranz'dü·sər }

bidirectional transistor [ELECTR] A transistor that provides switching action in either direction of signal flow through a circuit; widely used in telephone switching circuits. { ,bī·də'rek·shən·əl tran'zis·tər }

bidirectional triode thyristor [ELECTR] A gate-controlled semiconductor switch designed for alternating-current power control. { ,bī·də'rek·shən·əl 'trī,ōd thī'ris·tər }

bifilar electrometer [ENG] An electrostatic voltmeter in which two conducting quartz fibers, stretched by a small weight or spring, are separated by their attraction in opposite directions toward two plate electrodes carrying the voltage to be measured. { bī'fī·lər i·lek'träm·əd·ər }

bifilar resistor [ELEC] A resistor wound with a wire doubled back on itself to reduce the inductance. { bī'fī·lər ri'zis·tər }

bifilar transformer [ELEC] A transformer in which wires for the two windings are wound side by

side to give extremely tight coupling. { bī'fi·lər tranz'fór·mər }

bifilar winding [ELEC] A winding consisting of two insulated wires, side by side, with currents traveling through them in opposite directions. { bī'fi·lər 'wīn·diŋ }

bifurcated contact [ELEC] A contact having a forked shape such that it can slide over and interlock with an identical mating contact. { 'bī·fər ˌkād·əd 'känˌtakt }

bigit *See* bit. { 'bij·ət }

big LEO system [COMMUN] A system of relatively large satellites in low earth orbit (LEO) to provide global mobile handheld telephony and other services. { ˌbig 'lē·ō ˌsis·təm }

big M method [COMPUT SCI] A technique for solving linear programming problems in which artificial variables are assigned cost coefficients which are a very large number M, say, $M = 10^{35}$. { ˌbig 'em ˌmeth·əd }

bilateral [ELECTR] Having a voltage current characteristic curve that is symmetrical with respect to the origin. { bī'lad·ə·rəl }

bilateral amplifier [ELECTR] An amplifier capable of receiving as well as transmitting signals; used primarily in transceivers. { bī'lad·ə·rəl 'am·plə ˌfī·ər }

bilateral antenna [ELECTROMAG] An antenna having maximum response in exactly opposite directions, 180° apart, such as a loop. { bī'lad·ə·rəl an'ten·ə }

bilateral circuit [ELEC] Circuit wherein equipment at opposite ends is managed, operated, and maintained by different services. { bī'lad·ə·rəl 'sər·kət }

bilateral network [ELEC] A network or circuit in which the magnitude of the current remains the same when the voltage polarity is reversed. { bī'lad·ə·rəl 'netˌwərk }

bilateral transducer *See* bidirectional transducer. { bī'lad·ə·rəl tranz'dü·sər }

billboard array [ELECTROMAG] A broadside antenna array consisting of stacked dipoles spaced one-fourth to three-fourths wavelength apart in front of a large sheet-metal reflector. Also known as bedspring array; mattress array. { 'bilˌbȯrd ə'rā }

bimag core *See* bistable magnetic core. { 'bīˌmag ˌkȯr }

bimorph cell [ELECTR] Two piezoelectric plates cemented together in such a way that an applied voltage causes one to expand and the other to contract so that the cell bends in proportion to the applied voltage; conversely, applied pressure generates double the voltage of a single cell; used in phonograph pickups and microphones. { 'bīˌmȯrf ˌsel }

bin [COMPUT SCI] A magnetic-tape memory in which a number of tapes are stored in a single housing. { bin }

binary [COMPUT SCI] Possessing a property for which there exists two choices or conditions, one choice excluding the other. { 'bīn·ə·rē }

binary arithmetic operation [COMPUT SCI] An arithmetical operation in which the operands are in the form of binary numbers. Also known as binary operation. { 'bīn·ə·rē ˌar·ith'med·ik äp·ə'rā·shən }

binary cell [COMPUT SCI] An elementary unit of computer storage that can have one or the other of two stable states and can thus store one bit of information. { 'bīn·ə·rē ˌsel }

binary chain [COMPUT SCI] A series of binary circuit elements so arranged that each can change the state of the one following it. { 'bīn·ə·rē ˌchān }

binary chop *See* binary search. { 'bīn·ə·rē 'chäp }

binary code [COMPUT SCI] A code in which each allowable position has one of two possible states, commonly 0 and 1; the binary number system is one of many binary codes. { 'bīn·ə·rē ˌkōd }

binary coded character [COMPUT SCI] One element of a notation system representing alphanumeric characters such as decimal digits, alphabetic letters, and punctuation marks by a predetermined configuration of consecutive binary digits. { 'bīn·ə·rē ˌkōd·əd 'kar·ik·tər }

binary coded decimal system [COMPUT SCI] A system of number representation in which each digit of a decimal number is represented by a binary number. Abbreviated BCD system. { 'bīn·ə·rē ˌkōd·əd 'des·məl ˌsis·təm }

binary coded decimal-to-decimal converter [COMPUT SCI] A computer circuit which selects one of ten outputs corresponding to a four-bit binary coded decimal input, placing it in the 0 state and the other nine outputs in the 1 state. { 'bīn·ə·rē ˌkōd·əd 'des·məl tə 'des·məl kən'vərd·ər }

binary coded octal system [COMPUT SCI] Octal numbering system in which each octal digit is represented by a three-place binary number. { 'bīn·ə·rē ˌkōd·əd 'äk·təl ˌsis·tem }

binary component [ELECTR] An electronic component that can be in either of two conditions at any given time. Also known as binary device. { 'bīn·ə·rē kəm'pō·nənt }

binary conversion [COMPUT SCI] Converting a number written in binary notation to a number system with another base, such as decimal, octal, or hexadecimal. { 'bīn·ə·rē kən'vər·zhən }

binary counter *See* binary scaler. { 'bīn·ə·rē 'kaùnt·ər }

binary decision [COMPUT SCI] A decision between only two alternatives. { 'bīn·ə·rē di'sizh·ən }

binary device *See* binary component. { 'bīn·ə·rē di'vīs }

binary digit *See* bit. { 'bīn·ə·rē 'dij·ət }

binary dump [COMPUT SCI] The operation of copying the contents of a computer memory in binary form onto an external storage device. { 'bīn·ə·rē ˌdəmp }

binary encoder [ELECTR] An encoder that changes angular, linear, or other forms of input data into binary coded output characters. { 'bīn·ə·rē en'kōd·ər }

binary field [COMPUT SCI] A field that contains data in the form of binary numbers. { 'bīn·ə·rē 'fēld }

binary file [COMPUT SCI] A computer program in machine language that can be directly executed by the computer. { 'bīn·ə·rē 'fīl }

binary incremental representation [COMPUT SCI] A type of incremental representation in which the value of change in a variable is represented by one binary digit which is set equal to 1 if there is an increase in the variable and to 0 if there is a decrease. { 'bīn·ə·rē ˌiŋ·krə'men·təl ˌrep·ri ˌzen'tā·shən }

binary large object [COMPUT SCI] In a database management system, a file-storage system used most often for multimedia files (large files). Abbreviated BLOB. { ¦bīn·ə·rē ¦lärj 'äb,jekt }

binary loader [COMPUT SCI] A computer program which transfers to main memory an exact image of the binary pattern of a program held in a storage or input device. { 'bīn·ə·rē ¦lōd·ər }

binary logic [ELECTR] An assembly of digital logic elements which operate with two distinct states. { 'bīn·ə·rē 'läj·ik }

binary operation *See* binary arithmetic operation. { 'bīn·ə·rē äp·ə'rā·shən }

binary phase-shift keying [COMMUN] Keying of binary data or Morse code dots and dashes by $\pm 90^\circ$ phase deviation of the carrier. Abbreviated BPSK. { 'bīn·ə·rē 'fāz ˌshift 'kē·iŋ }

binary point [COMPUT SCI] The character, or the location of an implied symbol, that separates the integral part of a numerical expression from its fractional part in binary notation. { 'bīn·ə·rē 'pȯint }

binary scaler [ELECTR] A scaler that produces one output pulse for every two input pulses. Also known as binary counter; scale-of-two circuit. { 'bīn·ə·rē ¦skā·lər }

binary search [COMPUT SCI] A dichotomizing search in which the set of items to be searched is divided at each step into two equal, or nearly equal, parts. Also known as binary chop. { 'bīn·ə·rē 'sərch }

binary signal [ELECTR] A voltage or current which carries information by varying between two possible values, corresponding to 0 and 1 in the binary system. { 'bīn·ə·rē 'sig·nəl }

binary system [ENG] Any system containing two principal components. { 'bīn·ə·rē 'sis·təm }

binary word [COMPUT SCI] A group of bits which occupies one storage address and is treated by the computer as a unit. { 'bīn·ə·rē ¦wərd }

B-indicator *See* B-display. { ¦bē ¦in·də,kād·ər }

binding post [ELEC] A manually turned screw terminal used for making electrical connections. { 'bīn·diŋ ˌpōst }

binding time [COMPUT SCI] **1.** The instant when a symbolic expression in a computer program is reduced to a form which is directly interpretable by the hardware. **2.** The instant when a variable is assigned its data type, such as integer or string. { 'bīn·diŋ ˌtīm }

binistor [ELECTR] A silicon *npn* tetrode that serves as a bistable negative-resistance device. { ˌbī'nis·tər }

binode [ELECTR] An electron tube with two anodes and one cathode used as a full-wave rectifier. Also known as double diode. { 'bī ˌnōd }

binomial array antenna [ELECTROMAG] Directional antenna array for reducing minor lobes and providing maximum response in two opposite directions. { bī'nō·mē·əl ə'rā an'ten·ə }

biochemical fuel cell [ELEC] An electrochemical power generator in which the fuel source is bioorganic matter; air is the oxidant at the cathode, and microorganisms catalyze the oxidation of the bioorganic matter at the anode. { ¦bī·ō'kem·ə·kəl 'fyül ˌsel }

biochip [ELECTR] An experimental type of integrated circuit whose basic components are organic molecules. { 'bī·ō,chip }

bioinformatics [COMPUT SCI] The use of computers to study biological systems. { ˌbī·ō,in·fər'mad·iks }

bioinstrumentation [ENG] The use of instruments attached to animals and humans to record biological parameters such as breathing rate, pulse rate, body temperature, or oxygen in the blood. { ¦bī·ō,in·strə·mən'tā·shən }

biomedical engineering [ENG] The application of engineering technology to the solution of medical problems; examples are the development of prostheses such as artificial valves for the heart, various types of sensors for the blind, and automated artificial limbs. { ˌbī·ō'med·ə·kəl ˌen·jə'nir·iŋ }

biometric device [COMPUT SCI] A device that identifies persons seeking access to a computing system by determining their physical characteristics through fingerprints, voice recognition, retina patterns, pictures, weight, or other means. { ˌbī·ō¦me·trik di¦vīs }

bionics [ENG] The study of systems, particularly electronic systems, which function after the manner of living systems. { bī'än·iks }

BIOS *See* basic input/output system.

biot *See* abampere. { 'bī·ät }

biotechnical robot [CONT SYS] A robot that requires the presence of a human operator in order to function. { ¦bī·ō¦tek·nə·kəl 'rō,bät }

biotelemetry [ENG] The use of telemetry techniques, especially radio waves, to study behavior and physiology of living things. { ¦bī·ō·tə'lem·ə·trē }

bipolar amplifier [ELECTR] An amplifier capable of supplying a pair of output signals corresponding to the positive or negative polarity of the input signal. { bī'pō·lər 'am·plə,fī·ər }

bipolar circuit [ELECTR] A logic circuit in which zeros and ones are treated in a symmetric or bipolar manner, rather than by the presence or absence of a signal, for example, a balanced arrangement in a square-loop-ferrite magnetic circuit. { bī'pō·lər 'sər·kət }

bipolar electrode [ELEC] Electrode, without metallic connection with the current supply, one face of which acts as anode surface and the opposite face as a cathode surface when an electric current is passed through a cell. { bī'pō·lər i'lek,trōd }

bipolar format [COMPUT SCI] A method of representing binary data in which 0 bits have zero voltage and each 1 bit has a polarity opposite that of the preceding 1 bit. { bī'pō·lər 'fȯr,mat }

bipolar integrated circuit [ELECTR] An integrated circuit in which the principal element is the bipolar junction transistor. { bī'pō·lər 'in·tə ,grād·əd 'sər·kət }

bipolar junction transistor [ELECTR] A bipolar transistor that is composed entirely of one type of semiconductor, silicon. Abbreviated BJT. Also known as silicon homojunction. { ¦bī,pōl·ər ,jəŋk·shən tran'zis·tər }

bipolar magnetic driving unit [ENG ACOUS] Headphone or loudspeaker unit having two magnetic poles acting directly on a flexible iron diaphragm. { bī'pō·lər mag'ned·ik 'driv·iŋ ,yü·nət }

bipolar memory [COMPUT SCI] A computer memory employing integrated-circuit bipolar junction transistors as bistable memory cells. { bī'pō·lər 'mem·rē }

bipolar power supply [ELEC] A high-precision, regulated, direct-current power supply that can be set to provide any desired voltage between positive and negative design limits, with a smooth transition from one polarity to the other. { bī'pō·lər 'paù·ər sə'plī }

bipolar signal [COMMUN] A signal in which different logical states are represented by electrical voltages of opposite polarity. { bī'pō·lər 'sig·nəl }

bipolar spin device See magnetic switch. { ¦bī ,pō·lər 'spin di,vīs }

bipolar spin switch See magnetic switch. { ¦bī ,pō·lər 'spin ,swich }

bipolar transistor [ELECTR] A transistor that uses both positive and negative charge carriers. { bī'pō·lər tranz'is·tər }

bipolar video See coherent video. { bī'pō·lər 'vid·ē·ō }

bipotential electrostatic lens [ELECTR] An electron lens in which image and object space are field-free, but at different potentials; examples are the lenses formed between apertures of cylinders at different potentials. Also known as immersion electrostatic lens. { ¦bī·pə'ten·chəl i ,lek·trə'stad·ik 'lenz }

biquartic filter [ELECTR] An active filter that uses operational amplifiers in combination with resistors and capacitors to provide infinite values of Q and simple adjustments for band-pass and center frequency. { ¦bī¦kwȯrd·ik 'fil·tər }

birefringence [OPTICS] **1.** Splitting of a light beam into two components, which travel at different velocities, by a material. **2.** For a light beam that has been split into two components by a material, the difference in the indices of refraction of the components within the material. Also known as double refraction. { ,bī·ri'frin·jəns }

biscuit See preform. { 'bis·kət }

bistable circuit [ELECTR] A circuit with two stable states such that the transition between the states cannot be accomplished by self-triggering. { ¦bī ¦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. { ¦bī ¦stā·bəl mag'ned·ik 'kȯr }

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. { ¦bī¦stā·bəl məl·ti'vī,brād·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. { ¦bī¦stā·bəl 'äp·tə·kəl di'vīs }

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

bistatic radar [ENG] Radar in which the transmitter and receiver are not located in the same place; the line between their positions is called the baseline. { 'bī,stad·ik 'rā,där }

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. { bī'siŋ·krə·nəs tranz'mish·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. { bit }

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 ,bläk 'tranz·fər }

bitblt See bit block transfer.

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

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

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 ,kaùnt 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 flipping *See* bit manipulation. { 'bit ,flip·iŋ }

bit location [COMPUT SCI] Storage position on a record capable of storing one bit. { 'bit lō'kā·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 mə,nip·yə'lā,shən }

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

bit-mapped graphics *See* raster graphics. { ¦bit ,mapt 'graf·iks }

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

bit-oriented protocol [COMMUN] A communications protocol in which individual bits within a byte are used as control codes. { ¦bit ,ōr·ē ,ent·əd 'prōd·ə,kól }

bit pattern [COMPUT SCI] A combination of binary digits arranged in a sequence. { 'bit ,pad·ərn }

bit per second [COMMUN] A unit specifying the instantaneous speed at which a device or channel transmits data. Abbreviated bps. { 'bit pər 'sek·ənd }

bit position [COMPUT SCI] The position of a binary digit in a word, generally numbered from the least significant bit. { 'bit pə'zish·ən }

bit rate [COMMUN] Quantity, per unit time, of binary digits (or pulses representing them) which will pass a given point on a communications line or channel in a continuous stream. { 'bit ,rāt }

bit serial [COMMUN] Sequential transmission of character-forming bits. { ¦bit 'sir·ē·əl }

bit-sliced microprocessor [COMPUT SCI] A microprocessor in which the major logic of the central processor is partitioned into a set of large-scale-integration circuits, as opposed to being placed on a single chip. { 'bit ,slīst ,mī·krō'präs·əs·ər }

bit stream [COMPUT SCI] **1.** A consecutive line of bits transmitted over a circuit in a transmission method in which character separation is accomplished by the terminal equipment. **2.** A binary signal without regard to grouping by character. { 'bit ,strēm }

bit-stream generator [COMMUN] An algorithmic procedure for producing an unending sequence of binary digits to implement a stream. { 'bit ,strēm 'jen·ə,rād·ər }

bit string [COMPUT SCI] A set of consecutive binary digits representing data in coded form, in which the significance of each bit is determined by its position in the sequence and its relation to the other bits. { 'bit ,striŋ }

bit stuffing [COMMUN] The insertion of extra bits in a transmitted message in order to fill a frame to a fixed size or to break up a pattern of bits that could be mistaken for control codes. { 'bit ,stəf·iŋ }

bit synchronization [COMMUN] Element of a message header used to synchronize all of the bits and characters that follow. { 'bit ,siŋ·krə·nə'zā·shən }

bit test [COMPUT SCI] A check by a computer program to determine the status of a particular bit. { 'bit ,test }

bit zone [COMPUT SCI] **1.** One of the two left-most bits in a commonly used system in which six bits are used for each character, related to overpunch. **2.** Any bit in a group of bit positions that are used to indicate a specific class of items; for example, numbers, letters, special signs, and commands. { 'bit ,zōn }

BJT *See* bipolar junction transistor.

BL *See* base line.

black *See* black signal. { blak }

black-and-white television *See* monochrome television. { ¦blak ən ¦wīt 'tel·ə,vizh·ən }

black box [ENG] Any component, usually electronic and having known input and output, that can be readily inserted into or removed from a specific place in a larger system without knowledge of the component's detailed internal structure. { 'blak ,bäks }

blacker-than-black level [COMMUN] In television, a level of greater instantaneous amplitude than the black level, used for synchronization and control signals. { 'blak·ər than 'blak ,lev·əl }

black hole *See* stale link. { ¦blak 'hōl }

black level [ELECTR] The level of the television picture signal corresponding to the maximum limit of black peaks. { 'blak ,lev·əl }

blackout *See* radio blackout. { 'blak,aút }

black peak [COMMUN] A peak excursion of the television picture signal in the black direction. { 'blak ,pēk }

black scope [ELECTR] Cathode-ray tube operating at the threshold of luminescence when no video signals are being applied. { ¦blak 'skōp }

black signal [COMMUN] Signal at any point in a facsimile system produced by the scanning of a maximum density area of the subject copy. Also known as black; picture black. { 'blak ,sig·nəl }

black-surface field [ELECTR] A layer of p^+ material which is applied to the back surface of a solar cell to reduce hole-electron recombinations there and thereby increase the cell's efficiency. { 'blak ,sər·fəs ,fēld }

black transmission [COMMUN] The amplitude-modulated transmission of facsimile signals in which the maximum signal amplitude corresponds to the greatest copy density or darkest shade. { 'blak tranz'mish·ən }

blade [ELEC] A flat moving conductor in a switch. { blād }

blank [ELECTR] To cut off the electron beam of a television picture tube or camera tube during the process of retrace by applying a rectangular pulse voltage to the grid or cathode during each retrace interval. Also known as beam blank. { blaŋk }

blank cell [COMPUT SCI] A cell of a spreadsheet that contains no text or numeric values, and for which no formatting is specified other than the global formats of the spreadsheet. { 'blaŋk ,sel }

blank character [COMPUT SCI] A character, either printed or appearing as a blank, used to denote a blank space among printed characters. Also known as space character. { 'blaŋk 'kar·ik·tər }

blanketing [COMMUN] Interference due to a nearby transmitter whose signals are so strong that they override other signals over a wide band of frequencies. { 'blaŋ·kad·iŋ }

blank form *See* blank medium. { 'blaŋk ˌfȯrm }

blanking [ELECTR] The act, useful in adapting a radar to its environment, of disabling selected apparatus at specified times or of deleting certain data from further treatment. { 'blaŋk·iŋ }

blanking circuit [ELECTR] A circuit preventing the transmission of brightness variations during the horizontal and vertical retrace intervals in television scanning. { 'blaŋk·iŋ ˌsər·kət }

blanking level [ELECTR] The level that separates picture information from synchronizing information in a composite television picture signal; coincides with the level of the base of the synchronizing pulses. Also known as pedestal; pedestal level. { 'blaŋk·iŋ ˌlev·əl }

blanking pulse [ELECTR] A control pulse used to switch off a part of a television or radar set electronically for a predetermined length of time. { 'blaŋk·iŋ ˌpəls }

blanking signal [ELECTR] The signal rendering the return trace invisible on the picture tube of a television receiver. { 'blaŋk·iŋ ˌsig·nəl }

blanking time [ELECTR] The length of time that the electron beam of a cathode-ray tube is shut off. { 'blaŋk·iŋ ˌtīm }

blank medium [COMPUT SCI] An empty position on the medium concerned, such as a column without holes on a punch tape, used to indicate a blank character. Also known as blank form. { ¦blaŋk 'mēd·ē·əm }

blank tape [COMPUT SCI] A portion of a paper tape having sprocket holes only, to indicate a blank character. { ¦blaŋk 'tāp }

blank tape halting problem [COMPUT SCI] The problem of finding an algorithm that, for any Turing machine, decides whether the machine eventually stops if it started on an empty tape; it has been proved that no such algorithm exists. { ¦blaŋk 'tāp 'hȯl·tiŋ ˌpräb·ləm }

blast [COMPUT SCI] To release internal or external memory areas from the control of a computer program in the course of dynamic storage allocation, making these areas available for reallocation to other programs. { blast }

blast freezer [ENG] An upright freezer in which very cold air circulated by blowers is used for rapid freezing of food. { 'blast ˌfrē·zər }

bleed [COMPUT SCI] In optical character recognition, the flow of ink in printed characters beyond the limits specified for their recognition by a character reader. { blēd }

bleeder [ELECTR] A high resistance connected across the dc output of a high-voltage power supply which serves to discharge the filter capacitors after the power supply has been turned off, and to provide a stabilizing load. { 'blēd·ər }

bleeder current [ELEC] Current drawn continuously from a voltage source to lessen the effect of load changes or to provide a voltage drop across a resistor. { 'blēd·ər ˌkər·ənt }

bleeder resistor [ELEC] A resistor connected across a power pack or other voltage source to improve voltage regulation by drawing a fixed current value continuously; also used to dissipate the charge remaining in filter capacitors when equipment is turned off. { 'blēd·ər ri'zis·tər }

blended data [ENG] O point that is the combination of scan data and track data to form a vector. { ¦blen·dəd 'dad·ə }

blend to analog [COMMUN] The point at which the block error rate of an AM/FM IBOC receiver falls below some predefined threshold and the digital audio is faded out while simultaneously the analog audio is faded in, preventing the received audio from simply muting when the digital signal is lost. The receiver audio will also blend to digital upon reacquisition of the digital signal. { ¦blend tə 'an·əl·ˌäg }

blend to mono [COMMUN] The process of progressively attenuating the left-right component of a stereo decoded signal as the received radio frequency signal decreases, with the net result of lowering the audible noise. { ¦blend tə 'män·ō }

BLER *See* block error rate.

blind approach beacon system [NAV] A pulse-type, ground-based navigation beacon used for runway approach at airports, which sends out signals that produce range and runway position information on the L-scan cathode-ray indicator of an aircraft making an instrument approach. Also known as beam approach beacon system (British usage). Abbreviated babs. { ¦blīnd ə'prōch 'bē·kən ˌsis·təm }

blind controller system [CONT SYS] A process control arrangement that separates the in-plant measuring points (for example, pressure, temperature, and flow rate) and control points (for example, a valve actuator) from the recorder or indicator at the central control panel. { ¦blīnd kən'trōl·ər ˌsis·təm }

blind drilling [ENG] Drilling in which the drilling fluid is not returned to the surface. { 'blīnd 'dril·iŋ }

blind flange [ENG] A flange used to close the end of a pipe. { ¦blīnd 'flanj }

blind hole [ENG] A hole which does not pass completely through a workpiece. [ENG] A type of borehole that does not have the drilling mud or other circulating medium carry the cuttings to the surface. { ¦blīnd 'hōl }

blinding [ENG] **1.** A thin layer of lean concrete, fine gravel, or sand that is applied to a surface to smooth over voids in order to provide a cleaner, drier, or more durable finish. **2.** A layer of small rock chips applied over the surface of a freshly tarred road. **3.** *See* blanking. { 'blīn·diŋ }

blind joint [ENG] A joint which is not visible from any angle. { ¦blīnd 'joint }

blind spot [ENG] An area on a filter screen where no filtering occurs. Also known as dead area. { 'blīnd ˌspät }

blind zone [COMMUN] Area from which echoes cannot be received; generally, an area shielded from the transmitter by some natural obstruction and therefore from which there can be no return. { 'blīnd ˌzōn }

B line *See* index register. { 'bē ˌlīn }

blinking [COMMUN] Method of providing information in pulse systems by modifying the signal at its source so that signal presentation on the display scope alternately appears and disappears; in loran, this indicates that a station is malfunctioning. [ELECTR] Electronic-attack technique employed by two aircraft separated by a short distance and not resolved in azimuth so as to appear as one target to a tracking radar; the two aircraft alternately spot-jam, causing the radar system to oscillate from one place to another, greatly degrading the fire-control accuracy. [NAV] Regular shifting right and left or alternate appearance and disappearance of a loran signal to indicate that the signals of a pair of stations are out of synchronization. { 'bliŋ·kiŋ }

blip [ELECTR] The display of a received pulse on the screen of a cathode-ray tube. Also known as pip. { blip }

blip-scan ratio [ELECTR] The ratio of the number of times a target is detected (a contact generated, or a display clearly evident) to the number of times of opportunities to do so provided by the radar routine; provides a rough estimate of the probability of detection occurring during the detection process. { 'blip ˌskan 'rā·shō }

bloatware *See* fatware. { 'blōtˌwer }

BLOB *See* binary large object. { bläb *or* ¦bē¦el ¦ō'bē }

block [COMMUN] An 8-by-8 array of pel values or discrete cosine transform coefficients representing luminance or chrominance information. [COMPUT SCI] A group of information units (such as records, words, characters, or digits) that are transported or considered as a single unit by virtue of their being stored in successive storage locations; for example, a group of logical records constituting a physical record. { bläk }

block body [COMPUT SCI] A list of statements that follows the block head in a computer program with block structure. { 'bläk ˌbäd·ē }

block chaining *See* chained block encryption. { 'bläk ˌchān·iŋ }

block check character [COMMUN] A character that is added to a block of data to check its accuracy, and consists of parity bits each of which is set by observing a specified set of bits in the block. { 'bläk ¦chek ˌkar·ik·tər }

block cipher [COMMUN] A cipher that transforms a string of input bits of fixed length into a string of output bits of fixed length. { 'bläk ˌsī·fər }

block code [COMMUN] An error-correcting code generated by an encoder that produces a fixed-length code word with each incoming fixed-length message block. { 'bläk ˌkōd }

block data [COMPUT SCI] A statement in FORTRAN which declares that the program following is a data specification subprogram. { 'bläk ˌdad·ə }

block diagram [ENG] A diagram in which the essential units of any system are drawn in the form of rectangles or blocks and their relation to each other is indicated by appropriate connecting lines. { 'bläk ˌdī·əˌgram }

blocked F-format data set *See* FB data set. { 'bläkt ¦ef'fôrˌmat 'dad·ə ˌset }

blocked impedance [ELEC] The impedance at the input of a transducer when the impedance of the output system is made infinite, as by blocking or clamping the mechanical system. { 'bläkt im'pēd·əns }

blocked impurity band detector [ELECTR] A detector of long-wavelength infrared radiation consisting of a heavily doped extrinsic photoconductor on which an undoped intrinsic layer is grown epitaxially to prevent dark current from flowing in the impurity band. { 'bläkt im'pyúr·əd·ē ¦band diˌtek·tər }

blocked process [COMPUT SCI] A program that is running on a computer but is temporarily prevented from making progress because it requires some resource (such as a printer or user input) that is not immediately available. { ¦bläkt 'präˌses }

blocked resistance [ENG ACOUS] Resistance of an audio-frequency transducer when its moving elements are blocked so they cannot move; represents the resistance due only to electrical losses. { 'bläkt ri'zis·təns }

block encryption [COMMUN] The use of a block cipher, usually employing the data encryption standard (DES), in which each 64-bit block of data is enciphered or deciphered separately, and every bit in a given output block depends on every bit in its respective input block and on every bit in the key, but on no other bits. Also known as electronic codebook mode (ECB). { 'bläk en'krip·shən }

block error rate [COMMUN] A ratio of the number of data blocks received with at least one uncorrectable bit to the total number of blocks received. Abbreviated BLER. { 'bläk 'er·ərˌrāt }

blockette [COMPUT SCI] A subdivision of a group of consecutive machine words transferred as a unit, particularly with reference to input and output. { blä'ket }

block head [COMPUT SCI] A list of declarations at the beginning of a computer program with block structure. { 'bläk ¦hed }

block identifier [COMPUT SCI] A means of identifying an area of storage in FORTRAN so that this area may be shared by a program and its subprograms. { 'bläk ī'den·təˌfī·ər }

block ignore character [COMPUT SCI] A character associated with a block which indicates the presence of errors in the block. { 'bläk ig'nôr ˌkar·ik·tər }

blocking [COMPUT SCI] Combining two or more computer records into one block. [ELECTR] 1. Applying a high negative bias to the grid of

an electron tube to reduce its anode current to zero. **2.** Overloading a receiver by an unwanted signal so that the automatic gain control reduces the response to a desired signal. **3.** Distortion occurring in a resistance-capacitance-coupled electron tube amplifier stage when grid current flows in the following tube. { 'bläk·iŋ }

blocking capacitor *See* coupling capacitor. { 'bläk·iŋ kə'pas·əd·ər }

blocking factor [COMPUT SCI] The largest possible number of records of a given size that can be contained within a single block. { 'bläk·iŋ ˌfak·tər }

blocking layer *See* depletion layer. { 'bläk·iŋ ˌlā·ər }

blocking oscillator [ELECTR] A relaxation oscillator that generates a short-time-duration pulse by using a single transistor or electron tube and associated circuitry. Also known as squegger; squegging oscillator. { 'bläk·iŋ 'äs·əˌlād·ər }

blocking oscillator driver [ELECTR] Circuit which develops a square pulse used to drive the modulator tubes, and which usually contains a line-controlled blocking oscillator that shapes the pulse into the square wave. { 'bläk·iŋ 'äs·ə ˌlād·ər 'drī·vər }

block input [COMPUT SCI] **1.** A block of computer words considered as a unit and intended or destined to be transferred from an internal storage medium to an external destination. **2.** *See* output area. { 'bläk 'inˌpůt }

block length [COMPUT SCI] The total number of records, words, or characters contained in one block. { 'bläk ˌleŋkth }

block loading [COMPUT SCI] A program loading technique in which the control sections of a program or program segment are loaded into contiguous positions in main memory. { 'bläk ˌlōd·iŋ }

block mark [COMPUT SCI] A special character that indicates the end of a block. { 'bläk ˌmärk }

block move *See* cut and paste. { ¦bläk 'müv }

block multiplexor channel [COMPUT SCI] A transmission channel in a computer system that can simultaneously transmit blocks of data from several high-speed input/output devices by interleaving the data. { 'bläk ¦məlt·iˌplek·sər ˌchan·əl }

block operation [COMPUT SCI] An editing or formatting procedure that is carried out on a selected block of text in a word-processing document. { 'bläk ˌäp·əˌrā·shən }

block parity [COMMUN] An error-checking technique involving the comparison of a transmitted block check character with one calculated by the receiving device. { 'bläk 'par·əd·ē }

block protection [COMPUT SCI] An instruction in a word-processing or page-layout program that prevents a soft page break from being inserted in a specified block of text, ensuring against a bad page break. { 'bläk prəˌtek·shən }

block protector [ELEC] Rectangular piece of carbon, bakelite with a metal insert, or porcelain with a carbon insert which, in combination with each other, make one element of a protector; they form a gap which will break down and provide a path to ground for excessive voltages. { 'bläk prə'tek·tər }

block signal system [CONT SYS] An automatic railroad traffic control system in which the track is sectionalized into electrical circuits to detect the presence of trains, engines, or cars. { 'bläk 'sig·nəl ˌsis·təm }

block standby [COMPUT SCI] Locations always set aside in storage for communication with buffers in order to make more efficient use of such buffers. { 'bläk ˌstandˌbī }

block structure [COMPUT SCI] In computer programming, a conceptual tool used to group sequences of statements into single compound statements and to allow the programmer explicit control over the scope of the program variables. { 'bläk ˌstrək·chər }

block transfer [COMPUT SCI] The movement of data in blocks instead of by individual records. { 'bläk ¦trans·fər }

blooming [ELECTR] **1.** Defocusing of television picture areas where excessive brightness results in enlargement of spot size and halation of the fluorescent screen. **2.** An increase in radar display spot size due to a particularly strong signal exciting the phosphorus material. **3.** The wide spatial dispersion of chaff after being dispensed in small bundles. { 'blüm·iŋ }

blow [COMPUT SCI] To write data or code into a programmable read-only memory chip by melting the fuse links corresponding to bits that are to be zero. { blō }

blow-lifting gripper [CONT SYS] A robot component that uses compressed air to lift objects. { 'blō ¦lift·iŋ ˌgrip·ər }

blown-fuse indicator [ELEC] A neon warning light connected across a fuse so that it lights when the fuse is blown. { ¦blōn ¦fyüz 'in·dəˌkād·ər }

blowout [ELEC] The melting of an electric fuse because of excessive current. { 'blōˌaůt }

blow up *See* abend. { 'blō ˌəp }

blue glow [ELECTR] A glow normally seen in electron tubes containing mercury vapor, due to ionization of the mercury molecules. { 'blüˌglō }

Bluetooth [COMMUN] A technical specification for the wireless connection over short distances of digital devices, such as cellular telephones, portable computers, and computer peripheral equipment, utilizing the unlicensed 2.4-GHz radio frequency spectrum. { 'blüˌtüth }

BNC connector [ELEC] A small device for connecting coaxial cables, used frequently in low-power, radio-frequency and test applications. Abbreviation for bayonet Neil-Concelman connector. { ˌbēˌenˌsē kəˌnek·tər }

BNF *See* Backus-Naur form.

Board of Trade unit *See* kilowatt-hour. { ¦bȯrd əv 'trād ˌyü·nət }

bobbing [ELECTR] Fluctuation of the strength of a radar echoand its display, due to alternate constructive and destructive interference of the

received signal as in a multipath propagation situation. { 'bäb·iŋ }

bobtail curtain antenna [ELECTROMAG] A bidirectional, vertically polarized, phased-array antenna that has two horizontal sections, each 0.5 electrical wavelength long, that connect three vertical sections, each 0.25 electrical wavelength long. { 'bäb,tāl 'kərt·ən an,ten·ə }

Bode diagram [ELECTR] A diagram in which the phase shift or the gain of an amplifier, a servomechanism, or other device is plotted against frequency to show frequency response; logarithmic scales are customarily used for gain and frequency. { 'bōd ,dī·ə,gram }

body capacitance [ELEC] Capacitance existing between the human hand or body and a circuit. { 'bäd·ē kə'pas·ə·təns }

body rotation [CONT SYS] An axis of motion of a pick-and-place robot. { 'bäd·e rō,tā·shən }

Boersch effect [ELECTR] The deviation of the energy distribution of electrons emitted from a cathode from a Maxwellian distribution, due to broadening of the distribution by a space-charge region in front of the cathode. { 'bersh i,fekt }

boiler plate [COMPUT SCI] A commonly used expression or phrase that is stored in memory and can be copied into a word-processing document as needed. { 'bȯil·ər ,plāt }

bolograph [ENG] Any graphical record made by a bolometer; in particular, a graph formed by directing a pencil of light reflected from the galvanometer of the bolometer at a moving photographic film. { 'bō·lə,graf }

bolometer [ENG] An instrument that measures the energy of electromagnetic radiation in certain wavelength regions by utilizing the change in resistance of a thin conductor caused by the heating effect of the radiation. Also known as thermal detector. { bə'läm·əd·ər }

bomb *See* abend. { bäm }

bombardment [ELECTR] The use of induction heating to heat electrodes of electron tubes to drive out gases during evacuation. { bäm'bärd·mənt }

bond [ELEC] The connection made by bonding electrically. { bänd }

bonded NR diode [ELECTR] An n^+ junction semiconductor device in which the negative resistance arises from a combination of avalanche breakdown and conductivity modulation which is due to the current flow through the junction. { ¦bän·dəd ,en¦är 'dī,ōd }

bonded strain gage [ENG] A strain gage in which the resistance element is a fine wire, usually in zigzag form, embedded in an insulating backing material, such as impregnated paper or plastic, which is cemented to the pressure-sensing element. { ¦bän·dəd 'strān ,gāj }

bonded transducer [ENG] A transducer which employs a bonded strain gage for sensing pressure. { ¦bän·dəd tranz'dü·sər }

bonding [ELEC] The use of low-resistance material to connect electrically a chassis, metal shield cans, cable shielding braid, and other supposedly equipotential points to eliminate undesirable electrical interaction resulting from high-impedance paths between them. [ENG] **1.** The fastening together of two components of a device by means of adhesives, as in anchoring the copper foil of printed wiring to an insulating baseboard. **2.** *See* cladding. { 'bän·diŋ }

bonding pad [ELECTR] A metallized area on the surface of a semiconductor device, to which connections can be made. { 'bän·diŋ ,pad }

bonding wire [ELEC] Wire used to connect metal objects so they have the same potential (usually ground potential). { 'bän·diŋ ,wīr }

bond strength [ENG] The amount of adhesion between bonded surfaces measured in terms of the stress required to separate a layer of material from the base to which it is bonded. { 'bänd ,streŋkth }

Böning effect [ELEC] The displacement of associated ions that have been bound to capturing ions in fine channels in a dielectric medium when an electric field is applied. { 'bən·iŋ i,fekt }

Book A *See* DVD-read-only. { ¦bůk 'ā }

Book B *See* DVD-video. { ¦bůk 'bē }

book capacitor [ELEC] A trimmer capacitor consisting of two plates which are hinged at one end; capacitance is varied by changing the angle between them. { 'bůk kə'pas·əd·ər }

Book D *See* DVD-write once. { ¦bůk 'dē }

Book E *See* DVD-rewritable. { ¦bůk 'ē }

bookkeeping operation [COMPUT SCI] A computer operation which does not directly contribute to the result, that is, arithmetical, logical, and transfer operations used in modifying the address section of other instructions in counting cycles and in rearranging data. Also known as red-tape operation. { 'bůk,kēp·iŋ äp·ə'rā·shən }

bookmark [COMPUT SCI] **1.** Any method of halting the processing of a transaction and holding it, as far as it has been completed, until processing resumes. **2.** A code that is inserted at a particular place in a document or that is associated with a particular document so that the user can easily return to the specified insertion point or document. **3.** A Web page location (URL) which is saved by a user for quick reference. { 'bůk ,märk }

Boolean [COMPUT SCI] A scalar declaration in ALGOL defining variables similar to FORTRAN's logical variables. { 'bü·lē·ən }

Boolean algebra [MATH] An algebraic system with two binary operations and one unary operation important in representing a two-valued logic. { 'bü·lē·ən 'al·jə·brə }

Boolean calculus [MATH] Boolean algebra modified to include the element of time. { 'bü·lē·ən 'kal·kyə·ləs }

Boolean data type *See* logical data type. { 'bü·lē·ən 'dad·ə ,tīp }

Boolean determinant [MATH] A function defined on Boolean matrices which depends on the elements of the matrix in a manner analogous to the manner in which an ordinary determinant depends on the elements of an ordinary matrix, with the operation of multiplication replaced

by intersection and the operation of addition replaced by union. { ¦bül·ē·ən di'tər·mə·nənt }

Boolean function [MATH] A function $f(x,y,\ldots,z)$ assembled by the application of the operations AND, OR, NOT on the variables $x, y, \ldots, z$ and elements whose common domain is a Boolean algebra. { 'bü·lē·ən 'fəŋk·shən }

Boolean matrix [MATH] A rectangular array of elements each of which is a member of a Boolean algebra. { ¦bül·ē·ən 'mā,triks }

Boolean operation table [MATH] A table which indicates, for a particular operation on a Boolean algebra, the values that result for all possible combination of values of the operands; used particularly with Boolean algebras of two elements which may be interpreted as "true" and "false." { ¦bül·ē·ən ¦äp·ə'rā·shən ¦tā·bəl }

Boolean operator [MATH] A logic operator that is one of the operators AND, OR, or NOT, or can be expressed as a combination of these three operators. { ¦bül·ē·ən 'äp·ə,rād·ər }

Boolean ring [MATH] A commutative ring with the property that for every element a of the ring, $a \times a$ and $a + a = 0$, it can be shown to be equivalent to a Boolean algebra. { ¦bül·ē·ən 'riŋ }

Boolean search [COMPUT SCI] A search for selected information, that is, information satisfying conditions that can be expressed by AND, OR, and NOT functions. { 'bü·lē·ən 'sərch }

boost [ELECTR] To augment in relative intensity, as to boost the bass response in an audio system. { büst }

boost charge [ELEC] Partial charge of a storage battery, usually at a high current rate for a short period. { 'büst ¦chärj }

booster [ELEC] A small generator inserted in series or parallel with a larger generator to maintain normal voltage output under heavy loads. [ELECTR] **1.** A separate radio-frequency amplifier connected between an antenna and a television receiver to amplify weak signals. **2.** A radio-frequency amplifier that amplifies and rebroadcasts a received television or communication radio carrier frequency for reception by the general public. { 'büs·tər }

booster battery [ELECTR] A battery which increases the sensitivity of a crystal detector by maintaining a certain voltage across it and thereby adjusting conditions to increase the response to a given input. { 'büs·tər ¦bad·ə·rē }

booster voltage [ELECTR] The additional voltage supplied by the damper circuit to the horizontal output, horizontal oscillator, and vertical output circuits of a television receiver to give greater sawtooth sweep output. { 'büs·tər ¦vōl·tij }

boot [COMPUT SCI] To load the operating system into a computer after it has been switched on; usually applied to small computers. { büt }

boot button *See* bootstrap button. { 'büt ¦bət·ən }

boot record [COMPUT SCI] A special area of a floppy diskette or hard drive which is used by the computer during system startup. { 'büt ¦rek·ərd }

bootstrap [COMPUT SCI] The procedures for making a computer or a program function through its own actions. [ENG] A technique or device designed to bring itself into a desired state by means of its own action. { 'büt,strap }

bootstrap button [COMPUT SCI] The first button pressed when a computer is turned on, causing the operating system to be loaded into memory. Also known as boot button; initial program load button; IPL button. { 'büt,strap ¦bət·ən }

bootstrap circuit [ELECTR] A single-stage amplifier in which the output load is connected between the negative end of the anode supply and the cathode, while signal voltage is applied between grid and cathode; a change in grid voltage changes the input signal voltage with respect to ground by an amount equal to the output signal voltage. { 'büt,strap ¦sər·kət }

bootstrap driver [ELECTR] Electronic circuit used to produce a square pulse to drive the modulator tube; the duration of the square pulse is determined by a pulse-forming line. { 'büt ¦strap ¦drīv·ər }

bootstrap instructor technique [COMPUT SCI] A technique permitting a system to bring itself into an operational state by means of its own action. Also known as bootstrap technique. { 'büt ¦strap in'strək·tər tek'nēk }

bootstrap integrator [ELECTR] A bootstrap sawtooth generator in which an integrating amplifier is used in the circuit. Also known as Miller generator. { 'büt,strap 'in·tə,grād·ər }

bootstrap loader [COMPUT SCI] A very short program loading routine, used for loading other loaders in a computer; often implemented in a read-only memory. { 'büt,strap 'lōd·ər }

bootstrap memory [COMPUT SCI] A device that provides for the automatic input of new programs without erasing the basic instructions in the computer. { 'büt,strap 'mem·rē }

bootstrapping [ELECTR] A technique for lifting a generator circuit above ground by a voltage value derived from its own output signal. { 'büt ¦strap·iŋ }

bootstrap program *See* loading program. { 'büt ¦strap ¦prō·grəm }

bootstrap sawtooth generator [ELECTR] A circuit capable of generating a highly linear positive sawtooth waveform through the use of bootstrapping. { ¦büt,strap ¦sȯ,tüth 'jen·ə,rād·ər }

bootstrap technique *See* bootstrap instructor technique. { 'büt,strap tek'nēk }

boot virus [COMPUT SCI] A virus that infects the boot records on floppy diskettes and hard drives and is designed to self-replicate from one disk to another. { 'büt ¦vī·rəs }

boresighting [ENG] Initial alignment of a directional microwave or radar antenna system by using an optical procedure or a fixed target at a known location. { 'bȯr,sīd·iŋ }

BORSCHT [COMMUN] An interface circuit between ordinary telephone lines carrying analog voice signals and digital time-division multiplex facilities, which digitizes voice signals, assigns them time slots, and then multiplexes them. Acronym for battery, overvoltage, ringing, supervision, coding, hybrid and test access. { bȯrsht }

bottleneck analysis [COMPUT SCI] A detailed study of the manner in which elements of a computer system are related to find out where bottlenecks arise, so that the system's performance can be improved. { 'bäd·əl,nek ə ,nal·ə·səs }

bottle thermometer [ENG] A thermoelectric thermometer used for measuring air temperature; the name is derived from the fact that the reference thermocouple is placed in an insulated bottle. { 'bäd·əl thər'mäm·əd·ər }

bottom [COMPUT SCI] The termination of a file. { 'bäd·əm }

bottom-up analysis [COMPUT SCI] A reductive method of syntactic analysis which attempts to reduce a string to a root symbol. { ¦bäd·əm·əp ¦a'nal·ə·səs }

bounced message [COMPUT SCI] An electronic mail message that is returned to sender because attempts to deliver it have been unsuccessful. { ,baůnst 'mes·ij }

boundary [ELECTR] An interface between *p*- and *n*-type semiconductor materials, at which donor and acceptor concentrations are equal. { 'baůn·drē }

boundary-layer photocell See photovoltaic cell. { 'baůn·drē ,lā·ər 'fō·dō,sel }

bound charge [ELEC] Electric charge which is confined to atoms or molecules, in contrast to free charge, such as metallic conduction electrons, which is not. Also known as polarization charge. { ¦baůnd 'chär }

bounds register [COMPUT SCI] A device which stores the upper and lower bounds on addresses in the memory of a given computer program in a time-sharing system. { 'baůnz ,rej·ə·stər }

Bourne shell [COMPUT SCI] The original Unix shell. { 'bůrn ,shel }

bowtie antenna [ELECTROMAG] An antenna that consists of two triangular pieces of stiff wire or two triangular flat metal plates, arranged in the configuration of a bowtie, with the feed point at the gap between the apexes of the triangles. { 'bō,tī an,ten·ə }

boxcar [COMMUN] One of a series of long signal-wave pulses which are separated by very short intervals of time. { 'bäks,kär }

boxcar circuit [ELECTR] A circuit used in radar for sampling voltage waveforms and storing the latest value sampled; the term is derived from the flat, steplike segments of the output voltage waveform. { 'bäks,kär ,sər·kət }

B-pictures See bidirectional pictures. { 'bē 'pik·chərz }

B power supply See B supply. { 'bē 'paů·ər ,sə·plī }

bps See bit per second.

BPSK See binary phase-shift keying.

brachiating motion [CONT SYS] A type of robotic motion that employs legs or other equipment to help the manipulator move in its working environment. { ¦brā·kē'ād·iŋ 'mō·shən }

brachiating robot [CONT SYS] A robot that is capable of moving over the surface of an object. { ¦brā·kē'ād·iŋ 'rō,bät }

Bragg cell See acoustooptic modulator. { 'brag ,sel }

braided wire [ELEC] A tube of fine wires woven around a conductor or cable for shielding purposes or used alone in flattened form as a grounding strap. { 'brād·əd ,wīr }

branch [COMPUT SCI] **1.** Any one of a number of instruction sequences in a program to which computer control is passed, depending upon the status of one or more variables. **2.** See jump. [ELEC] A portion of a network consisting of one or more two-terminal elements in series. Also known as arm. { branch }

branch circuit [ELEC] A portion of a wiring system in the interior of a structure that extends from a final overload protective device to a plug receptable or a load such as a lighting fixture, motor or heater. { ¦branch ¦sər·kət }

branch-circuit distribution center [ELEC] Distribution center at which branch circuits are supplied. { ¦branch ¦sər·kət dis·trə'byü·shən ,sen·tər }

branch cutout [ELEC] The holder for a fuse that protects a branch circuit in an interior wiring system. { 'branch 'kəd,aůt }

branch gain See branch transmittance. { 'branch ,gān }

branching [COMPUT SCI] The selection, under control of a computer program, of one of two or more branches. { 'branch·iŋ }

branch instruction [COMPUT SCI] An instruction that makes the computer choose between alternative subprograms, depending on the conditions determined by the computer during the execution of the program. { 'branch in'strək·shən }

branch joint [ELEC] Joint used for connecting a branch conductor or cable, where the latter continues beyond the branch. { 'branch ,jȯint }

branch point [COMPUT SCI] A point in a computer program at which there is a branch instruction. [ELEC] A terminal in an electrical network that is common to more than two elements or parts of elements of the network. Also known as junction point, node. { 'branch ,pȯint }

branch prediction [COMPUT SCI] A method whereby a processor guesses the outcome of a branch instruction so that it can prepare in advance to carry out the instructions that follow the predicted outcome. { 'branch prə,dik·shən }

branch transmittance [CONT SYS] The amplification of current or voltage in a branch of an electrical network; used in the representation of such a network by a signal-flow graph. Also known as branch gain. { ¦branch trans'mit·əns }

Branley-Lenard effect [ELECTR] The strong ionization of air and other gases by ultraviolet radiation with wavelengths in the range 120–150 nanometers. { 'bran-lē 'len-ərd i,fekt }

Braun tube *See* cathode-ray tube. { 'braun ,tüb }

breadboard [ELECTR] A printed circuit board designed so that the user can mount and wire whatever circuitry is desired. { 'bred,bȯrd }

breadboarding [ELECTR] Assembling an electronic circuit in the most convenient manner, without regard for final locations of components, to prove the feasibility of the circuit and to facilitate changes when necessary. { 'bred,bȯrd·iŋ }

breadboard model [ENG] Uncased assembly of an instrument or other piece of equipment, such as a radio set, having its parts laid out on a flat surface and connected together to permit a check or demonstration of its operation. { 'bred,bȯrd ,mäd·əl }

break [COMPUT SCI] **1.** To interrupt processing by a computer, usually by depressing a key. **2.** A place in a file of records where one or more of the values in the records change. { brāk }

break-before-make contact [ELEC] One of a pair of contacts that interrupt one circuit before establishing another. { ¦brāk bə¦fȯr ¦māk 'kän ,takt }

break contact [ELEC] The contact of a switching device which opens a circuit upon the operation of the device. { 'brāk ,kän,takt }

breakdown [ELEC] A large, usually abrupt rise in electric current in the presence of a small increase in voltage; can occur in a confined gas between two electrodes, a gas tube, the atmosphere (as lightning), an electrical insulator, and a reverse-biased semiconductor diode. Also known as electrical breakdown. { 'brāk,daun }

breakdown diode [ELEC] A semiconductor diode in which the reverse-voltage breakdown mechanism is based either on the Zener effect or the avalanche effect. { 'brāk,daun¦dī,ōd }

breakdown impedance [ELECTR] Of a semiconductor, the small-signal impedance at a specified direct current in the breakdown region. { 'brāk ,daun im'pēd·əns }

breakdown potential *See* breakdown voltage. { 'brāk,daun pə'ten·shəl }

breakdown region [ELECTR] Of a semiconductor diode, the entire region of the volt-ampere characteristic beyond the initiation of breakdown for increasing magnitude of bias. { 'brāk ,daun ,rē·jən }

breakdown torque [ELEC] The maximum torque that a motor can develop at its rated applied voltage and frequency without an abrupt drop in speed. { 'brāk,daun ,tȯrk }

breakdown voltage [ELEC] **1.** The voltage measured at a specified current in the electrical breakdown region of a semiconductor diode. Also known as Zener voltage. **2.** The voltage at which an electrical breakdown occurs in a dielectric. **3.** The voltage at which an electrical breakdown occurs in a gas. Also known as breakdown potential; sparking potential; sparking voltage. { 'brāk,daun ,vōl·tij }

breaker-and-a-half [ELEC] A substation switching arrangement that involves two buses between which three breaker bays are installed. { ¦brā·kər ən ə 'haf }

breaker-and-a-third [ELEC] A substation switching arrangement having four breakers and three connections per bay. { ¦brā·kər ən ə 'thərd }

breaker points [ELEC] Low-voltage contacts used to interrupt the current in the primary circuit of a gasoline engine's ignition system. { 'brā·kər ,pȯints }

break frequency [CONT SYS] The frequency at which a graph of the logarithm of the amplitude of the frequency response versus the logarithm of the frequency has an abrupt change in slope. Also known as corner frequency; knee frequency. { 'brāk ,frē·kwən·sē }

break-in device [ELECTR] A device in a radiotelegraph communication system allowing an operator to receive signals in intervals between his own transmission signals. { 'brāk,in di'vīs }

break-in operation [COMMUN] A method of radio communication in which it is possible for the receiving operator to interrupt or break into the transmission. { 'brā¦kin ,äp·ə,rā·shən }

break key [COMPUT SCI] A key on a computer keyboard whose depression causes processing to be interrupted. { 'brāk ,kē }

breakout [ELEC] A joint at which one or more conductors are brought out from a multiconductor cable. { 'brā,kaut }

breakout box [ELECTR] A device connected to a multiconductor cable that provides terminal connections to test the signals in a transmission. { 'brāk,aut ,bäks }

breakoutput [COMPUT SCI] An ALGOL procedure which causes all bytes in a device buffer to be sent to the device rather than wait until the buffer is full. { ¦brā¦kaut,put }

breakover [ELECTR] In a silicon controlled rectifier or related device, a transition into forward conduction caused by the application of an excessively high anode voltage. { 'brā ,kō·vər }

breakover voltage [ELECTR] The positive anode voltage at which a silicon controlled rectifier switches into the conductive state with gate circuit open. { 'brā,kō·vər ,vōl·tij }

break period [COMMUN] Of a rotary dial telephone, the time interval during which the circuit contacts are open. { 'brāk ,pir·ē·əd }

breakpoint [COMPUT SCI] A point in a program where an instruction, instruction digit, or other condition enables a programmer to interrupt the run by external intervention or by a monitor routine. { 'brāk,pȯint }

breakpoint switch [COMPUT SCI] A manually operated switch which controls conditional operation at breakpoints, used primarily in debugging. { 'brāk,pȯint ,swich }

breakpoint symbol [COMPUT SCI] A symbol which may be optionally included in an instruction, as an indication, tag, or flag, to designate it as a breakpoint. { 'brāk,pȯint ,sim·bəl }

breakthrough [COMPUT SCI] An interruption in the intended character stroke in optical character recognition. { 'brāk,thrü }

B register *See* index register. { 'bē ,rej·ə·stər }

bridge [COMMUN] A device that joins two networks of the same type. [ELEC] **1.** An electrical instrument having four or more branches, by means of which one or more of the electrical constants of an unknown component may be measured. **2.** An electrical shunt path. { brij }

bridge circuit [ELEC] An electrical network consisting basically of four impedances connected in series to form a rectangle, with one pair of diagonally opposite corners connected to an input device and the other pair to an output device. { 'brij ,sər·kət }

bridged tap [ELEC] Portion of a cable pair connected to a circuit which is not a part of the useful path. { ¦brijd 'tap }

bridged-T network [ELEC] A T network with a fourth branch connected between an input and an output terminal and across two branches of the network. { ¦brijd ¦tē 'net,wərk }

bridge hybrid *See* hybrid junction. { 'brij 'hī·brəd }

bridge limiter [ELECTR] A device employed in analog computers to keep the value of a variable within specified limits. { ¦brij ¦lim·əd·ər }

bridge magnetic amplifier [ELECTR] A magnetic amplifier in which each of the gate windings is connected in series with an arm of a bridge rectifier; the rectifiers provide self-saturation and direct-current output. { ¦brij mag'ned·ik 'am·plə ,fī·ər }

bridge oscillator [ELECTR] An oscillator using a balanced bridge circuit as the feedback network. { 'brij äs·ə'lād·ər }

bridge rectifier [ELECTR] A full-wave rectifier with four elements connected as a bridge circuit with direct voltage obtained from one pair of opposite junctions when alternating voltage is applied to the other pair. { ¦brij ,rek·tə,fī·ər }

bridgeware [COMPUT SCI] Software or hardware that translates programs or converts data from one format to another. { 'brij,wer }

bridging [ELEC] **1.** Connecting one electric circuit in parallel with another. **2.** The action of a selector switch whose movable contact is wide enough to touch two adjacent contacts so that the circuit is not broken during contact transfer. [MATH] The operation of carrying in addition or multiplication. { 'brij·iŋ }

bridging amplifier [ELECTR] Amplifier with an input impedance sufficiently high so that its input may be bridged across a circuit without substantially affecting the signal level of the circuit across which it is bridged. { 'brij·iŋ ,am·plə,fī·ər }

bridging connection [ELECTR] Parallel connection by means of which some of the signal energy in a circuit may be withdrawn frequently, with imperceptible effect on the normal operation of the circuit. { 'brij·iŋ kə,nek·shən }

bridging contacts [ELEC] A contact form in which the moving contact touches two stationary contacts simultaneously during transfer. { 'brij·iŋ ,kän,taks }

bridging loss [ELECTR] Loss resulting from bridging an impedance across a transmission system, quantitatively, the ratio of the signal power delivered to that part of the system following the bridging point, and measured before the bridging, to the signal power delivered to the same part after the bridging. { 'brij·iŋ ,lòs }

brightness control [ELECTR] A control that varies the luminance of the fluorescent screen of a cathode-ray tube, for a given input signal, by changing the grid bias of the tube and hence the beam current. Also known as brilliance control, intensity control. { 'brīt·nəs kən'trōl }

brilliance [ELECTR] **1.** The degree of brightness and clarity of the display of a cathode-ray tube. **2.** The degree to which the higher audio frequencies of an input sound are reproduced by a sound system. { 'bril·yəns }

brilliance control *See* brightness control. { 'bril·yəns kən'trōl }

broaching bit *See* reaming bit. { 'brōch·iŋ bit }

broadband [COMMUN] A band with a wide range of frequencies. { 'brȯd,band }

broadband amplifier [ELECTR] An amplifier having essentially flat response over a wide range of frequencies. { 'brȯd,band ¦am·plə,fī·ər }

broadband antenna [ELECTROMAG] An antenna that functions satisfactorily over a wide range of frequencies, such as for all 12 very-high-frequency television channels. { 'brȯd,band an'ten·ə }

broadband channel [COMMUN] A data transmission channel that can handle frequencies higher than the normal voice-grade line limit of 3 to 4 kilohertz; it can carry many voice or data channels simultaneously or can be used for high-speed single-channel data transmission. { 'brȯd,band ¦chan·əl }

broadband klystron [ELECTR] Klystron having three or more resonant cavities that are externally loaded and stagger-tuned to broaden the bandwidth. { 'brȯd,band ¦klī,strän }

broadband path [COMMUN] A path having a bandwidth of 20 kilohertz or greater. { 'brȯd ,band ,path }

broadcast [COMMUN] A television, radio, or data transmission intended for public reception. { 'brȯd,kast }

broadcast band [COMMUN] The band of frequencies extending from 535 to 1605 kilohertz, corresponding to assigned radio carrier frequencies that increase in multiples of 10 kHz between 540 and 1600 kHz for the United States. Also known as standard broadcast band. { 'brȯd,kast ,band }

broadcast message [COMMUN] A message that is sent to all users of a computer network when they log on to the network. { ¦brȯd,kast ¦mes·ij }

broadcast station [COMMUN] A television or radio station used for transmitting programs to the general public. Also known as station. { 'brȯd ,kast ,stā·shən }

broadcast transmitter [ELECTR] A transmitter designed for use in a commercial amplitude-modulation, frequency-modulation, or television broadcast channel. { 'brȯd,kast tranz'mid·ər }

broadside array [ELECTROMAG] An antenna array whose direction of maximum radiation is perpendicular to the line or plane of the array. { 'brȯd ,sīd ə'rā }

broad tuning [ELECTR] Poor selectivity in a radio receiver, causing reception of two or more stations at a single setting of the tuning dial. { ¦brȯd ¦tün·iŋ }

Brooks variable inductometer [ELEC] An inductometer providing a nearly linear scale and consisting of two movable coils, side by side in a plane, sandwiched between two pairs of fixed coils. { ¦brůks 'ver·ē·ə·bəl ¦in,dək'täm·əd·ər }

brownout [ELEC] **1.** A restriction of electrical power usage during a power shortage, especially for advertising and display purposes. **2.** An extinguishing of some of the lights in a city as a defensive measure against enemy bombardment. { 'braün,aůt }

browse mode [COMPUT SCI] A mode of operation in which data in a document or database are conveniently displayed for rapid, on-screen review. { 'braůz ,mōd }

browser [COMPUT SCI] An interactive program (client) that requests, retrieves, and displays pages from the World Wide Web. { 'braůz·ər }

brush [ELEC] A conductive metal or carbon block used to make sliding electrical contact with a moving part. { brəsh }

brush discharge [ELEC] A luminous electric discharge that starts from a conductor when its potential exceeds a certain value but remains too low for the formation of an actual spark. { ¦brəsh ¦dis,chärj }

brush encoder [ELECTR] An encoder in which brushes that make contact with conductive segments on a rotating or linearly moving surface convert positional information to digitally encoded data. { 'brəsh en'kōd·ər }

brush holder [ELEC] A structure in which a brush can slide in a direction perpendicular to the moving surface of a motor, generator, or other device. { 'brəsh ,hōl·dər }

brush lag [ELEC] The distance that the brushes on a motor are displaced in a direction opposite to the motor's rotation in order to overcome the effect of armature reaction. { 'brəsh ,lag }

brush lead [ELEC] The distance that the brushes on a generator are displaced in the direction of the motor's rotation in order to overcome the effect of armature reaction. { 'brəsh ,lēd }

brush rocker [ELEC] A yoke to which the brush holders in an electrical machine are attached, and which can be moved to adjust the positions of the brushes. Also known as brush rocker ring. { 'brəsh ,rä·kər }

brush rocker ring *See* brush rocker. { 'brəsh ,rä·kər ,riŋ }

brush-shifting motor [ENG] A category of alternating-current motor in which the brush contacts shift to modify operating speed and power factor. { 'brəsh ,shif·tiŋ ,mōd·ər }

brute force attack [COMPUT SCI] An attempt to gain unauthorized access to a computing system by generating and trying all possible passwords. { ¦brüt ¦fȯrs ə'tak }

brute-force filter [ELEC] Type of powerpack filter depending on large values of capacitance and inductance to smooth out pulsations rather than on resonant effects of tuned filters. { ¦brüt ,fȯrs 'fil·tər }

brute-force technique [COMPUT SCI] Any method that relies chiefly on the advanced processing capabilities of a large computer to accomplish a task. { ¦brüt ,fȯrs tek'nēk }

brute supply [ELEC] A type of power supply that is completely unregulated, employing no circuitry to maintain output voltage constant with changing input line or load variations. { ¦brüt sə'plī }

B-scan *See* B-display. { 'bē ,skan }

B-scope *See* B-display. { 'bē ,skōp }

b-spline [COMPUT SCI] A curve that is generated by a computer-graphics program, guided by a mathematical formula which ensures that it will be continuous with other such curves; it is mathematically more complex but easier to blend than a Bézier curve. { 'bē,splīn }

B station [NAV] In loran, the designation applied to one transmitting station of a pair, the signal of which always occurs more than half a repetition period after the succeeding signal and less than half a repetition period before the preceding signal from the other station of the pair, designated an A station. { 'bē ,stā·shən }

B store *See* index register. { 'bē ,stȯr }

B supply [ELECTR] Anode high voltage and screen-grid power source in vacuum tube circuits. Also known as B power supply. { 'bē sə'plī }

B trace [ELECTR] In loran the second trace of an oscilloscope which corresponds to the signal from the B station. { 'bē ,trās }

B-tree *See* balanced-tree. { 'bē ,trē }

B+-tree [COMPUT SCI] A version of the balanced-tree that maintains a hierarchy of indexes while linking the data sequentially. { ¦bē ¦plәs ,trē }

bubble [COMPUT SCI] A circle that represents data in a data flow diagram. { 'bəb·əl }

bubble chart *See* data flow diagram. { 'bəb·əl ,chärt }

bubble memory [COMPUT SCI] A computer memory in which the presence or absence of a magnetic bubble in a localized region of a thin magnetic film designates a 1 or 0; storage capacity can be well over 1 megabit per cubic inch. Also known as magnetic bubble memory. { 'bəb·əl ¦mem·rē }

bubble sort [COMPUT SCI] A procedure for sorting a set of items that begins by sequencing the first and second items, then the second and third, and

so on, until the end of the set is reached, and then repeats this process until all items are correctly sequenced. { 'bəb·əl ˌsȯrt }

Buchholz protective device [ELEC] A protective relay which is attached to an oil-filled tank containing a transformer and which is activated either by gas produced by faults or by oil surges produced by explosive faults in the transformer. Also known as gas bubble protective device. { 'bůkˌhōls prə'tek·tiv di'vīs }

bucket [COMPUT SCI] A name usually reserved for a storage cell in which data may be accumulated. { 'bək·ət }

bucket brigade device [ELECTR] A semiconductor device in which majority carriers store charges that represent information, and minority carriers transfer charges from point to point in sequence. Abbreviated BBD. { 'bək·ət briˌgād di'vīs }

bucking transformer [ELEC] A transformer whose voltage opposes that of a second transformer. { 'bək·iŋ tranz'fȯr·mər }

bucking voltage [ELEC] A voltage having a polarity opposite to that of another voltage against which it acts. { 'bək·iŋ ˌvōl·tij }

buffer [ELEC] An electric circuit or component that prevents undesirable electrical interaction between two circuits or components. [ELECTR] **1.** An isolating circuit in an electronic computer used to prevent the action of a driven circuit from affecting the corresponding driving circuit. **2.** *See* buffer amplifier. { 'bəf·ər }

buffer amplifier [ELECTR] An amplifier used after an oscillator or other critical stage to isolate it from the effects of load impedance variations in subsequent stages. Also known as buffer; buffer stage. { ¦bəf·ər 'am·pləˌfī·ər }

buffer capacitor [ELECTR] A capacitor connected across the secondary of a vibrator transformer or between the anode and cathode of a cold-cathode rectifier tube to suppress voltage surges that might otherwise damage other parts in the circuit. { 'bəf·ər kə'pas·əd·ər }

buffered computer [COMPUT SCI] A computer having a temporary storage device to compensate for differences in transmission speeds. { 'bəf·ərd kəm'pyüd·ər }

buffered device [COMPUT SCI] A piece of peripheral equipment, such as a printer, that is equipped with a buffer storage so that it can accept information more rapidly than it can process it. { 'bəf·ərd di'vīs }

buffered FET logic [ELECTR] A logic gate configuration used with gallium-arsenide field-effect transistors operating in the depletion mode, in which the level shifting required to make the input and output voltage levels compatible is achieved with Schottky barrier diodes. Abbreviated BFL. { 'bəf·ərd ¦ef¦ē¦tē 'läj·ik }

buffered I/O channel [COMPUT SCI] A storage device located between input/output (I/O) channels and main storage control to free the channels for use by other operations. { 'bəf·ərd ¦ī¦ō ˌchan·əl }

buffered terminal [COMPUT SCI] A computer terminal which contains storage equipment so that the rate at which it sends or receives data over its line does not need to agree exactly with the rate at which the data are entered or printed. { 'bəf·ərd 'tər·mən·əl }

buffer element [ELEC] A low-impedance inverting driver circuit. { 'bəf·ər ˌel·ə·mənt }

buffer pooling [COMPUT SCI] A technique for receiving data in an input/output control system in which a number of buffers are available to the system; when a record is produced, a buffer is taken from the pool, used to hold the data, and returned to the pool after data transmission. { 'bəf·ər ˌpül·iŋ }

buffer stage *See* buffer amplifier. { 'bəf·ər ˌstāj }

buffer storage [COMPUT SCI] A synchronizing element used between two different forms of storage in a computer; computation continues while transfers take place between buffer storage and the secondary or internal storage. Also known as buffer. { 'bəf·ər ˌstȯr·ij }

buffer zone [COMPUT SCI] An area of main memory set aside for temporary storage. { 'bəf·ər ˌzōn }

bug [COMPUT SCI] A defect in a program code or in designing a routine or a computer. [ELECTR] **1.** A semiautomatic code-sending telegraph key in which movement of a lever to one side produces a series of correctly spaced dots and movement to the other side produces a single dash. **2.** An electronic listening device, generally concealed, used for commercial or military espionage. [ENG] A defect or imperfection present in a piece of equipment. { bəg }

build [ELECTR] To increase in received signal strength. { bild }

building-out circuit [ELEC] Short section of transmission line, or a network which is shunted across a transmission line, for the purpose of impedance matching. { ¦bil·diŋ ¦aůt 'sər·kət }

building-out network [ELEC] Network designed to be connected to a based network so that the combination will simulate the sending-end impedance, neglecting dissipation, of a line having a termination other than that for which the basic network was designed. { ¦bil·diŋ ¦aůt ˌnet,wərk }

building-out section [ELEC] Short section of transmission line, either open or short-circuited at the far end, shunted across another transmission line for use on an impedance-matching transformer. { ¦bil·diŋ ¦aůt ˌsek·shən }

built-in antenna [ELECTROMAG] An antenna that is located inside the cabinet of a radio or television receiver. { 'bilt,in an'ten·ə }

built-in check [COMPUT SCI] A hardware device which controls the accuracy of data either moved or stored within the computer system. { 'bilt,in 'chek }

built-in function [COMPUT SCI] A function that is available through a simple reference and specification of arguments in a given higher-level programming language. Also known as built-in procedure; intrinsic procedure; standard function. { 'bilt,in 'fəŋk·shən }

built-in pointing device [COMPUT SCI] A trackball or pointing stick that is built into the case of a portable computer and used to move an on-screen pointer. { ¦bilt¸in 'point·iŋ di¸vīs }

built-in procedure *See* built-in function. { 'bilt ¸in prə'sē¦jər }

bulb *See* envelope. { bəlb }

bulk-acoustic-wave delay line [ELECTR] A delay line in which the delay is determined by the distance traveled by a bulk acoustic wave between input and output transducers mounted on a piezoelectric block. { ¦bəlk ə'kü·stik ¦wāv di'lā ¸līn }

bulk diode [ELECTR] A semiconductor microwave diode that uses the bulk effect, such as Gunn diodes and diodes operating in limited space-charge-accumulation modes. { ¦bəlk 'dī ¸ōd }

bulk effect [ELECTR] An effect that occurs within the entire bulk of a semiconductor material rather than in a localized region or junction. { 'bəlk i'fekt }

bulk-effect device [ELECTR] A semiconductor device that depends on a bulk effect, as in Gunn and avalanche devices. { 'bəlk i'fekt di'vīs }

bulk memory [COMPUT SCI] A high-capacity memory used in connection with a computer for bulk storage of large quantities of data. { ¦bəlk 'mem·rē }

bulk photoconductor [ELECTR] A photoconductor having high power-handling capability and other unique properties that depend on the semiconductor and doping materials used. { ¦bəlk ¦fō·dō·kən¦dək·tər }

bulk resistor [ELECTR] An integrated-circuit resistor in which the *n*-type epitaxial layer of a semiconducting substrate is used as a noncritical high-value resistor; the spacing between the attached terminals and the sheet resistivity of the material together determine the resistance value. { 'bəlk ri'zis·tər }

bulk storage *See* backing storage. { ¦bəlk 'stȯr·ij }

bulletin board [COMPUT SCI] A collection of information that is stored in a computer system and can be accessed either by a specified group of people or the general public, usually by dialing a number on the public telephone system. { 'bůl·ət·ən ¸bȯrd }

bulletin board system [COMPUT SCI] A computer system that enables its users, usually members of a particular interest group, to leave messages and to share information and software. Abbreviated BBS. { 'bůl·ət·ən ¸bȯrd ¸sis·təm }

bump contact [ELECTR] A large-area contact used for alloying directly to the substrate of a transistor for mounting or interconnecting purposes. { 'bəmp ¸kän¸takt }

bunched pair [ELEC] Group of pairs tied together or otherwise associated for identification. { ¦bənchd 'per }

buncher *See* buncher resonator. { 'bən·chər }

buncher resonator [ELECTR] The first or input cavity resonator in a velocity-modulated tube, next to the cathode; here the faster electrons catch up with the slower ones to produce bunches of electrons. Also known as buncher; input resonator. { 'bən·chər ¸rez·ən¸ād·ər }

bunching [ELECTR] The flow of electrons from cathode to anode of a velocity-modulated tube as a succession of electron groups rather than as a continuous stream. { 'bən·chiŋ }

bunching voltage [ELECTR] Radio-frequency voltage between the grids of the buncher resonator in a velocity-modulated tube such as a klystron; generally, the term implies the peak value of this oscillating voltage. { 'bən·chiŋ ¸vōl·tij }

bundled program [COMPUT SCI] A computer program written, maintained, and updated by the computer manufacturer, and included in the price of the hardware. { ¦bənd·əld 'prō·gram }

bundling [COMMUN] The provision of a combination of services, such as cable television and telephone service, over a single communications system. [COMPUT SCI] The provision of hardware and software as a single product or the combination of different software packages for sale as a single unit. { 'bən·dliŋ }

burden [ELEC] The amount of power drawn from the circuit connecting the secondary terminals of an instrument transformer, usually expressed in volt-amperes. { 'bərd·ən }

burglar alarm [ENG] An alarm in which interruption of electric current to a relay, caused, for example, by the breaking of a metallic tape placed at an entrance to a building, deenergizes the relay and causes the relay contacts to operate the alarm indicator. Also known as intrusion alarm. { 'bər·glər ə¦lärm }

buried set-point method [CONT SYS] A procedure for guiding a robot manipulator along a template, in which low-gain servomechanisms apply a force along the edge of the template, while the manipulator's tool is parallel to, and buried below, the template surface. { 'ber·ēd 'set ¸point ¸meth·əd }

burn-in [ELECTR] Operation of electronic components before they are applied in order to stabilize their characteristics and reveal defects. { 'bərn ¸in }

burnout [ELEC] Failure of a device due to excessive heat produced by excessive current. { 'bərn ¸aůt }

burnthrough [ELECTR] **1.** An electronic-protection effort by a radar to overcome the obscuration effect of jamming signals by using the highest energy transmission and longest possible dwell in the direction of the jamming or other direction of specific interest being affected. **2.** *See* jammer finder. { 'bərn¸thrü }

burst [COMMUN] **1.** A sudden increase in the strength of a signal being received from beyond line-of-sight range. **2.** A group of bits of characters that are transmitted together as a unit. **3.** A group of errors that occur together in a communication and alter its content. **4.** *See* color burst. [COMPUT SCI] **1.** To separate a continuous roll of paper into stacks of individual sheets by means of a burster. **2.** The transfer of a collection of records in a storage device, leaving

an interval in which data for other requirements can be obtained from or entered into the device. **3.** A sequence of signals regarded as a unit in data transmission. { bərst }

burst amplifier [COMMUN] An amplifier stage in an analog color television receiver that is keyed into conduction and amplification by a horizontal pulse at the instant of each arrival of the color burst. Also known as chroma band-pass amplifier. { 'bərst ˌam·plə,fī·ər }

burster [COMPUT SCI] An off-line device in a computer system used to separate the continuous roll of paper produced as output from a printer into individual sheets, generally along perforations in the roll. { 'bər·stər }

burst mode [COMPUT SCI] A method of transferring data between a peripheral unit and a control processing unit in a computer system in which the peripheral unit sends the central processor a signal to receive data until the peripheral unit signals that the transfer is completed. { 'bərst ˌmōd }

burst pedestal [COMMUN] Rectangular pulselike analog television signal which may be part of the color burst; the amplitude of the color burst pedestal is measured from the alternating-current axis of the sine-wave portion to the horizontal pedestal. { 'bərst ˌped·ə·stəl }

burst separator [ELECTR] The circuit in a color television receiver that separates the color burst from the composite video signal. { 'bərst sep·ə'rād·ər }

bus [COMPUT SCI] The circuitry and wiring connecting the various components of a computer through which data are transmitted; for example, in a personal computer the system bus interconnects the CPU, memory, and input/output devices. [ELEC] A set of two or more electric conductors that serve as common connections between load circuits and each of the polarities (in direct-current systems) or phases (in alternating-current systems) of the source of electric power. [ELECTR] One or more conductors in a computer along which information is transmitted from any of several sources to any of several destinations. { bəs }

bus architecture [COMPUT SCI] A structure for handling data transmission in a computer system or network, in which components are all linked to a common bus. { 'bəs 'är·kə,tek·chər }

busbar [ELEC] A heavy, rigid metallic conductor, usually uninsulated, used to carry a large current or to make a common connection between several circuits. Also known as bus. { 'bəs,bär }

bus cable [ELECTR] An electrical conductor that can be attached to a bus to extend it outside the computer housing or join it to another bus within the same computer. { 'bəs ˌkā·bəl }

bus cycle [COMPUT SCI] A single transaction between the main memory and the CPU. { 'bəs ˌsī·kəl }

bus duct [ELEC] An enclosed metal unit containing copper or aluminum busbars for distribution of large amounts of power between components of the distribution system. { 'bəs,dəkt }

bus extender [ELECTR] A printed circuit board that can be joined to a bus to increase its capacity. { 'bəs ik,sten·dər }

bushing *See* sleeve. { 'bùsh·iŋ }

bus mouse [COMPUT SCI] A mouse that is plugged into a printed circuit board inserted into the computer's bus. { 'bəs ˌmaùs }

bus network [COMMUN] A communications network whose components are joined together by a single cable. { 'bəs 'net,wərk }

bus reactor [ELEC] An air-core inductor connected between two buses or two sections of the same bus in order to limit the effects of voltage transients on either bus. { 'bəs re'ak·tər }

busway [ELEC] A prefabricated assembly of standard lengths of busbars rigidly supported by solid insulation and enclosed in a sheet-metal housing. { 'bəs,wā }

busy test [COMMUN] A test, in telephony, made to find out whether certain facilities which may be desired, such as a subscriber line or trunk, are available for use. { 'biz·ē ˌtest }

busy tone [COMMUN] Interrupted low tone returned to the subscriber as an indication that the party's line is busy. { 'biz·ē ˌtōn }

Butler oscillator [ELEC] Oscillator in which a piezoelectric crystal is connected between the cathode of two tubes, one functioning as a cathode follower, and the other as a grounded-grid amplifier. { 'bət·lər 'äs·ə,lād·ər }

butt contact [ELEC] A hemispherically shaped contact designed to mate against a similarly shaped contact. { 'bət ˌkän,takt }

butterfly capacitor [ELEC] A variable capacitor having stator and rotor plates shaped like butterfly wings, with the stator plates having an outer ring to provide an inductance so that both capacitance and inductance may be varied, thereby giving a wide tuning range. { 'bəd·ər,flī kə'pas·əd·ər }

butterfly network [COMPUT SCI] A scheme that connects the units of a multiprocessing system and needs n stages to connect 2^n processors; at each stage a switch is thrown, depending on a particular bit in the addresses of the processors being connected. { ¦bəd·ər,flī ¦net,wərk }

Butterworth filter [ELECTR] An electric filter whose pass band (graph of transmission versus frequency) has a maximally flat shape. { 'bəd·ər ˌwərth 'fil·tər }

butt joint [ELEC] A connection formed by placing the ends of two conductors together and joining them by welding, brazing, or soldering. { 'bət ˌjȯint }

button [COMPUT SCI] A small circle or rectangle on a graphical user interface, such that moving the pointer to it and clicking the mouse initiates some action. [ELECTR] **1.** A small, round piece of metal alloyed to the base wafer of an alloy-junction transistor. Also known as dot. **2.** The container that holds the carbon granules of a carbon microphone. Also known as carbon button. { 'bət·ən }

buttonhook contact [ELEC] A curved, hooklike contact often used on feed-through terminals of headers to facilitate soldering or unsoldering of leads. { 'bət·ən,hůk 'kän,takt }

buzz [CONT SYS] *See* dither. [ELECTR] The condition of a combinatorial circuit with feedback that has undergone a transition, caused by the inputs, from an unstable state to a new state that is also unstable. { bəz }

BWO *See* backward-wave oscillator.

BX cable [ELEC] Insulated wires in flexible metal tubing used for bringing electric power to electronic equipment. { ¦bē¦eks ¦kā·bəl }

bypass [COMMUN] The use of alternative systems, such as satellite and microwave, to transmit data and voice signals, avoiding use of the communication lines of the local telephone company. [ELEC] A shunt path around some element or elements of a circuit. { 'bī ,pas }

bypass capacitor [ELEC] A capacitor connected to provide a low-impedance path for radio-frequency or audio-frequency currents around a circuit element. Also known as bypass condenser. { 'bī,pas kə'pas·əd·ər }

bypass condenser *See* bypass capacitor. { 'bī ,pas kən'den·sər }

bypass filter [ELECTR] Filter which provides a low-attenuation path around some other equipment, such as a carrier frequency filter used to bypass a physical telephone repeater station. { 'bī,pas ,fil·tər }

byte [COMPUT SCI] A sequence of adjacent binary digits operated upon as a unit in a computer and usually shorter than a word. { bīt }

byte addressable computer [COMPUT SCI] A computer in which each byte of memory can be addressed independently of the others. { ¦bīt ə¦dres·ə·bəl kəm'pyüd·ər }

byte-aligned [COMMUN] A bit in a coded bit stream is byte-aligned if its position is a multiple of 8 bits from the first bit in the stream. { 'bīt ə'līnd }

bytecode [COMPUT SCI] Compiled Java programs that can be transferred across a network and executed by the Java virtual machine. { 'bīt,kōd }

byte mode [COMPUT SCI] A method of transferring data between a peripheral unit and a central processor in which one byte is transferred at a time. { bīt ,mōd }

byte multiplexor channel [COMPUT SCI] A transmission channel in a computer system that can transmit data simultaneously from several devices and only one byte at a time. { 'bīt 'məlt·i ,plek·sər ,chan·əl }

byte-oriented protocol [COMPUT SCI] A communications protocol in which full bytes are used as control codes. Also known as character-oriented protocol. { ¦bīt ,ȯr·ē,ent·əd 'prōd·ə,kȯl }

C

C [COMPUT SCI] A programming language designed to implement the Unix operating system. [ELEC] *See* capacitance; capacitor; coulomb.

C++ [COMPUT SCI] An object-oriented language that was created as an extension to the C language. { 'sē,pləs,pləs }

cable [ELEC] Strands of insulated electrical conductors laid together, usually around a central core, and surrounded by a heavy insulation. { 'kā·bəl }

cable-and-trunk schematic [ELEC] A drawing which shows, in block form, the interconnection between all major electric circuits in an office. { ¦kā·bəl ən 'trəŋk skə'mad·ik }

cable armor [ELEC] One or more layers of extra-strength material, such as steel wire or tape, to reinforce the usual lead wall in cable construction. { 'kā·bəl ,är·mər }

cable bridge [ELEC] A rubber tube that encloses cables running over a floor or other surface. { 'kā·bəl ,brij }

cable code *See* Morse cable code. { 'kā·bəl ,kōd }

cable complement [ELEC] Group of wire pairs in a cable having some common distinguishing characteristic. { 'kā·bəl ,käm·plə·mənt }

cable delay [COMPUT SCI] The time required for one bit of data to go through a cable, about 1.5 nanoseconds per foot of cable. { 'kā·bəl di'lā }

cable fill [ELEC] Ratio of the number of wire pairs in use to the total number of pairs in a cable. { 'kā·bəl ,fil }

cable matcher *See* gender changer. { 'kā·bəl ,mach·ər }

cable messenger [ELEC] Stranded group of wires supported above the ground at intervals by poles or other structures and employed to furnish, within these intervals, frequent points of support for conductors or cables. { 'kā·bəl ,mes·ən·jər }

cable modem [ELEC] A device that converts the signals used in a computer to signals that can be transmitted over cable television networks, and vice versa. { ¦kā·bəl ¦mō,dem }

cable noise [ELECTR] Electrical noise that is picked up by the conductors in a cable. { 'kā·bəl ,nȯiz }

cable run [ELEC] Path occupied by a cable on cable racks or other support from one termination to another. { 'kā·bəl ,rən }

cable running list [ELEC] Drawing showing the code of cable, terminations, circuit names, and numbering of cables appearing in an office. { 'kā·bəl ¦rən·iŋ ,list }

cable shield [ELEC] A metallic layer applied over insulation covering a cable, composed of woven or braided wires, foil wrap, or metal tube, which acts to prevent electromagnetic or electrostatic interference from affecting conductors within. { 'kā·bəl ,shēld }

cable television [COMMUN] A television program distribution system in which signals from all local stations and usually a number of distant stations and program services are picked up by one or more high-gain antennas amplified on individual channels, then fed directly to individual receivers of subscribers by overhead or underground coaxial cable. Also known as community antenna television (CATV). { 'kā·bəl 'tel·ə,vizh·ən }

cabletext [COMMUN] Any videotex service that uses coaxial cable. { 'kā·bəl,tekst }

cable trough [ELEC] An enclosed channel, usually beneath a floor, that provides a path for cables. { 'kā·bəl ,trȯf }

cable vault [ELEC] Vault in which the outside plant cables are spliced to the tipping cables. { 'kā·bəl ,vȯlt }

cache [COMPUT SCI] A small, fast storage buffer integrated in the central processing unit of some large computers. { kash }

CAD *See* computer-aided design. { kad }

CADD *See* computer-aided design and drafting. { kad }

caddy [COMPUT SCI] In certain types of disk drives, a plastic tray in which a CD-ROM disk is placed before loading. { 'kad·ē }

cadmium cell [ELEC] A standard cell used as a voltage reference; at 20°C its voltage is 1.0186 volts. { 'kad·mē·əm ,sel }

cadmium lamp [ELEC] A lamp containing cadmium vapor; wavelength (6438.4696 international angstroms, or 643.84696 nanometers) of light emitted is a standard of length. { 'kad·mē·əm ,lamp }

cadmium-nickel storage cell *See* nickel-cadmium battery. { ¦kad·mē·əm ¦nik·əl 'stȯr·ij ,sel }

cadmium selenide cell [ELECTR] A photoconductive cell that uses cadmium selenide as the semiconductor material and has a fast response

time and high sensitivity to longer wavelengths of light. { 'kad·mē·əm 'sel·ə,nīd ,sel }

cadmium silver oxide cell [ELEC] An alkaline-electrolyte cell that may be used without recharging in primary batteries or that may be recharged for secondary-battery use. { 'kad·mē·əm 'sil·vər 'äk,sīd ,sel }

cadmium sulfide cell [ELECTR] A photoconductive cell in which a small wafer of cadmium sulfide provides an extremely high dark-light resistance ratio. { 'kad·mē·əm 'səl,fīd ,sel }

cadmium telluride detector [ELECTR] A photoconductive cell capable of operating continuously at ambient temperatures up to 750°F (400°C), used in solar cells and infrared, nuclear-radiation, and gamma-ray detectors. { 'kad·mē·əm 'tel·yə,rīd di'tek·tər }

cadmium yellow *See* cadmium sulfide. { 'kad·mē·əm 'yel·ō }

cage antenna [ELECTROMAG] Broad-band dipole antenna in which each pole consists of a cage of wires whose overall shape resembles that of a cylinder or a cone. { 'kāj an'ten·ə }

CAI *See* computer-assisted instruction.

CAL [COMPUT SCI] A higher-level language, developed especially for time-sharing purposes, in which a user at a remote console typewriter is directly connected to the computer and can work out problems on-line with considerable help from the computer. Derived from Conversational Algebraic Language. { kal }

calculated address *See* generated address. { 'kal·kyə,lād·əd 'ad,res }

calculating machine *See* calculator. { 'kal·kyə ,lād·iŋ mə'shēn }

calculator [COMPUT SCI] A device that performs logic and arithmetic digital operations based on numerical data which are entered by pressing numerical and control keys. Also known as calculating machine. { 'kal·kyə,lād·ər }

calculus of enlargement *See* calculus of finite differences. { 'kal·kyə·ləs əv in'lärj·mənt }

calculus of finite differences [MATH] A method of interpolation that makes use of formal relations between difference operators which are, in turn, defined in terms of the values of a function on a set of equally spaced points. Also known as calculus of enlargement. { 'kal·kyə·ləs əv 'fī,nīt 'dif·rən·səs }

calibration curve [ENG] A plot of calibration data, giving the correct value for each indicated reading of a meter or control dial. { 'kal·ə,brā·shən ,kərv }

calibration markers [ENG] On a radar display, electronically generated marks which provide numerical values for the navigational parameters such as bearing, distance, height, or time. { 'kal·ə,brā·shən ,mär·kərz }

call [COMPUT SCI] **1.** To transfer control to a specified closed subroutine. **2.** A statement in a computer program that references a closed subroutine or program. { kȯl }

call announcer [ELECTR] Device for receiving pulses from an automatic telephone office and audibly reproducing the corresponding number in words, so that it may be heard by a manual operator. { 'kȯl ə'naún·sər }

call by location [COMPUT SCI] A method of transferring arguments from a calling program to a subprogram in which the referencing program provides to the subprogram the memory location at which the value of the argument can be found, rather than the value itself. Also known as call by reference. { 'kȯl bī ,lō'kā·shən }

call by name [COMPUT SCI] A method of transferring arguments from a calling program to a subprogram in which the actual expression is passed to the subprogram. { 'kȯl bī 'nām }

call by reference *See* call by location. { 'kȯl bī 'ref·rəns }

call by value [COMPUT SCI] A method of transferring arguments from a calling program to a subprogram in which the subprogram is provided with the values of the argument and on path leads back to the referencing program. { 'kȯl bī 'val·yü }

call circuit [ELEC] Communications circuit between switching points used by traffic forces for transmitting switching instructions. { 'kȯl ,sər·kət }

called routine [COMPUT SCI] A subroutine that is accessed by a call or branch instruction in a computer program. { 'kȯld rü,tēn }

call forwarding [COMMUN] A telephone service that automatically transfers incoming calls to a designated number. { 'kȯl 'fȯr·wərd·iŋ }

call in [COMPUT SCI] To transfer control of a digital computer, temporarily, from a main routine to a subroutine that is inserted in the sequence of calculating operations, to fulfill an ancillary purpose. { 'kȯl ,in }

call indicator [ELECTR] Device for receiving pulses from an automatic switching system and displaying the corresponding called number before an operator at a manual switchboard. { 'kȯl 'in·də,kād·ər }

calling device [ELECTR] Apparatus which generates signals, either dual-tone multifrequency (DTMF) or the pulse required for establishing connections in an automatic telephone switching system. { 'kȯl·iŋ di'vīs }

calling program [COMPUT SCI] A computer program that initiates a call to another program. { 'kȯl·iŋ ,prō·grəm }

calling routine [COMPUT SCI] A subroutine that initiates a call to another subroutine. { 'kȯl·iŋ rü,tēn }

calling sequence [COMPUT SCI] A specific set of instructions to set up and call a given subroutine, make available the data required by it, and tell the computer where to return after the subroutine is executed. { 'kȯl·iŋ ,sē·kwəns }

call letters [COMMUN] Identifying letters, sometimes including numerals, assigned to radio and television stations by the Federal Communications Commission and other regulatory authorities throughout the world. Also known as call sign. { 'kȯl ,led·ərz }

call number [COMPUT SCI] In computer operations, a set of characters identifying a subroutine.

and containing information concerning parameters to be inserted in the subroutine, or information to be used in generating the subroutine, or information related to the operands. { 'kól ˌnam·bər }

call setup time [COMMUN] The period of time between the lifting of a handset to make a telephone call and the start of voice or data transmission. { 'kól 'sedˌəp ˌtīm }

call sign *See* call letters. { 'kól ˌsīn }

call up [COMPUT SCI] To retrieve data from computer memory, especially for display and user interaction. { 'kól ˌəp }

Calzecchi-Onesti effect [ELEC] A change in the conductivity of a loosely aggregated metallic powder caused by an applied electric field. { ˌkält'se·kē ˌō'nes·tē i'fekt }

CAM *See* computer-aided manufacturing. { ¦sē ¦ā'em *or* kam }

camcorder [ELECTR] A one-piece hand-held television camera with built-in videocassette recorder, microphone, and battery pack, utilizing a charge-coupled device array as its light-sensitive element. { 'kamˌcórd·ər }

camera *See* television camera. { 'kam·rə }

camera cable [ELEC] Cable or group of wires that carries the picture from the television camera to the control room. { 'kam·rə ˌkā·bəl }

camera chain [COMMUN] A television camera, associated amplifiers, a monitor, and the cable needed to bring the camera output signal to the control room. { 'kam·rə 'chān }

camera tube [ELECTR] An electron-beam tube used in a television camera to convert an optical image into a corresponding charge-density electric image and to scan the resulting electric image in a predetermined sequence to provide an equivalent electric signal. Also known as pickup tube; television camera tube. { 'kam·rə ˌtüb }

Campbell bridge [ELEC] **1.** A bridge designed for comparison of mutual inductances. **2.** A circuit for measuring frequencies by adjusting a mutual inductance, until the current across a detector is zero. { 'kam·əl ˌbrij }

camp-on system [COMMUN] A circuit control feature whereby a user attempting to establish a telephone call and encountering a busy station will hold the connection for a preset time, to the exclusion of other callers, in case the original conversation should terminate. { 'kamp ¦ón ˌsis·təm }

canceler [ELECTR] A circuit used in providing moving-target indication in radar, in which small sets of successive pulses are compared such that invariant returns, presumed indicative of stationary objects, are cancelled and ignored; a primitive form of Doppler processing. Usually cited as a "two-pulse" or "threee-pulse canceler," for example. { 'kan·səl·ər }

cancellation circuit [ELECTR] A circuit used in providing moving-target indication on a plan position indicator scope; cancels constant-amplitude fixed-target pulses by subtraction of successive pulse trains. { kan·sə'lā·shən ˌsər·kət }

canned cycle [COMPUT SCI] Any set of operations, either software or hardware, that is activated by a single command. { 'kand 'sī·kəl }

canned program [COMPUT SCI] A program which has been written to solve a particular problem, is available to users of a computer system, and is usually fixed in form and capable of little or no modification. { ¦kand 'prō·grəm }

canonical form [CONT SYS] A specific type of dynamical system representation in which the associated matrices possess specific row-column structures. { kə'nän·ə·kəl ˌfȯrm }

canonical schema [COMPUT SCI] A model that represents the structure and interrelationships of data within a database. { kə'nän·ə·kəl 'skē·mə }

capability [COMPUT SCI] A permission that is given to a user of a computing system in advance to access a particular object in the system in a particular way, and that the user can later present to a reference monitor as a prevalidated ticket to gain access. { ˌkāp·ə'bil·ə·dē }

capability list [COMPUT SCI] A row of an access matrix that contains the access rights of a given user to various files and other resources of a computer system. { ˌkā·pə'bil·əd·ē ˌlist }

capacitance [ELEC] The ratio of the charge on one of the conductors of a capacitor (there being an equal and opposite charge on the other conductor) to the potential difference between the conductors. Symbolized C. Formerly known as capacity. { kə'pas·ə·təns }

capacitance altimeter [ENG] An absolute altimeter which determines height of an aircraft above-ground by measuring the variations in capacitance between two conductors on the aircraft when the ground is near enough to act as a third conductor. { kə'pas·ə·təns al'tim·əd·ər }

capacitance box [ELEC] An assembly of capacitors and switches which permits adjustment of the capacitance existing at the terminals in nominally uniform steps, from a minimum value near zero to the maximum which exists when all the capacitors are connected in parallel. { kə'pas·ə·təns ˌbäks }

capacitance bridge [ELEC] A bridge for comparing two capacitances, such as a Schering bridge. { kə'pas·ə·təns ˌbrij }

capacitance hat [ELECTROMAG] A network of wires that is placed at the top of an antenna either to increase its bandwidth or to lower its resonant frequency. { kə'pas·əd·əns ˌhat }

capacitance level indicator [ENG] A level indicator in which the material being monitored serves as the dielectric of a capacitor formed by a metal tank and an insulated electrode mounted vertically in the tank. { kə'pas·ə·təns ¦lev·əl 'in·dəˌkād·ər }

capacitance meter [ENG] An instrument used to measure capacitance values of capacitors or of circuits containing capacitance. { kə'pas·ə·təns ˌmēd·ər }

capacitance-operated intrusion detector [ENG] A boundary alarm system in which the approach of an intruder to an antenna wire encircling the

protected area a few feet above ground changes the antenna-ground capacitance and sets off the alarm. { kə'pas·ə·təns ¦aəp·ə,rād·əd in'trü·zhən di'tek·tər }

capacitance relay [ELECTR] An electronic relay that responds to a small change in capacitance, such as that created by bringing a hand near a pickup wire or plate. { kə'pas·ə·təns 'rē,lā }

capacitance standard *See* standard capacitor. { kə'pas·ə·təns ,stan·dərd }

capacitive coupling [ELEC] Use of a capacitor to transfer energy from one circuit to another. { kə'pas·ə·tɔns ,kəp·liŋ }

capacitive diaphragm [ELECTROMAG] A resonant window used in a waveguide to provide the equivalent of capacitive reactance at the frequency being transmitted. { kə'pas·əd·iv 'dī·ə,fram }

capacitive-discharge ignition [ELECTR] An automotive ignition system in which energy is stored in a capacitor and discharged across the gap of a spark plug through a step-up pulse transformer and distributor each time a silicon controlled rectifier is triggered. { kə¦pas·əd·iv ¦dis,chärj ig ¦nish·ən }

capacitive-discharge pilot light [ELECTR] An electronic ignition system, operating off an alternating-current power line or battery power supply, that produces a spark for lighting a gas flame. { kə¦pas·əd·iv ¦dis,chärj 'pī·lət ,līt }

capacitive divider [ELEC] Two or more capacitors placed in series across a source, making available a portion of the source voltage across each capacitor; the voltage across each capacitor will be inversely proportional to its capacitance. { kə¦pas·əd·iv di'vīd·ər }

capacitive electrometer [ENG] An instrument for measuring small voltages; the voltage is applied to the plates of a capacitor when they are close together, then the voltage source is removed and the plates are separated, increasing the potential difference between them to a measurable value. Also known as condensing electrometer. { kə¦pas·əd·iv ,i,lek'träm·əd·ər }

capacitive feedback [ELECTR] Process of returning part of the energy in the plate (or output) circuit of a vacuum tube (or other device) to the grid (or input) circuit by means of a capacitance common to both circuits. { kə¦pas·əd·iv 'fēd ,bak }

capacitive loading [ELECTROMAG] **1.** Raising the resonant frequency of an antenna by connecting a fixed capacitor or capacitors in series with it. **2.** Lowering the resonant frequency of an antenna by installing a capacitance hat. { kə'pas·əd·iv 'lōd·iŋ }

capacitive post [ELECTROMAG] Metal post or screw extending across a waveguide at right angles to the E field, to provide capacitive susceptance in parallel with the waveguide for tuning or matching purposes. { kə¦pas·əd·iv ¦pōst }

capacitive pressure transducer [ENG] A measurement device in which variations in pressure upon a capacitive element proportionately change the element's capacitive rating and thus the strength of the measured electric signal from the device. { kə¦pas·əd·iv 'presh·ər tranz ,dü·sər }

capacitive reactance [ELECTROMAG] Reactance due to the capacitance of a capacitor or circuit, equal to the inverse of the product of the capacitance and the angular frequency. { kə ¦pas·əd·iv rē'ak·təns }

capacitive tuning [ELECTR] Tuning involving use of a variable capacitor. { kə¦pas·əd·iv 'tün·iŋ }

capacitive window [ELECTROMAG] Conducting diaphragm extending into a waveguide from one or both sidewalls, producing the effect of a capacitive susceptance in parallel with the waveguide. { kə¦pas·əd·iv 'win·dō }

capacitor [ELEC] A device which consists essentially of two conductors (such as parallel metal plates) insulated from each other by a dielectric and which introduces capacitance into a circuit, stores electrical energy, blocks the flow of direct current, and permits the flow of alternating current to a degree dependent on the capacitor's capacitance and the current frequency. Symbolized C. Also known as condenser; electric condenser. { kə'pas·əd·ər }

capacitor antenna [ELECTROMAG] Antenna consisting of two conductors or systems of conductors, the essential characteristic of which is its capacitance. Also known as condenser antenna. { kə'pas·əd·ər an'ten·ə }

capacitor bank [ELEC] A number of capacitors connected in series or in parallel. { kə'pas·əd·ər ,baŋk }

capacitor box [ELECTR] A box-shaped structure in which a capacitor is submerged in a heat-absorbing medium, usually water. Also known as condenser box. { kə'pas·əd·ər ,bäks }

capacitor color code [ELEC] A method of marking the value on a capacitor by means of dots or bands of colors as specified in the Electronic Industry Association color code. { kə'pas·əd·ər 'kəl·ər ,kōd }

capacitor-input filter [ELECTR] A power-supply filter in which a shunt capacitor is the first element after the rectifier. { kə'pas·əd·ər ¦in,pùt ,fil·tər }

capacitor loudspeaker *See* electrostatic loudspeaker. { kə'pas·əd·ər 'laud,spēk·ər }

capacitor microphone [ENG ACOUS] A microphone consisting essentially of a flexible metal diaphragm and a rigid metal plate that together form a two-plate air capacitor; sound waves set the diaphragm in vibration, producing capacitance variations that are converted into audio-frequency signals by a suitable amplifier circuit. Also known as condenser microphone; electrostatic microphone. { kə'pas·əd·ər 'mī·krə,fōn }

capacitor motor [ELEC] A single-phase induction motor having a main winding connected directly to a source of alternating-current power and an auxiliary winding connected in series with a capacitor to the source of ac power. *See* capacitor-start motor. { kə'pas·əd·ər ,mōd·ər }

capacitor-resistor unit *See* rescap. { kə'pas·əd·ər ri'zis·tər ,yü·nət }

capacitor-start motor [ELEC] A capacitor motor in which the capacitor is in the circuit only during the starting period; the capacitor and its auxiliary winding are disconnected automatically by a centrifugal switch or other device when the motor reaches a predetermined speed. Also known as capacitor motor. { kə'pas·əd·ər ˌstärt ˌmōd·ər }

capacitor start-run motor See permanent-split capacitor motor. { kə'pas·əd·ər ˌstärt ˌrən ˌmōd·ər }

capacity See capacitance; storage capacity. { kə'pas·əd·ē }

capacity cell [ELEC] **1.** Capacitance-type device used to measure the dielectric constants of gases, liquids, or solids. **2.** Capacitance-type device used to monitor certain composition changes in flowing streams. { kə'pas·əd·ē ˌsel }

capacity-rate product [COMMUN] The product of the capacity of a data-storage device in gigabytes and the data rate in megabits per second. { kə'pas·ə·dē ˌrāt ˌprād·əkt }

capristor See rescap. { kə'pris·tər }

capstan [ENG] A shaft which pulls magnetic tape through a machine at constant speed. { 'kap·stən }

capture effect [ELECTR] The effect wherein a strong frequency-modulation signal in an FM receiver completely suppresses a weaker signal on the same or nearly the same frequency. { 'kap·chər i'fekt }

capture ratio [COMMUN] A measure of the ability of a frequency-modulation tuner to reject the weaker of two stations that are on the same frequency; the lower the ratio of desired to undesired signals, the better the performance of the tuner. { 'kap·chər ˌrā·shō }

CAR See computer-assisted retrieval. { kär }

carbon arc [ELEC] An electric arc between two electrodes, at least one of which is made of carbon; used in welding and high-intensity lamps, such as in searchlights and photography lamps. { ¦kär·bən ¦ärk }

carbon-arc lamp [ELEC] An arc lamp in which an electric current flows between two electrodes of pure carbon, with incandescence at one or both electrodes and some light from the luminescence of the arc. { ¦kär·bən ¦ärk 'lamp }

carbon brush [ELEC] A rod made of carbon that bears against a commutator, collector ring, or slip ring to provide passage for the electric current from a dynamo through an outside circuit or for an external current through a motor. { ¦kär·bən ¦brəsh }

carbon button See button. { ¦kär·bən ¦bət·ən }

carbon-film hygrometer element [ELEC] An electrical hygrometer element constructed of a plastic strip coated with a film of carbon black dispersed in a hygroscopic binder; variations in atmospheric moisture content vary the volume of the binder and thus change the resistance of the carbon coating. { 'kär·bən ˌfilm hī'gräm·əd·ər ˌel·ə·mənt }

carbon-film resistor [ELEC] A resistor made by depositing a thin carbon film on a ceramic form. { 'kär·bən ˌfilm ri'zis·tər }

carbon lamp [ELEC] An arc lamp with carbon electrodes. { 'kär·bən ˌlamp }

carbon microphone [ENG ACOUS] A microphone in which a flexible diaphragm moves in response to sound waves and applies a varying pressure to a container filled with carbon granules, causing the resistance of the microphone to vary correspondingly. { ¦kär·bən 'mī·krəˌfōn }

carbon pile [ELEC] A variable resistor consisting of a stack of carbon disks mounted between a fixed metal plate and a movable one that serve as the terminals of the resistor; the resistance value is reduced by applying pressure to the movable plate. { 'kär·bən ˌpīl }

carbon-pile pressure transducer [ENG] A measurement device in which variations in pressure upon a conductive carbon core proportionately change the core's electrical resistance, and thus the strength of the measured electric signal from the device. { 'kär·bən ˌpīl 'presh·ər tranz ˌdü·sər }

carbon resistor [ELECTR] A resistor consisting of carbon particles mixed with a binder, molded into a cylindrical shape, and baked; terminal leads are attached to opposite ends. Also known as composition resistor. { 'kär·bən ri'zis·tər }

carbon transducer [ENG] A transducer consisting of carbon granules in contact with a fixed electrode and a movable electrode, so that motion of the movable electrode varies the resistance of the granules. { 'kär·bən tranz'dü·sər }

carcinotron See backward-wave oscillator. { 'kärs·ən·əˌträn }

card [COMPUT SCI] See punch card. [ELECTR] A printed circuit board or other arrangement of miniaturized components that can be plugged into a computer or peripheral device. { kärd }

card cage [ELECTR] A rack built into a computer to hold printed circuit boards and allow them to be installed or removed easily. { 'kärd ˌkāj }

card dialer [COMMUN] A telephone in which a number can be dialed automatically and almost instantly by inserting a coded card for that number in a slot on the dialer; now obsolete, having been replaced by automatic dialers using electronic memory. { 'kärd ˌdī·lər }

card-edge connector [ELEC] A connector that mates with printed-wiring leads running to the edge of a printed circuit board on one or both sides. Also known as edgeboard connector. { 'kärd ˌej kə'nek·tər }

card holder [ELECTR] A U-shaped slot designed to hold the edge of a printed circuit board securely in a card cage. { 'kärd ˌhōl·dər }

cardinal point effect [ELECTR] The increased intensity of a line or group of returns on the radarscope occurring when the radar beam is perpendicular to the rectangular surface of a line or group of similarly aligned features in the ground pattern. { 'kärd·nəl ¦point i'fekt }

cardioid microphone [ENG ACOUS] A microphone having a heart-shaped, or cardioid, response pattern, so it has nearly uniform response for a range of about 180° in one direction and

minimum response in the opposite direction. { 'kärd·ē,ȯid 'mī·krə,fōn }

cardioid pattern [ENG] Heart-shaped pattern obtained as the response or radiation characteristic of certain directional antennas, or as the response characteristic of certain types of microphones. { 'kärd·ē,ȯid ,pad·ərn }

card key access [ENG] A physical security system in which doors are unlocked by placing a badge that contains magnetically coded information in proximity to a reading device; some systems also require the typing of this information on a keyboard. { 'kärd ,kē 'ak,ses }

card slot [ELECTR] A groove where a printed circuit board fits into a card cage or backplane. { 'kärd ,slät }

carriage return [COMPUT SCI] The operation that causes the next character to be printed at the extreme left margin, and usually advances to the next line at the same time. { 'kar·ij ri'tərn }

carrier [COMMUN] **1.** The radio wave produced by a transmitter when there is no modulating signal, or any other wave, recurring series of pulses, or direct current capable of being modulated. Also known as carrier wave; signal carrier. **2.** A wave generated locally at a receiver that, when combined with the sidebands of a suppressed-carrier transmission in a suitable detector, produces the modulating wave. **3.** *See* carrier system. [SOLID STATE] *See* charge carrier. { 'kar·ē·ər }

carrier amplifier [ELECTR] A direct-current amplifier in which the dc input signal is filtered by a low-pass filter, then used to modulate a carrier so it can be amplified conventionally as an alternating-current signal; the amplified dc output is obtained by rectifying and filtering the rectified carrier signal. { 'kar·ē·ər ,am·plə,fī·ər }

carrier amplitude regulation [COMMUN] Change in amplitude of the carrier wave in an amplitude-modulated transmitter when modulation is applied under conditions of symmetrical modulation. { 'kar·ē·ər 'am·plə,tüd reg·yə'lā·shən }

carrier beat [COMMUN] An undesirable heterodyne of facsimile signals, each synchronous with a different stable reference oscillator, causing a pattern in received copy. { 'kar·ē·ər ,bēt }

carrier channel [COMMUN] The equipment and lines that make up a complete carrier-current circuit between two or more points. { 'kar·ē·ər ,chan·əl }

carrier chrominance signal *See* chrominance signal. { 'kar·ē·ər 'krō·mə·nəns ,sig·nəl }

carrier current [COMMUN] A higher-frequency alternating current superimposed on ordinary telephone, telegraph, and power-line frequencies for communication and control purposes. { 'kar·ē·ər ,kər·ənt }

carrier detect [COMPUT SCI] A signal sent by a modem to a computer or a terminal to indicate that it is receiving a character. { 'kar·ē·ər di ,tekt }

carrier frequency [COMMUN] The frequency generated by an unmodulated radio, radar, carrier communication, or other transmitter, or the average frequency of the emitted wave when modulated by a symmetrical signal. Also known as center frequency; resting frequency. { 'kar·ē·ər ,frē·kwən·sē }

carrier leak [COMMUN] Carrier remaining after carrier suppression in a suppressed-carrier transmission system. { 'kar·ē·ər ,lēk }

carrier level [COMMUN] The strength or level of an unmodulated carrier signal at a particular point in a radio system, expressed in decibels in relation to some reference level. { 'kar·ē·ər ,lev·əl }

carrier line [ELEC] Any transmission line used for multiple-channel carrier communication. { 'kar·ē·ər ,līn }

carrier loading [ELECTROMAG] The addition of lumped inductances to the cable section of a transmission line specifically designed for carrier transmission; it serves to minimize impedance mismatch between cable and open wire and to reduce the cable attenuation. { 'kar·ē·ər ,lōd·iŋ }

carrier noise [COMMUN] Noise produced by undesired variation of a radio-frequency signal in the absence of any intended modulation. Also known as residual modulation. { 'kar·ē·ər ,nȯiz }

carrier power output rating [COMMUN] Power available at the output terminals of a transmitter when the output terminals are connected to the normal-load circuit or to a circuit equivalent thereto. { 'kar·ē·ər ¦paú·ər 'aút,pút ,rād·iŋ }

carrier repeater [ELECTR] Equipment designed to raise carrier signal levels to such a value that they may traverse a succeeding line section at such amplitude as to preserve an adequate signal-to-noise ratio; while the heart of a repeater is the amplifier, necessary adjuncts are filters, equalizers, level controls, and so on, depending upon the operating methods. { 'kar·ē·ər ri'pēd·ər }

carrier sense multiple access with collision detection *See* CSMA/CD. { 'kar·ē·ər ¦sens 'məl·tə·pəl 'ak,ses with kə'lizh·ən di,tek·shən }

carrier shift [COMMUN] **1.** Transmission of information by radio through shifting the carrier frequency in one direction for a mark signal and in the opposite direction for a spacing signal. **2.** Condition resulting from imperfect modulation whereby the positive and negative excursions of the envelope pattern are unequal, thus effecting a change in the power associated with the carrier. { 'kar·ē·ər ,shift }

carrier signaling [COMMUN] Method by which busy signals, ringing, or dial signaling relays are operated by the transmission of a carrier-frequency tone. { 'kar·ē·ər ,sig·nəl·iŋ }

carrier suppression [COMMUN] **1.** Suppression of the carrier frequency after conventional modulation at the transmitter, with reinsertion of the carrier at the receiving end before demodulation. **2.** Suppression of the carrier when there is no modulation signal to be transmitted; used on ships to reduce interference between transmitters. { 'kar·ē·ər sə'presh·ən }

carrier swing [COMMUN] The total deviation of a frequency-modulated or phase-modulated wave from the lowest instantaneous frequency to the highest instantaneous frequency. { 'kar·ē·ər ˌswiŋ }

carrier system [COMMUN] A system permitting a number of simultaneous, independent communications over the same circuit. Also known as carrier. { 'kar·ē·ər ˌsis·təm }

carrier telegraphy [COMMUN] Telegraphy in which a single-frequency carrier wave is modulated by the transmitting apparatus for transmission over wire lines. { 'kar·ē·ər tə'leg·rə·fē }

carrier telephony [COMMUN] Telephony in which a single-frequency carrier wave is modulated by a voice-frequency signal for transmission over wire lines. { 'kar·ē·ər tə'lef·ə·nē }

carrier terminal [ELECTR] Apparatus at one end of a carrier transmission system, whereby the processes of modulation, demodulation, filtering, amplification, and associated functions are effected. { 'kar·ē·ər ˌtərm·ən·əl }

carrier-to-noise ratio [COMMUN] The ratio of the magnitude of the carrier to that of the noise after specified band limiting and before any nonlinear process such as amplitude limiting and detection. { ˌkar·ē·ər tə ˌnóiz ˌrā·shō }

carrier transfer filters [ELECTR] Filters arranged as a carrier-frequency crossover or bridge between two transmission circuits. { 'kar·ē·ər ˌtranz·fər ˌfil·tərz }

carrier transmission [COMMUN] Transmission in which the transmitted electric wave is a wave resulting from the modulation of a single-frequency wave by a modulating wave. { 'kar·ē·ər tranz'mish·ən }

carrier wave *See* carrier. { 'kar·ē·ər ˌwāv }

carry [MATH] An arithmetic operation that occurs in the course of addition when the sum of the digits in a given position equals or exceeds the base of the number system; a multiple m of the base is subtracted from this sum so that the remainder is less than the base, and the number m is then added to the next-higher-order digit. { 'kar·ē }

carry-complete signal [COMPUT SCI] A signal generated by a digital parallel adder, indicating that all carries from an adding operation have been generated and propagated, and that the addition operation is completed. { ˌkar·ē kəm ˌplēt ˌsig·nəl }

carry flag [COMPUT SCI] A flip-flop circuit which indicates overflow in arithmetic operations. { 'kar·ē ˌflag }

carrying capacity [ELEC] The maximum amount of current or power that can be safely handled by a wire or other component. { 'kar·ē·iŋ kə'pas·əd·ē }

carry lookahead [COMPUT SCI] A circuit which allows low-order carries to ripple through all the way to the highest-order bit to output a completed sum. { 'kar·ē 'lůk·əˌhed }

carry-save adder [COMPUT SCI] A device for the rapid addition of three operands; consists of a sequence of full adders, in which one of the operands is entered in the carry inputs, and the carry outputs, instead of feeding the carry inputs of the following full adders, form a second output word which is then added to the ordinary output in a two-operand adder to form the final sum. { ˌkar·ē ˌsāv 'ad·ər }

carry signal [COMPUT SCI] A signal produced in a computer when the sum of two digits in the same column equals or exceeds the base of the number system in use or when the difference between two digits is less than zero. { 'kar·ē ˌsig·nəl }

carry time [COMPUT SCI] The time needed to transfer all carry digits to the next higher column. { 'kar·ē ˌtīm }

Cartesian-coordinate robot [CONT SYS] A robot having orthogonal, sliding joints and supported by a nonrotary base as the axis. { kär'tē·zhən kō ˌórd·ən·ət 'rōˌbät }

cartridge [COMPUT SCI] A self-contained module that contains disks, magnetic tape, or integrated circuits for storing data. { 'kär·trij }

cartridge disk [COMPUT SCI] A type of disk storage device consisting of a single disk encased in a compact container which can be inserted in and removed from the disk drive unit; used extensively with computer systems. { 'kär·trij ˌdisk }

cartridge font [COMPUT SCI] A font for a computer printer that is stored on a read-only memory chip within a cartridge (a module that is inserted in a slot in the printer). { 'kär·trij ˌfänt }

cartridge fuse [ELEC] A type of electric fuse in which the fusible element is connected between metal ferrules at either end of an insulating tube. { 'kär·trij ˌfyüz }

cartridge lamp [ELEC] A pilot or dial lamp that has a tubular glass envelope with metal-ferrule terminals at each end. { 'kär·trij ˌlamp }

cartridge tape drive [COMPUT SCI] A tape drive which will automatically thread the tape on the takeup reels without human assistance. Formerly known as hypertape drive. { 'kär·trij ˌtāp ˌdrīv }

cascade [COMPUT SCI] A series of actions that take place in the course of data processing, each triggered by the previous action in the series. [ELEC] An electric-power circuit arrangement in which circuit breakers of reduced interrupting ratings are used in the branches, the circuit breakers being assisted in their protection function by other circuit breakers which operate almost instantaneously. Also known as backup arrangement. [ELECTR] *See* avalanche. { ka'skād }

cascade amplifier [ELECTR] A vacuum-tube amplifier containing two or more stages arranged in the conventional series manner. Also known as multistage amplifier. { ka'skād ˌam·pləˌfī·ər }

cascade-amplifier klystron [ELECTR] A klystron having three resonant cavities to provide increased power amplification and output; the extra resonator, located between the input and output resonators, is excited by the bunched beam emerging from the first resonator gap and produces further bunching of the beam. { ka'skād ˌam·pləˌfī·ər 'klīˌsträn }

cascade compensation [CONT SYS] Compensation in which the compensator is placed in series

with the forward transfer function. Also known as series compensation; tandem compensation. { ka'skād käm·pən'sā·shən }

cascade connection [ELECTR] A series connection of amplifier stages, networks, or tuning circuits in which the output of one feeds the input of the next. Also known as tandem connection. { ka'skād kə'nek·shən }

cascade control [CONT SYS] An automatic control system in which various control units are linked in sequence, each control unit regulating the operation of the next control unit in line. { ka'skād kən,trōl }

cascade converter [ELEC] A rotary converter that is powered from the secondary of an induction motor that is connected to the same shaft. { ka'skād kən,vərd·ər }

cascaded [ENG] Of a series of elements or devices, arranged so that the output of one feeds directly into the input of another, as a series of dynodes or a series of airfoils. { ka'skād·əd }

cascaded carry [COMPUT SCI] A carry process in which the addition of two numerals results in a sum numeral and a carry numeral that are in turn added together, this process being repeated until no new carries are generated. { ka'skād·əd 'kar·ē }

cascaded feedback canceler [ELECTR] Sophisticated moving-target-indicator canceler which provides clutter and chaff rejection. Also known as velocity shaped canceler. { ka'skād·əd 'fēd ,bak ,kan·slər }

cascade image tube [ELECTR] An image tube having a number of sections stacked together, the output image of one section serving as the input for the next section; used for light detection at very low levels. { ka'skād 'im·ij ,tüb }

cascade junction [ELECTR] Two *pn* semiconductor junctions in tandem such that the condition of the first governs that of the second. { ka'skād 'jəŋk·shən }

cascade limiter [ELECTR] A limiter circuit that uses two vacuum tubes in series to give improved limiter operation for both weak and strong signals in a frequency-modulation receiver. Also known as double limiter. { ka 'skād 'lim·əd·ər }

cascade mixing [ELEC] A mechanism for ion-beam mixing of a film and a substrate in which the recoil of an atom from a collision with an incident ion initiates a series of secondary collisions among the film and substrate atoms, leading to transfer of atoms from the substrate into the film as well as from the film into the substrate. { ka'skād ,mik·siŋ }

cascade networks [ELEC] Two networks in tandem such that the output of the first feeds the input of the second. { ka'skād 'net,wərks }

cascade noise [ELECTR] The noise in a communications receiver after an input signal has been subjected to two tandem stages of amplification. { ka'skād 'nȯiz }

cascade transformer [ELEC] A source of high voltage that is made up of a collection of step-up transformers; secondary windings are in series, and primary windings, except the first, are supplied from a pair of taps on the secondary winding of the preceding transformer. { ka'skād tranz'fȯr·mər }

cascading [ELEC] An effect in which a failure of an electrical power system causes this system to draw excessive amounts of power from power systems which are interconnected with it, causing them to fail, and these systems cause adjacent systems to fail in a similar manner, and so forth. { ka'skād·iŋ }

cascading menu [COMPUT SCI] A menu that appears next to a pull-down menu as the result of selecting a choice on the latter. { ka,skād·iŋ 'men·yü }

cascading windows [COMPUT SCI] Two or more windows displayed so that they overlap but their title bars are still visible. { ka,skād·iŋ 'win,dōz }

cascode amplifier [ELECTR] An amplifier consisting of a grounded-emitter input stage that drives a grounded-base output stage; advantages include high gain and low noise; widely used in television tuners. { 'ka,skōd 'am·plə,fī·ər }

case [COMPUT SCI] **1.** In computers, a set of data to be used by a particular program. **2.** The metal box that houses a computer's circuit boards, disk drives, and power supply. Also known as system unit. { kās }

CASE *See* computer-aided software engineering. { kās }

case-sensitive language [COMPUT SCI] A programming language in which upper-case letters are distinguished from lower-case letters. { ¦kās ,sens·ə·tiv 'laŋ·gwij }

case structure [COMPUT SCI] A group of program statements in which a condition is tested and, according to the results of the test, one of at least three specific groups of program statements is executed, after which the program returns to the original location. { 'kās ,strək·chər }

Cassegrain antenna [ELECTROMAG] A microwave antenna in which the feed radiator is mounted at or near the surface of the main reflector and aimed at a mirror at the focus; energy from the feed first illuminates the mirror, then spreads outward to illuminate the main reflector. { kas·grən an'ten·ə }

cassette [ENG ACOUS] A small, compact container that holds a magnetic tape and can be readily inserted into a matching tape recorder for recording or playback; the tape passes from one hub within the container to the other hub. { kə'set }

cassette cartridge system [COMPUT SCI] An input system often used in computers; its low cost and ease in mounting often offset its slow access time. { kə'set ,kär·trij ,sis·təm }

cassette memory [COMPUT SCI] A removable magnetic tape cassette that stores computer programs and data. { kə'set 'mem·rē }

catalog [COMPUT SCI] **1.** All the indexes to data sets or files in a system. **2.** The index to all other indexes; the master index. **3.** To add an entry to an index or to build an entire new index. **4.** A list of items in a data storage device, usually

arranged so that a particular kind of information can be located easily. { 'kad·əl,äg }

catalog-order device [ELECTR] A logic circuit element that is readily obtainable from a manufacturer, and can be combined with other such elements to provide a wide variety of logic circuits. { 'kad·əl,äg ¦ôr·dər di'vīs }

catastrophic error [COMPUT SCI] A situation in which so many errors are detected in a computer program that its compilation or execution is automatically terminated. { ˌkad·əˈsträf·ik 'er·ər }

catastrophic failure [ENG] **1.** A sudden failure without warning, as opposed to degradation failure. **2.** A failure whose occurrence can prevent the satisfactory performance of an entire assembly or system. { ˌkad·əˈsträf·ik 'fāl·yər }

catcher [ELECTR] Electrode in a velocity-modulated vacuum tube on which the spaced electron groups induce a signal; the output of the tube is taken from this element. { 'kach·ər }

catching diode [ELECTR] Diode connected to act as a short circuit when its anode becomes positive; the diode then prevents the voltage of a circuit terminal from rising above the diode cathode voltage. { 'kach·iŋ ˌdī,ōd }

categorization [COMPUT SCI] Process of separating multiple addressed messages to form individual messages for singular addresses. { ˌkad·ə·gə·rə'zā·shən }

catena [COMPUT SCI] A series of data items that appears in a chained list. { kə'tē·nə }

catenate [COMPUT SCI] To arrange a collection of items in a chained list or catena. { 'kat·ənˌāt }

cathode [ELEC] The terminal at which current leaves a primary cell or storage battery; it is negative with respect to the device, and positive with respect to the external circuit. [ELECTR] **1.** The primary source of electrons in an electron tube; in directly heated tubes the filament is the cathode, and in indirectly heated tubes a coated metal cathode surrounds a heater. Designated K. Also known as negative electrode. **2.** The terminal of a semiconductor diode that is negative with respect to the other terminal when the diode is biased in the forward direction. { 'kathˌōd }

cathode bias [ELECTR] Bias obtained by placing a resistor in the common cathode return circuit, between cathode and ground; flow of electrode currents through this resistor produces a voltage drop that serves to make the control grid negative with respect to the cathode. { 'kathˌōd ˌbī·əs }

cathode-coupled amplifier [ELECTR] A cascade amplifier in which the coupling between two stages is provided by a common cathode resistor. { ¦kathˌōd ¦kəp·əld 'am·pləˌfī·ər }

cathode coupling [ELECTR] Use of an input or output element in the cathode circuit for coupling energy to another stage. { 'kathˌōd ˌkəp·liŋ }

cathode crater [ELECTR] A depression formed in the surface of a cathode by sputtering. { 'kathˌōd ˌkrād·ər }

cathode dark space [ELECTR] The relatively nonluminous region between the cathode glow and the negative flow in a glow-discharge cold-cathode tube. Also known as Crookes dark space; Hittorf dark space. { 'kathˌōd 'därk ˌspās }

cathode disintegration [ELECTR] The destruction of the active area of a cathode by positive-ion bombardment. { 'kathˌōd dis,int·əˈgrā·shən }

cathode drop [ELECTR] The voltage between the arc stream and the cathode of a glow-discharge tube. Also known as cathode fall. { 'kathˌōd ˌdräp }

cathode emission [ELECTR] A process whereby electrons are emitted from the cathode structure. { 'kathˌōd i'mish·ən }

cathode fall *See* cathode drop. { 'kathˌōd ˌfȯl }

cathode follower [ELECTR] A vacuum-tube circuit in which the input signal is applied between the control grid and ground, and the load is connected between the cathode and ground. Also known as grounded-anode amplifier; grounded-plate amplifier. { 'kathˌōd ˌfäl·ə·wər }

cathode glow [ELECTR] The luminous glow that covers all or part of the cathode in a glow-discharge cold-cathode tube. { 'kathˌōd ˌglō }

cathode interface capacitance [ELECTR] A capacitance which, when connected in parallel with an appropriate resistance, forms an impedance approximately equal to the cathode interface impedance. Also known as layer capacitance. { ¦kathˌōd ¦in·tərˌfās kə'pas·əd·əns }

cathode interface impedance [ELECTR] The impedance between the cathode base and coating in an electron tube, due to a high-resistivity layer or a poor mechanical bond. Also known as layer impedance. { ¦kathˌōd ¦in·tərˌfās im'pēd·əns }

cathode keying [ELECTR] Transmitter keying by means of a key in the cathode lead of the keyed vacuum-tube stage, opening the direct-current circuits for the grid and anode simultaneously. { 'kathˌōd ˌkē·iŋ }

cathode layers [ELECTR] One or more faint layers next to, and on the anode side of, the Aston dark space in a glow-discharge tube. { 'kathˌōd ˌlā·ərz }

cathode modulation [ELECTR] Amplitude modulation accomplished by applying the modulating voltage to the cathode circuit of an electron tube in which the carrier is present. { 'kathˌōd ˌmäj·əˈlā·shən }

cathode ray [ELECTR] A stream of electrons, such as that emitted by a heated filament in a tube, or that emitted by the cathode of a gas-discharge tube when the cathode is bombarded by positive ions. { 'kathˌōd ¦rā }

cathode-ray oscillograph [ELECTR] A cathode-ray oscilloscope in which a photographic or other permanent record is produced by the electron beam of the cathode-ray tube. { 'kathˌōd ¦rā əˈsil·əˌgraf }

cathode-ray oscilloscope [ELECTR] A test instrument that uses a cathode-ray tube to make visible on a fluorescent screen the instantaneous values and waveforms of electrical quantities that are rapidly varying as a function of time or another quantity. Abbreviated CRO. Also known

as oscilloscope; scope. { 'kath,ōd ¦rā ä'sil·ə ,skōp }

cathode-ray storage tube [ELECTR] A storage tube in which the information is written by means of a cathode-ray beam. { 'kath,ōd ¦rā 'stór·ij ,tüb }

cathode-ray tube [ELECTR] An electron tube in which a beam of electrons can be focused to a small area and varied in position and intensity on a surface. Abbreviated CRT. Originally known as Braun tube; also known as electron-ray tube. { 'kath,ōd ¦rā ,tüb }

cathode-ray tuning indicator [ELECTR] A small cathode-ray tube having a fluorescent pattern whose size varies with the voltage applied to the grid; used in radio receivers to indicate accuracy of tuning and as a modulation indicator in some tape recorders. Also known as electric eye; electron-ray indicator; magic eye; tuning eye. { 'kath,ōd ¦rā 'tün·iŋ in·də'kād·ər }

cathode-ray voltmeter [ELEC] An instrument consisting of a cathode-ray tube of known sensitivity, whose deflection can be used to measure voltages. { 'kath,ōd ¦rā 'vōlt,mēd·ər }

cathode resistor [ELECTR] A resistor used in the cathode circuit of a vacuum tube, having a resistance value such that the voltage drop across it due to tube current provides the correct negative grid bias for the tube. { 'kath,ōd ri'zis·tər }

cathode spot [ELECTR] The small cathode area from which an arc appears to originate in a discharge tube. { 'kath,ōd ,spät }

cathode sputtering *See* sputtering. { 'kath,ōd 'spəd·ə·riŋ }

cathodoluminescence [ELECTR] Luminescence produced when high-velocity electrons bombard a metal in vacuum, thus vaporizing small amounts of the metal in an excited state, which amounts emit radiation characteristic of the metal. Also known as electronoluminescence. { ¦kath·ə,dō,lüm·ə'nes·əns }

cathodophosphorescence [ELECTR] Phosphorescence produced when high-velocity electrons bombard a metal in a vacuum. { ¦kath·ə,dō ,fas·fə'res·əns }

CATT *See* controlled avalanche transit-time triode. { kat }

CATV *See* cable television.

catwhisker [ELECTR] A sharply pointed, flexible wire used to make contact with the surface of a semiconductor crystal at a point that provides rectification. { 'kat,wis·kər }

Cauer filter *See* elliptic-integral filter. { 'kaù·ər ,fil·tər }

Cauer form [ELEC] A continued fraction expansion of the impedance used in the network synthesis for a driving point function resulting in a ladder network. { 'kaù·ər ,fòrm }

causal system [CONT SYS] A system whose response to an input does not depend on values of the input at later times. Also known as nonanticipatory system; physical system. { 'kò·zəl ,sis·təm }

cautious control [CONT SYS] A control law for a stochastic adaptive control system which hedges and uses lower gain when the estimates are uncertain. { 'kò·shəs kən'trōl }

cavity *See* cavity resonator. { 'kav·əd·ē }

cavity coupling [ELECTROMAG] The extraction of electromagnetic energy from a resonant cavity, either waveguide or coaxial, using loops, probes, or apertures. { 'kav·əd·ē ,kəp·liŋ }

cavity filter [ELECTROMAG] A microwave filter that uses quarter-wavelength-coupled cavities inserted in waveguides or coaxial lines to provide band-pass or other response characteristics at frequencies in the gigahertz range. { 'kav·əd·ē ,fil·tər }

cavity frequency meter [ENG] A device that employs a cavity resonator to measure microwave frequencies. { 'kav·əd·ē 'frē·kwən·sē ,mēd·ər }

cavity impedance [ELECTR] The impedance of the cavity of a microwave tube which appears across the gap between the cathode and the anode. { 'kav·əd·ē im'pēd·əns }

cavity magnetron [ELECTR] A magnetron having a number of resonant cavities forming the anode; used as a microwave oscillator. { 'kav·əd·ē 'mag·nə,trän }

cavity oscillator [ELECTR] An ultra-high-frequency oscillator whose frequency is controlled by a cavity resonator. { 'kav·əd·ē 'äs·ə,lād·ər }

cavity resonance [ELECTROMAG] The resonant oscillation of the electromagnetic field in a cavity. [ENG ACOUS] The natural resonant vibration of a loudspeaker baffle; if in the audio range, it is evident as unpleasant emphasis of sounds at that frequency. { 'kav·əd·ē 'rez·ən·əns }

cavity resonator [ELECTROMAG] A space totally enclosed by a metallic conductor and excited in such a way that it becomes a source of electromagnetic oscillations. Also known as cavity; microwave cavity; microwave resonance cavity; resonant cavity; resonant chamber; resonant element; rhumbatron; tuned cavity; waveguide resonator. { 'kav·əd·ē 'rez·ən,ād·ər }

cavity tuning [ELECTROMAG] Use of an adjustable cavity resonator as a tuned circuit in an oscillator or amplifier, with tuning usually achieved by moving a metal plunger in or out of the cavity to change the volume, and hence the resonant frequency of the cavity. { 'kav·əd·ē ,tün·iŋ }

cavity-type diode amplifier *See* diode amplifier. { 'kav·əd·ē ,tīp 'dī,ōd ,am·plə,fī·ər }

CAW *See* channel address word.

C band [COMMUN] A band of radio frequencies extending from 4 to 8 gigahertz. { 'sē ,band }

C-band fixed satellite service [COMMUN] Satellite communication at frequencies in and near the C band, with the uplink frequency in a band from 5.85 to 7.075 gigahertz and the downlink frequency in bands from 3.4 to 4.2 gigahertz and 4.5 to 4.8 gigahertz. { 'sē ,band ¦fikst ¦sad·ə,līt ,sər·vəs }

C-band waveguide [ELECTROMAG] A rectangular waveguide, with dimensions 3.48 by 1.58 centimeters, which is used to excite only the dominant mode (TE_{01}) for wavelengths in the

range 3.7–5 | centimeters. { 'sē ,band 'wāv ,gīd }

C battery [ELEC] The battery that supplies the steady bias voltage required by the control-grid electrodes of electron tubes in battery-operated equipment. Also known as grid battery. { 'sē ,bad·ə·rē }

CBC *See* cipher block chaining.

C bias *See* grid bias. { 'sē ,bī·əs }

CBX *See* computerized branch exchange.

CCD *See* charge-coupled device.

CCIS *See* common-channel interoffice signaling.

CCIT 2 code [COMMUN] A printing-telegraph code in which each character is represented by five binary digits. Also known as international telegraph alphabet; International Telegraphic Consultative Committee code 2. { ˌsē,sē,ī,tē'tü ˌkōd }

CCTV *See* closed-circuit television.

CCU *See* communications control unit.

CCW *See* channel command word.

CD *See* compact disk.

CD-4 sound *See* compatible discrete four-channel sound. { ¦sē¦dē 'fōr ˌsaünd }

C-display [ELECTR] A radar display format in which targets appear as spots with azimuth angle as the horizontal axis, and elevation angle as the vertical. Also known as C-indicator; C-scan; C-scope. { 'sē di'splā }

CDM *See* code-division multiplex.

CDMA *See* code-division multiple access.

CD-R [COMMUN] A compact-disk format that allows users to record audio or other digital data in such a way that the recording is permanent (nonerasable) and may be read indefinitely. Derived from compact-disk recordable. Also known as compact-disk write-once (CD-WO).

CD-ROM *See* compact-disk read-only memory. { ¦sē¦dē 'räm }

CD-RW [COMMUN] A compact-disk format that allows audio or other digital data to be written, read, erased, and rewritten. Derived from compact-disk rewritable. Also known as compact-disk erasable.

CDTV *See* conventional definition television.

CD-WO *See* CD-R.

cell [COMPUT SCI] **1.** An elementary unit of data storage. **2.** In a spreadsheet, the intersection of a row and a column. [ELEC] A single unit of a battery. { sel }

cell address [COMPUT SCI] A combination of a letter and a number that specifies the column and row in which a cell is located on a spreadsheet. { 'sel ə,dres }

cellar *See* push-down storage. { 'sel·ər }

cell pointer [COMPUT SCI] A rectangular highlight that indicates the active cell in a spreadsheet program. { 'sel ˌpȯint·ər }

cell protection [COMPUT SCI] A format applied to a cell or range of cells in a spreadsheet, or to the entire spreadsheet, that prevents the contents of the cells in question from being altered. { 'sel prə,tek·shən }

cell reference [COMPUT SCI] The address of a cell that contains a value that is needed to solve a formula in a spreadsheet program. { 'sel ˌref·rəns }

cell-type tube [ELECTR] Gas-filled radio-frequency switching tube which operates in an external resonant circuit; a tuning mechanism may be incorporated in either the external resonant circuit or the tube. { 'sel ˌtīp ˌtüb }

cellular automaton [COMPUT SCI] A theoretical model of a parallel computer which is subject to various restrictions to make practicable the formal investigation of its computing powers. [MATH] A mathematical construction consisting of a system of entities, called cells, whose temporal evolution is governed by a collection of rules, so that its behavior over time may appear highly complex or chaotic. { 'sel·yə·lər ȯ'täm·ə·tən }

cellular chain [COMPUT SCI] A chain which is not allowed to cross a cell boundary. { 'sel·yə·lər 'chān }

cellular horn *See* multicellular horn. { 'sel·yə·lər 'hȯrn }

cellular mobile radio [COMMUN] A system that serves portable and mobile radio receivers in which the service area is subdivided into multiple cells or zones, and unique radio channel frequencies are assigned to each cell. { 'sel·yə·lər 'mō·bəl 'rād·ē·ō }

cellular multilist [COMPUT SCI] A type of multilist organization composed of cellular chains. { 'sel·yə·lər 'məl·ti,list }

cellular splitting [COMPUT SCI] A method of adding records to a file in which the records are grouped into cells and each cell is divided into two when it becomes full. { 'sel·yə·lər 'splid·iŋ }

CELP coder *See* code-excited linear predictive coder. { ¦sē¦ē¦el'pē ˌkōd·ər or 'selp ˌkōd·ər }

center-coupled loop [ELECTR] Coupling loop in the center of one of the resonant cavities of a multicavity magnetron. { 'sen·tər ˌkup·əld 'lüp }

center frequency *See* carrier frequency. { 'sen·tər 'frē·kwən·sē }

centering control [ELECTR] One of the two controls used for positioning the image on the screen of a cathode-ray tube; either the horizontal centering control or the vertical centering control. { 'sen·tə·riŋ kən'trōl }

center line *See* stroke center line. { 'sen·tər ˌlīn }

center loading [ELECTROMAG] Alteration of the resonant frequency of a transmitting antenna by inserting an inductance or capacitance about halfway between the feed point and the end of the antenna. { 'sen·tər 'lōd·iŋ }

center tap [ELEC] A terminal at the electrical midpoint of a resistor, coil, or other device. Abbreviated CT. { 'sen·tər ˌtap }

centimetric waves [COMMUN] Microwaves having wavelengths between 1 and 10 centimeters, corresponding to frequencies between 3 and 30 gigahertz. { ¦sent·ə¦me·trik 'wāvz }

central-battery system [COMMUN] A telephone or telegraph system which obtains all the energy for signaling (and for speaking, in the case of the telephone) from a single battery of secondary cells located at the main exchange. { ¦sen·trəl 'bad·ə·rē ˌsis·təm }

central control [SYS ENG] Control exercised over an extensive and complicated system from a single center. { 'sen·trəl kən'trōl }

centralized configuration *See* star network. { 'sen·trəˌlīzd kənˌfig·yə'rā·shən }

centralized database [COMPUT SCI] A database at a single physical location, usually employed in conjunction with centralized data processing. { 'sen·trəˌlīzd 'dad·əˌbās }

centralized data processing [COMPUT SCI] The processing of all the data concerned with a given activity at one place, usually with fixed equipment within one building. { 'sen·trəˌlīzd 'dad·ə 'präsˌəs·iŋ }

central office [COMMUN] A switching unit, installed in a telephone system serving the general public, having the necessary equipment and operating arrangements for terminating and interconnecting lines and trunks. Also known as telephone central office. { 'sen·trəl 'ȯ·fəs }

central office line *See* subscriber line. { ¦sen·trəl ¦ȯ·fəs ˌlīn }

central processing unit [COMPUT SCI] The part of a computer containing the circuits required to interpret and execute the instructions. Abbreviated CPU. { 'sen·trəl 'präsˌəs·iŋ ˌyü·nət }

central-processing-unit time [COMPUT SCI] The time actually required to process a set of instructions in the logic unit of a computer. { 'sen·trəl 'präsˌes·iŋ ˌyü·nət ˌtīm }

central terminal [COMPUT SCI] A communication device which queues tellers' requests for processing and which channels answers to the consoles originating the transactions. { 'sen·trəl 'tər·mən·əl }

centrifugal cutout [ELEC] A switch that is opened by centrifugal force and is usually closed by a spring when the centrifugal force is reduced. { sen'trif·ə·gəl 'kəd,aůt }

centroid [NAV] In radar, the estimate of a contact's position as a single point, whereas the echoes may have occupied adjacent beam positions and-or range cells on successive pulses; the result of a centroiding algorithm in a radar contact generator. { 'senˌtrȯid }

centroid of asymptotes [CONT SYS] The intersection of asymptotes in a root-locus diagram. { 'senˌtrȯid əv 'asˌəmˌtōd·ēz }

cepstrum vocoder [ENG ACOUS] A digital device for reproducing speech in which samples of the cepstrum of speech, together with pitch information, are transmitted to the receiver, and are then converted into an impulse response that is convolved with an impulse train generated from the pitch information. { 'sep·trəm 'vō ¦kōd·ər }

ceramic amplifier [ELECTR] An amplifier that utilizes the piezoelectric properties of semiconductors such as silicon. { sə'ram·ik 'am·pləˌfī·ər }

ceramic-based microcircuit [ELECTR] A microminiature circuit printed on a ceramic substrate. { sə'ram·ikˌbāst 'mī·krōˌsər·kət }

ceramic capacitor [ELEC] A capacitor whose dielectric is a ceramic material such as steatite or barium titanate, the composition of which can be varied to give a wide range of temperature coefficients. { sə'ram·ik kə'pas·əd·ər }

ceramic cartridge [ENG ACOUS] A device containing a piezoelectric ceramic element, used in phonograph pickups and microphones. { sə'ram·ik 'kär·trij }

ceramic earphones *See* crystal headphones. { sə'ram·ik 'irˌfōnz }

ceramic filter [ELECTR] A type of mechanical filter that uses a series of resonant ceramic disks to obtain a band-pass response. { sə'ram·ik 'fil·tər }

ceramic microphone [ENG ACOUS] A microphone using a ceramic cartridge. { sə'ram·ik 'mī·krəˌfōn }

ceramic pickup [ENG ACOUS] A phonograph pickup using a ceramic cartridge. { sə'ram·ik 'pik·əp }

ceramic transducer *See* electrostriction transducer. { sə'ram·ik tranz'dü·sər }

ceramic tube [ELECTR] An electron tube having a ceramic envelope capable of withstanding operating temperatures over 500°C, as required during reentry of guided missiles. { sə'ram·ik 'tüb }

ceraunograph [ENG] An instrument that detects radio waves generated by lightning discharges and records their occurrence. { sə'rȯn·əˌgraf }

Cerenkov rebatron radiator [ELECTR] Device in which a tightly bunched, velocity-modulated electron beam is passed through a hole in a dielectric; the reaction between the higher velocity of the electrons passing through the hole and the slower velocity of the electromagnetic energy passing through the dielectric results in radiation at some frequency higher than the frequency of modulation of the electron beam. { chə'reŋ·kəf ¦rē·bəˌträn ¦rād·ēˌād·ər }

cermet resistor [ELEC] A metal-glaze resistor, consisting of a mixture of finely powdered precious metals and insulating materials fired onto a ceramic substrate. { 'sərˌmet ri'zis·tər }

certainty equivalence control [CONT SYS] An optimal control law for a stochastic adaptive control system which is obtained by solving the control problem in the case of known parameters and substituting the known parameters with their estimates. { 'sərt·ən·tē i'kwiv·ə·ləns kən'trōl }

certificate [COMMUN] A data record containing an identification, a digital signature from a third party who is believed to be trustworthy, attesting to the authenticity of the identity, and an encryption key which provides a basis for two unknown entities to establish a shared encryption. { sər'tif·i·kət }

cesium-antimonide photocathode [ELECTR] A photocathode obtained by exposing a thin layer of antimony to cesium vapor at elevated temperatures; has a maximum sensitivity in the

blue and ultraviolet regions of the spectrum. { 'sē·zē·əm 'an·tə·mə,nīd ,fōd·ō'kath,ōd }

cesium-beam sputter source [ELECTR] A source of negative ions in which a beam of positive cesium ions, accelerated through a potential difference on 20–30 kilovolts, sputters the cesium-coated inner surface of a hollow cone fabricated from or containing the element whose negative ion is required, and an appreciable fraction of the negative ions leaving the surface are extracted from the rear hole of the sputter cone. { 'sē·zē·əm ,bēm 'spad·ər ,sōrs }

cesium-beam tube *See* cesium electron tube. { 'sē·zē·əm ,bēm ,tüb }

cesium electron tube [ELECTR] An electronic device used as an atomic clock, producing electromagnetic energy that is accurate and stable in frequency. Also known as cesium beam tube. { 'sē·zē·əm i'lek,trän ,tüb }

cesium hollow cathode [ELECTR] A cathode in which cesium is heated at the bottom of a cylinder serving as the cathode of an electron tube, to give current densities that can be as high as 800 amperes per square centimeter. { 'sē·zē·əm ¦häl·ō 'ka,thōd }

cesium magnetometer [ENG] A magnetometer that uses a cesium atomic-beam resonator as a frequency standard in a circuit that detects very small variations in magnetic fields. { 'sē·zē·əm ,mag·nə'täm·əd·ər }

cesium phototube [ELECTR] A phototube having a cesium-coated cathode; maximum sensitivity in the infrared portion of the spectrum. { 'sē·zē·əm 'fōd·ō,tüb }

cesium thermionic converter [ELECTR] A thermionic diode in which cesium vapor is stored between the plates to neutralize space charge and to lower the work function of the emitter. { 'sē·zē·əm thər·mē'än·ik kən'vərd·ər }

cesium-vapor lamp [ELECTR] A lamp in which light is produced by the passage of current between two electrodes in ionized cesium vapor. { 'sē·zē·əm ¦vā·pər ,lamp }

cesium-vapor Penning source [ELECTR] A conventional Penning source modified for negative-ion generation through the introduction or a third, sputter cathode, made from or containing the element of interest, which is the source of negative ions, and through the introduction of cesium vapor into the arc chamber. { 'sē·zē·əm ¦vā·pər 'pen·iŋ ,sōrs }

cesium-vapor rectifier [ELECTR] A gas tube in which cesium vapor serves as the conducting gas and a condensed monatomic layer of cesium serves as the cathode coating. { 'sē·zē·əm ¦vā·pər 'rek·tə,fī·ər }

CFIA *See* component-failure-impact analysis.

CGI *See* common gateway interface.

CGI script [COMPUT SCI] A program, written in a language such as Perl, that is used for creating interactive Web pages; for example, it allows a Web server to process a request from a user, communicate with a database, and reply to the user by creating a Web page. { ¦sē¦jē'ī ,skript }

CGM *See* computer graphics metafile.

chad [COMPUT SCI] The piece of material removed when forming a hole or notch in a punched tape or punched card. Also known as chip. { chad }

chaff [ELECTROMAG] Reflective particulate matter, such as tiny strips of coated films or of metallic foil, that can be dispensed by aircraft in the airspace covered by an enemy radar, so as to create such an echo density that echoes of interest to that radar are obscured or the radar is distracted by the chaff return. { chaf }

chain [COMMUN] A network of radio, television, radar, navigation, or other similar stations connected by telephone lines, coaxial cables, or radio relay links so all can operate as a group for broadcast purposes, communication purposes, or determination of position. [COMPUT SCI] **1.** A series of data or other items linked together in some way. **2.** A sequence of binary digits used to construct a code. [ELECTR] A series of amplifiers in a transmitter, achieving a higher overall gain than any one amplifier could reasonably achieve. { chān }

chain code [COMPUT SCI] A binary code consisting of a cyclic sequence of some or all of the possible binary words at a given length such that each word is derived from the previous one by moving the binary digits one position to the left, dropping the leading bit, and inserting a new bit at the end, in such a way that no word recurs before the cycle is complete. { 'chān ,kōd }

chain command [COMPUT SCI] Any input/output command in a sequence of input/output commands such as WRITE, READ, SENSE. { 'chān kə'mand }

chain data flag [COMPUT SCI] A value of 1 given to a specific bit of a channel command word, commonly used with scatter read or scatter write operations. { 'chān 'dad·ə ,flag }

chained block encryption [COMMUN] The use of a block cipher in which the bits of a given output block depend not only on the bits in the corresponding input block and in the key, but also on any or all prior data bits, either inputted to or produced during the enciphering or deciphering process. Also known as block chaining. { ¦chānd 'bläk in'krip·shən }

chained list [COMPUT SCI] A collection of data items arranged in a sequence so that each item contains an address giving the location of the next item in a computer storage device. Also known as linked list. { ¦chānd 'list }

chained records [COMPUT SCI] A file of records arranged according to the chaining method. { ¦chānd 'rek·ərdz }

chaining [COMPUT SCI] A method of storing records which are not necessarily contiguous, in which the records are arranged in a sequence and each record contains means to identify its successor. { 'chān·iŋ }

chaining search [COMPUT SCI] A method of searching for a data item in a chained list in which an initial key is used to obtain the location of either the item sought or another item in the list, and the search then progresses through the chain

until the required item is obtained or the chain is completed. { 'chān·iŋ ˌsərch }

chain pointer [COMPUT SCI] The part of a data item in a chained list that gives the address of the next data item. { 'chān 'pȯint·ər }

chain printer [COMPUT SCI] A high-speed printer in which the type slugs are carried by the links of a revolving chain. { 'chān ˌprint·ər }

chain printing [COMPUT SCI] The printing of a group of linked files by placing commands at the end of each file that direct the program to continue printing the next one. { ¦chān 'print·iŋ }

chain radar beacon [COMMUN] A beacon with a fast recovery time to permit simultaneous interrogation and tracking of the beacon by a number of radars. { ¦chān 'rāˌdär ˌbē·kən }

chain radar system [ENG] A number of radar stations located at various sites on a missile range to enable complete radar coverage during a missile flight; the stations are linked by data and communication lines for target acquisition, target positioning, or data-recording purposes. { ¦chān 'rāˌdär ˌsis·təm }

challenge [COMMUN] To cause an interrogator to transmit a signal which puts a transponder into operation. { 'chal·ənj }

challenger *See* interrogator. { 'chal·ən·jər }

challenge-response [COMPUT SCI] A method of identifying and authenticating persons seeking access to a computing system; each user is issued a device resembling a pocket calculator and is given a different problem to solve (the challenge), to which the calculator provides part of the answer, each time the person seeks authentication. { 'chal·ənj ri'späns }

challenging signal *See* interrogation. { 'chal·ən·jiŋ ˌsig·nəl }

chance-constrained programming [COMPUT SCI] Type of nonlinear programming wherein the deterministic constraints are replaced by their probabilistic counterparts. { ¦chans kən'strānd 'prōˌgram·iŋ }

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. { ¦chānjd 'mem·rē rüˌtēn }

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 ˌdəmp }

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

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 }

changeover switch [ELEC] A means of moving a circuit from one set of connections to another. { 'chānˌjō·vər ˌswich }

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 ˌrek·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 ˌtāp }

channel [COMMUN] **1.** A band of radio frequencies allocated for a particular purpose; a standard broadcasting channel is 10 kilohertz wide, an FM channel is 200 kHz wide, and a television channel 6 megahertz wide. **2.** A path through which electrical transmission of information takes place. [COMPUT SCI] A path along which digital or other information may flow in a computer. [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. { 'chan·əl }

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 əˌdap·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 'adˌres ˌwərd }

channel-attached device [COMPUT SCI] Equipment that is directly connected to a computer by a channel. { 'chan·əl əˌtacht diˌvīs }

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 ˌbaŋk }

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'mand }

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'mand ˌwərd }

channel configuration [COMPUT SCI] The types, number, and logical relationships of devices connected to a given computer channel. { 'chan·əl kənˌfig·yəˌrā·shən }

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

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

channel director [COMPUT SCI] A unit in some very large computers that controls the

functioning of several channels. { 'chan·əl di ˌrek·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 i'lek,trän 'məl·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 ˌend kən'dish·ən }

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 ˌfet 'mī·krəˌfōn *or* ˌef'ē'tē }

channeling [COMMUN] A type of multiplex transmission in which the separation between communication channels is accomplished through the use of carriers or subcarriers. { 'chan·əl·iŋ }

channelization [COMMUN] The division of a single wide-band (high-capacity) communications channel into many relatively narrow-band (lower-capacity) channels. { ˌchan·əl·ə'zā·shən }

channelizing [COMMUN] The process of subdividing a wide-band transmission facility so as to handle a number of different circuits requiring comparatively narrow bandwidths. { 'chan·əl ˌīz·iŋ }

channel mask [COMPUT SCI] A portion of a program status word indicating which channels may interrupt the task by their completion signals. { 'chan·əl ˌmask }

channel miles [COMMUN] The summation, in miles, of the electrical path of individual channels between two points; these points may be connected by wire or radio, or a combination of both. { 'chan·əl ˌmīlz }

channel plate multiplier *See* microchannel plate. { 'chan·əl ˌplāt 'məl·təˌplī·ər }

channel program [COMPUT SCI] The set of steps, called channel commands, by means of which an input/output channel is controlled. { 'chan·əl ˌprō·grəm }

channel read-backward command [COMPUT SCI] A command to transfer data from tape device to main storage while the tape is moving backward. { 'chan·əl 'rēd ˌbak·wərd kəˌmand }

channel read command [COMPUT SCI] A command to transfer data from an input/output device to main storage. { ˌchan·əl 'rēd kə'mand }

channel reliability [COMMUN] The percent of time a channel was available for use in a specific direction during a specified period of time. { 'chan·əl riˌlī·ə'bil·əd·ē }

channel selector [ELEC] A control used to tune in the desired channel in a radio or television receiver. { 'chan·əl si'lek·tər }

channel sense command [COMPUT SCI] A command commonly used to denote an unusual condition existing in an input/output device and requesting more information. { 'chan·əl 'sens kə'mand }

channel shifter [ELECTR] Radiotelephone carrier circuit that shifts one or two voice-frequency channels from normal channels to higher voice-frequency channels to reduce cross talk between channels; the channels are shifted back by a similar circuit at the receiving end. { 'chan·əl ˌshif·tər }

channel skip [COMPUT SCI] A control character that causes a printer to skip down to a specified line on a page or to the top of the next page. { 'chan·əl ˌskip }

channel spacing [COMMUN] The difference in frequency between successive radio or television channels. { 'chan·əl ˌspās·iŋ }

channel status table [COMPUT SCI] A table that is set up by an executive program to show the status of the various channels that connect the central processing unit with peripheral units, enabling the program to control input/output operations. { ˌchan·əl 'stad·əs ˌtā·bəl }

channel status word [COMPUT SCI] A storage register containing the status information of the input/output operation which caused an interrupt. Abbreviated CSW. { ˌchan·əl 'stad·əs ˌwərd }

channel synchronizer [ELECTR] An electronic device providing the proper interface between the central processing unit and the peripheral devices. { 'chan·əl 'siŋ·krəˌnīz·ər }

channel-to-channel adapter [COMPUT SCI] A device which provides two computer systems with interchannel communications. { ˌchan·əl tə ˌchan·əl ə'dap·tər }

channel write command [COMPUT SCI] A command which transfers data from main storage to an input/output device. { ˌchan·əl 'wrīt kə'mand }

character [COMPUT SCI] **1.** An elementary mark used to represent data, usually in the form of a graphic spatial arrangement of connected or adjacent strokes, such as a letter or a digit. **2.** A small collection of adjacent bits used to represent a piece of data, addressed and handled as a unit, often corresponding to a digit or letter. { 'kar·ik·tər }

character-addressable computer [COMPUT SCI] A computer that processes data as single characters, and is therefore able to handle words of varying length. { 'kar·ik·tər əˌdres·ə·bəl kəm'pyüd·ər }

character adjustment [COMPUT SCI] An address modification affecting a specific number of characters of the address part of the instruction. { 'kar·ik·tər əˌjəs·mənt }

character boundary [COMPUT SCI] In character recognition, a real or imaginary rectangle which serves as the delimiter between consecutive

characters or successive lines on a source document. { 'kar·ik·tər ˌbaún·drē }

character cell [COMPUT SCI] A matrix of dots that is used to form a single character on a printer or display screen. { 'kar·ik·tər ˌsel }

character code [COMMUN] A bit pattern assigned to a particular character in a coded character set. { 'kar·ik·tər ˌkōd }

character data type [COMPUT SCI] A scalar data type which provides an internal representation of printable characters. { 'kar·ik·tər 'dad·ə ˌtīp }

character density [COMPUT SCI] The number of characters recorded per unit of length or area. Also known as record density. { 'kar·ik·tər ˌden·səd·ē }

character display terminal [COMPUT SCI] A console that can display only alphanumeric characters, and cannot show arbitrary lines or curves. { 'kar·ik·tər di'splā ˌtərm·ə·nəl }

character emitter [COMPUT SCI] In character recognition, an electromechanical device which conveys a specimen character in the form of a time pulse or group of pulses. { 'kar·ik·tər i'mid·ər }

character fill [COMPUT SCI] To fill one or more locations in a computer storage device by repeated insertion of some particular character, usually blanks or zeros. { 'kar·ik·tər ˌfil }

character generator [COMPUT SCI] A hard-wired subroutine which will display alphanumeric characters on a screen. { 'kar·ik·tər ˌjen·əˌrād·ər }

character graphics [COMPUT SCI] A collection of special symbols that can be strung together like letters of the alphabet to generate graphics. { 'kar·ik·tər ˌgraf·iks }

characteristic [ELECTR] A graph showing how the voltage or current between two terminals of an electronic device varies with the voltage or current between two other terminals. { ˌkar·ik·tə'ris·tik }

characteristic frequency [COMMUN] Frequency which can be easily identified and measured in a given emission. { ˌkar·ik·tə'ris·tik 'frē·kwən·sē }

characteristic impedance [COMMUN] The impedance that, when connected to the output terminals of a transmission line of any length, makes the line appear to be infinitely long, for there are then no standing waves on the line, and the ratio of voltage to current is the same for each point on the line. Also known as surge impedance. { ˌkar·ik·tə'ris·tik im'pēd·əns }

characteristic overflow [COMPUT SCI] An error condition encountered when the characteristic of a floating point number exceeds the limit imposed by the hardware manufacturer. { ˌkar·ik·tə'ris·tik 'ō·vərˌflō }

characteristic underflow [COMPUT SCI] An error condition encountered when the characteristic of a floating point number is smaller than the smallest limit imposed by the hardware manufacturer. { ˌkar·ik·tə'ris·tik 'ən·dərˌflō }

character mode [COMPUT SCI] A mode of computer operation in which only text is displayed. { 'kar·ik·tər ˌmōd }

character-oriented computer [COMPUT SCI] A computer in which the locations of individual characters, rather than words, can be addressed. { ˌkar·ik·tər ˌór·ē,en·təd kəm,pyūd·ər }

character-oriented protocol *See* byte-oriented protocol. { 'kar·ik·tər ˌór·ē,ent·əd 'prōd·əˌkȯl }

character outline [COMPUT SCI] The graphic pattern formed by the stroke edges of a printed or handwritten character in character recognition. { 'kar·ik·tər 'aůt,līn }

character reader [COMPUT SCI] In character recognition, any device capable of locating, identifying, and translating into machine code the handwritten or printed data appearing on a source document. { 'kar·ik·tər ˌrēd·ər }

character recognition [COMPUT SCI] The technology of using a machine to sense and encode into a machine language the characters which are originally written or printed by human beings. { 'kar·ik·tər ˌrek·ig'nish·ən }

character set [COMMUN] A set of unique representations called characters, for example, the 26 letters of the English alphabet, the Boolean 0 and 1, the set of signals in Morse code, and the 128 characters of the USASCII. { 'kar·ik·tər ˌset }

character skew [COMPUT SCI] In character recognition, an improper appearance of a character to be recognized, in which it appears in a tilted condition with respect to a real or imaginary horizontal base line. { 'kar·ik·tər ˌskyü }

character string [COMPUT SCI] A sequence of characters in a computer memory or other storage device. Also known as alphabetic string. { 'kar·ik·tər 'striŋ }

character string constant [COMPUT SCI] An arbitrary combination of letters, digits, and other symbols which, in the processing of nonnumeric data involving character strings, performs a function analogous to that of a numeric constant in the processing of numeric data. { 'kar·ik·tər ˌstriŋ ˌkän·stənt }

character stroke *See* stroke. { 'kar·ik·tər ˌstrōk }

character style [COMPUT SCI] In character recognition, a distinctive construction that is common to all members of a particular character set. { 'kar·ik·tər ˌstīl }

character terminal [COMPUT SCI] A screen that can display only text. { 'kar·ik·tər ˌtər·mə·nəl }

character-writing tube [ELECTR] A cathode-ray tube that forms alphanumeric and symbolic characters on its screen for viewing or recording purposes. { 'kar·ik·tər ˌrīd·iŋ ˌtüb }

charge [ELEC] **1.** A basic property of elementary particles of matter; the charge of an object may be a positive or negative number or zero; only integral multiples of the proton charge occur, and the charge of a body is the algebraic sum of the charges of its constituents; the value of the charge may be inferred from the Coulomb force between charged objects. Also known as electric charge, quantity of electricity. **2.** To convert electrical energy to chemical energy in a secondary battery. **3.** To feed electrical energy to a capacitor or other device that can store

it. [ENG] The material or part to be heated by induction or dielectric heating. { 'chärj }

charge carrier [SOLID STATE] A mobile conduction electron or mobile hole in a semiconductor. Also known as carrier. { 'chärj ˌkar·ē·ər }

charge collector [ELEC] The structure within a battery electrode that provides a path for the electric current to or from the active material. Also known as current collector. { 'chärj kə ˌlek·tər }

charge conservation *See* conservation of charge. { 'chärj ˌkän·sər'vā·shən }

charge-coupled device [ELECTR] A semiconductor device wherein minority charge is stored in a spatially defined depletion region (potential well) at the surface of a semiconductor and is moved about the surface by transferring this charge to similar adjacent wells. Abbreviated CCD. { 'chärj ¦kəp·əld di'vīs }

charge-coupled image sensor [ELECTR] A device in which charges are introduced when light from a scene is focused on the surface of the device; image points are accessed sequentially to produce a television-type output signal. Also known as solid-state image sensor. { 'chärj ¦kəp·əld 'im·ij ˌsen·sər }

charge-coupled memory [COMPUT SCI] A computer memory that uses a large number of charge-coupled devices for data storage and retrieval. { 'chärj ¦kəp·əld 'mem·rē }

charge coupling [COMPUT SCI] Transfer of all electric charges within a semiconductor storage element to a similar, nearby element by means of voltage manipulations. { 'chärj ˌkəp·liŋ }

charge density [ELEC] The charge per unit area on a surface or per unit volume in space. { 'chärj ˌden·səd·ē }

charge-exchange source [ELECTR] A source of negative ions, generally negative helium ions, in which positive ions generated in a duoplasmatron are directed through a donor canal, usually containing lithium vapor, where they pick up sequentially two electrons to form negative ions. { 'chärj iks,chānj ˌsórs }

charge-injection device [ELECTR] A charge-transfer device used as an image sensor in which the image points are accessed by reference to their horizontal and vertical coordinates. Abbreviated CID. { 'chärj in,jek·shən di'vīs }

charge-mass ratio [ELEC] The ratio of the electric charge of a particle to its mass. { ˌchärj ˌmas 'rā·shō }

charge quantization [ELEC] The principle that the electric charge of an object must equal an integral multiple of a universal basic charge. { 'chärj ˌkwan·tə'zā·shən }

charger *See* battery charger. { 'chär·jər }

charger-eliminator [ELEC] A battery charger with a low-noise, low-impedance output which can either charge a storage battery or supply a dc load directly, without a storage battery in parallel. { 'chär·jər ə'lim·əˌnād·ər }

charge-storage transistor [ELECTR] A transistor in which the collector-base junction will charge when forward bias is applied with the base at a high level and the collector at a low level. { 'chärj ˌstȯr·ij tranz'is·tər }

charge-storage tube [ELECTR] A storage tube in which information is retained on a surface in the form of electric charges. { 'chärj ˌstȯr·ij ˌtüb }

charge-storage varactor [ELECTR] A varactor that uses semiconductor techniques to achieve power outputs above 50 watts at ultra-high and microwave frequencies. { 'chärj ˌstȯr·ij və'rak·tər }

charge-transfer device [ELECTR] A semiconductor device that depends upon movements of stored charges between predetermined locations, as in charge-coupled and charge-injection devices. { 'chärj ˌtranz·fər di'vīs }

charging current [ELEC] The current that flows into a capacitor when a voltage is first applied. { 'chär·jiŋ ˌkər·ənt }

chassis [ENG] **1.** A frame on which the body of an automobile or airplane is mounted. **2.** A frame for mounting the working parts of a radio or other electronic device. { 'chas·ē }

chassis ground [ELEC] A connection made to the metal chassis on which the components of a circuit are mounted, to serve as a common return path to the power source. { 'chas·ē ˌgraund }

chat mode [COMPUT SCI] A communications option that allows two or more computers to conduct a conversation by typing in turn. { 'chat ˌmōd }

chat room [COMPUT SCI] A Web site or server space on the Internet where live keyboard conversations (usually organized around a specific topic) with other people occur. { 'chat ˌrüm }

chatter [ELEC] Prolonged undesirable opening and closing of electric contacts, as on a relay. Also known as contact chatter. [ENG ACOUS] Vibration of a disk-recorder cutting stylus in a direction other than that in which it is driven. { 'chad·ər }

chattering [CONT SYS] A mode of operation of a relay-type control system in which the relay switches back and forth infinitely fast. { 'chad·ə·riŋ }

Chebyshev filter [ELECTR] A filter in which the transmission frequency curve has an equal-ripple shape, with very small peaks and valleys. { 'cheb·ə·shəf ˌfil·tər }

Chebyshev filter [ELECTR] A filter in which the transmission frequency curve has an equalripple shape, with very small peaks and valleys. { 'cheb·ə·shəf ˌfil·tər }

check [COMPUT SCI] A test which is necessary to detect a mistake in computer programming or a computer malfunction. { chek }

check bit [COMPUT SCI] A binary check digit. { 'chek ˌbit }

check box [COMPUT SCI] In a graphical user interface, a small box on which an x or check mark appears when the option indicated next to the box is turned on, and disappears when the option is turned off. { 'chek ˌbäks }

check character [COMPUT SCI] A redundant character used to perform a check. { 'chek ˌkar·ik·tər }

check digit [COMPUT SCI] A redundant digit used to perform a check. { 'chek ˌdij·ət }

check indicator [COMPUT SCI] A console device, usually a light, informing the operator that an error has occurred. { 'chek ˌin·dəˌkād·ər }

check indicator instruction [COMPUT SCI] A computer instruction which directs that a signal device is turned on to call the operator's attention to the fact that there is some discrepancy in the instruction now in use. { 'chek ˌin·dəˌkād·ər inˈstrək·shən }

checking program [COMPUT SCI] A computer program which detects and determines the nature of errors in other programs, particularly those that involve incorrect coding or punching of wrong characters. Also known as checking routine. { 'chek·iŋ ˌprō·grəm }

checking routine *See* checking program. { 'chek·iŋ rüˈtēn }

check number [COMPUT SCI] A number denoting a specific type of hardware malfunction. { 'chek ˌnəm·bər }

checkout [COMPUT SCI] A collection of routines that are built into a compiler to test and debug programs. { 'chekˌaůt }

checkout compiler [COMPUT SCI] A special compiler designed specifically to test and debug programs by using checkout routines. { 'chek ˌaůt kəmˌpī·lər }

checkpoint [COMPUT SCI] That place in a routine at which the entire state of the computer (memory, registers, and so on) is written out on auxiliary storage from which it may be read back into the computer if the program is to be restarted later. [NAV] Geographical location on land or water above which the position of an aircraft in flight may be determined by observation or by electronic means. { 'chekˌpȯint }

checkpoint/restart [COMPUT SCI] The procedures for resuming a processing run after it has been halted either accidentally or deliberately. { 'chekˌpȯint 'rēˌstärt }

check problem *See* check routine. { 'chek ˌpräb·ləm }

check protect symbol [COMPUT SCI] A character, usually an asterisk, that is printed in place of leading zeros in a number, such as a dollar amount on a check. { 'chek prəˈtekt ˌsim·bəl }

check register [COMPUT SCI] A register in which transferred data are temporarily stored so that they may be compared with a second transfer of the same data, to verify the accuracy of the transfer. { 'chek ˌrej·ə·stər }

check routine [COMPUT SCI] A routine or problem designed primarily to indicate whether a fault exists in a computer, without giving detailed information on the location of the fault. Also known as check problem; test program; test routine. { 'chek rüˈtēn }

check row [COMPUT SCI] A row (or one of two or more rows) on a paper tape which contains the cumulated sum of existing rows, column by column, resulting in either 1 or 0 by column, thus verifying that all rows have been properly read. { 'chek ˌrō }

check sum [COMPUT SCI] A sum of digits or numbers used in a summation check. { 'chek ˌsəm }

check symbol [COMPUT SCI] One or more digits generated by performing an arithmetic check or summation check on a data item which are then attached to the item and copied along with it through various stages of processing, allowing the check to be repeated to verify the accuracy of the copying processes. { 'chek ˌsim·bəl }

check word [COMPUT SCI] A computer word, containing data from a block of records, that is joined to the block and serves as a check symbol during transfers of the block between different locations. { 'chek ˌwərd }

cheese antenna [ELECTROMAG] An antenna having a parabolic reflector between two metal plates, dimensioned to permit propagation of more than one mode in the desired direction of polarization. { 'chēz anˈten·ə }

chemical film dielectric [ELEC] An extremely thin layer of material on one or both electrodes of an electrolytic capacitor, which conducts electricity in only one direction and thereby constitutes the insulating element of the capacitor. { 'kem·i·kəl ˌfilm ˌdī·əˈlek·trik }

chemically sensitive field-effect transistor [ELECTR] A field-effect transistor in which the ordinary gate electrode is replaced by a chemically sensitive membrane so that the gain of the transistor depends on the concentration of chemical substances. { 'kem·ik·lē ˌsen·səd·iv 'fēld iˌfekt tranˌzis·tər }

child [COMPUT SCI] **1.** An element that follows a given element in a data structure. **2.** In object-oriented programming, a subclass. { chīld }

Child-Langmuir equation *See* Child's law.

Child-Langmuir-Schottky equation *See* Child's law. { ˌchīld ˌlaŋ·myür 'shätˌkē iˈkwā·zhən }

child process [COMPUT SCI] One of the subsidiary processes that branches out from the root task in the fork-join model of programming on parallel machines. { 'chīld ˌpräs·es }

Child's law [ELECTR] A law stating that the current in a thermionic diode varies directly with the three-halves power of anode voltage and inversely with the square of the distance between the electrodes, provided the operating conditions are such that the current is limited only by the space charge. Also known as Child-Langmuir equation; Child-Langmuir-Schottky equation; Langmuir-Child equation. { 'chīldz ˌlȯ }

chimney [ELECTR] A pipelike enclosure that is placed over a heat sink to improve natural upward

convection of heat and thereby increase the dissipating ability of the sink. { 'chim,nē }

chip [COMPUT SCI] *See* chad. [ELECTR] **1.** The shaped and processed semiconductor die that is mounted on a substrate to form a transistor, diode, or other semiconductor device. **2.** An integrated microcircuit performing a significant number of functions and constituting a subsystem. Also known as microchip. { chip }

chip capacitor [ELECTR] A single-layer or multilayer monolithic capacitor constructed in chip form, with metallized terminations to facilitate direct bonding on hybrid integrated circuits. { 'chip kə'pas·əd·ər }

chip card *See* smart card. { 'chip ˌkärd }

chip circuit *See* large-scale integrated circuit. { 'chip ˌsər·kət }

chip resistor [ELECTR] A thick-film resistor constructed in chip form, with metallized terminations to facilitate direct bonding on hybrid integrated circuits. { 'chip ri'zis·tər }

chipset [COMPUT SCI] A number of integrated circuits, packaged as one unit, which perform one or more related functions. { 'chipˌset }

Chireix antenna [ELECTROMAG] A phased array composed of two or more coplanar square loops, connected in series. Also known as Chireix-Mesny antenna. { ki'räks anˌten·ə }

Chireix-Mesny antenna *See* Chireix antenna. { ki'räks ˌmez,nē anˌten·ə }

chirp [COMMUN] **1.** An undesirable variation in the frequency of a continuous-wave carrier when it is keyed. **2.** The sound heard in a code receiver when the transmitted carrier frequency is increased linearly for the duration of a pulse code. { chərp }

chirp modulation [COMMUN] A modulation of the carrier frequency from a lower to a higher frequency, or vice versa, often linearly, used in radar pulse compression. { ¦chərp mäj·ə'lā·shən }

chirp radar [ENG] Radar in which a swept-frequency signal is transmitted, received from a target, then compressed in time to give a narrow pulse called the chirp signal. { 'chərp ˌrāˌdär }

chisel bond [ENG] A thermocompression bond in which a contact wire is attached to a contact pad on a semiconductor chip by applying pressure with a chisel-shaped tool. { 'chiz·əl ˌbänd }

choke [ELEC] An inductance used in a circuit to present a high impedance to frequencies above a specified frequency range without appreciably limiting the flow of direct current. Also known as choke coil. [ELECTROMAG] A groove or other discontinuity in a waveguide surface so shaped and dimensioned as to impede the passage of guided waves within a limited frequency range. { chōk }

choke coil *See* choke. { 'chōkˌkȯil }

choke coupling [ELECTROMAG] Coupling between two parts of a waveguide system that are not in direct mechanical contact with each other. { 'chōkˌkəp·liŋ }

choke filter *See* choke input filter. { 'chōkˌfil·tər }

choke flange [ELECTROMAG] A waveguide flange having in its mating surface a slot (choke) so shaped and dimensioned as to restrict leakage of microwave energy within a limited frequency range. { 'chōkˌflanj }

choke input filter [ELEC] A power-supply filter in which the first filter element is a series choke. Also known as choke filter. { ¦chōk 'inˌpůt ˌfil·tər }

choke joint [ELECTROMAG] A connection between two waveguides that uses two mating choke flanges to provide effective electrical continuity without metallic continuity at the inner walls of the waveguide. { 'chōkˌjȯint }

choke piston [ELECTROMAG] A piston in which there is no metallic contact with the walls of the waveguide at the edges of the reflecting surface; the short circuit for high-frequency currents is achieved by a choke system. Also known as noncontacting piston; noncontacting plunger. { 'chōkˌpis·tən }

chopper amplifier [ELECTR] A carrier amplifier in which the direct-current input is filtered by a low-pass filter, then converted into a square-wave alternating-current signal by either one or two choppers. { 'chäp·ər 'am·pləˌfī·ər }

chopper-stabilized amplifier [ELECTR] A direct-current amplifier in which a direct-coupled amplifier is in parallel with a chopper amplifier. { ¦chäp·ər ¦stā·bəˌlīzd 'am·pləˌfī·ər }

chopper transistor [ELECTR] A bipolar or field-effect transistor operated as a repetitive "on/off" switch to produce square-wave modulation of an input signal. { 'chäp·ər tran'zis·tər }

chopping [ELECTR] The removal, by electronic means, of one or both extremities of a wave at a predetermined level. { 'chäp·iŋ }

chroma band-pass amplifier *See* burst amplifier. { 'krō·mə 'band ˌpas 'am·pləˌfī·ər }

chroma control [ELECTR] The control that adjusts the amplitude of the carrier chrominance signal fed to the chrominance demodulators in an analog color television receiver, so as to change the saturation or vividness of the hues in the color picture. Also known as color control; color-saturation control. { 'krō·mə kən'trōl }

chroma oscillator [ELECTR] A crystal oscillator used in analog color television receivers to generate a 3.579545-megahertz signal for comparison with the incoming 3.579545-megahertz chrominance subcarrier signal being transmitted. Also known as chrominance-subcarrier oscillator; color oscillator; color-subcarrier oscillator. { 'krō·mə 'äs·əˌlād·ər }

chromatic aberration [ELECTR] An electron-gun defect causing enlargement and blurring of the spot on the screen of a cathode-ray tube, because electrons leave the cathode with different initial velocities and are deflected differently by the electron lenses and deflection coils. { krō'mad·ik ab·ə'rā·shən }

chromatron [ELECTR] A single-gun color picture tube having color phosphors deposited on the screen in strips instead of dots. Also known as Lawrence tube. { 'krō·mə'trän }

chrominance carrier *See* chrominance subcarrier. { 'krō·mə·nəns ˌkar·ē·ər }

chrominance-carrier reference [COMMUN] A continuous signal having the same frequency as the chrominance subcarrier in a color television system and having fixed phase with respect to the color burst; this signal is the reference with which the phase of a chrominance signal is compared for the purpose of modulation or demodulation. Also known as chrominance-subcarrier reference; color-carrier reference; color-subcarrier reference. { 'krō·mə·nəns ¦kar·ē·ər ˌref·rəns }

chrominance channel [COMMUN] Any path that is intended to carry the chrominance signal in an analog color television system. { 'krō·mə·nəns ˌchan·əl }

chrominance demodulator [ELECTR] A demodulator used in an analog color television receiver for deriving the I and Q components of the chrominance signal from the chrominance signal and the chrominance-subcarrier frequency. Also known as chrominance-subcarrier demodulator. { 'krō·mə·nəns dē'mäj·əˌlād·ər }

chrominance frequency [COMMUN] The frequency of the chrominance subcarrier, equal to 3.579545 megahertz. { 'krō·mə·nəns ˌfrē·kwən·sē }

chrominance gain control [ELECTR] Variable resistors in red, green, and blue matrix channels that individually adjust primary signal levels in an color television receiver. { 'krō·mə·nəns 'gān kən'trōl }

chrominance modulator [ELECTR] A modulator used in an analog color television transmitter to generate the chrominance signal from the video-frequency chrominance components and the chrominance subcarrier. Also known as chrominance-subcarrier modulator. { 'krō·mə·nəns 'mäj·əˌlād·ər }

chrominance signal [COMMUN] One of the two components, called the I signal and Q signal, that add together to produce the total chrominance signal in an analog color television system. Also known as carrier chrominance signal. { 'krō·mə·nəns ˌsig·nəl }

chrominance subcarrier [COMMUN] The 3.579545-megahertz carrier whose modulation sidebands are added to the monochrome signal to convey color information in an analog color television receiver. Also known as chrominance carrier; color carrier; color subcarrier; subcarrier. { 'krō·mə·nəns səb'kar·ē·ər }

chrominance-subcarrier demodulator *See* chrominance demodulator. { 'krō·mə·nəns səb'kar·ē·ər dē'mäj·əˌlād·ər }

chrominance-subcarrier modulator *See* chrominance modulator. { 'krō·mə·nəns səb'kar·ē·ər 'mäj·əˌlād·ər }

chrominance-subcarrier oscillator *See* chroma oscillator. { 'krō·mə·nəns səb'kar·ē·ər 'äs·əˌlād·ər }

chrominance-subcarrier reference *See* chrominance-carrier reference. { 'krō·mə·nəns səb 'kar·ē·ər 'ref·rəns }

chrominance video signal [ELECTR] Voltage output from the red, green, or blue section of a color television camera or receiver matrix. { 'krō·mə·nəns 'vid·ē·ō ˌsig·nəl }

chromium dioxide tape [ELECTR] A magnetic recording tape developed primarily to improve quality and brilliance of reproduction when used in cassettes operated at $1\frac{7}{8}$ inches per second (4.76 centimeters per second); requires special recorders that provide high bias. { 'krō·mē·əm dī'äkˌsīd 'tāp }

chromium-gold metallizing [ELECTR] A metal film used on a silicon or silicon oxide surface in semiconductor devices because it is not susceptible to purple plague deterioration; a layer of chromium is applied first for adherence to silicon, then a layer of chromium-gold mixture, and finally a layer of gold to which bonding contacts can be applied. { ¦krō·mē·əm ¦gōld 'med·əl·īz·iŋ }

chronistor [ELECTR] A subminiature elapsed-time indicator that uses electroplating principles to totalize operating time of equipment up to several thousand hours. { krə'nis·tər }

chronometric encoder [ELECTR] An encoder that uses an electronic counter to time or count electrical events and deliver in digital form a number equivalent to the input magnitude. { 'krän·əˌme·trik en'kōd·ər }

chronopher [ELECTR] Instrument for emitting standard time signal impulses from a standard clock or timing device. { 'krän·ə·fər }

chronotron [ELECTR] A device that measures millimicrosecond time intervals between pulses on a transmission line to determine the time between the events which initiated the pulses. { 'krän·əˌträn }

chute blades [COMPUT SCI] Thin metal bands which form channels to the various pockets of a sorter. { 'shüt ˌblādz }

C^3I *See* command, control, communications, and intelligence. { 'sē 'thrē'ī }

CID *See* charge-injection device.

CIM *See* computer input from microfilm; computer-integrated manufacturing.

cinching [COMPUT SCI] Creases produced in magnetic tape when the supply reel is wound at low tension and suddenly stopped during playback. { 'sin·chiŋ }

C-indicator *See* C-display. { 'sē ˌin·dəˌkād·ər }

cipher [COMMUN] A transposition or substitution code for transmitting secret messages. { 'sī·fər }

cipher block chaining [COMMUN] A technique for block chaining in which each block of ciphertext is produced by adding, through the EXCLUSIVE OR operation, the previous block of ciphertext to the current block of plaintext. Abbreviated CBC. { 'sī·fər ˌbläk ˌchān·iŋ }

cipher feedback [COMMUN] An implementation of ciphertext autokey cipher in which the leftmost *n* bits of the data encryption standard (DES) output are added by the EXCLUSIVE OR operation to N bits of plaintext to produce N bits of ciphertext (where N is the number of bits enciphered at one

time), and these N bits of ciphertext are fed back into the algorithm by first shifting the current DES input N bits to the left, and then appending the N bits of ciphertext to the right-hand side of the shifted input to produce a new DES input used for the next iteration of the algorithm. { ¦sī·fər ¦fēd,bak }

cipher machine [COMMUN] Mechanical or electrical apparatus for enciphering and deciphering. { 'sī·fər mə'shēn }

ciphertext [COMMUN] A message which has been transformed by a cipher so that it can be read only by those privy to the secrets of the cipher. { 'sī·fər,tekst }

ciphertext autokey cipher [COMMUN] A stream cipher in which the cryptographic bit stream generated at a given time is determined by the ciphertext generated at earlier times. { 'sī·fər ,tekst 'ȯd·ō,kē ,sī·fər }

ciphony [COMMUN] A technique by which security is accomplished by converting speech into a series of on-off pulses and mixing these with the pulses supplied by a key generator; to recover the original speech, the identical key must be subtracted and the resultant on-off pulses reconverted into the original speech pattern; unauthorized listeners are unable to reconstruct the plain text unless they have an identical key generator and the daily key setting. { 'sī·fə·nē }

ciphony equipment [ELECTR] Any equipment attached to a radio transmitter, radio receiver, or telephone for scrambling or unscrambling voice messages. { 'sī·fə·nē i,kwip·mənt }

circle diagram [ELEC] A diagram which gives a graphical solution of equations for a transmission line, giving the input impedance of the line as a function of load impedance and electrical length of the line. { ¦sər·kəl ¦dī·ə,gram }

circle-dot mode [ELECTR] Mode of cathode-ray storage of binary digits in which one kind of digit is represented by a small circle of excitation of the screen, and the other kind by a similar circle with a concentric dot. { ¦sər·kəl ¦dät ,mōd }

circuit [ELEC] *See* electric circuit. [ELECTROMAG] A complete wire, radio, or carrier communications channel. { 'sər·kət }

circuit analyzer *See* volt-ohm-milliammeter. { 'sər·kət ,an·ə,līz·ər }

circuit board *See* printed circuit board. { 'sər·kət ,bȯrd }

circuit breaker [ELEC] An electromagnetic device that opens a circuit automatically when the current exceeds a predetermined value. { 'sər·kət ,brāk·ər }

circuit capacity [COMMUN] Number of communications channels which can be handled by a given circuit at the same time. { 'sər·kət kə'pas·əd·ē }

circuit conditioning [ELECTR] Test, analysis, engineering, and installation actions to upgrade a communications circuit to meet an operational requirement; includes the reduction of noise, the equalization of phase and level stability and frequency response, and the correction of impedance discontinuities, but does not include normal maintenance and repair activities. { 'sər·kət kən'dish·ə·niŋ }

circuit design [ELEC] The art of specifying the components and interconnections of an electrical network. { 'sər·kət də'zīn }

circuit diagram [ELEC] A drawing, using standardized symbols, of the arrangement and interconnections of the conductors and components of an electrical or electronic device or installation. Also known as schematic circuit diagram; wiring diagram. { 'sər·kət ,dī·ə,gram }

circuit efficiency [ELECTR] Of an electron tube, the power delivered to a load at the output terminals of the output circuit at a desired frequency divided by the power delivered by the electron stream to the output circuit at that frequency. { 'sər·kət i'fish·ən·sē }

circuit element *See* component. { 'sər·kət ¦el·ə·mənt }

circuit grade [COMMUN] A circuit rating defining the ability to carry information; grades include telegraph, voice, and broad-band. { 'sər·kət ,grād }

circuit interrupter [ELEC] A device in a circuit breaker to remove energy from an arc in order to extinguish it. { 'sər·kət ,in·tə,rəp·tər }

circuit loading [ELEC] Power drawn from a circuit by an electric measuring instrument, which may alter appreciably the quantity being measured. { 'sər·kət ,lōd·iŋ }

circuit noise [COMMUN] In telephone practice, the noise which is brought to the receiver electrically from a telephone system, excluding noise picked up acoustically by telephone transmitters. { 'sər·kət ,nȯiz }

circuit noise level [COMMUN] Ratio of the circuit noise at that point to some arbitrary amount of circuit noise chosen as a reference; usually expressed in decibels above reference noise, signifying the reading of a circuit noise meter, or in adjusted decibels, signifying circuit noise meter reading adjusted to represent interfering effect under specified conditions. { 'sər·kət ,nȯiz ,lev·əl }

circuit protection [ELECTR] Provision for automatically preventing excess or dangerous temperatures in a conductor and limiting the amount of energy liberated when an electrical failure occurs. { 'sər·kət prə'tek·shən }

circuit reliability [COMMUN] The percent of time a circuit was available to the user during a specified period of time. { 'sər·kət ri,lī·ə'bil·əd·ē }

circuitron [ELECTR] Combination of active and passive components mounted in a single envelope like that used for tubes, to serve as one or more complete operating stages. { 'sər·kyə ,trän }

circuitry [ELEC] The complete combination of circuits used in an electrical or electronic system or piece of equipment. { 'sər·kə·trē }

circuit shift *See* cyclic shift. { 'sər·kət ,shift }

circuit switching [COMMUN] **1.** The method of providing communication service through a switching facility, either from local users or from other switching facilities. **2.** A method of

transmitting messages through a communications network in which a path from the sender to the receiver of fixed bandwidth or speed is set up for the entire duration of a communication or call. { 'sər·kət ˌswich·iŋ }

circuit testing [ELEC] The testing of electric circuits to determine and locate an open circuit, or a short circuit or leakage. { 'sər·kət ˌtes·tiŋ }

circuit theory [ELEC] The mathematical analysis of conditions and relationships in an electric circuit. Also known as electric circuit theory. { 'sər·kət ˌthē·ə·rē }

circular antenna [ELECTROMAG] A folded dipole that is bent into a circle, so the transmission line and the abutting folded ends are at opposite ends of a diameter. { 'sər·kyə·lər an'ten·ə }

circular arc *See* arc. { 'sər·kyə·lər 'ärk }

circular buffering [COMPUT SCI] A technique for receiving data in an input-output control system which uses a single buffer that appears to be organized in a circle, with data wrapping around it. { 'sər·kyə·lər 'bəf·ə·riŋ }

circular current [ELEC] An electric current moving in a circular path. { 'sər·kyə·lər 'kər·ənt }

circular file [COMPUT SCI] An organized collection of records, generally with a high turnover, in which new records are inserted by replacing the oldest records. { 'sər·kyə·lər 'fīl }

circular horn [ELECTROMAG] A circular-waveguide section that flares outward into the shape of a horn, to serve as a feed for a microwave reflector or lens. { 'sər·kyə·lər 'hȯrn }

circular polarized loop vee [ELECTROMAG] Airborne communications antenna with an omnidirectional radiation pattern to provide optimum near-horizon communications coverage. { 'sər·kyə·lər 'pō·lə,rīzd 'lüp ˌvē }

circular polling [COMMUN] A form of polling in which each terminal is interrogated exactly once in every pass, regardless of its level of activity. { 'sər·kyə·lər 'pōl·iŋ }

circular reference [COMPUT SCI] A situation created by a programming error in which two or more entities each refer to the other so that the execution of the program is carried on endlessly with no resolution. { 'sər·kyə·lər 'ref·rəns }

circular scanning [ENG] Radar scanning in which the direction of maximum radiation describes a right circular cone. { 'sər·kyə·lər 'skan·iŋ }

circular shift *See* cyclic shift. { 'sər·kyə·lər 'shift }

circular sweep generation [ELECTR] The use of electronic circuits to provide voltage or current which causes an electron beam in a device such as a cathode-ray tube to move in a circular deflection path at constant speed. { 'sər·kyə·lər 'swēp ˌjen·ə,rā·shən }

circular wait *See* mutual deadlock. { 'sər·kyə·lər 'wāt }

circular waveguide [ELECTROMAG] A waveguide whose cross-sectional area is circular. { 'sər·kyə·lər 'wāv,gīd }

circulating memory [ELECTR] A digital computer device that uses a delay line to store information in the form of a pattern of pulses in a train; the output pulses are detected electrically, amplified, reshaped, and reinserted in the delay line at the beginning. Also known as delay-line memory; delay-line storage; circulating storage. { 'sər·kyəˌlād·iŋ 'mem·rē }

circulating register [COMPUT SCI] A shift register in which data move out of one end and reenter the other end, as in a closed loop. { 'sər·kyə ˌlād·iŋ 'rej·ə·stər }

circulating storage *See* circulating memory. { 'sər·kyəˌlād·iŋ 'stȯr·ij }

circulator [ELECTROMAG] A waveguide component having a number of terminals so arranged that energy entering one terminal is transmitted to the next adjacent terminal in a particular direction. Also known as microwave circulator. { ˌsər·kyə·'lād·ər }

CISC *See* complex instruction set computer. { sisk }

citizens' band [COMMUN] A frequency band allocated for citizens' radio service (462.550–467.425, 72–76, or 26.965–27.405 megahertz). { 'sit·ə·zənz ˌband }

citizens' radio service [COMMUN] A radio communication service intended for private or personal radio communication, including radio signaling and control of objects by radio. { 'sit·ə·zənz 'rād·ē·ō ˌsər·vəs }

cladding [COMMUN] A plastic or glass sheath that is fused to and surrounds the core of an optical fiber. [ENG] Process of covering one material with another and bonding them together under high pressure and temperature. Also known as bonding. { 'klad·iŋ }

clamp *See* clamping circuit. { klamp }

clamper *See* direct-current restorer. { 'klamp·ər }

clamping [ELECTR] The introduction of a reference level that has some desired relation to a pulsed waveform, as at the negative or positive peaks. Also known as direct-current reinsertion; direct-current restoration. { 'klamp·iŋ }

clamping circuit [ELECTR] A circuit that reestablishes the direct-current level of a waveform; used in the dc-restorer stage of an analog television receiver to restore the dc component to the video signal after its loss in capacitance-coupled alternating-current amplifiers, to reestablish the average light value of the reproduced image. Also known as clamp. { 'klamp·iŋ ˌsər·kət }

clamping diode [ELECTR] A diode used to clamp a voltage at some point in a circuit. { 'klamp·iŋ ˌdī,ōd }

clamping gripper [CONT SYS] A robot element that uses two-link movements, parallel-jaw movements, and combination movements to grasp and handle objects. { 'klamp·iŋ 'grip·ər }

clamp-on [COMMUN] A method of holding a call for a line that is in use and of signaling when it becomes free. { 'klamp ˌȯn }

clamp-on ammeter *See* snap-on ammeter. { 'klampˌȯn 'aˌmēd·ər }

clapper [ELEC] A hinged or pivoted relay armature. { 'klap·ər }

Clapp oscillator [ELECTR] A series-tuned Colpitts oscillator, having low drift. { ¦klap ¦äs·ə ˌlād·ər }

Clark cell [ELEC] An early form of standard cell, having 1.433 volts at 15°C, now largely replaced by the Weston standard cell as a voltage standard. { 'klärk ˌsel }

class [COMPUT SCI] In object-oriented programming, a description of the structure and operations of an object. A new class is defined by stating how it differs from an existing class. The new (more specific) class is said to inherit from the original (general) class and is referred to as a subclass of the original class. The original class is referred to as the superclass of the new class. { klas }

class A amplifier [ELECTR] **1.** An amplifier in which the grid bias and alternating grid voltages are such that anode current in a specific tube flows at all times. **2.** A transistor amplifier in which each transistor is in its active region for the entire signal cycle. { ˌklas 'ā 'am·plə,fī·ər }

class AB amplifier [ELECTR] **1.** An amplifier in which the grid bias and alternating grid voltages are such that anode current in a specific tube flows for appreciably more than half but less than the entire electric cycle. **2.** A transistor amplifier whose operation is class A for small signals and class B for large signals. { ˌklas ¦ā¦bē 'am·plə ˌfī·ər }

class A modulator [ELECTR] A class A amplifier used to supply the necessary signal power to modulate a carrier. { ˌklas 'ā 'mäj·əˌlād·ər }

class A push-pull sound track [ENG ACOUS] Two single photographic sound tracks side by side, the transmission of one being 180° out of phase with the transmission of the other; both positive and negative halves of the sound wave are linearly recorded on each of the two tracks. { ˌklas 'ā ¦půsh ¦půl 'saůn ˌtrak }

class B amplifier [ELECTR] **1.** An amplifier in which the grid bias is approximately equal to the cutoff value, so that anode current is approximately zero when no exciting grid voltage is applied, and flows for approximately half of each cycle when an alternating grid voltage is applied. **2.** A transistor amplifier in which each transistor is in its active region for approximately half the signal cycle. { ˌklas 'bē 'am·plə ˌfī·ər }

class B auxiliary power [ELEC] Standby power plant to cover extended outages (days) of primary power. { ˌklas 'bē ȯg'zil·yə·rē 'paůr }

class B modulator [ELECTR] A class B amplifier used to supply the necessary signal power to modulate a carrier; usually connected in push-pull. { ˌklas 'bē 'mäj·əˌlād·ər }

class B push-pull sound track [ENG ACOUS] Two photographic sound tracks side by side, one of which carries the positive half of the signal only, and the other the negative half; during the inoperative half-cycle, each track transmits little or no light. { ˌklas 'bē ¦půsh ¦půl 'saůn ˌtrak }

class C amplifier [ELECTR] **1.** An amplifier in which the bias on the control element is appreciably greater than the cutoff valve, so that the output current in each device is zero when no alternating control signal is applied, and flows for appreciably less than half of each cycle when an alternating control signal is applied. **2.** A transistor amplifier in which each transistor is in its active region for significantly less than half the signal cycle. { ˌklas 'sē 'am·plə,fī·ər }

class C auxiliary power [ELEC] Quick start (10–60 seconds) power unit to cover short-term outages (hours) of primary power. { ˌklas 'sē ȯg'zil·yə·rē 'paů·ər }

class D amplifier [ELECTR] A power amplifier that employs a pair of transistors that are connected in push-pull and driven to act as a switch, and a series-tuned output filter, which allows only the fundamental-frequency component of the resultant square wave to reach the load. { ˌklas 'dē 'am·plə,fī·ər }

class D auxiliary power [ELEC] Uninterruptible (no-break) power unit using stored energy to provide continuous power within specified voltage and frequency tolerances. { ˌklas 'dē ȯg'zil·yə·rē 'paů·ər }

class E amplifier [ELECTR] A power amplifier that employs a single transistor driven to act as a switch, and an output filter selected to bring the drain voltage to zero at the instant the transistor is switched on. { ˌklas 'ē 'am·plə,fī·ər }

class F amplifier [ELECTR] A power amplifier that employs a single transistor and a multiple-resonance output circuit. { ˌklas 'ef 'am·plə ˌfī·ər }

class NP problems [COMPUT SCI] Problems that cannot necessarily be solved in polynomial time on a sequential computer but can be solved in polynomial time on a nondeterministic computer which, roughly speaking, guesses in turn each of 2N possible values of some N-bit quantity. { 'klas ¦en¦pē ˌpräb·ləmz }

class P problems [COMPUT SCI] Problems that can be solved in polynomial time on a conventional sequential computer. { 'klas 'pē ˌpräb·ləmz }

class S modulator [ELECTR] A modulator that is based on pulse-width modulation with a switching frequency several times the highest output frequency, and in which the pulse-width modulated signal is boosted to the desired power level by switching amplifiers, after which the desired audio output is obtained by a low-pass filter. { ˌklas 'es 'mäj·əˌlād·ər }

clause [COMPUT SCI] A part of a statement in the COBOL language which may describe the structure of an elementary item, give initial values to items in independent and group work areas, or redefine data previously defined by another clause. { klȯz }

Clausius-Mosotti equation [ELEC] An expression for the polarizability γ of an individual molecule in a medium which has the relative dielectric constant ϵ and has N molecules per unit volume: $\gamma = (3/4\pi\ \mathrm{N})\ [(\epsilon - 1)/(\epsilon + 2)]$ (Gaussian units). { ¦klȯz·ē·ə·əs mə'zäd·ē i'kwā·zhən }

clean and certify [COMPUT SCI] To prepare a magnetic tape for a computer system by running it through a machine that cleans it, writes a data test pattern on it, and checks it for errors. { 'klēn ən 'sərd·əˌfī }

clean compile [COMPUT SCI] Conversion of a computer program from source to object language with no detection of significant errors by the compiler; logic errors not identified by the compiler may exist. { 'klēn kəm'pīl }

clean track [ENG ACOUS] A sound track having no leakage from other tracks. { ¦klēn ¦trak }

cleanup [ELECTR] Gradual disappearance of gases from an electron tube during operation, due to absorption by getter material or the tube structure. { 'klē,nəp }

clear [COMPUT SCI] **1.** To restore a storage device, memory device, or binary stage to a prescribed state, usually that denoting zero. Also known as reset. **2.** A function key on calculators, to delete an entire problem or just the last keyboard entry. { klir }

clear area [COMPUT SCI] In optical character recognition, any area designated to be kept free of printing or any other extraneous markings. { 'klir ,er·ē·ə }

clear band [COMPUT SCI] In character recognition, a continuous horizontal strip of blank paper which must be obtained between consecutive code lines on a source document. { 'klir ,band }

clear channel [COMMUN] A standard broadcast channel in which the dominant station or stations render service over wide areas; stations are cleared of objectionable interference within their primary service areas and over all or a substantial portion of their secondary service areas. { ¦klir 'chan·əl }

clear text [COMMUN] Text or language which conveys an intelligible meaning in the language in which it is written with no hidden meaning. { 'klir ,tekst }

clear-voice override [COMMUN] The ability of a speech scrambler to receive a clear message even when the scrambler is set for scrambler operation. { ¦klir ¦vȯis 'ō·və,rīd }

click [COMMUN] A short-duration electric disturbance, such as that sometimes produced by a code-sending key or a switch. [COMPUT SCI] To select an object when the pointer is touching it by pressing and quickly releasing a button on a mouse. [ENG ACOUS] A perforation in a sound track which produces a clicking sound when passed over the projector sound head. { klik }

click filter [ELECTR] A capacitor connected across a switch, relay, or key to lengthen the decay time from the closed to the open condition when the device is opened or closed. { 'klik ,fil·tər }

click track [ENG ACOUS] A sound track containing a series of clicks, which may be spaced regularly (uniform click track) or irregularly (variable click track). { 'klik ,trak }

client [COMPUT SCI] A hardware or software entity that requests shared services from a server. { 'klī·ənt }

client-based application [COMPUT SCI] An application that runs on a work station or personal computer in a network and is not available to others in the network. { 'klī·ənt ,bāst ,ap·lə ¦kā·shən }

client-server system [COMPUT SCI] A computing system composed of two logical parts: a server, which provides information or services, and a client, which requests them. On a network, for example, users can access server resources from their personal computers using client software. { ¦klī·ənt 'sər·vər ,sis·təm }

clip art [COMPUT SCI] A collection of graphic images that are stored on a computer disk for use in desktop publishing, word processing, and presentation graphics programs. { 'klip ,ärt }

clipboard [COMPUT SCI] An area in memory or a file where cut or copied material is held temporarily before being inserted elsewhere in the same document or in another document. { 'klip,bȯrd }

clip lead [ELEC] A short piece of flexible wire with an alligator clip or similar temporary connector at one or both ends. { 'klip ,lēd }

clipper *See* limiter. { 'klip·ər }

Clipper Chip [COMPUT SCI] A chip proposed by the United States government to be used in all devices that might use encryption, such as computers and communications devices, for which the government would have at least some access or control over the decryption key for purposes of surveillance. { 'klip·ər ,chip }

clipper diode [ELECTR] A bidirectional breakdown diode that clips signal voltage peaks of either polarity when they exceed a predetermined amplitude. { 'klip·ər ,dī,ōd }

clipper-limiter [ELECTR] A device whose output is a function of the instantaneous input amplitude for a range of values lying between two predetermined limits but is approximately constant, at another level, for input values above the range. { ¦klip·ər ¦lim·əd·ər }

clipping [COMMUN] The perceptible mutilation of signals or speech syllables during transmission, often due to limiting. [COMPUT SCI] *See* scissoring. [ELECTR] *See* limiting. { 'klip·iŋ }

clipping circuit *See* limiter. { 'klip·iŋ ,sər·kət }

clipping level [ELECTR] The level at which a clipping circuit is adjusted; for example, the magnitude of the clipped wave shape. { 'klip·iŋ ,lev·əl }

CLIST [COMPUT SCI] A file containing a series of commands that are processed in the order given when the file is entered. Acronym for command list. { 'sē,list }

clobber [COMPUT SCI] To write new data and thereby erase good data in a file, or to otherwise

clock [ELECTR] A source of accurately timed pulses, used for synchronization in a digital computer or as a time base in a transmission system. { kläk }

clock control system [CONT SYS] A system in which a timing device is used to generate the control function. Also known as time-controlled system. { 'kläk kən'trōl ,sis·təm }

clock-doubled [COMPUT SCI] Describing a microprocessor that operates at twice the clock speed of the bus or motherboard to which it is attached. { 'kläk ¦dəb·əld }

clocked flip-flop [ELECTR] A flip-flop circuit that is set and reset at specific times by adding clock pulses to the input so that the circuit is triggered only if both trigger and clock pulses are present simultaneously. { 'kläkt 'flip ˌfläp }

clocked logic [ELECTR] A logic circuit in which the switching action is controlled by repetitive pulses from a clock. { ¦kläkt ¦läj·ik }

clock frequency [ELECTR] The master frequency of the periodic pulses that schedule the operation of a digital computer. Also known as clock rate; clock speed. { 'kläk ˌfrē·kwən·sē }

clock motor *See* timing motor. { 'kläk ˌmōd·ər }

clock oscillator [ELECTR] An oscillator that controls an electronic clock. { 'kläk 'äs·ə ˌlād·ər }

clock pulses [COMPUT SCI] Electronic pulses which are emitted periodically, usually by a crystal device, to synchronize the operation of circuits in a computer. Also known as clock signals. { 'kläk ˌpəl·səz }

clock rate *See* clock frequency. { 'kläk ˌrāt }

clock signals *See* clock pulses. { 'kläk ˌsig·nəlz }

clock speed *See* clock frequency. { 'kläk ˌspēd }

clock time *See* internal cycle time. { 'kläk ˌtīm }

clock track [COMPUT SCI] A track on a magnetic recording medium that generates clock pulses for the synchronization of read and write operations. { 'kläk ˌtrak }

clock-tripled [COMPUT SCI] Describing a microprocessor that operates at three times the clock speed of the bus or motherboard to which it is attached. { 'kläk ¦trip·əld }

clone [COMPUT SCI] A hardware or software product that closely resembles another product created by a different manufacturer or developer, in operation, appearance, or both. { klōn }

close [COMPUT SCI] To make a file unavailable to a computer program which previously had access to it. { klōs }

close coupling [ELEC] **1.** The coupling obtained when the primary and secondary windings of a radio-frequency or intermediate-frequency transformer are close together. **2.** A degree of coupling that is greater than critical coupling. Also known as tight coupling. { ¦klōs 'kəp·liŋ }

closed architecture [COMPUT SCI] A computer architecture whose detailed, technical specifications are available only to those authorized by the manufacturer. { ¦klōzd 'ärk·ə,tek·chər }

closed-box system [ELECTR] A loudspeaker system in which the woofer is mounted in a sealed box. { ˌklōzd 'bäks ˌsis·təm }

closed-bus system [COMPUT SCI] A computer that lacks receptacles for expansion boards and is difficult to upgrade. { ¦klōd 'bəs ˌsis·təm }

closed-caption television [COMMUN] A method of captioning or subtitling television programs by coding captions as a vertical-interval data signal in an analog television system or in the transport of a digital television system that is decoded at the receiver and superimposed on the normal television picture. { ¦klōzd ¦kap·shən 'tel·əˌvizh·ən }

closed circuit [COMMUN] Program source that is not broadcast for general consumption but is fed to remote monitoring units. { ¦klōzd 'sər·kət }

closed-circuit communications system [COMMUN] A communications systems which is entirely self-contained, and does not exchange intelligence with other facilities and systems. { ¦klōzd ¦sər·kət kəˌmyü·nə'kā·shənz ˌsis·təm }

closed-circuit signaling [COMMUN] Signaling in which current flows in the idle condition, and a signal is initiated by increasing or decreasing the current. { ¦klōzd ¦sər·kət 'sig·nə·liŋ }

closed-circuit telegraph system [COMMUN] Telegraph system in which, when no station is transmitting, the circuit is closed and current flows through the circuit. { ¦klōzd ¦sər·kət 'tel·əˌgraf ˌsis·təm }

closed-circuit television [COMMUN] Any application of television that does not involve broadcasting for public viewing; the programs can be seen only on specified receivers connected to the television camera by circuits, which include microwave relays and coaxial cables. Abbreviated CCTV. { ¦klōzd ¦sər·kət 'tel·əˌvizh·ən }

closed-coil armature [ELEC] The configuration of an armature in which the connection of all the coils forms a closed circuit. { 'klōzd ¦kȯil 'är·mə·chər }

closed-cycle fuel cell [ELEC] A fuel cell in which the reactants are regenerated by an auxiliary process, such as electrolysis. { ¦klōzd ¦sī·kəl 'fyül ˌsel }

closed file [COMPUT SCI] A file that cannot be accessed for reading or writing. { ¦klōzd 'fīl }

closed loop [COMPUT SCI] A loop whose execution continues indefinitely in the absence of any external intervention. [CONT SYS] A family of automatic control units linked together with a process to form an endless chain; the effects of control action are constantly measured so that if the controlled quantity departs from the norm, the control units act to bring it back. { ¦klōzd 'lüp }

closed-loop control system *See* feedback control system. { ¦klōzd ¦lüp kən'trōl ˌsis·təm }

closed-loop telemetry system [ENG] **1.** A telemetry system which is also used as the display portion of a remote-control system. **2.** A system used to check out test vehicle or telemetry performance without radiation of radio-frequency energy. { ¦klōzd ¦lüp tə'lem·ə·trē ˌsis·təm }

closed-loop voltage gain [ELECTR] The voltage gain of an amplifier with feedback. { ¦klōzd ¦lüp 'vōl·tij ˌgān }

closed shop [COMPUT SCI] A data-processing center so organized that only professional programmers and operators have access to the center to meet the needs of users. { ¦klōzd 'shäp }

closed subroutine [COMPUT SCI] A subroutine that can be stored outside the main routine and can be connected to it by linkages at one or more locations. { ¦klōzd 'səb·rüˌtēn }

closefile [COMPUT SCI] A procedure call in time sharing which enables an ALGOL program to close a file no longer required. { 'klōz,fīl }

close-out file [COMPUT SCI] A file created at the end of a processing cycle, usually encompassing a specified period of time. { 'klōz ,aůt ,fīl }

close routine [COMPUT SCI] A computer program that changes the state of a file from open to closed. { 'klōz rü'tēn }

close-talking microphone [ENG ACOUS] A microphone designed for use close to the mouth, so noise from more distant points is suppressed. Also known as noise-canceling microphone. { 'klōs ,tȯk-iŋ 'mī·krə,fōn }

cloud pulse [ELECTR] The output resulting from space charge effects produced by turning the electron beam on or off in a charge-storage tube. { 'klaůd ,pəls }

cloverleaf antenna [ELECTROMAG] Antenna having radiating units shaped like a four-leaf clover. { 'klō·vər,lēf an 'ten·ə }

cluster [COMPUT SCI] **1.** In a clustered file, one of the classes into which records with similar sets of content identifiers are grouped. **2.** A grouping of hardware devices in a distributed processing system. **3.** A group of disk sectors that is treated as a single entity by the operating system. { 'kləs·tər }

cluster controller [COMPUT SCI] A control unit to which several peripheral devices are assigned. { 'kləs·tər kən,trōl·ər }

clustered file [COMPUT SCI] A collection of records organized so that items which exhibit similar sets of content identifiers are automatically grouped into common classes. { 'kləs·tərd 'fīl }

clustering algorithm [COMPUT SCI] A computer program that attempts to detect and locate the presence of groups of vectors, in a high-dimensional multivariate space, that share some property of similarity. { ¦kləs·tə·riŋ ¦al·gə ,rith·əm }

clutter [ELECTROMAG] Unwanted echoes on a radar screen, such as those caused by the ground, sea, rain, stationary objects, chaff, enemy jamming transmissions, and grass. Also known as background returns; radar clutter. { 'kləd·ər }

clutter gating [ELECTR] A technique which provides switching between moving-target-indicator and normal videos; this results in normal video being displayed in regions with no clutter and moving-target-indicator video being switched in only for the clutter areas. { 'kləd·ər ,gad·iŋ }

clutter suppression [ELECTR] Technique of reducing, by various means integral to the radar system, the effects of echoes from scatterers such as rain and surface features among the received signals. { 'kləd·ər sə,presh·ən }

CMI *See* computer-managed instruction.

CML *See* current-mode logic.

CMOS device [ELECTR] A device formed by the combination of a PMOS (*p*-type-channel metal oxide semiconductor device) with an NMOS (*n*-type-channel metal oxide semiconductor device). Derived from complementary metal oxide semiconductor device. { 'se,mós dē'vīs }

CMRR *See* common-mode rejection ratio.

CNC *See* computer numerical control.

C network [ELECTR] Network composed of three impedance branches in series, the free ends being connected to one pair of terminals, and the junction points being connected to another pair of terminals. { 'sē ,net,wərk }

coast [ENG] A memory feature on a radar which, when activated, causes the range and angle systems to continue to move in the same direction and at the same speed as that required to track an original target. { kōst }

coastal refraction [ELECTROMAG] An apparent change in the direction of travel of a radio wave when it crosses a shoreline obliquely. Also known as land effect. { 'kōs·təl ri'frak·shən }

coated cathode [ELECTR] A cathode that has been coated with compounds to increase electron emission. { 'kōd·əd 'kāth,ōd }

coated filament [ELECTR] A vacuum-tube filament coated with metal oxides to provide increased electron emission. { 'kōd·əd 'fil·ə·mənt }

coax *See* coaxial cable. { 'kō,aks }

coaxial antenna [ELECTROMAG] An antenna consisting of a quarter-wave extension of the inner conductor of a coaxial line and a radiating sleeve that is in effect formed by folding back the outer conductor of the coaxial line for a length of approximately a quarter wavelength. { kō'ak·sē·əl an'ten·ə }

coaxial attenuator [ELECTROMAG] An attenuator that has a coaxial construction and terminations suitable for use with coaxial cable. { kō'ak·sē·əl ə'ten·yə,wād·ər }

coaxial bolometer [ELECTR] A bolometer in which the desired square-law detection characteristic is provided by a fine Wollaston wire element that has been thoroughly cleaned before being axially located and soldered in position in its cylinder. { kō'ak·sē·əl bə'läm·əd·ər }

coaxial cable [ELECTROMAG] A transmission line in which one conductor is centered inside and insulated from an outer metal tube that serves as the second conductor. Also known as coax; coaxial line; coaxial transmission line; concentric cable; concentric line; concentric transmission line. { kō'ak·sē·əl 'kā·bəl }

coaxial capacitor *See* cylindrical capacitor. { kō'ak·sē·əl kə'pas·əd·ər }

coaxial cavity [ELECTROMAG] A cylindrical resonating cavity having a central conductor in contact with its pistons or other reflecting devices. { kō'ak·sē·əl 'kav·əd·ē }

coaxial cavity magnetron [ELECTR] A magnetron which achieves mode separation, high efficiency, stability, and ease of mechanical tuning by coupling a coaxial high-Q cavity to a normal set of quarter-wavelength vane cavities. { kō'ak·sē·əl ,kav·əd·ē 'mag·nə,trän }

coaxial connector [ELECTROMAG] An electric connector between a coaxial cable and an equipment circuit, so constructed as to maintain the conductor configuration, through the separable connection, and the characteristic impedance of the coaxial cable. { kō'ak·sē·əl kə'nek·tər }

coaxial-cylinder magnetron [ELECTR] A magnetron in which the cathode and anode consist of coaxial cylinders. { kō'ak·sē·əl ˌsil·ən·dər 'mag·nəˌträn }

coaxial diode [ELECTR] A diode having the same outer diameter and terminations as a coaxial cable, or otherwise designed to be inserted in a coaxial cable. { kō'ak·sē·əl 'dīˌōd }

coaxial filter [ELECTROMAG] A section of coaxial line having reentrant elements that provide the inductance and capacitance of a filter section. { kō'ak·sē·əl 'fil·tər }

coaxial hybrid [ELECTROMAG] A hybrid junction of coaxial transmission lines. { kō'ak·sē·əl 'hīˌbrəd }

coaxial isolator [ELECTROMAG] An isolator used in a coaxial cable to provide a higher loss for energy flow in one direction than in the opposite direction; all types use a permanent magnetic field in combination with ferrite and dielectric materials. { kō'ak·sē·əl 'ī·səˌlād·ər }

coaxial line *See* coaxial cable. { kō'ak·sē·əl 'līn }

coaxial-line resonator [ELECTROMAG] A resonator consisting of a length of coaxial line short-circuited at one or both ends. { kō'ak·sē·əl ˌlīn 'rez·ənˌād·ər }

coaxial speaker [ENG ACOUS] A loudspeaker system comprising two, or less commonly three, speaker units mounted on substantially the same axis in an integrated mechanical assembly, with an acoustic-radiation-controlling structure. { kō'ak·sē·əl 'spēk·ər }

coaxial stub [ELECTROMAG] A length of nondissipative cylindrical waveguide or coaxial cable branched from the side of a waveguide to produce some desired change in its characteristics. { kō'ak·sē·əl 'stəb }

coaxial switch [ELEC] A switch that changes connections between coaxial cables going to antennas, transmitters, receivers, or other high-frequency devices without introducing impedance mismatch. { kō'ak·sē·əl 'swich }

coaxial transistor [ELECTR] A point-contact transistor in which the emitter and collector are point electrodes making pressure contact at the centers of opposite sides of a thin disk of semiconductor material serving as base. { kō'ak·sē·əl tranˈzis·tər }

coaxial transmission line *See* coaxial cable. { kō'ak·sē·əl tranz'mish·ən ˌlīn }

coaxial wavemeter [ENG] A device for measuring frequencies above about 100 megahertz, consisting of a rigid metal cylinder that has an inner conductor along its central axis, and a sliding disk that shorts the inner conductor and the cylinder. { kō'ak·sē·əl 'wāvˌmēd·ər }

COBOL [COMPUT SCI] A business data-processing language that can be given to a computer as a series of English statements describing a complete business operation. Derived from common business-oriented language. { 'kōˌbōl }

cochannel cells [COMMUN] Two cells in a cellular mobile radio system that use the same frequency. { ¦kōˌchan·əl 'selz }

cochannel interference [COMMUN] Interference caused on one communication channel by a transmitter operating in the same channel. { 'kōˌchan·əl ˌin·tərˈfir·əns }

cochannel interference reduction factor [COMMUN] The ratio of the minimum separation between two cochannel cells without interference to the radius of a cell. { ¦kōˌchan·əl ˌin·tərˌfir·əns riˈdək·shən ˌfak·tər }

codan [ELECTR] A device that silences a receiver except when a modulated carrier signal is being received. { 'kōˌdan }

Coddington shape factor *See* shape factor. { 'käd·iŋ·tən 'shāp ˌfak·tər }

code [COMMUN] **1.** A system of symbols and rules for expressing information, such as the Morse code. **2.** Electronic Industries Association color code, and the binary and other machine languages used in digital computers. { kōd }

code book [COMMUN] A book containing a large number of plaintext words, phrases, and sentences and their codetext equivalents. { 'kōd ˌbük }

codec [ELECTR] A device that converts analog signals to digital form for transmission and converts signals traveling in the opposite direction from digital to analog form. Derived from coder-decoder. { 'kōˌdek }

code-check [COMPUT SCI] To remove mistakes from a coded routine or program. { 'kōd ˌchek }

code checking time [COMPUT SCI] Time spent checking out a problem on the computer, making sure that the problem is set up correctly and that the code is correct. { 'kōd ˌchek·iŋ ˌtīm }

code converter [COMPUT SCI] A converter that changes coded information to a different code system. { 'kōd kənˈvərd·ər }

coded character set [COMPUT SCI] A set of characters together with the code assigned to each character for computer use. { 'kōd·əd 'kar·ik·tər ˌset }

coded decimal *See* decimal-coded digit. { 'kōd·əd 'des·məl }

coded interrogator [COMMUN] An interrogator whose output signal forms the code required to trigger a specific radio or radar beacon; part of an address-selective system. { 'kōd·əd in'ter·əˌgād·ər }

code-division multiple access [COMMUN] The transmission of messages from a large number of transmitters over a single channel by assigning each transmitter a pseudorandom noise code (typically more than 2000 symbols long for each bit of information) so that the codes are mathematically independent of each other. Abbreviated CDMA. { 'kōd dəˌvizh·ən 'məl·tə·pəl 'akˌses }

code-division multiplex [COMMUN] Multiplex in which two or more communication links occupy the entire transmission channel simultaneously, with code signal structures designed so a given receiver responds only to its own signals and treats the other signals as noise. Abbreviated CDM. { 'kōd dəˈvizh·ən 'məlt·iˌpleks }

coded passive reflector antenna [ELECTROMAG] An object intended to reflect Hertzian waves and having variable reflecting properties according to a predetermined code for the purpose of producing an indication on a radar receiver. ['kōd·əd 'pas·iv ri'flek·tər an,ten·ə]

coded program [COMPUT SCI] A program expressed in the required code for a computer. ['kōd·əd 'prō·grəm]

coded stop [COMPUT SCI] A stop instruction built into a computer routine. ['kōd·əd 'stäp]

code element [COMMUN] One of the separate elements or events constituting a coded message, such as the presence or absence of a pulse, dot, dash, or space. ['kōd ,el·ə·mənt]

code error [COMPUT SCI] A surplus or lack of a bit or bits in a machine instruction. ['kōd ,er·ər]

code-excited linear predictive coder [COMMUN] A speech coder that uses both short-term and long-term predictors, vector quantization techniques, and an analysis-by-synthesis approach to search for the best combination of coder parameters. Abbreviated CELP coder. [¦kōd i¦sīd·əd ¦lin·ē·ər prə¦dik·tiv 'kōd·ər]

code extension [COMPUT SCI] A method of increasing the number of characters that can be represented by a code by combining characters into groups. ['kōd ik,sten·chən]

code group [COMMUN] A combination of letters or numerals or both, assigned to represent one or more words of plain text in a coded message. ['kōd ,grüp]

code line [COMPUT SCI] In character recognition, the area reserved for the inscription of the printed or handwritten characters to be recognized. ['kōd ,līn]

code practice oscillator [ELECTR] An oscillator used with a key and either headphones or a loudspeaker to practice sending and receiving Morse code. [¦kōd ¦prak·təs 'äs·ə,lād·ər]

coder [COMMUN] A device that generates a code by producing pulses having varying lengths or spacings, as required for radio beacons and interrogators. Also known as moder; pulse coder; pulse-duration coder. [COMPUT SCI] A person who translates a sequence of computer instructions into codes acceptable to the machine. ['kōd·ər]

coder-decoder *See* codec. [¦kōd·ər dē¦kōd·ər]

code reader [COMPUT SCI] A scanning device used for automated identification of a two-dimensional pattern, one part after the other, and generation of either analog or digital signals that correspond to the pattern. Also known as code scanner. ['kōd ,rēd·ər]

code ringing [COMMUN] In telephone switching, party-line ringing wherein the number or duration of rings indicates which station is being called. ['kōd ,riŋ·iŋ]

code scanner *See* code reader. ['kōd ,skan·ər]

code sensitivity [COMPUT SCI] Property of hardware or software that can handle only data presented in a particular code. ['kōd ,sen·sə ,tiv·əd·ē]

code signal [COMMUN] A sequence of discrete conditions or events corresponding to a coded message. ['kōd ,sig·nəl]

codetext [COMMUN] A message which has been transformed by a code into a form which can be read only by those privy to the secrets of the code. ['kōd,tekst]

code translation [COMMUN] Conversion of a directory code or number into a predetermined code for controlling the selection of an outgoing trunk or line. ['kōd tranz,lā·shən]

code transparency [COMPUT SCI] Property of hardware or software that can handle data regardless of what form it is in. ['kōd tranz ,par·ən·sē]

coding [COMPUT SCI] **1.** The process of converting a program design into an accurate, detailed representation of that program in some suitable language. **2.** A list, in computer code, of the successive operations required to carry out a given routine or solve a given problem. ['kōd·iŋ]

coding disk [COMMUN] Disk with small projections for operating contacts to give a certain predetermined code to a transmission. ['kōd·iŋ ,disk]

coding form *See* coding sheet. ['kōd·iŋ ,fȯrm]

coding line *See* instruction word. ['kōd·iŋ ,līn]

coding sheet [COMPUT SCI] A sheet of paper printed with a form on which one can conveniently write a coded program. Also known as coding form. ['kōd·iŋ ,shēt]

codistor [ELECTR] A multijunction semiconductor device which provides noise rejection and voltage regulation functions. [kō'dis·tər]

coefficient of capacitance [ELEC] One of the coefficients which appears in the linear equations giving the charges on a set of conductors in terms of the potentials of the conductors; a coefficient is equal to the ratio of the charge on a given conductor to the potential of the same conductor when the potentials of all the other conductors are 0. [¦kō·ə'fish·ənt əv kə'pas·ə·təns]

coefficient of induction [ELEC] One of the coefficients which appears in the linear equations giving the charges on a set of conductors in terms of the potentials of the conductors; a coefficient is equal to the ratio of the charge on a given conductor to the potential on another conductor, when the potentials of all the other conductors equal 0. [¦kō·ə'fish·ənt əv in'dək·shən]

coefficient of potential [ELEC] One of the coefficients which appears in the linear equations giving the potentials of a set of conductors in terms of the charges on the conductors. [¦kō·ə'fish·ənt əv pə'ten·chəl]

coercion [COMPUT SCI] A method employed by many programming languages to automatically convert one type of data to another. [kō'ər·shən]

cog [ELEC] A fluctuation in the torque delivered by a motor when it runs at low speed, due to electromechanical effects. Also known as torque ripple. [käg]

COGO [COMPUT SCI] A higher-level computer language oriented toward civil engineering,

enabling one to write a program in a technical vocabulary familiar to engineers and feed it to the computer; several versions have been implemented. Derived from coordinated geometry. { 'kō,gō }

cohered video [ELECTR] The video detector output signal in a coherent moving-target indicator radar system. { kō'hird 'vid·ē·ō }

coherent [ELECTR] Referring to radar signals and signal processing and related equipment wherein attention is given to both the amplitude and the phase of the signal; many valuable processes in radar operation are coherent in nature. { kō'hir·ənt }

coherent carrier system [NAV] Transponder system in which the interrogating carrier is retransmitted at a definite multiple frequency for comparison. { kō'hir·ənt 'kar·ē·ər ,sis·təm }

coherent detector [ELECTR] A detector used in coherent radar giving an output-signal amplitude that depends on the phase of the echo signal (rather than only its amplitude) relative to the phase of that which was transmitted, as required for sensing the radial velocity of targets. Also known as phase detector. { kō'hir·ənt di'tek·tər }

coherent echo [ELECTR] A radar echo whose phase and amplitude at a given range remain relatively constant. { kō'hir·ənt 'ek·ō }

coherent integration [ELECTR] A radar signal processing technique in which the phase relationships among successive pulses being echoed from a target are interpreted, usually to estimate or to separate signals based on the apparent Doppler shift of the signals. { kō'hir·ənt ,int·ə'grā·shən }

coherent interrupted waves [COMMUN] Interrupted continuous waves occurring in wave trains in which the phase of the waves is maintained through successive wave trains. { kō'hir·ənt in·tə'rəp·təd 'wāvz }

coherent light communications [COMMUN] Communications using the optical band as a transmission medium by modulating a laser in amplitude or pulse frequency. { kō'hir·ənt 'līt kə,myü·nə'kā·shənz }

coherent moving-target indicator [ENG] A radar system in which the Doppler frequency of the target echo is compared to a local reference frequency generated by a coherent oscillator. { kō'hir·ənt ¦müv·iŋ ¦tär·gət ,in·də,kād·ər }

coherent noise [ENG] Noise that affects all tracks across a magnetic tape equally and simultaneously. { kō'hir·ənt 'nȯiz }

coherent oscillator [ELECTR] An oscillator locked in phase to the transmitted signal as used in coherent radar to provide a reference by which changes in the phase of successively received pulses may be recognized. Abbreviated coho. { kō'hir·ənt 'äs·ə,lād·ər }

coherent processing interval [ELECTR] That period of time over which radar return signals are coherently integrated, permitting a resolution in Doppler shift being sensed as great as the reciprocal of the interval. { kō'hir·ənt 'präs·əs·iŋ 'in·tər·vəl }

coherent-pulse radar [ELECTR] A radar in which the radio-frequency oscillations of recurrent pulses bear a constant phase relation to those of a continuous oscillation. { kō'hir·ənt ,pəls 'rā,där }

coherent pulses [ELECTR] Characterizing pulses in which the phase of the radio-frequency waves is maintained through successive pulses. { kō'hir·ənt 'pəl·səz }

coherent radar [ELECTR] A radar capable of comparing the phase of received signals with the phase of the transmitted signal, generally with the object of sensing pulse-to-pulse phase changes, indicative of radial motion, and hence the Doppler shift, of the target. { kō'hir·ənt 'rā ,där }

coherent reference [ELECTR] A reference signal, usually of stable frequency, to which other signals are phase-locked to establish coherence throughout a system. { kō'hir·ənt 'ref·rəns }

coherent side-lobe canceler [ELECTR] A radar feature in which interfering signals in the side lobes of the radar antenna are cancelled by adaptively adjusting the phase and amplitude of signals received in a number of auxiliary antennas and subtracting those from the signal in the main antenna. { kō'hir·ənt 'sid ,lōb 'kan·səl·ər }

coherent signal [ELECTR] In coherent radar, a signal having a known phase, often constant, as that produced by the coherent oscillator to be mixed in the coherent detector with the echo signal to detect pulse-to-pulse phase changes indicative of target radial motion. { kō'hir·ənt 'sig·nəl }

coherent system [NAV] A navigation system in which the signal output is obtained by demodulating the received signal after mixing with a local signal having a fixed phase relation to that of the transmitted signal, to permit use of the information carrier by the phase of the received signal. { kō'hir·ənt 'sis·təm }

coherent transponder [ELECTR] A transponder in which a fixed relation between frequency and phase of input and output signals is maintained. { kō'hir·ənt tranz'pänd·ər }

coherent video [ELECTR] The video signal produced in a coherent radar by combining in a coherent detector a radar echo signal with the output of the continuous wave coherent oscillator. Also called bipolar video. { kō'hir·ənt 'vid·ē·ō }

coherer [ELEC] A cell containing a granular conductor between two electrodes; the cell becomes highly conducting when it is subjected to an electric field, and conduction can then be stopped only by jarring the granules. { kō'hir·ər }

coho *See* coherent oscillator. { 'kō,hō }

coil [CONT SYS] Any discrete and logical result that can be transmitted as output by a programmable controller. [ELECTROMAG] A number of turns of wire used to introduce inductance into an electric circuit, to produce magnetic flux,

or to react mechanically to a changing magnetic flux; in high-frequency circuits a coil may be only a fraction of a turn. Also known as electric coil; inductance coil; inductor. { kȯil }

coil antenna [ELECTROMAG] An antenna that consists of one or more complete turns of wire. { 'kȯil an'ten·ə }

coil loading [COMMUN] Loading in which inductors, commonly called loading coils, are inserted in a line at intervals. { 'kȯil ˌlōd·iŋ }

coil neutralization *See* inductive neutralization. { 'kȯil nü·trə·lə'zā·shən }

coil serving *See* serving. { 'kȯil ˌsərv·iŋ }

coincidence amplifier [ELECTR] An electronic circuit that amplifies only that portion of a signal present when an enabling or controlling signal is simultaneously applied. { kō'in·sə·dəns ˌam·pləˌfī·ər }

coincidence circuit [ELECTR] A circuit that produces a specified output pulse only when a specified number or combination of two or more input terminals receives pulses within an assigned time interval. Also known as coincidence counter; coincidence gate. { kō'in·sə·dəns ˌsər·kət }

coincidence counter *See* coincidence circuit. { kō'in·sə·dəns ˌkaùnt·ər }

coincidence gate *See* coincidence circuit. { kō'in·sə·dəns ˌgāt }

coincident-current selection [ELECTR] The selection of a particular magnetic cell, for reading or writing in computer storage, by simultaneously applying two or more currents. { kō¦in·sə·dənt 'kər·ənt si'lek·shən }

cold [ELEC] Pertaining to electrical circuits that are disconnected from voltage supplies and at ground potential; opposed to hot, pertaining to carrying an electrical charge. { kōld }

cold boot [COMPUT SCI] To turn the power on and boot a computer. { ¦kōld 'büt }

cold cathode [ELECTR] A cathode whose operation does not depend on its temperature being above the ambient temperature. { 'kōld 'kath ˌōd }

cold-cathode counter tube [ELECTR] A counter tube having one anode and three sets of 10 cathodes; two sets of cathodes serve as guides that direct the flow discharge to each of the 10 output cathodes in correct sequence in response to driving pulses. { 'kōld 'kathˌōd 'kaùnt·ərˌtüb }

cold-cathode discharge *See* glow discharge. { 'kōld 'kathˌōd 'disˌchärj }

cold-cathode ionization gage *See* Philips ionization gage. { 'kōld 'kathˌōd ˌī·ən·ə'zā·shən ˌgāj }

cold-cathode rectifier [ELECTR] A cold-cathode gas tube in which the electrodes differ greatly in size so electron flow is much greater in one direction than in the other. Also known as gas-filled rectifier. { 'kōld 'kathˌōd 'rek·təˌfī·ər }

cold-cathode tube [ELECTR] An electron tube containing a cold cathode, such as a cold-cathode rectifier, mercury-pool rectifier, neon tube, phototube, or voltage regulator. { 'kōld 'kathˌōd ˌtüb }

cold emission *See* field emission. { 'kōld i'mish·ən }

cold junction [ELECTR] The reference junction of thermocouple wires leading to the measuring instrument; normally at room temperature. { 'kōld 'jəŋk·shən }

cold link [COMPUT SCI] A linking of information in two documents in which updating the link requires recopying the information from the source document to the target document. { 'kōld 'liŋk }

cold start [COMPUT SCI] To start running a computer program from the very beginning, without being able to continue the processing that was occurring previously when the system was interrupted. { 'kōld 'stärt }

Cole-Cole plot [ELEC] For a substance displaying orientation polarization, a graph of the imaginary part versus the real part of the complex relative permittivity that is a circular arc, with its center below the abscissa. { 'kōl 'kōl ˌplät }

Cole-Davidson plot [ELEC] For a substance displaying orientation polarization, a graph of the real part versus the imaginary part of the complex relative permittivity that is a skewed arc which approximates a straight line at the high-frequency end and a circular arc at the low-frequency end. { 'kōl 'dā·vəd·sən ˌplät }

collate [COMPUT SCI] To combine two or more similarly ordered sets of values into one set that may or may not have the same order as the original sets. { 'käˌlāt }

collating sequence [COMPUT SCI] The ordering of a set of items such that sets in that assigned order can be collated. { 'käˌlād·iŋ ˌsē·kwəns }

collector [ELECTR] **1.** A semiconductive region through which a primary flow of charge carriers leaves the base of a transistor; the electrode or terminal connected to this region is also called the collector. **2.** An electrode that collects electrons or ions which have completed their functions within an electron tube; a collector receives electrons after they have done useful work, whereas an anode receives electrons whose useful work is to be done outside the tube. Also known as electron collector. { kə'lek·tər }

collector capacitance [ELECTR] The depletion-layer capacitance associated with the collector junction of a transistor. { kə'lek·tər kə'pas·əd·əns }

collector current [ELECTR] The direct current that passes through the collector of a transistor. { kə'lek·tər ˌkər·ənt }

collector cutoff [ELECTR] The reverse saturation current of the collector-base junction. { kə'lek·tər 'kədˌòf }

collector junction [ELECTR] A semiconductor junction located between the base and collector electrodes of a transistor. { kə'lek·tər ˌjəŋk·shən }

collector modulation [ELECTR] Amplitude modulation in which the modulator varies the

collector voltage of a transistor. { kə'lek·tər ˌmāj·ə'lā·shən }

collector plate [ELEC] One of several metal inserts that are sometimes embedded in the lining of an electrolyte cell to make the resistance between the cell lining and the current leads as small as possible. { kə'lek·tər ˌplāt }

collector resistance [ELECTR] The back resistance of the collector-base diode of a transistor. { kə'lek·tər ri'zis·təns }

collector ring *See* slip ring. { kə'lek·tər ˌriŋ }

collector voltage [ELECTR] The direct-current voltage, obtained from a power supply, that is applied between the base and collector of a transistor. { kə'lek·tər ˌvōl·tij }

colliding-beam source [ELECTR] A device for generating beams of polarized negative hydrogen or deuterium ions, in which polarized negative hydrogen or deuterium atoms are converted to negative ions through charge exchange during collisions with cesium atoms. { kə'līd·iŋ ˌbēm ˌsȯrs }

collimation error [ENG] **1.** Angular error in magnitude and direction between two nominally parallel lines of sight. **2.** Specifically, the angle by which the line of sight of a radar differs from what it should be. { ˌkäl·ə'mā·shən ˌer·ər }

collimation tower [ENG] Tower on which a visual and a radio target are mounted to check the electrical axis of an antenna. { ˌkäl·ə'mā·shən ˌtaù·ər }

collinear array *See* linear array. { kə'lin·ē·ər ə'rā }

collinear heterodyning [ELECTR] An optical processing system in which the correlation function is developed from an ultrasonic light modulator; the output signal is derived from a reference beam in such a way that the two beams are collinear until they enter the detection aperture; variations in optical path length then modulate the phase of both signal and reference beams simultaneously, and phase differences cancel out in the heterodyning process. { kə'lin·ē·ər 'hed·ə·rəˌdīn·iŋ }

collision-avoidance radar [ENG] Radar equipment utilized in a collision-avoidance system. { kə'lizh·ən ə'vȯid·əns ˌrāˌdär }

collision-avoidance system [ENG] Electronic devices and equipment used by a pilot to perform the functions of conflict detection and avoidance. { kə'lizh·ən ə'vȯid·əns ˌsis·təm }

collision detection [COMPUT SCI] A procedure in which a computer network senses a situation where two computer devices attempt to access the network at the same time and blocks the messages, requiring each device to resubmit its message at a randomly selected time. { kə'lizh·ən diˌtek·shən }

color aberration *See* chromatic aberration. { 'kəl·ər ab·ə'rā·shən }

color balance [ELECTR] Adjustment of the circuits feeding the three electron guns of a television color picture tube to compensate for differences in light-emitting efficiencies of the three color phosphors on the screen of the tube. { 'kəl·ər ˌbal·əns }

color-bar generator [ELECTR] A signal generator that delivers to the input of a video system the signal needed to produce a color-bar test pattern on a device or system. { 'kəl·ər ˌbär 'jen·ə ˌrād·ər }

color-bar test pattern [COMMUN] A test pattern of different colors of vertical bars, used to check the performance of a video system. { 'kəl·ər ˌbär 'test ˌpad·ərn }

color breakup [COMMUN] A transient or dynamic distortion of the color in an analog color television picture that can originate in videotape equipment, a television camera, or a receiver. { 'kəl·ər ˌbrāk,əp }

color burst [ELECTR] The portion of an analog composite color television signal consisting of a few cycles of a sine wave of chrominance subcarrier frequency. Also known as burst; reference burst. { 'kəl·ər ˌbərst }

color carrier *See* chrominance subcarrier. { 'kəl·ər ˌkar·ē·ər }

color-carrier reference *See* chrominance-carrier reference. { 'kəl·ər ˌkar·ē·ər ˌref·rəns }

color code [ELEC] A system of colors used to indicate the electrical value of a component or to identify terminals and leads. { 'kəl·ər ˌkōd }

color coder *See* matrix. { 'kəl·ər ˌkōd·ər }

color contamination [ELECTR] An error in the color rendition of an analog color television picture that results from incomplete separation of the paths that carry different color components of a picture. { 'kəl·ər kənˌtam·ə'nā·shən }

color control *See* chroma control. { 'kəl·ər kən 'trōl }

color decoder *See* matrix. { 'kəl·ər dē'kōd·ər }

color-difference signal [ELECTR] A signal that is added to the monochrome signal in an analog color television receiver to obtain a signal representative of one of the three tristimulus values needed by the color picture tube. { ¦kəl·ər ¦dif·rəns ˌsig·nəl }

color encoder *See* matrix. { 'kəl·ər en'kōd·ər }

color facsimile [COMMUN] A facsimile system for transmission of color photographs, in which three separate facsimile transmissions are made from the original color print, using color-separation filters in the optical system of the facsimile transmitter. { 'kəl·ər ˌfak'sim·ə·lē }

color fringing [ELECTR] Spurious chromaticity at boundaries of objects in a television picture. { 'kəl·ər 'frinj·iŋ }

color killer circuit [ELECTR] The circuit in an analog color television receiver that biases chrominance amplifier tubes to cutoff during reception of monochrome programs. Also known as killer stage. { 'kəl·ər ˌkil·ər ˌsər·kət }

color kinescope *See* color picture tube. { ¦kəl·ər 'kin·ə·skōp }

color oscillator *See* chroma oscillator. { 'kəl·ər ˌäs·əˌlād·ər }

color phase [COMMUN] The difference in phase between components (I or Q) of a chrominance signal and the chrominance-carrier reference in an analog color television receiver. { 'kəl·ər ˌfāz }

color-phase alternation [COMMUN] The periodic changing of the color phase of one or more components of the chrominance subcarrier between two sets of assigned values after every field in an analog color television system. Abbreviated CPA. { 'kəl·ər ˌfāz ȯl·tər'nā·shən }

color-phase detector [ELECTR] The analog color television receiver circuit that compares the frequency and phase of the incoming burst signal with those of the locally generated 3.579545-megahertz chroma oscillator and delivers a correction voltage to ensure that the color portions of the picture will be in exact register with the black-and-white portions on the screen. { 'kəl·ər ˌfāz di'tek·tər }

color picture signal [COMMUN] The electric signal that represents complete color picture information, excluding all synchronizing signals. { 'kəl·ər ˌpik·chər ˌsig·nəl }

color picture tube [ELECTR] A cathode-ray tube having three different colors of phosphors, so that when these are appropriately scanned and excited, a color picture is obtained. Also known as color kinescope; color television picture tube; tricolor picture tube. { 'kəl·ər ˌpik·chər ˌtüb }

color purity [ELECTR] Absence of undesired colors in the spot produced on the screen by each beam of a color picture tube. { 'kəl·ər ˌpyür·əd·ē }

color-saturation control *See* chroma control. { 'kəl·ər sach·ə'rā·shən kən'trōl }

color signal [COMMUN] Any signal that controls the chromaticity values of a color picture in a video system. { 'kəl·ər ˌsig·nəl }

color subcarrier *See* chrominance subcarrier. { 'kəl·ər səb'kar·ē·ər }

color-subcarrier oscillator *See* chroma oscillator. { 'kəl·ər səb'kar·ē·ər 'ä·səˌlād·ər }

color-subcarrier reference *See* chrominance-carrier reference. { 'kəl·ər səb'kar·ē·ər 'ref·rəns }

color sync signal [COMMUN] A signal that is transmitted with each line of an analog color television broadcast to ensure that the color relationships in the transmitted signal are established and maintained in the receiver. { 'kəl·ər 'siŋk ˌsig·nəl }

color television [COMMUN] A television system that reproduces an image approximately in its original colors. { ¦kəl·ər ¦tel·əˌvizh·ən }

color television picture tube *See* color picture tube. { ¦kəl·ər ¦tel·əˌvizh·ən 'pik·chər ˌtüb }

color transmission [COMMUN] In television, the transmission of a signal waveform that represents both the brightness values and the chromaticity values in the picture. { 'kəl·ər tranz'mish·ən }

Colpitts oscillator [ELECTR] An oscillator in which a parallel-tuned tank circuit has two voltage-dividing capacitors in series, with their common connection going to the cathode in the electron-tube version and the emitter circuit in the transistor version. { 'kōlˌits ˌäs·əˌlād·ər }

column [COMPUT SCI] A vertical arrangement of characters or other expressions, usually referring to a specific print position on a printer. { 'käl·əm }

column order [COMPUT SCI] The storage of a matrix $a(m,n)$ as $a(1,1), a(2,1), \ldots, a(m,1), a(1,2), \ldots$. { 'käl·əm ˌȯr·dər }

column printer [COMPUT SCI] A small line printer used with some calculators to provide hard-copy printout of input and output data; typically consists of 20 columns of numerals and a limited number of alphabetic or other identifying characters. { 'käl·əm ˌprint·ər }

COM *See* computer output on microfilm.

coma [ELECTR] A cathode-ray tube image defect that makes the spot on the screen appear comet-shaped when away from the center of the screen. { 'kō·mə }

coma lobe [ELECTROMAG] Side lobe that occurs in the radiation pattern of a microwave antenna when the reflector alone is tilted back and forth to sweep the beam through space because the feed is no longer always at the center of the reflector; used to eliminate the need for a rotary joint in the feed waveguide. { 'kō·mə ˌlōb }

comb antenna [ELECTROMAG] A broad-band antenna for vertically polarized signals, in which half of a fishbone antenna is erected vertically and fed against ground by a coaxial line. { 'kōm anˌten·ə }

comb filter [ELECTR] A wave filter whose frequency spectrum consists of a number of equispaced elements resembling the teeth of a comb. { 'kōm ˌfil·tər }

combinational circuit [ELECTR] A switching circuit whose outputs are determined only by the concurrent inputs. { ˌkäm·bə'nā·shən·əl 'sər·kət }

combination cable [ELEC] A cable having conductors grouped in both quads and pairs. { ˌkäm·bə'nā·shən ¦kā·bəl }

combination distributing frame [ELEC] Frame which combines the functions of a main distributing frame and an intermediate distributing frame. { ˌkäm·bə'nā·shən dis'trib·yəd·iŋ ˌfrām }

combined head *See* read/write head. { kəm'bīnd 'hed }

combiner circuit [ELECTR] The circuit that combines the luminance and chrominance signals with the synchronizing signals in a color television camera chain. { kəm'bīn·ər ˌsər·kət }

combining network [COMPUT SCI] A switching system for accessing memory modules in a multiprocessor, in which each switch remembers the memory addresses it has used, and can then satisfy several requests with a single memory access. { kəm'bīn·iŋ 'netˌwərk }

comfort control [ENG] Control of temperature, humidity, flow, and composition of air by using heating and air-conditioning systems, ventilators, or other systems to increase the comfort of people in an enclosure. { 'kəm·fərt kən'trōl }

COMIT [COMPUT SCI] A user-oriented, general-purpose, symbol-manipulation programming language for computers. { 'kōˌmit }

command [COMPUT SCI] A signal that initiates a predetermined type of computer operation that is defined by an instruction. [CONT SYS] An independent signal in a feedback control system,

from which the dependent signals are controlled in a predetermined manner. { kə'mand }

command button [COMPUT SCI] A small rectangle on a graphical user interface with a command, such as open, close, OK, or print, that is immediately activated upon selection of the button. { kə'mand ˌbət·ən }

command code *See* operation code. { kə'mand ˌkōd }

command control program [COMPUT SCI] The interface between a time-sharing computer and its users by means of which they can create, edit, save, delete, and execute their programs. { kə'mand kən,trōl ˌprō·grəm }

command-driven program [COMPUT SCI] A computer program that accepts command words and statements typed in by the user. { kə¦mand ˌdriv·ən 'prō·grəm }

command interpreter [COMPUT SCI] A program that processes commands and other input and output from an active terminal in a time-sharing system. { kə'mand ˌin'tər·prə·tər }

command language [COMPUT SCI] The language of an operating system, through which the users of a data-processing system describe the requirements of their tasks to that system. Also known as job control language. { kə'mand ˌlaŋ·gwij }

command level [COMPUT SCI] The ability to control a computer's operating system through the use of commands, normally available only to computer operators. { kə'mand ˌlev·əl }

command line [COMPUT SCI] On a display screen, the space following a prompt (such as $) where a text instruction to a computer or device is typed. { kə'mand ˌlīn }

command list *See* CLIST. { kə'mand ˌlist }

command mode [COMPUT SCI] The status of a terminal in a time-sharing environment enabling the programmer to use the command control program. { kə'mand ˌmōd }

command processor [COMPUT SCI] A computer program that converts a limited number of user commands into the machine commands that direct the operating system. Also known as command shell. { kə¦mand 'präˌses·ər }

command pulses [ELECTR] The electrical representations of bit values of 1 or 0 which control input/output devices. { kə'mand ˌpəl·səs }

command set [COMMUN] A radio set used to receive or give commands, as between one aircraft and another or between an aircraft and the ground. { kə'mand ˌset }

command shell *See* command processor. { kə'mand ˌshel }

comment [COMPUT SCI] An expression identifying or explaining one or more steps in a routine, which has no effect on execution of the routine. { 'käm,ent }

comment code [COMPUT SCI] One or more characters identifying a comment. { 'käm,ent ˌkōd }

comment out [COMPUT SCI] To render a statement in a computer program inactive by making it a comment. { 'kä,ment 'aůt }

common area [COMPUT SCI] An area of storage which two or more routines share. { ¦käm·ən ¦er·ē·ə }

common-base connection *See* grounded-base connection. { ¦käm·ən 'bās kə'nek·shən }

common-base feedback oscillator [ELECTR] A bipolar transistor amplifier with a common-base connection and a positive feedback network between the collector (output) and the emitter (input). { ¦käm·ən 'bās 'fēd,bak ˌäs·ə,lād·ər }

common battery [COMMUN] System of current supply where all direct current energy for a unit of a telephone system is supplied by one source in a central office or exchange. { ¦käm·ən ¦bād·ə·rē }

common branch [ELEC] A branch of an electrical network which is common to two or more meshes. Also known as mutual branch. { 'käm·ən 'branch }

common business-oriented language *See* COBOL. { ¦käm·ən ¦biz·nəs ¦ȯr·ē,ent·əd ˌlaŋ·gwij }

common carriage *See* transmission access. { 'käm·ən 'kar·ij }

common-channel interoffice signaling [COMMUN] A method of signaling in a telecommunications switching system in which a network of separate data communication paths separate from the communications transmission is used for transmitting all signaling information between offices. Abbreviated CCIS. { ¦käm·ən ¦chan·əl ˌin·tərˌȯ·fəs 'sig·nəl·iŋ }

common-collector connection *See* grounded-collector connection. { ¦käm·ən kə'lek·tər kə 'nek·shən }

common control unit [COMPUT SCI] Control unit that is shared by more than one machine. { ¦käm·ən kən'trōl ˌyü·nət }

common declaration statement [COMPUT SCI] A nonexecutable statement in FORTRAN which allows specified arrays or variables to be stored in an area available to other programs. { ¦käm·ən ˌdek·lə'rā·shən ˌstāt·mənt }

common-drain amplifier [ELECTR] An amplifier using a field-effect transistor so that the input signal is injected between gate and drain, while the output is taken between the source and drain. Also known as source-follower amplifier. { ¦käm·ən 'drān 'am·pləˌfī·ər }

common-emitter connection *See* grounded-emitter connection. { ¦käm·ən i'mid·ər kə'nek·shən }

common-gate amplifier [ELECTR] An amplifier using a field-effect transistor in which the gate is common to both the input circuit and the output circuit. { ¦käm·ən 'gāt 'am·pləˌfī·ər }

common gateway interface [COMPUT SCI] A protocol that allows the secure data transfer to and from a server and a network user by means of a program which resides on the server and handles the transaction. For example, if an intranet user sent a request with a Web browser for database information, a CGI program would execute on the server, retrieve the information from the database, format it in HTML, and send it back to the user. Abbreviated CGI. { ˌkäm·ən ˌgāt,wā 'in·tərˌfās }

common language [COMPUT SCI] A machine-readable language that is common to a group of computers and associated equipment. { ¦käm·ən ¦laŋ·gwij }

common mode [ELECTR] Having signals that are identical in amplitude and phase at both inputs, as in a differential operational amplifier. { ¦käm·ən ˌmōd }

common-mode error [ELECTR] The error voltage that exists at the output terminals of an operational amplifier due to the common-mode voltage at the input. { ¦käm·ən ˌmōd 'er·ər }

common-mode gain [ELECTR] The ratio of the output voltage of a differential amplifier to the common-mode input voltage. { ¦käm·ən ˌmōd 'gān }

common-mode input capacitance [ELECTR] The equivalent capacitance of both inverting and noninverting inputs of an operational amplifier with respect to ground. { ¦käm·ən ˌmōd 'inˌpůt kə'pas·əd·əns }

common-mode input impedance [ELECTR] The open-loop input impedance of both inverting and noninverting inputs of an operational amplifier with respect to ground. { ¦käm·ən ˌmōd 'in ˌpůt im'ped·əns }

common-mode input resistance [ELECTR] The equivalent resistance of both inverting and noninverting inputs of an operational amplifier with respect to ground or reference. { ¦käm·ən ˌmōd 'inˌpůt ri'zis·təns }

common-mode rejection [ELECTR] The ability of an amplifier to cancel a common-mode signal while responding to an out-of-phase signal. Also known as in-phase rejection. { ¦käm·ən ˌmōd ri'jek·shən }

common-mode rejection ratio [ELECTR] The ratio of the gain of an amplifier for difference signals between the input terminals, to the gain for the average or common-mode signal component. Abbreviated CMRR. { 'käm·ən ˌmōd ri'jek·shən 'rā·shō }

common-mode signal [ELECTR] A signal applied equally to both ungrounded inputs of a balanced amplifier stage or other differential device. Also known as in-phase signal. { ¦käm·ən ˌmōd 'sig·nal }

common-mode voltage [ELECTR] A voltage that appears in common at both input terminals of a device with respect to the output reference (usually ground). { ¦käm·ən ˌmōd 'vōl·tij }

common object request broker [COMPUT SCI] A system that provides interoperability among objects in a heterogeneous, distributed, object-oriented environment in a way that is transparent to the programmer; its design is based on the OMG object model. Abbreviated CORBA. { ¦käm·ən ¦äb·jekt ri'kwest ˌbrō·kər }

common return [ELECTR] A return conductor that serves two or more circuits. { ¦käm·ən ri'tərn }

common-source amplifier [ELECTR] An amplifier stage using a field-effect transistor in which the input signal is applied between gate and source and the output signal is taken between drain and source. { ¦käm·ən ˌsórs 'am·pləˌfī·ər }

common storage [COMPUT SCI] A section of memory in certain computers reserved for temporary storage of program outputs to be used as input for other programs. { ¦käm·ən 'stór·ij }

common-user channel [COMMUN] Any of the communications channels which are available to all authorized agencies for transmission of command, administrative, and logistic traffic. { ¦käm·ən ˌyü·zər ˌchan·əl }

common-user circuit [ELEC] A circuit designated to furnish a communications service to a number of users. { ¦käm·ən ˌyü·zər ˌsər·kət }

communicating word processor [COMPUT SCI] A word processor that can be linked to other word processors to exchange information. { kə'myü·nəˌkād·iŋ 'wȯrd ˌprāˌses·ər }

communication [COMMUN] The transmission of intelligence between two or more points over wires or by radio; the terms telecommunication and communication are often used interchangeably, but telecommunication is usually the preferred term when long distances are involved. { kəˌmyü·nə'kā·shən }

communication band [COMMUN] The band of frequencies effectively occupied by a radio transmitter for the type of transmission and the speed of signaling used. { kəˌmyü·nə'kā·shən ˌband }

communication bus [COMMUN] A device that transfers control, timing, and data signals between switching processor subsystems; designed to provide physical and electrical isolation, to provide for simple addition of units on an in-service basis, and to provide pluggable connection for efficient factory testing, installation, and maintenance. { kəˌmyü·nə'kā·shən ˌbəs }

communication cable [COMMUN] A metallic wire or fiber-optic material used in the telephone industry to connect customers to their local switching centers and to interconnect local and long-distance switching centers. { kə ˌmyü·nə'kā·shən ˌkā·bəl }

communication channel [COMMUN] The wire or radio channel that serves to convey intelligence between two or more terminals. { kə ˌmyü·nə'kā·shən ˌchan·əl }

communication countermeasure [COMMUN] Any electronic countermeasure against communications, such as jamming. { kəˌmyü·nə'kā·shən 'kaůnt·ərˌmezh·ər }

communication engineering [COMMUN] The design, construction, and operation of all types of equipment used for radio, wire, or other types of communication. { kəˌmyü·nə'kā·shən enˌjə'nir·iŋ }

communication link *See* data link. { kəˌmyü·nə'kā·shən ˌliŋk }

communication protocol [COMPUT SCI] Procedures that enable devices within a computer network to exchange information. Also known as protocol. { kəˌmyü·nə'kā·shən 'prōd·əˌkȯl }

communication receiver [ELECTR] A receiver designed especially for reception of voice or code messages transmitted by radio communication systems. { kəˌmyü·nə'kā·shən ri'sē·vər }

communications [ENG] The science and technology by which information is collected from an originating source, transformed into electric currents or fields, transmitted over electrical networks or space to another point,

and reconverted into a form suitable for interpretation by a receiver. { kə,myü·nə'kā·shənz }

communications control unit [COMMUN] A device that handles data transmission between components of a communications network, and performs related functions such as multiplexing, message switching, and code conversion. Abbreviated CCU. { kə,myü·nə'kā·shənz kən'trōl ,yü·nət }

communications intelligence [COMMUN] Technical and intelligence information derived from communications by other than the intended recipients. { kə,myü·nə'kā·shənz in'tel·ə·jəns }

communications language [COMMUN] A language structure complete with conventions, syntax, and character set, used primarily for conveying knowledge of processes between two participants. { kə,myü·nə'kā·shənz ,laŋ·gwij }

communications network [COMMUN] Organization of stations capable of intercommunications but not necessarily on the same channel. { kə ,myü·nə'kā·shənz ,net,wərk }

communications package [COMPUT SCI] A software product that specifies communications protocols for data transmission within a computer network or between a computer and its peripheral equipment. { kə,myü·nə'kā·shənz ,pak·ij }

communication speed [COMMUN] The rate at which information is transmitted over a communications channel, adjusted for redundancies. { kə,myü·nə'kā·shən ,spēd }

communications program [COMPUT SCI] A computer program that transmits data to and receives data from local and remote terminals and other computers. { kə,myü·nə'kā·shənz ,prō·grəm }

communications relay station [COMMUN] Facility for rapidly passing message traffic from one tributary to another by automatic, semiautomatic, or manual means, or by electrically connecting circuits (circuit switching) between two tributaries for direct transmission. { kə ,myü·nə'kā·shənz 'rē,la ,stā·shən }

communications satellite [ENG] An orbiting, artificial earth satellite that relays radio, television, and other signals between ground terminal stations thousands of miles apart. Also known as radio relay satellite; relay satellite. { kə ,myü·nə'kā·shənz 'sad·ə,līt }

communications traffic [COMMUN] All transmitted and received messages. { kə,myü·nə'kā·shənz ,traf·ik }

communication system [COMMUN] A telephone, radio, television, data transmission, or other system in which information-bearing signals originated at one place are reproduced at a distant point. { kə,myü·nə'kā·shən ,sis·təm }

communications zone indicator [ELECTR] Device to indicate whether or not long-distance high-frequency broadcasts are successfully reaching their destinations. { kə,myü·nə'kā·shənz ,zōn 'in·də,kād·ər }

communication theory [COMMUN] The mathematical theory of the communication of information from one point to another. { kə ,myü·nə'kā·shən ,thē·ə·rē }

community antenna television *See* cable television. { kə'myü·nə·dē an'ten·ə 'tel·ə,vizh·ən }

community dial office [COMMUN] Small dial office with no employees located in the building serving an exchange area. { kə'myü·nə·dē 'dīl ,óf·əs }

commutating capacitor [ELECTR] A capacitor used in gas-tube rectifier circuits to prevent the anode from going highly negative immediately after extinction. { 'käm·yə,tād·iŋ kə'pas·əd·ər }

commutating reactance [ELECTR] An inductive reactance placed in the cathode lead of a three-phase mercury-arc rectifier to ensure that tube current holds over during transfer of conduction from one anode to the next. { 'käm·yə,tād·iŋ rē'ak·təns }

commutating reactor [ELEC] A reactor found primarily in silicon controlled rectifier (SCR) converters where it is connected in series with a commutation capacitor to form a highly efficient resonant circuit used to cause a current oscillation which turns off (commutates) the conducting SCR. { 'käm·yə,tād·iŋ rē'ak·tər }

commutation [COMMUN] The sampling of various quantities in a repetitive manner for transmission over a single channel in telemetering. { ,käm·yə'tā·shən }

commutator head [ELEC] The butt end of a commutator. { 'käm·yə,tād·ər ,hed }

commutator motor [ELEC] An electric motor having a commutator. { 'käm·yə,tād·ər ,mōd·ər }

commutator pulse [COMPUT SCI] One of a series of pulses indicating the beginning or end of a signal representing a single binary digit in a computer word. Also known as position pulse; P pulse. { 'käm·yə,tād·ər ,pəls }

commutator switch [ELEC] A switch that performs a set of switching operations in repeated sequential order, such as is required for telemetering many quantities. Also known as sampling switch; scanning switch. { 'käm·yə,tād·ər ,swich }

compact disk [COMMUN] A nonmagnetic (optical) disk, usually $4\frac{3}{4}$ inches (12 centimeters) in diameter, used for audio or video recording or for data storage; information is recorded using a laser beam to burn microscopic pits into the surface and is accessed by means of a lower-power laser to sense the presence or absence of pits. Abbreviated CD. { 'käm,pak 'disk }

compact-disk erasable *See* CD-RW. { 'käm,pak ,disk i'rās·ə·bəl }

compact-disk read-only memory [COMPUT SCI] A compact disk used for the permanent storage of up to approximately 500 megabytes of data. Abbreviated CD-ROM. { 'käm,pakt ,disk ,rēd ,ōn·lē 'mem·rē }

compact-disk recordable *See* CD-R. { 'käm,pak ,disk ri'kórd·ə·bəl }

compact-disk rewritable *See* CD-RW. { ¦käm,pak ,disk ,rē'rīd·ə·bəl }

compact-disk write-once *See* CD-R. { ¦käm,pak ,disk ¦rīt 'wəns }

compacting garbage collection [COMPUT SCI] The physical rearrangement of data cells so that those cells whose contents are no longer useful (garbage) are compressed into a contiguous array. { ,käm'pak·tiŋ 'gär·bij kə'lek·shən }

compaction [COMPUT SCI] A technique for reducing the space required for data storage without losing any information content. Also known as squishing. { kəm'pak·shən }

companded single-sideband system [COMMUN] A long-haul microwave telecommunications system that employs repeaters and single-sideband amplitude modulation and achieves subjective noise improvement by companding to reduce circuit noise between syllables and during pauses in speech. Abbreviated CSSB system. { kəm'pan·dəd ¦siŋ·gəl ¦sīd,band ,sis·təm }

companding [ELECTR] A process in which compression is followed by expansion; often used for noise reduction in equipment, in which case compression is applied before noise exposure and expansion after exposure. { kəm 'pand·iŋ }

compandor [ELECTR] A system for improving the signal-to-noise ratio by compressing the volume range of the signal at a transmitter or recorder by means of a compressor and restoring the normal range at the receiving or reproducing apparatus with an expander. { kəm'pand·ər }

comparator [COMPUT SCI] A device that compares two transcriptions of the same information to verify the accuracy of transcription, storage, arithmetical operation, or some other process in a computer, and delivers an output signal of some form to indicate whether or not the two sources are equal or in agreement. [CONT SYS] A device which detects the value of the quantity to be controlled by a feedback control system and compares it continuously with the desired value of that quantity. { kəm'par·əd·ər }

comparator circuit [ELECTR] An electronic circuit that produces an output voltage or current whenever two input levels simultaneously satisfy predetermined amplitude requirements; may be linear (continuous) or digital (discrete). { kəm 'par·əd·ər ,sər·kət }

comparator probe [COMPUT SCI] A component of a hardware monitor that is used to sense the number of bits that appear in parallel, as in an address register. { kəm'par·əd·ər ,prōb }

comparing unit [ELECTR] An electromechanical device which compares two groups of timed pulses and signals to establish either identity or nonidentity. { kəm'per·iŋ ,yü·nət }

comparison [COMPUT SCI] A computer operation in which two numbers are compared as to identity, relative magnitude, or sign. { kəm'par·ə·sən }

comparison bridge [ELECTR] A bridge circuit in which any change in the output voltage with respect to a reference voltage creates a corresponding error signal, which, by means of negative feedback, is used to correct the output voltage and thereby restore bridge balance. { kəm'par·ə·sən ,brij }

comparison indicators [COMPUT SCI] Registers, one of which is activated during the comparison of two quantities to indicate whether the first quantity is lower than, equal to, or greater than the second quantity. { kəm'par·ə·sən ,in·də ,kād·ərz }

compatibility [COMPUT SCI] The ability of one device to accept data handled by another device without conversion of the data or modification of the code. [SYS ENG] The ability of a new system to serve users of an old system. { kəm ,pad·ə'bil·ə·dē }

compatibility mode [COMPUT SCI] A feature of a computer or operating system that enables it to run programs written for another system. { kəm ,pad·ə'bil·əd·ē ,mōd }

compatible color television system [COMMUN] A color television system that permits substantially normal monochrome reception of the transmitted color picture signal on a typical unaltered monochrome receiver. { kəm¦pad·ə·bəl 'kəl·ər 'tel·ə,vizh·ən ,sis·təm }

compatible discrete four-channel sound [ENG ACOUS] A sound system in which a separate channel is maintained from each of the four sets of microphones at the recording studio or other input location to the four sets of loudspeakers that serve as the output of the system. Abbreviated CD-4 sound. { kəm'pad·ə·bəl dis'krēt ¦fôr ¦chan·əl 'saünd }

compatible monolithic integrated circuit [ELECTR] Device in which passive components are deposited by thin-film techniques on top of a basic silicon-substrate circuit containing the active components and some passive parts. { kəm'pad·ə·bəl ,män·ə'lith·ik 'in·tə,grād·əd 'sər·kət }

compatible single-sideband system [COMMUN] A single-sideband system that can be received by an ordinary amplitude-modulation radio receiver without distortion. { kəm'pad·ə·bəl ,siŋ·gəl'sīd ,band ,sis·təm }

compensated amplifier [ELECTR] A broadband amplifier in which the frequency range is extended by choice of circuit constants. { 'käm·pən,sād·əd 'am·plə,fī·ər }

compensated-loop direction finder [ELECTR] A direction finder employing a loop antenna and a second antenna system to compensate for polarization error. { 'käm·pən,sād·əd ,lüp də'rek·shən ,find·ər }

compensated semiconductor [ELECTR] Semiconductor in which one type of impurity or imperfection (for example, donor) partially cancels the electrical effects on the other type of impurity or imperfection (for example, acceptor). { 'käm·pən,sād·əd 'sem·i·kən'dək·tər }

compensated volume control *See* loudness control. { 'käm·pən,sād·əd 'väl·yəm kən'trōl }

compensating capacitor *See* balancing capacitor. { 'käm·pən,sād·iŋ kə'pas·əd·ər }

compensating leads [ENG] A pair of wires, similar to the working leads of a resistance thermometer or thermocouple, which are run alongside the working leads and are connected in such a way that they balance the effects of temperature changes in the working leads. { 'käm·pən,sād·iŋ ˌlēdz }

compensating network [CONT SYS] A network used in a low-energy-level method for suppression of excessive oscillations in a control system. { 'käm·pən,sād·iŋ 'net,wərk }

compensation [CONT SYS] Introduction of additional equipment into a control system in order to reshape its root locus so as to improve system performance. Also known as stabilization. [ELECTR] The modification of the amplitude-frequency response of an amplifier to broaden the bandwidth or to make the response more nearly uniform over the existing bandwidth. Also known as frequency compensation. { ˌkäm·pənˈsā·shən }

compensation signals [ENG] In telemetry, signals recorded on a tape, along with the data and in the same track as the data, used during the playback of data to correct electrically the effects of tape-speed errors. { ˌkäm·pənˈsā·shən ˌsig·nəlz }

compensator [CONT SYS] A device introduced into a feedback control system to improve performance and achieve stability. Also known as filter. [ELECTR] A component that offsets an error or other undesired effect. { 'käm·pənˌsād·ər }

compile [COMPUT SCI] To prepare a machine-language program automatically from a program written in a higher programming language, usually generating more than one machine instruction for each symbolic statement. { kəm'pīl }

compile-and-go [COMPUT SCI] A continuous sequence of steps that combine compilation, loading, and execution of a computer program. { kəm'pīl ən 'gō }

compiler [COMPUT SCI] A program to translate a higher programming language into machine language. Also known as compiling routine. { kəm'pīl·ər }

compiler-level language [COMPUT SCI] A higher-level language normally supplied by the computer manufacturer. { kəm'pīl·ər ˌlev·əl ˌlaŋ·gwij }

compiler listing [COMPUT SCI] A report that is produced by a compiler and contains an annotated printout of the source program together with other useful information. { kəm'pī·lər ˌlist·iŋ }

compiler system [COMPUT SCI] The set consisting of a higher-level language, such as FORTRAN, and its compiler which translates the program written in that language into machine-readable instructions. { kəm'pīl·ər ˌsis·təm }

compiler toggle [COMPUT SCI] A piece of information transmitted to a compiler to activate some special feature or otherwise control the way in which the compiler operates. { kəm'pī·lər ˌtäg·əl }

compiling routine *See* compiler. { kəm'pil·iŋ rü ˌtēn }

complementary [ELECTR] Having *pnp* and *npn* or *p*- and *n*-channel semiconductor elements on or within the same integrated-circuit substrate or working together in the same functional amplifier state. { ˌkäm·pləˈmen·trē }

complementary constant-current logic [ELECTR] A type of large-scale integration used in digital integrated circuits and characterized by high density and very fast switching times. Abbreviated CCCL; C^3L. { ˌkäm·pləˌmen·trē ˌkän·stənt ˌkə·rənt 'läj·ik }

complementary logic switch [ELECTR] A complementary transistor pair which has a common input and interconnections such that one transistor is on when the other is off, and vice versa. { ˌkäm·pləˈmen·trē 'läj·ik ˌswich }

complementary metal oxide semiconductor device *See* CMOS device. { ˌkäm·pləˌmen·trē ˌmed·əl ˌäk,sīd 'sem·i·kənˌdək·tər di'vīs }

complementary symmetry [ELECTR] A circuit using both *pnp* and *npn* transistors in a symmetrical arrangement that permits push-pull operation without an input transformer or other form of phase inverter. { ˌkäm·pləˈmen·trē 'sim·ə·trē }

complementary transistors [ELECTR] Two transistors of opposite conductivity (*pnp* and *npn*) in the same functional unit. { ˌkäm·pləˈmen·trē tranˈzis·tərs }

complement number system [COMPUT SCI] System of number handling in which the complement of the actual number is operated upon; used in some computers to facilitate arithmetic operations. { 'käm·plə·mənt 'nəm·bərˌsis·təm }

complete carry [COMPUT SCI] In parallel addition, an arrangement in which the carries that result from the addition of carry digits are allowed to propagate from place to place. { kəm'plēt 'kar·ē }

complete operation [COMPUT SCI] An operation which includes obtaining all operands from storage, performing the operation, returning resulting operands to storage, and obtaining the next instruction. { kəm'plēt äp·ə'rā·shən }

complete routine [COMPUT SCI] A routine, generally supplied by a computer manufacturer, which does not have to be modified by the user before being applied. { kəm'plēt rü'tēn }

complex data type [COMPUT SCI] A scalar data type which contains two real fields representing the real and imaginary components of a complex number. { 'käm,pleks 'dad·əˌtīp }

complex declaration statement [COMPUT SCI] A nonexecutable statement in FORTRAN used to specify that the type of identifier appearing in the program is of the form $a + bi$, where i is the square root of -1. { 'käm,pleks ˌdek·ləˈrā·shən ˌstāt·mənt }

complex frequency [ENG] A complex number used to characterize exponential and damped sinusoidal motion in the same way that an ordinary frequency characterizes simple harmonic motion; designated by the constant s corresponding to a motion whose amplitude is given by Ae^{st}, where A is a constant and t is time. { 'käm ˌpleks 'frē·kwən·sē }

complex impedance See electrical impedance. { 'käm,pleks im'pēd·əns }

complex instruction set computer [COMPUT SCI] A computer in which relatively high-level or complex hardware incorporating microcode is used to implement a relatively large number of instructions. Abbreviated CISC. { ¦käm,pleks in'strək·shən ,set kəm,pyüd·ər }

complexity [COMPUT SCI] The number of elementary operations used by a program or algorithm to accomplish a given task. { kəm'plek·səd·ē }

complex permittivity [ELEC] A property of a dielectric, equal to $\epsilon_0(C/C_0)$, where C is the complex capacitance of a capacitor in which the dielectric is the insulating material when the capacitor is connected to a sinusoidal voltage source, and C_0 is the vacuum capacitance of the capacitor. { 'käm,pleks ,pər·mə'tiv·əd·ē }

complex reflector [ENG] A structure or group of structures having many radar-reflecting surfaces facing in different directions. { 'käm,pleks ri'flek·tər }

complex relative attenuation [ELECTR] The ratio of the peak output voltage, in complex notation, of an electric filter to the output voltage at the frequency being considered. { 'käm,pleks ¦rel·əd·iv ə,ten·yə'wā·shən }

complex target [ENG] A radar target composed of a number of reflecting surfaces that, in the aggregate, are smaller in all dimensions than the resolution capabilities of the radar. { 'käm ,pleks 'tär·gət }

compliant substrate [ELECTR] A semiconductor substrate into which an artificially formed interface is introduced near the surface which makes the substrate more readily deformable and allows it to support a defect-free semiconductor film of essentially any lattice constant, with dislocations forming in the substrate instead of in the film. Also known as sacrificial compliant substrate. { kəm¦plī·ənt 'səb,strāt }

component [ELEC] Any electric device, such as a coil, resistor, capacitor, generator, line, or electron tube, having distinct electrical characteristics and having terminals at which it may be connected to other components to form a circuit. Also known as circuit element; element. { kəm'pō·nənt }

component-failure-impact analysis [SYS ENG] A study that attempts to predict the consequences of failures of the major components of a system. Abbreviated CFIA. { kəm'pō·nənt ¦fāl·yər 'im ,pakt ə,nal·ə·səs }

component name See metavariable. { kəm'pō·nənt ,nām }

component symbol [ELEC] A graphical design used to represent a component in a circuit diagram. { kəm'pō·nənt ,sim·bəl }

composite [ENG ACOUS] A re-recording consisting of at least two elements. { kəm'päz·ət }

composite balance [ELEC] An electric balance made by modifying the Kelvin balance to measure amperage, voltage, or wattage. { kəm'päz·ət 'bal·əns }

composite cable [ELEC] Cable in which conductors of different gages or types are combined under one sheath. { kəm'päz·ət 'kā·bəl }

composite circuit [ELECTR] A circuit used simultaneously for voice communication and telegraphy, with frequency-discriminating networks serving to separate the two types of signals. { kəm'päz·ət 'sər·kət }

composite color signal [COMMUN] The analog color television picture signal plus all blanking and synchronizing signals. Also known as composite picture signal. { kəm'päz·ət 'kəl·ər ,sig·nəl }

composite color sync [COMMUN] The signal comprising all the synchronization signals necessary for proper operation of an analog color television receiver. { kəm'päz·ət 'kəl·ər ,siŋk }

composite filter [ELECTR] A filter constructed by linking filters of different kinds in series. { kəm'päz·ət 'fil·tər }

composite picture signal See composite color signal. { kəm'päz·ət 'pik·chər ,sig·nəl }

composite pulse [ELECTR] A pulse composed of a series of overlapping pulses received from the same source over several paths in a pulse navigation system. { kəm'päz·ət 'pəls }

composite set [ELECTR] Assembly of apparatus designed to provide one end of a composite circuit. { kəm'päz·ət 'set }

composite video signal [COMMUN] The video-only portion of the analog color television signal used in the United States, in which red, green, and blue signals are encoded. { kəm'päz·ət 'vid·ē·ō ,sig·nəl }

composite wave filter [ELECTR] A combination of two or more low-pass, high-pass, band-pass, or band-elimination filters. { kəm'päz·ət 'wāv ,fil·tər }

composition resistor See carbon resistor. { ,käm·pə'zish·ən ri'zis·tər }

compound cryosar [ELECTR] A cryosar consisting of two normal cryosars with different electrical characteristics in series. { 'käm,paund 'krī·ō ,sär }

compound document [COMPUT SCI] A document that contains two or more different data structures, such as text, graphics, and sound. { ,käm ,paund 'däk·yə·mənt }

compound field winding [ELEC] A winding composed of shunt and series coils that act either together or against each other. { 'käm,paund 'fēld ,wind·iŋ }

compound generator [ELEC] A direct-current generator which has both a series field winding and a shunt field winding, both on the main poles with the shunt field winding on the outside. { 'käm,paund 'jen·ə'rād·ər }

compound magnet [ELEC] A permanent magnet that is constructed from a number of thin magnets having the same shape. { 'käm,paund 'mag·nət }

compound modulation See multiple modulation. { 'käm,paund ,mäj·ə'lā·shən }

compound motor [ELEC] A direct-current motor with two separate field windings, one connected in parallel with the armature circuit, the other

connected in series with the armature circuit. ['käm,paünd 'mōd·ər]

compound statement [COMPUT SCI] A single program instruction that contains two or more instructions which could stand alone. ['käm ,paünd 'stāt·mənt]

compound winding [ELEC] A winding that is a combination of series and shunt winding. ['käm,paünd 'wīnd·iŋ]

compressed-air loudspeaker [ENG ACOUS] A loudspeaker having an electrically actuated valve that modulates a stream of compressed air. [kəm¦prest ¦er 'laüd,spēk·ər]

compressed file *See* packed file. [kəm,prest 'fīl]

compression [COMPUT SCI] *See* data compression. [ELECTR] **1.** Reduction of the effective gain of a device at one level of signal with respect to the gain at a lower level of signal, so that weak signal components will not be lost in background and strong signals will not overload the system. **2.** *See* compression ratio. [kəm'presh·ən]

compression cable *See* pressure cable. [kəm'presh·ən ,kā·bəl]

compression ratio [ELECTR] The ratio of the gain of a device at a low power level to the gain at some higher level, usually expressed in decibels. Also known as compression. [kəm'presh·ən ,rā·shō]

compressive intercept receiver [ELECTR] An electromagnetic surveillance receiver that instantaneously analyzes and sorts all signals within a broad radio-frequency spectrum by using pulse compression techniques which perform a complete analysis up to 10,000 times faster than a superheterodyne receiver or spectrum analyzer. [kəm'pres·iv 'in·tər,sept ri'sē·vər]

compressor [COMPUT SCI] A routine or program that reduces the number of binary digits needed to represent data or information. [ELECTR] The part of a compandor that is used to compress the intensity range of signals at the transmitting or recording end of a circuit. [kəm'pres·ər]

compromise network [ELEC] **1.** Network employed in conjunction with a hybrid coil to balance a subscriber's loop; adjusted for an average loop length or an average subscriber's set, or both, to secure compromise (not precision) isolation between the two directional paths of the hybrid. **2.** Hybrid balancing network which is designed to balance the average of the impedances that may be connected to the switchboard side of a hybrid arrangement of a repeater. ['käm·prə,mīz 'net,wərk]

compromising emanations [COMMUN] Unintentional data-related or intelligence-bearing signals which, if intercepted and analyzed by any technique, could disclose the classified information transmitted, received, handled, or otherwise processed by equipments. ['käm·prə,miz·iŋ ,em·ə'nā·shənz]

computational numerical control *See* computer numerical control. [,käm·pyə'tā·shən·əl nü'mer·ə·kəl kən'trōl]

compute-bound program *See* CPU-bound program. [kəm'pyüt ¦baünd 'prō·grəm]

computed go to [COMPUT SCI] A control procedure in FORTRAN which allows the transfer of control to the *i*th label of a set of *n* labels used as statement numbers in the program. [kəm'pyüd·əd 'gō ,tü]

computed path control [COMPUT SYS] A control system designed to follow a path calculated to be the optimal one to achieve a desired result. [kəm'pyüd·əd ¦path kən'trōl]

compute mode [COMPUT SCI] The operation of an analog computer in which input signals are used by the computing units to calculate a solution, in contrast to hold mode and reset mode. [kəm'pyüt ,mōd]

computer [COMPUT SCI] A device that receives, processes, and presents data; the two types are analog and digital. Also known as computing machine. [kəm'pyüd·ər]

computer-aided design [COMPUT SYS] The use of computers in converting the initial idea for a product into a detailed engineering design. Computer models and graphics replace the sketches and engineering drawings traditionally used to visualize products and communicate design information. Abbreviated CAD. [kəm'pyüd·ər ,ād·əd di'zīn]

computer-aided design and drafting [COMPUT SCI] The carrying out of computer-aided design with a system that has additional features for the drafting function, such as dimensioning and text entry. Abbreviated CADD. [kəm'pyüd·ər ,ād·əd di'zīn ən 'draft·iŋ]

computer-aided engineering [ENG] The use of computer-based tools to assist in solution of engineering problems. [kəm'pyüd·ər ,ād·əd ,en·jə'nir·iŋ]

computer-aided instruction *See* computer-assisted instruction. [kəm'pyüd·ər ,ād·əd in'strək·shən]

computer-aided management of instruction *See* computer-managed instruction. [kəm'pyüd·ər ,ād·əd 'man·ij·mənt əv in'strək·shən]

computer-aided manufacturing [COMPUT SYS] The use of computers in converting engineering designs into finished products. Computers assist managers, manufacturing engineers, and production workers by automating many production tasks, such as developing process plans, ordering and tracking materials, and monitoring production schedules, as well as controlling the machines, industrial robots, test equipment, and systems that move and store materials in the factory. Abbreviated CAM. [kəm'pyüd·ər ,ād·əd ,man·ə'fak·chə·riŋ]

computer-aided software engineering [COMPUT SCI] The use of software packages to assist in all phases of the development of an information system, including analysis, design, and programming. Abbreviated CASE. [kəm'pyüd·ər ,ād·əd ,sōft,wer en·jə'nir·iŋ]

computer algebra system *See* symbolic system. [kəm¦pyüd·ər 'al·jə·brə ,sis·təm]

computer analyst [COMPUT SCI] A person who defines a problem, determines exactly what is required in the solution, and defines the

outlines of the machine solution; generally, an expert in automatic data processing applications. { kəm'pyüd·ər 'an·ə,list }

computer animation [COMPUT SCI] The use of a computer to present, either continuously or in rapid succession, pictures on a cathode-ray tube or other device, graphically representing a time developing system at successive times. { kəm'pyüd·ər an·ə'mā·shən }

computer architecture [COMPUT SCI] The art and science of assembling logical elements to form a computing device. { kəm'pyüd·ər 'är·kə ,tek·chər }

computer-assisted instruction [COMPUT SCI] The use of computers to present drills, practice exercises, and tutorial sequences to the student, and sometimes to engage the student in a dialog about the substance of the instruction. Abbreviated CAI. Also known as computer-aided instruction, computer-assisted learning. { kəm'pyüd·ər ə'sis·təd in 'strək·shən }

computer-assisted learning *See* computer-assisted instruction. { kəm'pyüd·ər ə'sis·təd 'lərn·iŋ }

computer-assisted retrieval [COMPUT SCI] The use of a computer to locate documents or records stored outside of the computer, on paper or microfilm. Abbreviated CAR. { kəm'pyüd·ər ə'sis·təd ri'trē·vəl }

computer center *See* electronic data-processing center. { kəm'pyüd·ər ,sen·tər }

computer code [COMPUT SCI] The code representing the operations built into the hardware of a particular computer. { kəm'pyüd·ər ,kōd }

computer conferencing *See* computer networking. { kəm'pyüd·ər 'kän·frəns·iŋ }

computer control [CONT SYS] Process control in which the process variables are fed into a computer and the output of the computer is used to control the process. { kəm'pyüd·ər kən'trōl }

computer control counter [COMPUT SCI] Counter which stores the next required address; any counter which furnishes information to the control unit. { kəm'pyüd·ər kən'trōl ,kaunt·ər }

computer-controlled system [CONT SYS] A feedback control system in which a computer operates on both the input signal and the feedback signal to effect control. { kəm'pyüd·ər kən'trōld ,sis·təm }

computer control register *See* program register. { kəm'pyüd·ər kən'trōl rej·ə·stər }

computer efficiency [COMPUT SCI] **1.** The ratio of actual operating time to scheduled operating time of a computer. **2.** In time-sharing, the ratio of user time to the sum of user time plus system time. { kəm'pyüd·ər i'fish·ən·sē }

computer graphics [COMPUT SCI] The process of pictorial communication between humans and computers, in which the computer input and output have the form of charts, drawings, or appropriate pictorial representation; such devices as cathode-ray tubes, mechanical plotting boards, curve tracers, coordinate digitizers, and light pens are employed. { kəm'pyüd·ər 'graf·iks }

computer graphics interface [COMPUT SCI] A standard format for writing graphics drivers. Abbreviated CGI. { kəm'pyüd·ər 'graf·iks 'in·tər ,fās }

computer graphics metafile [COMPUT SCI] A standard device-independent graphics format that is used to transfer graphics images between computer programs and storage devices. Abbreviated CGM. { kəm'pyüd·ər 'graf·iks 'med·ə,fīl }

computer input from microfilm [COMPUT SCI] The technique of reading images on microfilm and transforming them into a form which is understandable to a computer. Abbreviated CIM. { kəm'pyüd·ər 'in,půt frəm 'mī·krə,film }

computer-integrated manufacturing [ENG] A computer-automated system in which individual engineering, production, marketing, and support functions of a manufacturing enterprise are organized; functional areas such as design, analysis, planning, purchasing, cost accounting, inventory control, and distribution are linked through the computer with factory floor functions such as materials handling and management, providing direct control and monitoring of all process operations. Abbreviated CIM. { kəm'pyüd·ər 'int·ə,grād·əd ,man·ə'fak·chər·iŋ }

computerized branch exchange [COMMUN] A computer-controlled telephone switching system that supports such services as conference calling, least-cost routing, direct inward dialing, and automatic reringing of a busy line. Abbreviated CBX. { kəm'pyüd·ə,rīzd 'branch iks'chānj }

computer-limited [COMPUT SCI] Pertaining to a situation in which the time required for computation exceeds the time required to read inputs and write outputs. { kəm'pyüd·ər ,lim·əd·əd }

computer literacy [COMPUT SCI] Knowledge and understanding of computers and computer systems and how to apply them to the solution of problems. { kəm'pyüd·ər 'lit·rə·sē }

computer-managed instruction [COMPUT SCI] The use of computer assistance in testing, diagnosing, prescribing, grading, and record keeping. Abbreviated CMI. Also known as computer-aided management of instruction. { kəm'pyüd·ər 'man·ijd in'strək·shən }

computer memory *See* memory. { kəm'pyüd·ər 'mem·rē }

computer modeling [COMPUT SCI] The use of a computer to develop a mathematical model of a complex system or process and to provide conditions for testing it. { kəm'pyüd·ər 'mäd·əl·iŋ }

computer network [COMPUT SCI] A system of two or more computers that are interconnected by communication channels. Also known as network. { kəm'pyüd·ər 'net,wərk }

computer networking [COMMUN] The use of a network of computers and computer terminals by individuals at various locations to interact with each other by entering data into the computer system. Also known as computer conferencing. { kəm'pyüd·ər 'net,wərk·iŋ }

computer numerical control [CONT SYS] A control system in which numerical values corresponding to desired tool or control positions are generated by a computer. Abbreviated CNC. Also known as computational numerical control; soft-wired numerical control; stored-program numerical control. { kəm'pyüd·ər nü'mer·i·kəl kən'trōl }

computer operation [COMPUT SCI] The electronic action that is required in a computer to give a desired computation. { kəm'pyüd·ər äp·ə'rā·shən }

computer-oriented language [COMPUT SCI] A low-level programming language developed for use on a particular computer or line of computers produced by a specific manufacturer. Also known as machine-oriented language. { kəm'pyüd·ər ˌȯr·ē,ent·əd 'laŋ·gwij }

computer output on microfilm [COMPUT SCI] The generation of microfilm which displays information developed by a computer. Abbreviated COM. { kəm'pyüd·ər 'aůt,půt ȯn 'mī·krəˌfilm }

computer part programming [CONT SYS] The use of computers to program numerical control systems. { kəm'pyüd·ər 'pärt 'prōˌgram·iŋ }

computer performance evaluation [COMPUT SCI] The measurement and evaluation of the performance of a computer system, aimed at ensuring that a minimum amount of effort, expense, and waste is incurred in the production of data-processing services, and encompassing such tools as canned programs, source program optimizers, software monitors, hardware monitors, simulation, and bench-mark problems. Abbreviated CPE. { kəm'pyüd·ər pər'fȯr·məns iˌval·yə'wā·shən }

computer programming See programming. { kəm'pyüd·ər 'prōˌgram·iŋ }

computer science [COMPUT SCI] The study of computers and computing, including computer hardware, software, programming, networking, database systems, information technology, interactive systems, and security. { kəm'pyüd·ər 'sī·əns }

computer security [COMPUT SCI] Measures taken to protect computers and their contents from unauthorized use. { kəm'pyüd·ər sə'kyůr·əd·ē }

computer storage device See storage device. { kəm'pyüd·ər 'stȯr·ij di'vīs }

computer system [COMPUT SCI] **1.** A set of related but unconnected components (hardware) of a computer or data-processing system. **2.** A set of hardware parts that are related and connected, and thus form a computer. { kəm'pyüd·ər ˌsis·təm }

computer systems architecture [COMPUT SCI] The discipline that defines the conceptual structure and functional behavior of a computer system, determining the overall organization, the attributes of the component parts, and how these parts are combined. { kəm'pyüd·ər ˌsis·təmz 'ar·kəˌtek·chər }

computer theory [COMPUT SCI] A discipline covering the study of circuitry, logic, microprogramming, compilers, programming languages, file structures, and system architectures. { kəm'pyüd·ər ˌthē·ə·rē }

computer utility [COMPUT SCI] A computer that provides service on a time-sharing basis, generally over telephone lines, to subscribers who have appropriate terminals. { kəm'pyüd·ər yü'til·əd·ē }

computer vision [COMPUT SCI] The use of digital computer techniques to extract, characterize, and interpret information in visual images of a three-dimensional world. Also known as machine vision. { kəm'pyüd·ər 'vizh·ən }

computer word See word. { kəm'pyüd·ər ˌwərd }

computing machine See computer. { kəm 'pyüd·iŋ mə'shēn }

computing power [COMPUT SCI] The number of operations that a computer can carry out in 1 second. { kəm'pyüd·iŋ ˌpaů·ər }

computing unit [COMPUT SCI] The section of a computer that carries out arithmetic, logical, and decision-making operations. { kəm'pyüd·iŋ ˌyü·nət }

concatenate [COMPUT SCI] To unite in a sequence, link together, or link to a chain. { kən'kat·ənˌāt }

concatenation [COMPUT SCI] **1.** An operation in which a number of conceptually related components are linked together to form a larger, organizationally similar entity. **2.** In string processing, the synthesis of longer character strings from shorter ones. [ELEC] A method of speed control of induction motors in which the rotors of two wound-rotor motors are mechanically coupled together and the stator of the second motor is supplied with power from the rotor slip rings of the first motor. [ENG ACOUS] The linking together of phonemes to produce meaningful sounds. { kənˌkat·ən'ā·shən }

concentrator [ELECTR] Buffer switch (analog or digital) which reduces the number of trunks required. { 'kän·sənˌtrād·ər }

concentric cable See coaxial cable. { kən'sen·trik 'kā·bəl }

concentric line See coaxial cable. { kən'sen·trik 'līn }

concentric slip ring [ELEC] A large slip-ring assembly consisting of concentrically arranged insulators and conducting materials. { kən'sen·trik 'slip ˌriŋ }

concentric transmission line See coaxial cable. { kən'sen·trik tranz'mish·ən ˌlīn }

concentric windings [ELEC] Transformer windings in which the low-voltage winding is in the form of a cylinder next to the core, and the high-voltage winding, also cylindrical, surrounds the low-voltage winding. { kən'sen·trik 'wīnd·iŋz }

conceptual modeling [COMPUT SCI] Writing a program by means of which a given result will be obtained, although the result is incapable of proof. Also known as heuristic programming. { kən'sep·chə·wəl 'mäd·liŋ }

conceptual schema [COMPUT SCI] The logical structure of an entire data base. { kən'sep·chə·wəl 'skē·mə }

concurrency [COMPUT SCI] Referring to two or more tasks of a computer system which are in progress simultaneously. { kən'kər·ən·sē }

concurrent input/output [COMPUT SCI] The simultaneous reading from and writing on different media by a computer. { kən'kər·ənt 'in,pút 'aút ,pút }

concurrent operations control [COMPUT SCI] The supervisory capability required by a computer to handle more than one program at a time. { kən'kər·ənt äp·ə'rā·shənz kən'trōl }

concurrent processing [COMPUT SCI] The conceptually simultaneous execution of more than one sequential program on a computer or network of computers. { kən'kər·ənt 'präs,əs·iŋ }

concurrent real-time processing [COMPUT SCI] The capability of a computer to process simultaneously several programs, each of which requires responses within a time span related to its particular time frame. { kən'kər·ənt 'rēl ,tīm ,präs,əs·iŋ }

condensation [ELEC] An increase of electric charge on a capacitor conductor. { ,kän·dən 'sā·shən }

condenser *See* capacitor. { kən'den·sər }

condenser antenna *See* capacitor antenna. { kən'den·sər an'ten·ə }

condenser box *See* capacitor box. { kən'den·sər ,bäks }

condenser bushing [ELEC] An insulation made up of alternate layers of insulating material and metal foil placed between the conductor and outer casing in terminals of transformers and other high-voltage equipment such as switchgears. { kən'den·sər ,bùsh·iŋ }

condenser microphone *See* capacitor microphone. { kən'den·sər 'mī·krə,fōn }

condenser transducer *See* electrostatic transducer. { kən'den·sər ,tranz'dü·sər }

condensing electrometer *See* capacitive electrometer. { kən'dens·iŋ ə,lek'träm·əd·ər }

conditional [COMPUT SCI] Subject to the result of a comparison made during computation in a computer, or subject to human intervention. { kən'dish·ən·əl }

conditional assembly [COMPUT SCI] A feature of some assemblers which suppresses certain sections of code if stated program conditions are not met at assembly time. { kən'dish·ən·əl ə'sem·blē }

conditional branch *See* conditional jump. { kən'dish·ən·əl 'branch }

conditional breakpoint [COMPUT SCI] A conditional jump that, if a specified switch is set, will cause a computer to stop; the routine may then be continued as coded or a jump may be forced. { kən'dish·ən·əl 'brāk,pòint }

conditional expression [COMPUT SCI] A COBOL language expression which is either true or false, depending upon the status of the variables within the expression. { kən'dish·ən·əl ik'spresh·ən }

conditional jump [COMPUT SCI] A computer instruction that will cause the proper one of two or more addresses to be used in obtaining the next instruction, depending on some property of a numerical expression that may be the result of some previous instruction. Also known as conditional branch; conditional transfer; decision instruction; discrimination; IF statement. { kən'dish·ən·əl 'jəmp }

conditionally stable circuit [ELECTR] A circuit which is stable for certain values of input signal and gain, and unstable for other values. { kən'dish·ən·əl·ē ,stā·bəl ,sər·kət }

conditional replenishment [COMMUN] A form of differential pulse-code modulation in which the only information transmitted consists of addresses specifying the locations of picture samples in the moving area, and information by which the intensities of moving area picture samples can be reconstructed at the receiver. { kən'dish·ən·əl ri'plen·ish·mənt }

conditional statement [COMPUT SCI] A statement in a computer program that is executed only when a certain condition is satisfied. { kən'dish·ən·əl 'stāt·mənt }

conditional transfer *See* conditional jump. { kən'dish·ən·əl 'tranz·fər }

condition code [COMPUT SCI] Portion of a program status word indicating the outcome of the most recently executed arithmetic or boolean operation. { kən'dish·ən ,kōd }

conditioned line [COMPUT SCI] A communications channel, usually a telephone line, that has been adapted for data transmission. { kən'dish·ənd 'līn }

conditioned stop instruction [COMPUT SCI] A computer instruction which causes the execution of a program to stop if some given condition exists, such as the specific setting of a switch on a computer console. { kən'dish·ənd 'stäp in'strek·shən }

condition entries [COMPUT SCI] The upper-right-hand portion of a decision table, indicating, for each of the conditions, whether the condition satisfies various criteria listed in the condition stub, or the values of various parameters listed in the condition stub. { kən'dish·ən ,en,trēz }

conditioning [ELECTR] Equipment modifications or adjustments necessary to match transmission levels and impedances or to provide equalization between facilities. { kən'dish·ən·iŋ }

condition portion [COMPUT SCI] The upper portion of a decision table, comprising the condition stub and condition entires. { kən'dish·ən ,pór·shən }

condition stub [COMPUT SCI] The upper-left-hand portion of a decision table, consisting of a single column listing various criteria or parameters which are used to specify the conditions. { kən'dish·ən ,stəb }

conductance [ELEC] The real part of the admittance of a circuit; when the impedance contains no reactance, as in a direct-current circuit, it is the reciprocal of resistance, and is thus a measure of the ability of the circuit to conduct electricity. Also known as electrical conductance. Designated G. { kən'dək·təns }

conductance-variation method [ELEC] A technique for measuring low admittances; measurements in a parallel-resonance circuit with the terminals open-circuited, with the unknown admittance connected, and then with the unknown admittance replaced by a known conductance standard are made; from them the unknown can be calculated. { kən'dək·təns ver·ē'ā·shən ˌmeth·əd }

conducted interference [COMMUN] Interfering signals arriving by direct coupling such as on communications and power lines. { kən'dək·təd ˌin·tər'fir·əns }

conduction [ELEC] The passage of electric charge, which can occur by a variety of processes, such as the passage of electrons or ionized atoms. Also known as electrical conduction. { kən'dək·shən }

conduction cooling [ELECTR] Cooling of electronic components by carrying heat from the device through a thermally conducting material to a large piece of metal with cooling fins. { kən'dək·shən ˌkül·iŋ }

conductive coupling [ELEC] Electric connection of two electric circuits by their sharing the same resistor. { kən'dək·tiv 'kəp·liŋ }

conductive gasket [ELEC] A flexible metallic gasket used to reduce radio-frequency leakage at joints in shielding. { kən'dək·tiv 'gas·kət }

conductive interference [ELECTR] Interference to electronic equipment that orginates in power lines supplying the equipment, and is conducted to the equipment and coupled through the power supply transformer. { kən'dək·tiv ˌin·tər'fir·əns }

conductivity [ELEC] The ratio of the electric current density to the electric field in a material. Also known as electrical conductivity; specific conductance. { ˌkän,dək'tiv·əd·ē }

conductivity bridge [ELEC] A modified Kelvin bridge for measuring very low resistances. { ˌkän,dək'tiv·əd·ē ˌbrij }

conductivity cell [ELEC] A glass vessel with two electrodes at a definite distance apart and filled with a solution whose conductivity is to be measured. { ˌkän,dək'tiv·əd·ē ˌsel }

conductivity ellipsoid [ELEC] For an anisotropic material, an ellipsoid whose axes are the eigenvectors of the conductivity tensor. { ˌkän,dək'tiv·əd·ē i'lip,sȯid }

conductivity modulation [ELECTR] Of a semiconductor, the variation of the conductivity of a semiconductor through variation of the charge carrier density. { ˌkän,dək'tiv·əd·ē ˌmäj·ə'lā·shən }

conductivity modulation transistor [ELECTR] Transistor in which the active properties are derived from minority carrier modulation of the bulk resistivity of the semiconductor. { ˌkän ˌdək'tiv·əd·ē ˌmäj·ə'lā·shən tran'zis·tər }

conductivity tensor [ELEC] A tensor which, when multiplied by the electric field vector according to the rules of matrix multiplication, gives the current density vector. { ˌkän,dək'tiv·əd·ē ˌten·sər }

conductor [ELEC] A wire, cable, or other body or medium that is suitable for carrying electric current. Also known as electric conductor. { kən'dək·tər }

conductor skin effect See skin effect. { kən 'dək·tər ˌskin i'fekt }

conduit [ELEC] Solid or flexible metal or other tubing through which insulated electric wires are run. { 'kän·də·wət }

cone [ENG ACOUS] The cone-shaped paper or fiber diaphragm of a loudspeaker. { kōn }

cone antenna See conical antenna. { 'kōn an'ten·ə }

cone loudspeaker [ENG ACOUS] A loudspeaker employing a magnetic driving unit that is mechanically coupled to a paper or fiber cone. Also known as cone speaker. { 'kōn 'laud ˌspēk·ər }

cone speaker See cone loudspeaker. { 'kōn ˌspēk·ər }

conference communications [COMMUN] Communications facilities whereby direct speech conversation may be conducted between three or more locations simultaneously. { 'kän·frəns kəˌmyü·nə'kā·shənz }

configuration [COMPUT SCI] For a computer system, the relationship of hardware elements to each other, and the manner in which they are electronically connected. [SYS ENG] A group of machines interconnected and programmed to operate as a system. { kənˌfig·yə'rā·shən }

confirmation message [COMPUT SCI] A message that appears on a computer screen asking the user to confirm an action that could have destructive effects, such as loss of data. { ˌkän·fər'mā·shən ˌmes·ij }

conformable optical mask [ELECTR] An optical mask made on a flexible glass substrate so that it can be pulled down under vacuum into intimate contact with the substrate for accurate circuit fabrication. { kən'fȯr·mə·bəl ˈäp·tə·kəl 'mask }

conformal array [ELECTR] An array-type antenna in which the radiating elements are mounted on a surface shaped for other purposes, such as aerodynamics, or on a surface more convenient of beneficial than a plane. Circular or cylindrical arrays provide an antenna-pattern consistency particularly valuable in TACAN, IFF, and secondary radar applications. { kən'fȯr·məl ə'rā }

confusion jamming [ELECTR] An electronic countermeasure technique in which the signal from an enemy tracking radar is amplified and retransmitted with distortion to create a false echo that affects accuracy of target range, azimuth, and velocity data. { kən'fyü·zhən ˌjam·iŋ }

confusion matrix [COMPUT SCI] In pattern recognition, a matrix used to represent errors in assigning classes to observed patterns in which the ijth element represents the number of samples from class i which were classified as class j. { kən'fyü·zhən ˌmā·triks }

congruential generator [COMPUT SCI] A method of generating a sequence of random numbers x_0, x_1, x_2, . . . , in which each member is generated from the previous one by the formula $x_{i+1} \equiv ax_i + b$ modulus m, where a, b, and m are constants. { ˌkän,grüˈen·chəl 'jen·əˌrād·ər }

conical antenna [ELECTROMAG] A wide-band antenna in which the driven element is conical in shape. Also known as cone antenna. { 'kän·ə·kəl an'ten·ə }

conical beam [ELECTR] The radar beam produced by conical scanning methods. { 'kän·ə·kəl 'bēm }

conical-horn antenna [ELECTROMAG] A horn antenna having a circular cross section and straight sides. { 'kän·ə·kəl ˌhȯrn an'ten·ə }

conical monopole antenna [ELECTROMAG] A variation of a biconical antenna in which the lower cone is replaced by a ground plane and the upper cone is usually bent inward at the top. { 'kän·ə·kəl 'män·əˌpōl an'ten·ə }

conical scanning [ELECTR] Scanning in radar in which the direction of maximum radiation generates a cone, the vertex angle of which is of the order of the beam width; may be either rotating or nutating, according to whether the direction of polarization rotates or remains unchanged. Done to effect accurate angle measurement in precision tracking radars. { 'kän·ə·kəl 'skan·iŋ }

conjugate branches [ELEC] Any two branches of an electrical network such that a change in the electromotive force in either does not result in a change in current in the other. Also known as conjugate conductors. { 'kän·jə·gət 'branchəz }

conjugate bridge [ELECTR] A bridge in which the detector circuit and the supply circuits are interchanged, as compared with a normal bridge of the given type. { 'kän·jə·gət 'brij }

conjugate conductors *See* conjugate branches. { 'kän·jə·gət kən'dək·tərz }

conjugate impedances [ELEC] Impedances having resistance components that are equal, and reactance components that are equal in magnitude but opposite in sign. { 'kän·jə·gət im'pēd·ən·səz }

conjunctive search [COMPUT SCI] A search to identify items having all of a certain set of characteristics. { kən'jəŋk·tiv 'sərch }

connected load [ELEC] The sum of the continuous power ratings of all load-consuming apparatus connected to an electric power distribution system or any part thereof. { kə'nek·təd 'lōd }

connect function [COMPUT SCI] A signal sent over a data line to a selected peripheral device to connect it with the central processing unit. { kə'nekt ˌfəŋk·shən }

connecting circuit [ELECTR] A functional switching circuit which directly couples other functional circuit units to each other to exchange information as dictated by the momentary needs of the switching system. { kə'nekt·iŋ ˌsər·kət }

connectionless transmission [COMMUN] Data transmission by packets that include addresses of the source and destination, so that a direct connection between these nodes is unnecessary. { kəˌnek·shən·ləs tranz'mish·ən }

connection-oriented transmission [COMMUN] Data transmission in which a physical path between the source and destination must be established and maintained for the duration of the transmission. { kəˌnek·shən ˌȯr·ēˌent·əd tranz'mish·ən }

connector [COMPUT SCI] In database management, a pointer or link between two data structures. [ELECTR] A switch, or relay group system in old electromechanical central offices, which found the telephone line being called as a result of digits being dialed; it also caused interrupted ringing voltage to be placed on the called line or returned a busy tone to the calling party if the line were busy. [ENG] **1.** A detachable device for connecting electrical conductors. **2.** A symbol on a flowchart indicating that the flow jumps to a different location on the chart. { kə'nek·tər }

connector block [ELECTR] A device for connecting two cables without using plugs, similar to a barrier strip but larger, in which wires from one cable are attached to lugs of screws on one side, and wires from the other cable are fastened to corresponding points on the opposite side. { kə'nek·tər ˌbläk }

connect time [COMPUT SCI] The time that a user at a terminal is signed on to a computer. { kə'nekt ˌtīm }

conode *See* tie line. { 'kōˌnōd }

consequence finding program [COMPUT SCI] A computer program that attempts to deduce mathematical consequences from a set of axioms and to select those consequences that will be significant. { 'kän·sə·kwəns ˌfīnd·iŋ ˌprō·grəm }

conservation of charge [ELEC] A law which states that the total charge of an isolated system is constant; no violation of this law has been discovered. Also known as charge conservation. { ˌkän·sər'vā·shən əv 'chärj }

consistency routine [COMPUT SCI] A debugging routine which is used to determine whether the program being checked gives consistent results at specified check points; for example, consistent between runs or with values calculated by other means. { kən'sis·tən·sē rü'tēn }

console [COMPUT SCI] **1.** The section of a computer that is used to control the machine manually, correct errors, manually revise the contents of storage, and provide communication in other ways between the operator or service engineer and the central processing unit. Also known as master console. **2.** A display terminal together with its keyboard. [ENG] **1.** A main control desk for electronic equipment, as at a radar station, radio or television station, or airport control tower. Also known as control desk. **2.** A large cabinet for a radio or television receiver, standing on the floor rather than on a table. **3.** A grouping of controls, indicators, and similar items contained in a specially designed model cabinet for floor mounting; constitutes an operator's permanent working position. { 'känˌsōl }

console display [COMPUT SCI] The visible representation of information, whether in words, numbers, or drawings, on a console screen connected to a computer. { 'känˌsōl di'splā }

console file adapter [COMPUT SCI] A special input/output device which allows the operator to

load reloadable control storage from the system console. ['kän,sōl 'fil ə'dap·tər]

console receiver [ELECTR] A television or radio receiver in a console. ['kän,sōl ri'sēv·ər]

console switch [COMPUT SCI] A switch on a computer console whose setting can be sensed by a computer, so that an instruction in the program can direct the computer to use this setting to determine which of various alternative courses of action should be followed. ['kän,sōl ,swich]

constancy *See* persistence. ['kän·stən·sē]

constant-amplitude recording [ENG ACOUS] A sound-recording method in which all frequencies having the same intensity are recorded at the same amplitude. [¦kän·stənt 'am·pla,tüd ri ,kȯrd·iŋ]

constant area [COMPUT SCI] A part of storage used for constants. ['kän·stənt ¦er·ē·ə]

constant bit rate [COMMUN] A mode of operation in a digital system where the bit rate is constant from start to finish of the compressed bit stream. ['kän·stənt 'bit ,rāt]

constant-conductance network *See* constant-resistance network. [¦kän·stənt kən'dək·təns ,net,wərk]

constant-current characteristic [ELECTR] The relation between the voltages of two electrodes in an electron tube when the current to one of them is maintained constant and all other electrode voltages are constant. [¦kän·stənt 'kər·ənt ,kar·ik·tə'ris·tik]

constant-current dc potentiometer [ELEC] A potentiometer in which the unknown electromotive force is balanced by a constant current times the resistance of a calibrated resistor or slidewire. Also known as Poggendorff's first method. [¦kän·stənt 'kər·ənt ¦dē¦sē pə,ten·chē'äm·əd·ər]

constant-current filter [ELECTR] A filter network intended to be connected to a source whose internal impedance is so high it can be assumed as infinite. [¦kän·stənt 'kər·ənt ¦fil·tər]

constant-current generator [ELECTR] A vacuum-tube circuit, generally containing a pentode, in which the alternating-current anode resistance is so high that anode current remains essentially constant despite variations in load resistance. [¦kän·stənt 'kər·ənt 'jen·ə,rād·ər]

constant-current modulation [COMMUN] System of amplitude modulation in which output circuits of the signal amplifier and the carrier-wave generator or amplifier are connected via a common coil to a constant-current source. Also known as Heising modulation. [¦kän·stənt 'kər·ənt ,mäj·ə'lā·shən]

constant-current source [ELECTR] A circuit which produces a specified current, independent of the load resistance or applied voltage. [¦kän·stənt 'kər·ənt ,sȯrs]

constant-current supply [ELEC] The power supply for repeatered submarine telephone cables; the voltage is varied automatically to maintain a constant current through the use of variable-voltage rectifiers and constant-current regulators at each shore station. [¦kän·stənt 'kər·ənt sə'plī]

constant-current transformer [ELEC] A transformer that automatically maintains a constant current in its secondary circuit under varying loads, when supplied from a constant-voltage source. [¦kän·stənt 'kər·ənt tranz'fȯr·mər]

constant-distance sphere [ENG ACOUS] The relative response of a sonar projector to variations in acoustic intensity, or intensity per unit band, over the surface of a sphere concentric with its center. [¦kän·stənt 'dis·təns ,sfir]

constant-false-alarm rate [ELECTR] Radar system devices used to prevent receiver saturation and overload so as to present clean video information to the display, and to present a constant noise level to an automatic detector. [¦kän·stənt ,fōls ə'lärm ,rāt]

constant-false-alarm-rate detection [ELECTR] Radar detection in which the sensitivity threshold is adjusted to adapt to a changing and uncertain background of clutter or interference. ['kän·stənt fōls ə'lärm rāt di,tek·shən]

constant instruction [COMPUT SCI] A nonexecutable instruction. ['kän·stənt in¦strək·shən]

constant-k filter [ELECTR] A filter in which the product of the series and shunt impedances is a constant that is independent of frequency. [¦kän·stənt ¦kā 'fil·tər]

constant-k network [ELECTR] A ladder network in which the product of the series and shunt impedances is independent of frequency within the operating frequency range. [¦kän·stənt ¦kā 'net,wərk]

constant-luminance transmission [COMMUN] Type of transmission in which the transmission primaries are a luminance primary and two chrominance primaries. [¦kän·stənt ¦lü·mə·nəns tranz'mish·ən]

constant radio code [COMMUN] Code in which all characters are represented by combinations having a fixed ratio of ones to zeros. ['kän·stənt 'rād·ē·ō ,kōd]

constant-resistance dc potentiometer [ELEC] A potentiometer in which the ratio of an unknown and a known potential are set equal to the ratio of two known constant resistances. Also known as Poggendorff's second method. [¦kän·stənt ri'zis·təns ¦dē¦sē pə,ten·chē'äm·əd·ər]

constant-resistance network [ELECTR] A network having at least one driving-point impedance that is a positive constant. Also known as constant-conductance network. [¦kän·stənt ri'zis·təns 'net,wərk]

constant-velocity recording [ENG ACOUS] A sound-recording method in which, for input signals of a given amplitude, the resulting recorded amplitude is inversely proportional to the frequency; the velocity of the cutting stylus is then constant for all input frequencies having that given amplitude. [¦kän·stənt və'läs·əd·ē ri ,kȯrd·iŋ]

constant-voltage generator [ELEC] An axle generator that is equipped with a regulator which keeps voltage constant. [¦kän·stənt 'vōl·tij 'jen·ə,rād·ər]

constant-voltage transformer [ELEC] A power transformer which will supply a constant voltage to an unvarying load, even with changes in the primary voltage. { ¦kän·stənt 'vōl·tij tranz'fȯr·mər }

constraint matrix [COMPUT SCI] The set of equations and inequalities defining the set of admissible solutions in linear programming. { kən'strānt ˌmā·triks }

constraint programming language [COMPUT SCI] A programming language in which constraints (relationships that must hold among a number of variables) are directly usable as programming constructs. { kən¦strānt 'prōˌgram·iŋ ˌlaŋ·gwij }

construction operator [COMPUT SCI] The part of a data structure which is used to construct composite objects from atoms. { kən'strək·shən 'äp·əˌrād·ər }

contact [ELEC] *See* electric contact. [ENG] A report of a target of interest in a radar's data processing, a detection. Also known as plot. { 'känˌtakt }

contact arc [ELEC] A spark that occurs immediately after the breaking of an electric contact carrying a current. { 'känˌtakt ˌärk }

contact block [ELEC] A block of conducting material such as carbon, used in a relay. { 'känˌtakt ˌbläk }

contact bounce [ELEC] The uncontrolled making and breaking of contact one or more times, but not continuously, when relay contacts are moved to the closed position. { 'känˌtakt ˌbaůns }

contact chatter *See* chatter. { 'känˌtakt ˌchad·ər }

contact clip [ELEC] The clip which the blade of a knife switch is clamped to in the closed condition. { 'känˌtakt ˌklip }

contact drop [ELEC] The voltage drop across the terminals of an electric contact. { 'känˌtakt ˌdräp }

contact electricity [ELEC] An electric charge at the surface of contact of two different materials. { 'känˌtakt iˌlek'tris·əd·ē }

contact electromotive force *See* contact potential difference. { 'känˌtakt iˌlek·trə'mōd·iv 'fōrs }

contact follow [ELEC] The distance two contacts travel together after just touching. Also known as contact overtravel. { 'känˌtakt ˌfäl·ō }

contact force [ELEC] The force exerted by the moving contact of a switch or relay on a stationary contact. { 'känˌtakt ˌfȯrs }

contact head [COMPUT SCI] A read/write head that remains in contact with the recording surface of a hard disk, rather than hovering above it. { 'känˌtakt ˌhed }

contact-making meter *See* instrument-type relay. { 'känˌtakt ˌmāk·iŋ ˌmēd·ər }

contact-mask read-only memory *See* last-mask read-only memory. { 'känˌtakt ˌmask 'rēd ˌōn·lē 'mem·rē }

contact microphone [ENG ACOUS] A microphone designed to pick up mechanical vibrations directly and convert them into corresponding electric currents or voltages. { 'känˌtakt 'mī·krəˌfōn }

contact modulation [ELEC] The use of a fast-acting relay, whose contacts make and break at a certain threshold current, to generate square waves from a sine-wave, rectified sine-wave or direct-current source. { 'känˌtakt ˌmäj·ə'lā·shən }

contactor [ELEC] A heavy-duty relay used to control electric power circuits. Also known as electric contactor. { 'känˌtak·tər }

contactor control system [CONT SYS] A feedback control system in which the control signal is a discontinuous function of the sensed error and may therefore assume one of a limited number of discrete values. { 'känˌtak·tər kən'trōl ˌsis·təm }

contact overtravel *See* contact follow. { 'känˌtakt 'ō·vərˌtrav·əl }

contact piston [ELECTROMAG] A waveguide piston that makes contact with the walls of the waveguide. Also known as contact plunger. { 'känˌtakt ˌpis·tən }

contact plunger *See* contact piston. { 'känˌtakt ˌplən·jər }

contact point [ELEC] In the ignition system of an internal combustion engine, any of the stationary and movable electrically conducting metal points that open and close to complete or break an electric circuit. { 'känˌtakt ˌpȯint }

contact potential *See* contact potential difference. { 'känˌtakt pə'ten·chəl }

contact potential difference [ELEC] The potential difference that exists across the space between two electrically connected materials. Also known as contact electromotive force; contact potential; Volta effect. { 'känˌtakt pə'ten·chəl 'dif·rəns }

contact pressure [ELEC] The amount of pressure holding a set of contacts together. { 'känˌtakt ˌpresh·ər }

contact protection [ELEC] Any method for suppressing the surge which results when an inductive circuit is suddenly interrupted; the break would otherwise produce arcing at the contacts, leading to their deterioration. { 'känˌtakt prə'tek·shən }

contact rectifier *See* metallic rectifier. { 'känˌtakt 'rek·təˌfī·ər }

contact resistance [ELEC] The resistance in ohms between the contacts of a relay, switch, or other device when the contacts are touching each other. { 'känˌtakt ri'zis·təns }

contact sparking [ELEC] The formation of a spark or arc at the contact points when a circuit is opened while it is carrying a current. { 'känˌtakt ˌspärk·iŋ }

contamination [COMPUT SCI] Placement of data at incorrect locations in storage, where it generally overlays valid information or a program code and produces bizarre results. { kənˌtam·ə'nā·shən }

content analysis [COMPUT SCI] A method of automatically assigning words that identify the content of information items or search requests in an information retrieval system. { 'känˌtent əˌnal·ə·səs }

content indicator [COMPUT SCI] Display unit that indicates the content in a computer, and the program or mode being used. { 'känˌtent ˌin·daˌkād·ər }

contention [COMMUN] A method of operating a multiterminal communication channel in which any station may transmit if the channel is free; if the channel is in use, the queue of contention requests may be maintained in predetermined sequence. [COMPUT SCI] **1.** The condition arising when two or more units attempt to transmit over a time-division-multiplex channel at the same time. **2.** Competition for the same computer resources by two or more devices or programs, such as an attempt by several programs to use the same disk drive simultaneously, or by several users in a multiaccess system to use the system's resources. [kən'ten-chən]

contention resolver [COMPUT SCI] A device that enables a central processing unit, memory, or channel whose attention is being requested over several pathways to give its attention to one pathway and ignore all others. [kən'ten-chən ri'zäl-vər]

contents [COMPUT SCI] The information stored at any address or in any register of a computer. ['kän,tens]

context-driven line editor [COMPUT SCI] A line editor in which the user need not know or keep track of line numbers but can call up text by line content; the computer will then search for the indicated pattern. ['kän,tekst ,driv-ən 'līn ,ed-əd-ər]

context-free grammar [COMPUT SCI] A grammar in which any occurrence of a metavariable may be replaced by one of its alternatives. ['kän ,tekst ,frē 'gram-ər]

context-sensitive grammar [COMPUT SCI] A grammar in which the rules are applicable only when a metavariable occurs in a specified context. ['kän,tekst ,sen-səd-iv 'gram-ər]

context-sensitive help [COMPUT SCI] A help screen that provides specific information about the current status or mode of a computer program or instructions for dealing with a particular error condition that has just occurred. ['kän,tekst ,sen-səd-iv 'help]

context switch [COMPUT SCI] The action of a central processing unit that suspends work on one process to work on another. ['kän,text ,swich]

context switching *See* task switching. ['kän,text ,swich-iŋ]

contextual analysis [COMPUT SCI] A phase of natural language processing, following semantic analysis, whose purpose is to elaborate the semantic representation of what has been made explicit in the utterance with what is implicit from context. [kən'teks-chə-wəl ə'nal-ə-səs]

contextual search [COMPUT SCI] A search for documents or records based upon the data they contain, rather than their file names or key fields. [kən'teks-chə-wəl 'sərch]

contiguous data [COMPUT SCI] Data that are stored in a collection of adjacent locations in a computer memory device. [kən'tig-yə-wəs 'dad-ə]

continental code [COMMUN] The code commonly used for manual telegraph communication, consisting of short (dot) and long (dash) symbols, but not the various-length spaces used in the original Morse code. Also known as international Morse code. [¦känt-ən¦ent-əl 'kōd]

contingency interrupt [COMPUT SCI] A processing interruption due to an operator's action or due to an abnormal result from the system or from a program. [kən'tin-jən-sē 'in-tə,rəpt]

continue statement [COMPUT SCI] A nonexecutable statement in FORTRAN used principally as a target for transfers, particularly as the last statement in the range of a do statement. [kən'tin-yü ,stāt-mənt]

continuity [ELEC] Continuous effective contact of all components of an electric circuit to give it high conductance by providing low resistance. [,känt-ən'ü-əd-ē]

continuity test [ELEC] An electrical test used to determine the presence and location of a broken connection. [,känt-ən'ü-əd-ē ,test]

continuous carrier [COMMUN] A carrier signal that is transmitted at all times during maintenance of a communications link, whether or not data are being transmitted. [kən¦tin-yə-wəs 'kar-ē-ər]

continuous clamp *See* voltage-amplitude-controlled clamp. [kən¦tin-yə-wəs 'klamp]

continuous comparator *See* linear comparator. [kən¦tin-yə-wəs kəm'par-əd-ər]

continuous control [CONT SYS] Automatic control in which the controlled quantity is measured continuously and corrections are a continuous function of the deviation. [kən¦tin-yə-wəs kən'trōl]

continuous-duty rating [ELEC] The rating that defines the load which can be carried for an indefinite time without exceeding a specified temperature rise. [kən¦tin-yə-wəs ,düd-ē 'rād-iŋ]

continuous film scanner [ELECTR] A television film scanner in which the motion picture film moves continuously while being scanned by a flying-spot device. [kən¦tin-yə-wəs 'film ,skan-ər]

continuous forms [COMPUT SCI] **1.** In character recognition, any batch of source information that exists in reel form, such as tally rolls or cash-register receipts. **2.** Preprinted forms that repeat on each page, with the bottom of one page joined to the top of the next by a perforated attachment, so that they can be fed through a printer. [kən¦tin-yə-wəs 'fȯrmz]

continuous loading [ELEC] Loading in which the added inductance is distributed uniformly along a line by wrapping magnetic material around each conductor. [kən¦tin-yə-wəs 'lōd-iŋ]

continuously adjustable transformer *See* variable transformer. [kən¦tin-yə-wəs-lē ə'jəs-tə-bəl tranz'fȯr-mər]

continuous stationery [COMPUT SCI] A continuous ribbon of paper consisting of several hundred or more sheets separated by perforations and folded to form a pack, used to feed a computer printer and generally having sprocket holes along the margin for this purpose. [kən¦tin-yə-wəs 'stā-shə,ner-ē]

continuous stationery reader [COMPUT SCI] A type of character reader which processes only continuous forms of predefined dimensions. { kən¦tin·yə·wəs 'stā·shə,ner·ē 'rēd·ər }

continuous system [CONT SYS] A system whose inputs and outputs are capable of changing at any instant of time. Also known as continuous-time signal system. { kən¦tin·yə·wəs 'sis·təm }

continuous-time signal system *See* continuous system. { kən¦tin·yə·wəs ¦tīm 'sig·nəl ,sis·təm }

continuous-tone squelch [ELECTR] Squelch in which a continuous subaudible tone, generally below 200 hertz, is transmitted by frequency-modulation equipment along with a desired voice signal. { kən¦tin·yə·wəs ¦tōn 'skwelch }

continuous variable [COMPUT SCI] A variable that can take on any of a range of values. { kən ¦tin·yə·wəs 'ver·ē·ə·bəl }

continuous wave [ELECTROMAG] A radio or radar wave whose successive sinusoidal oscillations are identical under steady-state conditions. Abbreviated CW. Also known as type A wave. { kən ¦tin·yə·wəs 'wāv }

continuous-wave Doppler radar *See* continuous-wave radar. { kən¦tin·yə·wəs ¦wāv 'däp·lər ,rā ,där }

continuous-wave jammer [ELECTR] An electronic jammer that emits a single frequency continuously, giving the appearance of a picket or rail fence on an elementary radar display. Also known as rail-fence jammer. { kən¦tin·yə·wəs ¦wāv 'jam·ər }

continuous-wave modulation [COMMUN] Modulation of a continuous wave by modification of its amplitude, frequency, or phase, in contrast to pulse modulation. { kən¦tin·yə·wəs ¦wāv ,mäj·ə'lā·shən }

continuous-wave radar [ENG] A radar system in which a transmitter sends out a continuous flow of radio energy; the target reradiates a small fraction of this energy to a separate receiving antenna. Also known as continuous-wave Doppler radar. { kən¦tin·yə·wəs ¦wāv 'rā ,där }

continuous-wave tracking system [ELECTR] Tracking system which operates by keeping a continuous radio beam on a target and determining its behavior from changes in the antenna necessary to keep the beam on the target. { kən¦tin·yə·wəs ¦wāv 'trak·iŋ ,sis·təm }

contour analysis [COMPUT SCI] In optical character recognition, a reading technique that employs a roving spot of light which searches out the character's outline by bouncing around its outer edges. { 'kän,tür ə'nal·ə·səs }

contouring control [COMPUT SCI] The guidance by a computer of a machine tool along a programmed path by interpolating many intermediate points between selected points. { 'kän ,tür·iŋ kən'trōl }

contour model [COMPUT SCI] A model for describing the run-time execution of programs written in block-structured languages, consisting of a program component, the data component, and the control component. { 'kän,tür ,mäd·əl }

contourograph [ELECTR] Device using a cathode-ray oscilloscope to produce imagery that has a three-dimensional appearance. { ,kän'tür·ə ,graf }

contracted code sonde *See* code-sending radiosonde. { kən'trak·təd ¦kōd ,sänd }

contrast [COMMUN] The degree of difference in tone between the lightest and darkest areas in a video 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,trast }

contrast control [ELECTR] A manual control that adjusts the range of brightness between highlights and shadows on the reproduced image of a display device. { 'kän,trast kən'trōl }

contrast ratio [ELECTR] The ratio of the maximum to the minimum luminance values in a video image. { 'kän,trast ,rā·shō }

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. { kən'trōl }

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

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'trōl ən ¦rēd ,ōn·lē 'mem·rē }

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

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'trōl ,bōrd }

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'trōl ,brāk }

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'trōl ˌkär·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'trōl ˌkar·ik·tə'ris·tik }

control circuit [COMPUT SCI] One of the circuits that responds to the instructions in the program for a digital computer. [ELEC] A circuit that controls some function of a machine, device, or piece of equipment. [ELECTR] The circuit that feeds the control winding of a magnetic amplifier. { kən'trōl ˌsər·kət }

control code [COMPUT SCI] A special code that is entered by a user to carry out a particular function, such as the moving or deleting of text in a word-processing program. { kən'trōl ˌkōd }

control computer [COMPUT SCI] A computer which uses inputs from sensor devices and outputs connected to control mechanisms to control physical processes. { kən'trōl kəm'pyüd·ər }

control counter [COMPUT SCI] A counter providing data used to control the execution of a computer program. { kən'trōl ˌkaůn·tər }

control data [COMPUT SCI] Data used for identifying, selecting, executing, or modifying another set of data, a routine, a record, or the like. { kən'trōl ˌdad·ə }

control desk *See* console. { kən'trōl ˌdesk }

control diagram *See* flow chart. { kən'trōl ˌdī·əˌgram }

control electrode [ELECTR] An electrode used to initiate or vary the current between two or more electrodes in an electron tube. { kən'trōl i'lek ˌtrōd }

control element [CONT SYS] The portion of a feedback control system that acts on the process or machine being controlled. { kən'trōl ˌel·ə·mənt }

control flow graph [COMPUT SCI] A graph describing the logic structure of a software module, in which the nodes represent computational statements or expressions, the edges represent transfer of control between nodes, and each possible execution path of the module has a corresponding path from the entry to the exit node of the graph. { kən¦trōl 'flō ˌgraf }

control grid [ELECTR] A grid, ordinarily placed between the cathode and an anode, that serves to control the anode current of an electron tube. { kən'trōl ˌgrid }

control-grid bias [ELECTR] Average direct-current voltage between the control grid and cathode of a vacuum tube. { kən'trōl ¦grid ˌbī·əs }

control-grid plate transconductance [ELECTR] Ratio of the amplification factor of a vacuum tube to its plate resistance, combining the effects of both into one term. { kən'trōl ¦grid ¦plāt ˌtranz·kən'dək·təns }

control handle *See* handle. { kən'trōl ˌhand·əl }

control head gap [COMPUT SCI] The distance maintained between the read/write head of a disk drive and the disk surface. { kən'trōl ¦hed ˌgap }

control hierarchy *See* hierarchical control. { kən'trōl 'hī·ərˌär·kē }

control inductor *See* control winding. { kən'trōl in'dək·tər }

control instructions [COMPUT SCI] Those instructions in a computer program which ensure proper sequencing of instructions so that a programmed task can be performed correctly. { kən'trōl in'strək·shənz }

control key [COMPUT SCI] A special key on a computer keyboard which, when depressed together with another key, generates a different signal than would be produced by the second key alone. { kən'trōl ˌkē }

controllability [CONT SYS] Property of a system for which, given any initial state and any desired state, there exists a time interval and an input signal which brings the system from the initial state to the desired state during the time interval. { kənˌtrōl·ə'bil·əd·ē }

control lead [COMPUT SCI] A character or sequence of characters indicating that the information following is a control code and not data. { kən'trōl ˌlēd }

controlled avalanche device [ELECTR] A semiconductor device that has rigidly specified maximum and minimum avalanche voltage characteristics and is able to operate and absorb momentary power surges in this avalanche region indefinitely without damage. { kən¦trōld 'av·əˌlanch di'vīs }

controlled avalanche rectifier [ELECTR] A silicon rectifier in which carefully controlled, nondestructive internal avalanche breakdown across the entire junction area protects the junction surface, thereby eliminating local heating that would impair or destroy the reverse blocking ability of the rectifier. { kən¦trōld 'av·əˌlanch 'rek·təˌfī·ər }

controlled avalanche transit-time triode [ELECTR] A solid-state microwave device that uses a combination of IMPATT diode and *npn* bipolar transistor technologies; avalanche and drift zones are located between the base and collector regions. Abbreviated CATT. { kən¦trōld 'av·əˌlanch ¦tranz·ət ˌtīm 'trīˌōd }

controlled carrier modulation [COMMUN] System of modulation wherein the carrier is amplitude-modulated by the signal frequencies and, in addition, the carrier is amplitude-modulated according to the envelope of the signal so that the modulation factor remains constant regardless of the amplitude of the signal. Also known as floating carrier modulation; variable carrier modulation. { kən¦trōld 'kar·ē·ər ˌmäj·ə'lā·shən }

controlled mercury-arc rectifier [ELECTR] A mercury-arc rectifier in which one or more electrodes control the start of the discharge in each cycle and thereby control output current. { kən¦trōld ¦mər·kyə·rē ¦ärk 'rek·təˌfī·ər }

controlled parameter [ENG] In the formulation of an optimization problem, one of the parameters

whose values determine the value of the criterion parameter. { kən¦trōld pə'ram·əd·ər }

controlled rectifier |ELECTR| A rectifier that has provisions for regulating output current, such as with thyratrons, ignitrons, or silicon controlled rectifiers. { kən¦trōld 'rek·tə,fī·ər }

controlled variable |CONT SYS| In process automatic-control work, that quantity or condition of a controlled system that is directly measured or controlled. { kən¦trōld 'ver·ē·ə·bəl }

controller See automatic controller. { kən'trōl·ər }

controller-structure interaction |CONT SYS| Feedback of an active control algorithm in the process of model reduction; this occurs through observation spillover and control spillover. { kən'trōl·ər ,strək·chər in·tər'ak·shən }

control limits |ELECTR| In radar evaluation, upper and lower control limits are established at those performance figures within which it is expected that 95% of quality-control samples will fall when the radar is performing normally. { kən'trōl ,lim·əts }

control logic |COMPUT SCI| The sequence of steps required to perform a specific function. { kən'trōl ,läj·ik }

control mark See tape mark. { kən'trōl ,märk }

control-message display |COMPUT SCI| A device, such as a console typewriter, on which control information, such as information on the progress of a running computer program, is displayed in ordinary language. { kən'trōl ,mes·ij di'splā }

control module |COMPUT SCI| The set of registers and circuitry required to carry out a specific function. { kən'trōl ,mä·jül }

control operation |COMPUT SCI| Any action that affects data processing but is not directly included, such as managing input/output operations or determining job sequence. { kən'trōl ,äp·ə,rā·shən }

control panel |COMPUT SCI| An array of jacks or sockets in which wires (or other elements) may be plugged to control the action of an electromechanical device in a data-processing system such as a printer. Also known as plugboard; wiring board. |ELEC| See control board; panel board. { kən'trōl ,pan·əl }

control point |COMPUT SCI| **1.** The numerical value of the controlled variable (speed, temperature, and so on) which, under any fixed set of operating conditions, an automatic controller operates to maintain. **2.** One of the hardware locations at which the output of the instruction decoder of the processor activates the input to and output from specific registers as well as operational resources of the system. { kən'trōl ,pȯint }

control program |COMPUT SCI| A program which carries on input/output operations, loading of programs, detection of errors, communication with the operator, and so forth. { kən'trōl ,prō·grəm }

control record |COMPUT SCI| A special record added to the end of a file to provide information about the file and the records in it. { kən'trōl ,rek·ərd }

control register |COMPUT SCI| Any one of the registers in a computer used to control the execution of a computer program. { kən'trōl ,rej·ə·stər }

control room |COMMUN| A room from which engineers and production people control and direct a video or audio program or a recording session. { kən'trōl ,rüm }

control section |COMPUT SCI| **1.** The smallest integral subsection of a program, that is, the smallest unit of code that can be separately relocated during loading. **2.** The part of a central processing unit that controls other sections of the unit. { kən'trōl ,sek·shən }

control sequence |COMPUT SCI| The order in which a set of executions are carried to perform a specific function. { kən'trōl ,sē·kwəns }

control signal |COMPUT SCI| A set of pulses used to identify the channels to be followed by transferred data. |CONT SYS| The signal applied to the device that makes corrective changes in a controlled process or machine. { kən'trōl ,sig·nəl }

control spillover |CONT SYS| The excitation by an active control system of modes of motion that have been omitted from the control algorithm in the process of model reduction. { kən'trōl 'spil ,ō·vər }

control state |COMPUT SCI| The operating mode of a system which permits it to override its normal sequence of operations. { kən'trōl ,stāt }

control statement |COMPUT SCI| A statement in a computer program that controls program execution, such as a GOTO statement, conditional jump, or a loop. { kən'trōl ,stāt·mənt }

control supervisor |COMPUT SCI| The computer software which controls the processing of the system. { kən'trōl ¦sü·pər,vī·zər }

control switching point |COMMUN| A telephone office which is an important switching center in the routing of long-distance calls in the direct distance dialing system. Abbreviated CSP. { kən'trōl 'swich·iŋ ,pȯint }

control symbol |COMPUT SCI| A symbol which, coded into the machine memory, controls certain steps in the mechanical translation process; since control symbols are not contextual symbols, they appear neither in the input nor in the output. { kən'trōl ,sim·bəl }

control synchro See control transformer. { kən'trōl ,siŋ·krō }

control system |ENG| A system in which one or more outputs are forced to change in a desired manner as time progresses. { kən'trōl ,sis·təm }

control-system feedback |CONT SYS| A signal obtained by comparing the output of a control system with the input, which is used to diminish the difference between them. { kən'trōl ,sis·təm 'fēd,bak }

control systems equipment |COMPUT SCI| Computers which are an integral part of a total facility or larger complex of equipment and have the primary purpose of controlling, monitoring, analyzing, or measuring a process or other equipment. { kən'trōl ,sis·təmz i'kwip·mənt }

control total [COMPUT SCI] The sum of the numbers in a specified record field of a batch of records, determined repetitiously during computer processing so that any discrepancy from the control indicates an error. { kən'trōl ˌtōd·əl }

control track [ENG ACOUS] A supplementary sound track, usually containing tone signals that control the reproduction of the sound track, such as by changing feed levels to loudspeakers in a theater to achieve stereophonic effects. { kən'trōl ˌtrak }

control transformer [ELEC] A synchro in which the electrical output of the rotor is dependent on both the shaft position and the electric input to the stator. Also known as control synchro. { kən'trōl tranz'fȯr·mər }

control unit [COMPUT SCI] An electronic device containing data buffers and logical circuitry, situated between the computer channel and the input/output device, and controlling data transfers and such operations as tape rewind. { kən'trōl ˌyü·nət }

control unit terminal emulation [COMPUT SCI] A technique that enables a personal computer to imitate a terminal of a main frame. Abbreviated CUT emulation. { kən'trōl ˌyü·nət ¦tər·mə·nəl ˌem·yə'lā·shən }

control variable [CONT SYS] One of the input variables of a control system, such as motor torque or the opening of a valve, which can be varied directly by the operator to maximize some measure of performance of the system. { kən'trōl ˌver·ē·ə·bəl }

control winding [ELECTR] A winding used on a magnetic amplifier or saturable reactor to apply control magnetomotive forces to the core. Also known as control inductor. { kən'trōl ˌwīnd·iŋ }

control word [COMPUT SCI] A computer word specifying a certain action to be taken. { kən'trōl ˌwərd }

convection current [ELECTR] The time rate at which the electric charges of an electron stream are transported through a given surface. { kən'vek·shən ˌkər·ənt }

convective current *See* convection current. { kən'vek·div ˌkər·ənt }

convective discharge [ELECTR] The movement of a visible or invisible stream of charged particles away from a body that has been charged to a sufficiently high voltage. Also known as electric wind; static breeze. { kən'vek·div 'disˌchärj }

convenience receptacle *See* outlet. { kən'vēn·yəns ri'sep·tə·kəl }

conventional algorithm [COMMUN] A cryptographic algorithm in which the enciphering and deciphering keys are easily derivable from each other, or are identical, and both must be kept secret. { kən'ven·chən·əl 'al·gəˌrith·əm }

conventional current [ELEC] The concept of current as the transfer of positive charge, so that its direction of flow is opposite to that of electrons which are negatively charged. { kən'ven·chən·əl 'kər·ənt }

conventional definition television [COMMUN] The analog NTSC (National Television Standards Committee) television system. Abbreviated CDTV. { kən'ven·chən·əl 'def·ə,nish·ən 'tel·əˌvizh·ən }

conventional programming [COMPUT SCI] The use of standard programming languages, as opposed to application development languages, financial planning languages, query languages, and report programs. { kən'ven·chən·əl 'prōˌgram·iŋ }

convergence [ELECTR] A condition in which the electron beams of a multibeam cathode-ray tube intersect at a specified point, such as at an opening in the shadow mask of a three-gun color television picture tube; both static convergence and dynamic convergence are required. { kən'vər·jəns }

convergence circuit [ELECTROMAG] An auxiliary deflection system in a color television receiver which maintains convergence, having separate convergence coils for electromagnetic controls of the positions of the three beams in a convergence yoke around the neck of the kinescope. { kən'vər·jəns ˌsər·kət }

convergence coil [ELECTR] One of the coils used to obtain convergence of electron beams in a three-gun color television picture tube. { kən'vər·jəns ˌkȯil }

convergence control [ELECTR] A control used in a color display device to adjust certain parameters of the three-gun color picture tube to achieve convergence. { kən'vər·jəns kən'trōl }

convergence electrode [ELECTR] An electrode whose electric field converges two or more electron beams. { kən'vər·jəns i'lek,trōd }

convergence magnet [ELECTR] A magnet assembly whose magnetic field converges two or more electron beams; used in three-gun color picture tubes. Also known as beam magnet. { kən'vər·jəns ˌmag·nət }

Conversational Algebraic Language *See* CAL. { kän·vər¦sā·shən·əl al·jə¦brā·ik 'laŋ·gwij }

conversational compiler [COMPUT SCI] A compiler which immediately checks the validity of each source language statement entered to the computer and informs the user if the next statement can be entered or if a mistake must be corrected. Also known as interpreter. { kän·vər'sā·shən·əl kəm'pīl·ər }

conversational mode [COMMUN] A computer operating mode that permits queries and responses between the computer and human operators at keyboard terminals. { kän·vər'sā·shən·əl ˌmōd }

conversational processing [COMPUT SCI] The operating mode of a computer system which enables a user to have each statement he keys into the system processed immediately. { kän·vər'sā·shən·əl 'präs·əs·iŋ }

conversational time-sharing [COMPUT SCI] The simultaneous utilization of a computer system by multiple users, each user being equipped with a remote terminal with which he communicates with the computer in conversational mode. { kän·vər'sā·shən·əl 'tīm ˌsher·iŋ }

conversion *See* data conversion. { kən'vər·zhən }

conversion gain [ELECTR] 1. Ratio of the intermediate-frequency output voltage to the input signal voltage of the first detector of a superheterodyne receiver. 2. Ratio of the available intermediate-frequency power output of a converter or mixer to the available radio-frequency power input. { kən'vər·zhən ˌgān }

conversion program [COMPUT SCI] A set of instructions which allows a program written for one system to be run on a different system. { kən'vər·zhən ˌprō·grəm }

conversion rate [COMPUT SCI] The number of complete conversions an analog-to-digital converter can perform per unit time, usually specified in cycles (or conversions) per second. { kən'vər·zhən ˌrāt }

conversion routine [COMPUT SCI] A flexible, self-contained, and generalized program used for data conversion, which only requires specifications about very few facts in order to be used by a programmer. { kən'vər·zhən rü'tēn }

conversion time [COMPUT SCI] The time required to read in data from one code into another code. { kən'vər·zhən ˌtīm }

convert [COMPUT SCI] To transform the representation of data. { kən'vərt }

converter [COMPUT SCI] A computer unit that changes numerical information from one form to another, as from decimal to binary or vice versa, from fixed-point to floating-point representation, from magnetic tape to disk storage, or from digital to analog signals and vice versa. Also known as data converter. [ELECTR] 1. The section of a superheterodyne radio receiver that converts the desired incoming radio-frequency signal to an intermediate-frequency value; the converter section includes the oscillator and the mixer-first detector. Also known as heterodyne conversion transducer; oscillator-mixer-first-detector. 2. An auxiliary unit used with a television or radio receiver to permit reception of channels or frequencies for which the receiver was not originally designed. 3. In facsimile, a device that changes the type of modulation delivered by the scanner. 4. Unit of a radar system in which the mixer of a superheterodyne receiver and usually two stages of intermediate-frequency amplification are located; performs a preamplifying operation. { kən'vərd·ər }

converter substation [ELEC] An electric power substation whose main function is the conversion of power from ac to dc, and vice versa. { kən'vərd·ər 'səbˌstā·shən }

converter tube [ELECTR] An electron tube that combines the mixer and local-oscillator functions of a heterodyne conversion transducer. { kən'vərd·ər ˌtüb }

convolutional code [COMMUN] An error-correcting code that processses incoming bits serially rather than in large blocks. { ˌkän·vəlü·shən·əl 'kōd }

convolver [ELECTR] A surface acoustic-wave device in which signal processing is performed by a nonlinear interaction between two waves traveling in opposite directions. Also known as acoustic convolver. { kən'väl·vər }

cookbook [COMPUT SCI] A document that describes how to install and use a software product or carry out other complex tasks in step-by-step fashion. { 'kůkˌbůk }

cookie [COMPUT SCI] A data file written to a hard drive by some Web sites, contains information the site can use to track such things as passwords, login, registration or identification, user preferences, online shopping cart information, and lists of pages visited. { 'kůk·ē }

cooled infrared detector [ELECTR] An infrared detector that must be operated at cryogenic temperatures, such as at the temperature of liquid nitrogen, to obtain the desired infrared sensitivity. { 'küld ˌin·frə'red di'tek·tər }

cooperative multitasking [COMPUT SCI] A method of running more than one program on a computer at a time in which the program currently in control of the processor retains the control until it yields the control to another program voluntarily, which it can do only at certain points in the program. Also known as nonpreemptive multitasking. { kō,äp·rəd·iv 'məl·təˌtask·iŋ }

coordinate addressing [COMPUT SCI] The use of cartesian coordinates to specify a location, such as the position of a character in an electronic display. { kō'ȯrd·ən·ət 'adˌres·iŋ }

coordinate data receiver [ELECTR] A receiver specifically designed to accept the signal of a coordinate data transmitter and reconvert this signal into a form suitable for input to associated equipment such as a plotting board, computer, or radar set. { kō'ȯrd·ən·ət 'dad·ə riˌsē·vər }

coordinate data transmitter [ELECTR] A transmitter that accepts two or more coordinates, such as those representing a target position, and converts them into a form suitable for transmission. { kō'ȯrd·ən·ət 'dad·ə tranzˌmid·ər }

coordinated-axis control [CONT SYS] Robotic control in which the robot axes reach their end points simultaneously, thus giving the robot's motion a smooth appearance. { kō'ȯrd·ən ˌād·əd ˌak·səs kənˌtrōl }

coordinated geometry *See* COGO. { kō'ȯrd·ən ˌād·əd jē'äm·ə·trē }

coordinated transpositions [ELEC] Transpositions which are installed in either electric supply or communications circuits or in both, for the purpose of reducing inductive coupling, and which are located effectively with respect to the discontinuities in both the electric supply and communications circuits. { kō'ȯrd·ən ˌād·əd tranz·pə'zish·ənz }

coordinate indexing [COMPUT SCI] An indexing scheme in which equal-rank descriptors are used to describe a document, for information retrieval by a computer or other means. { kō'ȯrd·ən·ət 'inˌdeks·iŋ }

coordinate storage *See* matrix storage. { kō'ȯrd·ən·ət 'stȯr·ij }

coordination [ELEC] Design of series-connected circuit breakers whereby breakers with lower current ratings trip before those with higher ratings. { kō,ȯrd·ən'ā·shən }

coplanar electrodes [ELECTR] Electrodes mounted in the same plane. { kō'plān·ər i'lek,trōdz }

copper cable [ELEC] A mechanically assembled group of copper wires, used in place of a single, large wire for increased flexibility. { 'käp·ər 'kā·bəl }

copper loss [ELEC] Power loss in a winding due to current flow through the resistance of the copper conductors. Also known as I^2R loss. { 'käp·ər ,lȯs }

copper oxide photovoltaic cell [ELECTR] A photovoltaic cell in which light acting on the surface of contact between layers of copper and cuprous oxide causes a voltage to be produced. { 'käp·ər 'äk,sīd ,fōd·ō·vōl'tā·ik 'sel }

copper oxide rectifier [ELECTR] A metallic rectifier in which the rectifying barrier is the junction between metallic copper and cuprous oxide. { 'käp·ər 'äk,sīd 'rek·tə,fī·ər }

copper pair *See* twisted pair. { 'käp·ər ,per }

copper sulfide rectifier [ELECTR] A semiconductor rectifier in which the rectifying barrier is the junction between magnesium and copper sulfide. { 'käp·ər 'səl,fīd 'rek·tə,fī·ər }

coprocessor [COMPUT SCI] A processing unit that works together with a primary central processing unit to speed a computer's execution of time-consuming operations. { kō'prä,ses·ər }

copy [COMMUN] To transcribe Morse code signals into written form. [COMPUT SCI] A string procedure in Algol by means of which a new byte string can be generated from an existing byte string. { 'käp·ē }

copying program [COMPUT SCI] A system program which copies a data or program file from one peripheral device onto another. { 'käp·ē·iŋ ,prō·grəm }

copy protection *See* software protection. { 'käp·ē prə,tek·shən }

CORBA *See* common object request broker. { 'kȯr·bə }

corbinotron [ENG] The combination of a corbino disk, made of high-mobility semiconductor material, and a coil arranged to produce a magnetic field perpendicular to the disk. { kȯr'bē·nə,trän }

cord [ELEC] A small, very flexible insulated cable. { kȯrd }

cord circuit [ELEC] Connecting circuit terminating in a plug at one or both ends and used at switchboard positions in establishing telephone connections. { 'kȯrd ,sər·kət }

cordless telephone [COMMUN] A telephone whose headset and base are equipped with small antennas and are linked by low-power radio instead of a wire. { 'kȯrd·ləs 'tel·ə,fōn }

cordwood module [ELECTR] High-density circuit module in which discrete components are mounted between and perpendicular to two small, parallel printed circuit boards to which their terminals are attached. { 'kȯrd,wůd ,mä·jül }

core *See* magnetic core. { kȯr }

core array [ELECTR] A rectangular grid arrangement of magnetic cores. { 'kȯr ə'rā }

core bank [ELECTR] A stack of core arrays and associated electronics, the stack containing a specific number of core arrays. { 'kȯr ,baŋk }

core-dump [COMPUT SCI] To copy the contents of all or part of core storage, usually into an external storage device. { 'kȯr ,dəmp }

core hitch [ELEC] Attachment to a cable core to permit pulling it into a duct without damaging the sheath. { 'kȯr ,hich }

core image [COMPUT SCI] **1.** A computer program whose storage addresses have been assigned so that it can be loaded directly into main storage for processing. **2.** A visual representation of a computer's main storage. { 'kȯr ,im·ij }

core-image library [COMPUT SCI] A collection of computer programs residing on mass-storage device in ready-to-run form. { 'kȯr ,im·ij ,lī ,brer·ē }

coreless-type induction heater [ENG] A device in which a charge is heated directly by induction, with no magnetic core material linking the charge. Also known as coreless-type induction furnace. { 'kȯr·ləs ,tīp in'dək·shən ,hēd·ər }

core logic [ELECTR] Logic performed in ferrite cores that serve as inputs to diode and transistor circuits. { 'kȯr ,läj·ik }

core memory *See* magnetic core storage. { 'kȯr ,mem·rē }

core memory resident [COMPUT SCI] A control program which is in the main memory of a computer at all times to supervise the processing of the computer. { 'kȯr ,mem·rē ,rez·ə·dənt }

core rope storage [COMPUT SCI] Direct-access storage consisting of a large number of doughnut-shaped ferrite cores arranged on a common axis, with sense, inhibit, and set wires threaded through or around individual cores in a predetermined manner to provide fixed storage of digital data; each core rope stores one or more complete words, rather than just a single bit. { 'kȯr ,rōp ,stȯr·ij }

coresident [COMPUT SCI] A computer program or program module that is stored in a computer memory along with other programs. { kō'rez·ə·dənt }

core stack [ELECTR] A number of core arrays, next to one another and treated as a unit. { 'kȯr ,stak }

core storage [COMPUT SCI] The main memory of a computer. { 'kȯr ,stȯr·ij }

corner effect [ELECTR] The departure of the frequency-response curve of a band-pass filter from a perfect rectangular shape, so that the corners of the rectangle are rounded. { 'kȯr·nər i'fekt }

corner frequency *See* break frequency. { 'kȯr·nər ,frē·kwən·sē }

corner reflector [ELECTROMAG] An antenna consisting of two conducting surfaces intersecting

at an angle that is usually 90°, with a dipole or other antenna located on the bisector of the angle. { 'kōr·nər ri'flek·tər }

corona See corona discharge. { kə'rō·nə }

corona current [ELEC] The current of electricity equivalent to the rate of charge transferred to the air from an object experiencing corona discharge. { kə'rō·nə ¦kər·ənt }

corona discharge [ELEC] A discharge of electricity appearing as a bluish-purple glow on the surface of and adjacent to a conductor when the voltage gradient exceeds a certain critical value; due to ionization of the surrounding air by the high voltage. Also known as aurora; corona; electric corona. { kə'rō·nə 'dis,chärj }

corona failure [ELEC] High-voltage failure initiated by corona discharge at areas of high-voltage stress such as metal inserts or terminals. { kə'rō·nə ¦fāl·yər }

corona resistance [ELEC] Ability of a conductor to resist destruction when a high-voltage electrostatic field ionizes within insulation voids. { kə'rō·nə ri'zis·təns }

corona shield [ELEC] A shield placed about a point of high potential to redistribute electrostatic lines of force. { kə'rō·nə ,shēld }

corona stabilization [ELEC] The increase in the breakdown voltage of a gas separating two electrodes, where the electric field is very high at one pointed electrode and low at the other, due to the reduction of electric field around the pointed electrode by corona discharge. { kə'rō·nə ,stā·bə·lə'zā·shən }

corona start voltage [ELEC] The voltage difference at which corona discharge is initiated in a given system. { kə'rō·nə 'stärt ,vōl·tij }

corona tube [ELEC] A gas-discharge voltage-reference tube employing a corona discharge. { kə'rō·nə ,tüb }

corona voltmeter [ELEC] A voltmeter in which the crest value of a voltage is indicated by the inception of corona at a known electrode spacing. { kə'rō·nə 'vōlt,mēd·ər }

coroutine [COMPUT SCI] A program module for which the lifetime of a particular activation record is independent of the time when control enters or leaves the module, and in which the activation record maintains a local instruction counter so that, whenever control enters the module, execution begins at the point where it stopped when control last left that particular instance of execution. { 'kō·rü,tēn }

correction time [CONT SYS] The time required for the controlled variable to reach and stay within a predetermined band about the control point following any change of the independent variable or operating condition in a control system. Also known as settling time. { kə'rek·shən ,tīm }

corrective action [CONT SYS] The act of varying the manipulated process variable by the controlling means in order to modify overall process operating conditions. { kə'rek·tiv 'ak·shən }

corrective maintenance [COMPUT SCI] The maintenance performed as required, on an unscheduled basis, by the contractor following equipment failure. Also known as remedial maintenance. [ENG] A procedure of repairing components or equipment as necessary either by on-site repair or by replacing individual elements in order to keep the system in proper operating condition. { kə'rek·tiv mānt·ən·əns }

corrective network [ELEC] An electric network inserted in a circuit to improve its transmission properties, impedance properties, or both. Also known as shaping circuit; shaping network. { kə'rek·tiv 'net,wərk }

correed relay [ELEC] Hermetically sealed reed capsule surrounded by a coil winding, used as a switching device with telephone equipment. { 'kō,rēd 'rē,lā }

correlated orientation tracking and range See cotar. { 'kär·ə,lād·əd ,ȯr·ē·ən'tā·shən 'trak·iŋ ən 'rānj }

correlation detection [ENG] A method of detection of aircraft or space vehicles in which a signal is compared, point to point, with an internally generated reference. Also known as cross-correlation detection. { ,kär·ə'lā·shən di'tek·shən }

correlation direction finder [ENG] Satellite station separated from a radar to receive jamming signals; by correlating the signals received from several such stations, range and azimuth of many jammers may be obtained. { ,kär·ə'lā·shən də'rek·shən ,fīnd·ər }

correlation distance [COMMUN] In tropospheric scatter propagation, the minimum spatial separation between antennas which will give rise to independent fading of the received signals. { ,kär·ə'lā·shən ,dis·təns }

correlation tracking and triangulation See cotat. { ,kär·ə'lā·shən 'trak·iŋ ən trī,aŋ·gyə'lā·shən }

correlation tracking system [ENG] A trajectory-measuring system utilizing correlation techniques where signals derived from the same source are correlated to derive the phase difference between the signals. { ,kär·ə'lā·shən 'trak·iŋ ,sis·təm }

correlation-type receiver See correlator. { ,kär·ə'lā·shən ,tīp ri'sē·vər }

correlator [ELECTR] A device that detects weak signals in noise by performing an electronic operation approximating the computation of a correlation function. Also known as correlation-type receiver. { 'kär·ə,lād·ər }

correspondence See relation. { ,kär·ə'spän·dəns }

correspondence printer See letter-quality printer. { ,kär·ə'spän·dəns ,print·ər }

corrugated conical-horn antenna [ELECTROMAG] A horn antenna that has a circular cross section and a series of equally spaced ridges protruding from otherwise straight sides. { ¦kär·ə,gād·əd ,kän·ə·kəl ,hȯrn an'ten·ə }

corrupt [COMPUT SCI] To destroy or alter information so that it is no longer reliable. { kə'rəpt }

cosecant antenna [ELECTROMAG] An antenna that gives a beam whose amplitude varies as the cosecant of the angle of depression below the horizontal; used in navigation radar. { kō'sē ,kant an'ten·ə }

cosecant-squared antenna [ELECTROMAG] An antenna that has a cosecant-squared pattern. { kō'sē,kant |skwerd an'ten·ə }

cosecant-squared pattern [ELECTROMAG] A ground radar-antenna radiation pattern that sends less power to nearby objects than to those farther away in the same sector; the field intensity varies as the square of the cosecant of the elevation angle. { kō'sē,kant |skwerd 'pad·ərn }

cosine winding [ELECTR] A winding used in the deflection yoke of a cathode-ray tube to prevent changes in focus as the beam is deflected over the entire area of the screen. { 'kō,sīn ,wīnd·iŋ }

cosmic noise [COMMUN] Radio static caused by a phenomenon outside the earth's atmosphere, such as sunspots. { 'käz·mik 'nȯiz }

cost function [SYS ENG] In decision theory, a loss function which does not depend upon the decision rule. { 'kȯst ,fəŋk·shən }

cotar [ENG] A passive system used for tracking a vehicle in space by determining the line of direction between a remote ground-based receiving antenna and a telemetering transmitter in the missile, using phase-comparison techniques. Derived from correlated orientation tracking and range. { 'kō,tär }

cotat [ENG] A trajectory-measuring system using several antenna base lines, each separated by large distances, to measure direction cosines to an object, then the object's space position is computed by triangulation. Derived from correlation tracking and triangulation. { 'kō,tat }

Cotton balance [ENG] A device which employs a current-carrying conductor of special shape to determine the strength of a magnetic field. { 'kät·ən 'bal·əns }

coul *See* coulomb.

coulomb [ELEC] A unit of electric charge, defined as the amount of electric charge that crosses a surface in 1 second when a steady current of 1 absolute ampere is flowing across the surface; this is the absolute coulomb and has been the legal standard of quantity of electricity since 1950; the previous standard was the international coulomb, equal to 0.999835 absolute coulomb. Abbreviated coul. Symbolized C. { 'kü,läm }

Coulomb attraction [ELEC] The electrostatic force of attraction exerted by one charged particle on another charged particle of opposite sign. Also known as electrostatic attraction. { 'kü ,läm ə'trak·shən }

Coulomb field [ELEC] The electric field created by a stationary charged particle. { 'kü,läm ,fēld }

Coulomb force [ELEC] The electrostatic force of attraction or repulsion exerted by one charged particle on another, in accordance with Coulomb's law. { 'kü,läm ,fȯrs }

Coulomb interactions [ELEC] Interactions of charged particles associated with the Coulomb forces they exert on one another. Also known as electrostatic interactions. { 'kü,läm in·tər 'ak·shənz }

coulombmeter [ENG] An instrument that measures quantity of electricity in coulombs by integrating a stored charge in a circuit which has very high input impedance. { 'kü,läm,mēd·ər }

Coulomb potential [ELEC] A scalar point function equal to the work per unit charge done against the Coulomb force in transferring a particle bearing an infinitesimal positive charge from infinity to a point in the field of a specific charge distribution. { kü'läm pə'ten·chəl }

Coulomb repulsion [ELEC] The electrostatic force of repulsion exerted by one charged particle on another charged particle of the same sign. Also known as electrostatic repulsion. { kü'läm ri'pəl·shən }

Coulomb's law [ELEC] The law that the attraction or repulsion between two electric charges acts along the line between them, is proportional to the product of their magnitudes, and is inversely proportional to the square of the distance between them. Also known as law of electrostatic attraction. { 'kü'lämz ,lȯ }

Coulomb's theorem [ELEC] The proposition that the intensity of an electric field near the surface of a conductor is equal to the surface charge density on the nearby conductor surface divided by the absolute permittivity of the surrounding medium. { 'kü,lämz ,thir·əm }

count cycle [COMPUT SCI] An increase or decrease of the cycle index by unity or by an arbitrary integer. { 'kaůnt ,sī·kəl }

countdown [COMMUN] The ratio of the number of interrogation pulses not answered by a transponder to the total number received. { 'kaůnt ,daůn }

counter [COMPUT SCI] **1.** A register or storage location used to represent the number of occurrences of an event. **2.** *See* accumulator; scaler. { 'kaůnt·ər }

counter circuit *See* counting circuit. { 'kaůnt·ər ,sər·kət }

counter coupling [COMPUT SCI] The technique of combining two or more counters into one counter of larger capacity in electromechanical devices by means of control panel wiring. { 'kaůnt·ər ,kəp·liŋ }

counter decade *See* decade scaler. { 'kaůnt·ər ,dek,ād }

counterelectromotive cell [ELEC] Cell of practically no ampere-hour capacity, used to oppose the line voltage. { |kaůnt·ər·i,lek·trō'mōd·iv 'sel }

counter-free machine [COMPUT SCI] A sequential machine that cannot count modulo any integer greater than 1. { 'kaůnt·ər ,frē mə'shēn }

counter/frequency meter [ENG] An instrument that contains a frequency standard and can be used to measure the number of events or the number of cycles of a periodic quantity that occurs in a specified time, or the time between two events. { 'kaùnt·ər 'frē·kwən·sē ˌmēd·ər }

countermeasures set [ELECTR] A complete electronic set specifically designed to provide facilities for intercepting and analyzing electromagnetic energy propagated by transmitter and to provide a source of radio-frequency signals which deprive the enemy of effective use of his electronic equipment. { 'kaùnt·ərˌmezh·ərz ˌset }

counterpoise [ELEC] A system of wires or other conductors that is elevated above and insulated from the ground to form a lower system of conductors for an antenna. Also known as antenna counterpoise. { 'kaùnt·ərˌpȯiz }

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. { 'kaùnt·ər ˌtüb }

counter voltage [ELEC] The reverse voltage that appears across an inductor when current through the inductor is shut off. { 'kaùnt·ər ˌvōl·tij }

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. { 'kaùnt·iŋ ˌsər·kət }

counting-down circuit *See* frequency divider. { 'kaùnt·iŋ ˌdaùn ˌsər·kət }

counting rate-voltage characteristic *See* plateau characteristic. { 'kaùnt·iŋ ˌrāt 'vōl·tij ˌkar·ik·tə'ris·tik }

couple [ELEC] To connect two circuits so signals are transferred from one to the other. [ELECTR] Two metals placed in contact, as in a thermocouple. { '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 systems [COMPUT SCI] Computer systems that share equipment and can exchange information. { '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'zis·tərz }

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. { '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. { 'kəp·liŋ }

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·liŋ ˌap·ə·chər }

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·liŋ 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. { 'kəp·liŋ ˌkō·i'fish·ənt }

coupling hole *See* coupling aperture. { 'kəp·liŋ ˌhōl }

coupling loop [ELECTROMAG] A conducting loop projecting into a waveguide or cavity resonator, designed to transfer energy to or from an external circuit. { 'kəp·liŋ ˌlüp }

coupling probe [ELECTROMAG] A probe projecting into a waveguide or cavity resonator, designed to transfer energy to or from an external circuit. { 'kəp·liŋ ˌprōb }

coupling slot *See* coupling aperture. { 'kəp·liŋ ˌslät }

course programmer [CONT SYS] An item which initiates and processes signals in a manner to establish a vehicle in which it is installed along one or more projected courses. { 'kȯrs 'prō ˌgram·ər }

courseware [COMPUT SCI] Computer programs designed to be used in computer-aided instruction or computer-managed instruction. { 'kȯrs,wer }

coverage [ELECTROMAG] A spatial account of the regions of useful sensitivity in a radar's surroundings that can be affected, for example, by multipath propagation or by obscuring terrain. { 'kəv·rij }

COZI [COMMUN] An ionospheric sounding system for determining propagation characteristics of the ionosphere at various angles at any instant; used to determine how well long-distance, high-frequency broadcasts are reaching their intended destinations. Derived from communications zone indicator. { ¦kōˌzī }

CPA *See* color-phase alternation.

CPE *See* computer performance evaluation.

CPM *See* critical path method.

C power supply [ELECTR] A device connected in the circuit between the cathode and grid of a vacuum tube to apply grid bias. { ¦sē 'paùr səˌplī }

CPU *See* central processing unit.

CPU-bound program [COMPUT SCI] A computer program that involves a large amount of calculation and internal rearrangement of data, so that the speed of execution depends on the speed of the central processing unit (CPU) and memory. Also known as cycle-bound program, process-bound program. { ˌsēˌpē'yü ˈbaůnd ˌprō·gram }

CPU fan [COMPUT SCI] A fan mounted directly over the integrated-circuit chip containing a computer's central processing unit to prevent overheating. { ˈsēˈpēˈyü ˈfan }

crash [COMPUT SCI] **1.** A breakdown, hardware failure, or software problem that renders a computer system inoperative. **2.** *See* abend. { krash }

crash locator beacon [COMMUN] An automatic radio beacon carried in aircraft to guide searching forces in the event of a crash. { ˈkrash ˈlōˌkād·ər ˌbē·kən }

crater lamp [ELECTR] A glow-discharge tube used as a point source of light whose brightness is proportional to the signal current sent through the tube; used for photographic recording of facsimile signals. { ˈkrād·ər ˌlamp }

CRC *See* cyclic redundancy check.

creation operator [COMPUT SCI] The part of a data structure which allows components to be created. { krēˈā·shən ˌäp·əˌrād·ər }

credence [ELECTROMAG] In radar, a measure of confidence in a target detection, generally proportional to target return amplitude. { ˈkrēd·ənts }

creep [ELECTR] A slow change in a characteristic with time or usage. { krēp }

creepage [ELEC] The conduction of electricity across the surface of a dielectric. { ˈkrē·pij }

crest value *See* peak value. { ˈkrest ˌval·yü }

crest voltmeter [ELEC] A voltmeter reading the peak value of the voltage applied to its terminals. { ˈkrest ˈvōlt,mēd·ər }

crimp contact [ELEC] A contact whose back portion is a hollow cylinder that will accept a wire; after a bared wire is inserted, a swaging tool is applied to crimp the contact metal firmly against the wire. Also known as solderless contact. { ˈkrimp ˌkän,takt }

crippled leap-frog test [COMPUT SCI] A variation of the leap-frog test, modified so the computer tests are repeated from a single set of storage locations rather than a changing set of locations. { ˈkrip·əld ˈlēp ˌfräg ˌtest }

crippled mode [COMPUT SCI] The operation of a computer at reduced capacity when certain parts are not working. { ˈkrip·əld ˌmōd }

critical anode voltage [ELECTR] The anode voltage at which breakdown occurs in a gas tube. { ˈkrid·ə·kəl ˈaˌnōd ˌvōl·tij }

critical area *See* picture element. { ˈkrid·ə·kəl ˈer·ē·ə }

critical coupling [ELEC] The degree of coupling that provides maximum transfer of signal energy from one radio-frequency resonant circuit to another when both are tuned to the same frequency. Also known as optimum coupling. { ˈkrid·ə·kəl ˈkəp·liŋ }

critical field [ELECTR] The smallest theoretical value of steady magnetic flux density that would prevent an electron emitted from the cathode of a magnetron at zero velocity from reaching the anode. Also known as cutoff field. { ˈkrid·ə·kəl ˈfēld }

critical frequency [ELECTR] *See* cutoff frequency. [ELECTROMAG] The limiting frequency below which a radio wave will be reflected by an ionospheric layer at vertical incidence at a given time. { ˈkrid·ə·kəl ˈfrē·kwən·sē }

critical grid current [ELECTR] Instantaneous value of grid current when the anode current starts to flow in a gas-filled vacuum tube. { ˈkrid·ə·kəl ˈgrid ˌkər·ənt }

critical grid voltage [ELECTR] The grid voltage at which anode current starts to flow in a gas tube. Also known as firing point. { ˈkrid·ə·kəl ˈgrid ˌvōl·tij }

critical path method [SYS ENG] A systematic procedure for detailed project planning and control. Abbreviated CPM. { ˈkrid·ə·kəl ˈpath ˌmeth·əd }

critical potential [ELEC] A potential which results in sudden change in magnitude of the current. { ˈkrid·ə·kəl pəˈten·chəl }

critical voltage [ELECTR] The highest theoretical value of steady anode voltage, at a given steady magnetic flux density, at which electrons emitted from the cathode of a magnetron at zero velocity would fail to reach the anode. Also known as cutoff voltage. { ˈkrid·ə·kəl ˈvōl·tij }

critical wavelength [COMMUN] The free-space wavelength corresponding to the critical frequency. { ˈkrid·ə·kəl ˈwāv,leŋkth }

CR law [ELEC] A law which states that when a constant electromotive force is applied to a circuit consisting of a resistor and capacitor connected in series, the time taken for the potential on the plates of the capacitor to rise to any given fraction of its final value depends only on the product of capacitance and resistance. { ˈsē ˈär ˌlȯ }

CRO *See* cathode-ray oscilloscope.

crocodile [ELEC] A unit of potential difference or electromotive force, equal to 10^6 volts; used informally at some nuclear physics laboratories. { ˈkräk·əˌdīl }

crocodile clip *See* alligator clip. { ˈkräk·əˌdīl ˌklip }

CROM *See* control and read-only memory. { ˈsē ˌräm }

Crookes dark space *See* cathode dark space. { ˈkrůks ˈdärk ˌspās }

Crookes tube [ELECTR] An early form of low-pressure discharge tube whose cathode was a flat aluminum disk at one end of the tube, and whose anode was a wire at one side of the tube, outside the electron stream; used to study cathode rays. { ˈkrůks ˌtůb }

cross antenna [ELECTROMAG] An array of two or more horizontal antennas connected to a single feed line and arranged in the pattern of a cross. { ˈkrȯs anˌten·ə }

cross assembler [COMPUT SCI] An assembly program that allows a computer program written on one type of computer to be used on another type. { 'krós ə,sem·blər }

crossbar switch [ELEC] A switch having a three-dimensional arrangement of contacts and a magnet system that selects individual contacts according to their coordinates in the matrix. { 'krós,bär ,swich }

crossbar system [COMMUN] Automatic telephone switching system which is generally characterized by the following features: selecting mechanisms are crossbar switches, common circuits select and test the switching paths and control the operation of the selecting mechanisms, and method of operations is one in which the switching information is received and stored by controlling mechanisms that determine the operations necessary in establishing a telephone connection; largly replaced by electronic switching systems using digital switching techniques. { 'krós,bär ,sis·təm }

cross-color [ELECTR] In analog color television, the interference in the receiver chrominance channel caused by cross talk from monochrome signals. { 'krós ,kəl·ər }

cross compiler [COMPUT SCI] A compiler that allows a computer program written on one type of computer to be used on another type. { 'krós kəm,pī·lər }

cross-correlation detection *See* correlation detection. { 'krós kär·ə'lā·shən di'tek·shən }

cross-correlation function [COMMUN] A function, $\phi_{12}(\tau)$, where τ is a time-delay parameter, equal to the limit, as T approaches infinity, of the reciprocal of 2T times the integral over t from $-T$ to T of $f_1(t)f_2(t-\tau)$, where f_1 and f_2 are functions of time, such as the input and output of a communication system. { 'krós kär·ə'lā·shən ,fəŋk·shən }

cross-correlator [ELECTR] A correlator in which a locally generated reference signal is multiplied by the incoming signal and the result is smoothed in a low-pass filter to give an approximate computation of the cross-correlation function. Also known as synchronous detector. { ¦krós'kär·ə ,lād·ər }

cross-coupling [COMMUN] A measure of the undesired power transferred from one channel to another in a transmission medium. { ¦krós 'kəp·liŋ }

crossed-field amplifier [ELECTR] A forward-wave, beam-type microwave amplifier that uses crossed-field interaction to achieve good phase stability, high efficiency, high gain, and wide bandwidth for most of the microwave spectrum. { 'krós,t ,fēld 'am·plə,fī·ər }

crossed-field backward-wave oscillator [ELECTR] One of several types of backward-wave oscillators that utilize a crossed field, such as the amplitron and carcinotron. { 'krós,t ,fēld 'bak,wərd ,wāv 'äs·ə,lād·ər }

crossed-field device [ELECTR] Any instrument which uses the motion of electrons in perpendicular electric and magnetic fields to generate microwave radiation, either as an amplifier or oscillator. { 'krós,t ,fēld di'vīs }

crossed-field multiplier phototube [ELECTR] A multiplier phototube in which repeated secondary emission is obtained from a single active electrode by the combined effects of a strong radio-frequency electric field and a perpendicular direct-current magnetic field. { 'krós,t ,fēld ,məl·tə,plī·ər 'fōd·ō,tüb }

crossed-field tubes [ELECTR] Vacuum tubes often used in radar transmitters, either as oscillators or as amplifiers, in which the electrons leaving the cathode surface travel in a plasma to the anode in paths determined by the crossed electric and magnetic bias fields applied to the tube, so that the density of the plasma can be easily affected by the electromagnetic signal with which the electrons are interacting. { 'krós,t ,fēld ,tübz }

cross-fade [ENG ACOUS] In dubbing, the overlapping of two sound tracks, wherein the outgoing track fades out while the incoming track fades in. { 'krós ,fād }

cross fire [COMMUN] Interfering current in one telegraph or signaling channel resulting from telegraph or signaling currents in another channel. { 'krós ,fīr }

crossfoot [COMPUT SCI] To add numbers in several different ways in a computer, for checking purposes. { 'krós,fůt }

crosshatch generator [ELECTR] A signal generator that generates a crosshatch pattern for adjusting a video display device. { 'krós,hach ,jen·ə,rād·ər }

cross modulation [COMMUN] A type of interference in which the carrier of a desired signal becomes modulated by the program of an undesired signal on a different carrier frequency; the program of the undesired station is then heard in the background of the desired program. { ¦krós ,mäj·ə'lā·shən }

cross-neutralization [ELECTR] Method of neutralization used in push-pull amplifiers, whereby a portion of the plate-cathode alternating-current voltage of each vacuum tube is applied to the grid-cathode circuit of the other vacuum tube through a neutralizing capacitor. { ¦krós ,nü·trə·lə'zā·shən }

cross office switching time [COMMUN] Time required to connect any input through the switching center to any selected output. { 'krós ,óf·əs 'swich·iŋ ,tīm }

crossover [ELEC] A point at which two conductors cross, with appropriate insulation between them to prevent contact. [ELECTR] The plane at which the cross section of a beam of electrons in an electron gun is a minimum. { 'krós,ō·vər }

crossover distortion [ELECTR] Amplitude distortion in a class B transistor power amplifier which occurs at low values of current, when input

impedance becomes appreciable compared with driver impedance. { 'krós,ō·vər dis'tór·shən }

crossover frequency [ENG ACOUS] **1.** The frequency at which a dividing network delivers equal power to the upper and lower frequency channels when both are terminated in specified loads. **2.** *See* transition frequency. { 'krós,ō·vər ,frē·kwən·sē }

crossover network [ENG ACOUS] A selective network used to divide the audio-frequency output of an amplifier into two or more bands of frequencies. Also known as dividing network; loudspeaker dividing network. { 'krós,ō·vər ,net ,wərk }

crossover voltage [ELECTR] In a cathode-ray storage tube, the voltage of a secondary writing surface, with respect to cathode voltage, on which the secondary emission is unity. { 'krós,ō·vər ,vōl·tij }

cross-platform computing [COMPUT SCI] The use of very similar user interfaces for versions of programs running on different operating systems and computer architectures. { ,krós 'plat,form kəm'pyüd·iŋ }

cross-referencing program [COMPUT SCI] A computer program used in debugging that produces indexed lists of both the variable names and the statement numbers of the source program. { 'krós 'ref·rənsiŋ ,prō·grəm }

crosstalk [COMMUN] **1.** The sound heard in a receiver along with a desired program because of cross modulation or other undesired coupling to another communication channel; it is also observed between adjacent pairs in a telephone cable. **2.** Interaction of audio and video signals in an analog television system, causing video modulation of the audio carrier or audio modulation of the video signal at some point. **3.** Interaction of the chrominance and luminance signals in an analog color television receiver. [ELECTR] *See* magnetic printing. { 'krós,tók }

crosstalk coupling [COMMUN] The cross coupling between speech communications channels or their component parts. Also known as crosstalk loss. { 'krós,tók ,kəp·liŋ }

crosstalk level [COMMUN] Volume of crosstalk energy, measured in decibels, referred to a reference level. { 'krós,tók ,lev·əl }

crosstalk loss *See* crosstalk coupling. { 'krós,tók ,lós }

crosstalk unit [COMMUN] A measure of the coupling between two circuits; the number of crosstalk units is 1 million times the ratio of the current or voltage at the observing point to the current or voltage at the origin of the disturbing signal, the impedances at these points being equal. Abbreviated cu. { 'krós,tók ,yü·nət }

crowbar [ELEC] A device or action that in effect places a high overload on the actuating element of a circuit breaker or other protective device, thus triggering it. { 'krō,bär }

crowbar voltage protector [ELEC] A separate circuit which monitors the output of a regulated power supply and instantaneously throws a short circuit (or crowbar) across the output terminals of the power supply whenever a preset voltage limit is exceeded. { 'krō,bär 'vōl·tij prə'tek·tər }

crown cell [ELEC] The generic name for alkaline zinc-manganese dioxide dry-cell battery; manganese dioxide-graphite cathode mix is pressed into a steel can onto which a steel cap is spot-welded to contain the amalgamated powdered-zinc anode. { 'kraún ,sel }

CRT *See* cathode-ray tube.

cruciform core [ELEC] A transformer core in which all windings are on one center leg, and four additional legs arranged in the form of a cross serve as return paths for magnetic flux. { 'krü·sə ,fórm ,kór }

cryoelectronics [ELECTR] A branch of electronics concerned with the study and application of superconductivity and other low-temperature phenomena to electronic devices and systems. Also known as cryolectronics. { ,krī·ō·i,lek 'trän·iks }

cryogenic engineering [ENG] A branch of engineering specializing in technical operations at very low temperatures (about 200 to 400°R, or −160 to −50°C). { ,krī·ə'jen·ik en·jə'nir·iŋ }

cryogenic film [COMPUT SCI] A storage element using superconducting thin films of lead at liquid-helium temperature. { ,krī·ə'jen·ik 'film }

cryogenic transformer [ELECTR] A transformer designed to operate in digital cryogenic circuits, such as a controlled-coupling transformer. { ,krī·ə'jen·ik tranz'fór·mər }

cryolectronics *See* cryoelectronics. { ,krī·ō·i,lek 'trän·iks }

cryoresistive transmission line [ELEC] An electric power transmission line whose conducting cables are cooled to the temperature of liquid nitrogen, 77 K (-196°C), resulting in a reduction of the resistance of the conductor by a factor of approximately 10, leading to increased transmission capacity. { ,krī·ō·ri'zis·tiv tranz'mish·ən ,līn }

cryosar [ELECTR] A cryogenic, two-terminal, negative-resistance semiconductor device, consisting essentially of two contacts on a germanium wafer operating in liquid helium. { 'krī·ō,sär }

cryosistor [ELECTR] A cryogenic semiconductor device in which a reverse-biased *pn* junction is used to control the ionization between two ohmic contacts. { ,krī·ə'zis·tər }

cryotron [ELECTR] A switch that operates at very low temperatures at which its components are superconducting; when current is sent through a control element to produce a magnetic field, a gate element changes from a superconductive zero-resistance state to its normal resistive state. { 'krī·ə,trän }

cryotronics [ELECTR] The branch of electronics that deals with the design, construction, and use of cryogenic devices. { ,krī·ə'trän·iks }

cryptanalysis [COMMUN] Steps and operations performed in converting encrypted messages into plain text without previous knowledge of the key employed. { ,krip·tə'nal·ə·səs }

cryptochannel [COMMUN] A complete system of communication that uses electronic

encryption and decryption equipment and has two or more radio or wire terminals. { ¦krip·tō'chan·əl }

cryptogram [COMMUN] Information written in code or cipher. { 'krip·tə,gram }

cryptographic algorithm [COMMUN] An unchanging set of rules or steps for enciphering and deciphering messages in a cipher system. { ¦krip·tə¦graf·ik 'al·gə,rith·əm }

cryptographic bitstream [COMMUN] An unending sequence of digits which is combined with ciphertext to produce plaintext or with plaintext to recover ciphertext in a stream cipher system. { ¦krip·tə¦graf·ik 'bit,strēm }

cryptographic key [COMMUN] A sequence of numbers or characters selected by the user of a cipher system to implement a cryptographic algorithm for enciphering and deciphering messages. Also known as key. { ¦krip·tə¦graf·ik 'kē }

cryptography [COMMUN] The science of preparing messages in a form which cannot be read by those not privy to the secrets of the form. { krip'täg·rə·fē }

cryptology [COMMUN] The science of preparing messages in forms which are intended to be unintelligible to those not privy to the secrets of the form, and of deciphering such messages. { krip'täl·ə·jē }

cryptopart [COMMUN] One of several portions of a cryptotext; each cryptopart bears a different message indicator. { 'krip·tō,pärt }

cryptotext [COMMUN] In cryptology, a text of visible writing which conveys no intelligible meaning in any language, or which apparently conveys an intelligible meaning that is not the real meaning. { 'krip·tō,tekst }

crystal [ELECTR] A natural or synthetic piezoelectric or semiconductor material whose atoms are arranged with some degree of geometric regularity. { 'krist·əl }

crystal activity [ELECTR] A measure of the amplitude of vibration of a piezoelectric crystal plate under specified conditions. { 'krist·əl ak 'tiv·əd·ē }

crystal-audio receiver [ELECTR] Similar to the crystal-video receiver, except for the path detection bandwidth which is audio rather than video. { ¦krist·əl ¦ȯd·ē·ō ri'sē·vər }

crystal blank [ELECTR] The result of the final cutting operation on a piezoelectric or semiconductor crystal. { 'krist·əl ,blaŋk }

crystal calibrator [ELECTR] A crystal-controlled oscillator used as a reference standard to check frequencies. { ¦krist·əl 'kal·ə,brād·ər }

crystal cartridge [ENG ACOUS] A piezoelectric unit used with a stylus in a phonograph pickup to convert disk recordings into audio-frequency signals, or used with a diaphragm in a crystal microphone to convert sound waves into af signals. { ¦krist·əl 'kär,trij }

crystal control [ELECTR] Control of the frequency of an oscillator by means of a quartz crystal unit. { 'krist·əl kən'trōl }

crystal-controlled oscillator [ELECTR] An oscillator whose frequency of operation is controlled by a crystal unit. { ¦krist·əl kən¦trōld 'äs·ə ,lād·ər }

crystal-controlled transmitter [ELECTR] A transmitter whose carrier frequency is directly controlled by the electromechanical characteristics of a quartz crystal unit. { ¦krist·əl kən¦trōld 'tranz ,mid·ər }

crystal current [ELECTR] The actual alternating current flowing through a crystal unit. { 'krist·əl ,kər·ənt }

crystal cutter [ENG ACOUS] A cutter in which the mechanical displacements of the recording stylus are derived from the deformations of a crystal having piezoelectric properties. { 'krist·əl ,kəd·ər }

crystal detector [ELECTR] **1.** A crystal used to rectify a modulated radio-frequency signal to obtain the audio or video signal directly. **2.** A crystal diode used in a microwave receiver to combine an incoming radio-frequency signal with a local oscillator signal to produce an intermediate-frequency signal. { 'krist·əl di'tek·tər }

crystal diode See semiconductor diode. { ¦krist·əl 'dī,ōd }

crystal filter [ELECTR] A highly selective tuned circuit employing one or more quartz crystals; sometimes used in intermediate-frequency amplifiers of communication receivers to improve the selectivity. { ¦krist·əl 'fil·tər }

crystal harmonic generator [ELECTR] A type of crystalcontrolled oscillator which produces an output rich in harmonics (overtones or multiples) of its fundamental frequency. { 'krist·əl har ¦män·ik 'jen·ə,rād·ər }

crystal headphones [ENG ACOUS] Headphones using Rochelle salt or other crystal elements to convert audio-frequency signals into sound waves. Also known as ceramic earphones. { 'krist·əl 'hed,fōnz }

crystal-lattice filter [ELECTR] A crystal filter that uses two matched pairs of series crystals and a higher-frequency matched pair of shunt or lattice crystals. { ¦krist·əl 'lad·əs ,fil·tər }

crystal loudspeaker [ENG ACOUS] A loudspeaker in which movements of the diaphragm are produced by a piezoelectric crystal unit that twists or bends under the influence of the applied audio-frequency signal voltage. Also known as piezoelectric loudspeaker. { ¦krist·əl 'laud,spēk·ər }

crystal microphone [ENG ACOUS] A microphone in which deformation of a piezoelectric bar by the action of sound waves or mechanical vibrations generates the output voltage between the faces of the bar. Also known as piezoelectric microphone. { ¦krist·əl 'mī·krə,fōn }

crystal mixer [ELECTR] A mixer that uses the nonlinear characteristic of a crystal diode to mix two frequencies; widely used in radar receivers to convert the received radar signal to a lower intermediate-frequency value by mixing it with a local oscillator signal. { ¦krist·əl 'mik·sər }

crystal operation [ELECTR] Operation using crystal-controlled oscillators. { 'krist·əl 'äp·ə ,rā·shən }

crystal oscillator [ELECTR] An oscillator in which the frequency of the alternating-current output is determined by the mechanical properties of a piezoelectric crystal. Also known as piezoelectric oscillator. { ¦krist·əl 'äs·ə,lād·ər }

crystal plate [ELECTR] A precisely cut slab of quartz crystal that has been lapped to final dimensions, etched to improve stability and efficiency, and coated with metal on its major surfaces for connecting purposes. Also known as quartz plate. { 'krist·əl ,plāt }

crystal rectifier *See* semiconductor diode. { ¦krist·əl 'rek·tə,fī·ər }

crystal resonator [ELECTR] A precisely cut piezoelectric crystal whose natural frequency of vibration is used to control or stabilize the frequency of an oscillator. Also known as piezoelectric resonator. { ¦krist·əl 'rez·ən,ād·ər }

crystal set [ELECTR] A radio receiver having a crystal detector stage for demodulation of the received signals, but no amplifier stages. { 'krist·əl ,set }

crystal-stabilized transmitter [ELECTR] A transmitter employing automatic frequency control, in which the reference frequency is that of a crystal oscillator. { ¦krist·əl ¦stā·bə,līzd 'tranz,mid·ər }

crystal transducer [ELECTR] A transducer in which a piezoelectric crystal serves as the sensing element. { 'krist·əl tranz'dü·sər }

crystal unit [ELECTR] A complete assembly of one or more quartz plates in a crystal holder. { ¦krist·əl ¦yü·nət }

crystal video receiver [ELECTR] A broad-tuning radar or other microwave receiver consisting only of a crystal detector and a video or audio amplifier. { ¦krist·əl ¦vid·ē·ō ri'sē·vər }

crystal video rectifier [ELECTR] A crystal rectifier transforming a high-frequency signal directly into a video-frequency signal. { ¦krist·əl ¦vid·ē·ō 'rek·tə,fī·ər }

C-scan *See* C-display. { 'sē ,skan }

C-scope *See* C-display. { 'sē ,skōp }

CSMA/CD [COMPUT SCI] A method of controlling multiaccess computer networks in which each station on the network senses traffic and waits for it to clear before sending a message, and two devices that try to send concurrent messages must both step back and try again. Abbreviation for carrier-sense multiple access with collision detection.

CSP *See* control switching point.

CSSB system *See* companded single-sideband system. { ¦sē,es,es¦bē ,sis·təm }

CSW *See* channel status word.

CT *See* center tap; computerized tomography.

cu *See* crosstalk unit.

cubical antenna [ELECTROMAG] An antenna array, the elements of which are positioned to form a cube. { 'kyü·bə·kəl an'ten·ə }

cubicle [ENG] An enclosure for high-voltage equipment. { 'kyü·bə·kəl }

Cuccia coupler *See* electron coupler. { 'kü·chē·ə 'kəp·lər }

cue circuit [ELECTR] A one-way communication circuit used to convey program control information. { 'kyü ,sər·kət }

cumulative compound generator [ELEC] A compound generator in which the series field is connected to aid the shunt field magnetomotive force. { 'kyü·myə·lad·iv ,käm,paund 'jen·ə ,rād·ər }

cumulative ionization *See* avalanche. { 'kyü·myə·lad·iv ,ī·ən·ə'zā·shən }

cup electrometer [ENG] An electrometer that has a metal cup attached to its plate so that a charged body touching the inside of the cup gives up its entire charge to the instrument. { 'kəp i,lek'träm·əd·ər }

Curie balance [ENG] An instrument for determining the susceptibility of weakly magnetic materials, in which the deflection produced by a strong permanent magnet on a suspended tube containing the specimen is measured. { 'kyůr·ē ,bal·əns }

current [ELEC] The net transfer of electric charge per unit time; a specialization of the physics definition. Also known as electric current. { 'kər·ənt }

current amplification [ELECTR] The ratio of output-signal current to input-signal current for an electron tube, transistor, or magnetic amplifier, the multiplier section of a multiplier phototube, or any other amplifying device; often expressed in decibels by multiplying the common logarithm of the ratio by 20. { 'kər·ənt am·plə·fə'kā·shən }

current amplifier [ELECTR] An amplifier capable of delivering considerably more signal current than is fed in. { 'kər·ənt ,am·plə,fī·ər }

current antinode [ELEC] A point at which current is a maximum along a transmission line, antenna, or other circuit element having standing waves. Also known as current loop. { 'kər·ənt 'an·tə ,nōd }

current attenuation [ELECTR] The ratio of input-signal current for a transducer to the current in a specified load impedance connected to the transducer; often expressed in decibels. { 'kər·ənt ə,ten·yə'wā·shən }

current awareness system [COMPUT SCI] A system for notifying users on a periodic basis of the acquisition, by a central file or library, of information (usually literature) which should be of interest to the user. { 'kər·ənt ə'wer·nəs ,sis·təm }

current balance [ELEC] An apparatus with which force is measured between current-carrying conductors, with the purpose of assigning the value of the ampere. Also known as ampere balance. { 'kər·ənt ,bal·əns }

current-carrying capacity [ELEC] The maximum current that can be continuously carried without causing permanent deterioration of electrical or mechanical properties of a device or conductor. { 'kər·ənt ,kar·ē·iŋ kə'pas·əd·ē }

current cell *See* active cell. { ˌkər·ənt 'sel }

current collector *See* charge collector. { 'kər·ənt kəˌlek·tər }

current comparator [ELEC] An instrument for determining the ratio of two direct or alternating currents, based on Ampère's laws, in which the two currents are passed through a toroid by two windings of known numbers of turns and the ampere-turn unbalance is measured by a detection winding. { 'kə·rənt kəmˌpar·əd·ər }

current-controlled switch [ELECTR] A semiconductor device in which the controlling bias sets the resistance at either a very high or very low value, corresponding to the "off" and "on" conditions of a switch. { 'kər·ənt kənˌtrōld 'swich }

current density [ELEC] The current per unit cross-sectional area of a conductor; a specialization of the physics definition. Also known as electric current density. { 'kər·ənt ˌden·səd·ē }

current divider [ELEC] A device used to deliver a desired fraction of a total current to a circuit. { 'kər·ənt diˌvīd·ər }

current drain [ELEC] The current taken from a voltage source by a load. Also known as drain. { 'kər·ənt ˌdrān }

current-equalizing reactor [ELEC] A reactor that is used to achieve a desired division of current between several circuits operating in parallel. { 'kər·ənt ˌē·kwəˌlīz·iŋ rē'ak·tər }

current feed [ELECTR] Feed to a point where current is a maximum, as at the center of a half-wave antenna. { 'kər·ənt ˌfēd }

current feedback [ELECTR] Feedback introduced in series with the input circuit of an amplifier. { 'kər·ənt ˌfēdˌbak }

current feedback circuit [ELECTR] A circuit used to eliminate effects of amplifier gain instability in an indirect-acting recording instrument, in which the voltage input (error signal) to an amplifier is the difference between the measured quantity and the voltage drop across a resistor. { 'kər·ənt ˌfēdˌbak ˌsər·kət }

current gain [ELECTR] The fraction of the current flowing into the emitter of a transistor which flows through the base region and out the collector. { 'kər·ənt ˌgān }

current generator [ELECTR] A two-terminal circuit element whose terminal current is independent of the voltage between its terminals. { 'kər·ənt ˌjen·əˌrād·ər }

current hogging [ELECTR] A condition in which the largest fraction of a current passes through one of several parallel logic circuits because it has a lower resistance than the others. { 'kər·ənt ˌhäg·iŋ }

current-instruction register *See* instruction register. { 'kər·ənt in'strək·shən ˌrej·ə·stər }

current intensity [ELEC] The magnitude of an electric current. Also known as current strength. { 'kər·ənt in'ten· səd·ē }

current interrupter [ELEC] Mechanism connected into a current-carrying line to periodically interrupt current flow to allow no-current tests of system components. { 'kər·ənt in·tə'rəp·tər }

current limiter [ELECTR] A device that restricts the flow of current to a certain amount, regardless of applied voltage. Also known as demand limiter. { 'kər·ənt ˌlim·əd·ər }

current-limiting reactor *See* series reactor. { 'kər·ənt ˌlim·əd·iŋ rē'ak·tər }

current-limiting resistor [ELEC] A resistor inserted in an electric circuit to limit the flow of current to some predetermined value; used chiefly to protect tubes and other components during warm-up. { 'kər·ənt ˌlim·əd·iŋ ri'zis·tər }

current location reference [COMPUT SCI] A symbolic expression, such as a star, which indicates the current location reached by the program; a transfer to * + 2 would bring control to the second statement after the current statement. { 'kər·ənt lō'kā·shən ˌref·rəns }

current loop *See* current antinode. { 'kər·ənt ˌlüp }

current margin [COMMUN] Difference between the steady-state currents flowing through a telegraph receiving instrument corresponding respectively to the two positions of the telegraph transmitter. { 'kər·ənt ˌmär·jən }

current measurement [ELEC] The measurement of the flow of electric current. { 'kər·ənt ˌmezh·ər·mənt }

current meter *See* ammeter; velocity-type flowmeter. { 'kər·ənt ˌmēd·ər }

current mirror [ELECTR] An electronic circuit that generates, at a high-impedance output node, an inflowing or outflowing current that is a scaled replica of an input current flowing into or out of a low-impedance input node. { 'kər·ənt ˌmir·ər }

current-mode filter [ELECTR] An integrated-circuit filter in which the signals are represented by current levels rather than voltage levels. { 'kər·ənt,mōd ˌfil·tər }

current-mode logic [ELECTR] Integrated-circuit logic in which transistors are paralleled so as to eliminate current hogging. Abbreviated CML. { 'kər·ənt ˌmōd 'läj·ik }

current node [ELEC] A point at which current is zero along a transmission line, antenna, or other circuit element having standing waves. { 'kər·ənt ˌnōd }

current noise [ELECTR] Electrical noise of uncertain origin which is observed in certain resistances when a direct current is present, and which increases with the square of this current. { 'kər·ənt ˌnoiz }

current phasor [ELEC] A line referenced to a point, whose length and angle represent the magnitude and phase of a current. { 'kər·ənt ˌfā·zər }

current regulator [ELECTR] A device that maintains the output current of a voltage source at a predetermined, essentially constant value despite changes in load impedance. { 'kər·ənt ˌreg·yəˌlād·ər }

current relay [ELEC] A relay that operates at a specified current value rather than at a specified voltage value. { 'kər·ənt ˌrēˌlā }

current saturation *See* anode saturation. { 'kər·ənt sach·ə'rā·shən }

current source [ELECTR] An electronic circuit that generates a constant direct current into or out of a high-impedance output node. { 'kər·ənt ˌsȯrs }

current strength *See* current intensity. { 'kər·ənt ˌstreŋkth }

current tap *See* multiple lamp holder; plug adapter lamp holder. { 'kər·ənt ˌtap }

current transformer [ELEC] An instrument transformer intended to have its primary winding connected in series with a circuit carrying the current to be measured or controlled; the current is measured across the secondary winding. { 'kər·ənt tranz'fȯr·mər }

current-transformer phase angle [ELEC] Angle between the primary current vector and the secondary current vector reversed; it is conveniently considered as positive when the reversed secondary current vector leads the primary current vector. { 'kər·ənt tranz'fȯr·mər 'fāz ˌaŋ·gəl }

current-voltage dual [ELEC] A circuit which is equivalent to a specified circuit when one replaces quantities with dual quantities; current and voltage, impedance and admittance, and meshes and nodes are examples of dual quantities. { ˌkər·ənt ˌvōl·tij ˌdül }

cursor [COMPUT SCI] A movable spot of light that appears on the screen of a visual display terminal and can be positioned horizontally and vertically through keyboard controls to instruct the computer at what point a change is to be made. { 'kər·sər }

cursor arrows [COMPUT SCI] Arrows marked on keys of a computer keyboard that control the movement of the cursor. { 'kər·sər ˌar·ōz }

curtain array [ELECTROMAG] An antenna array consisting of vertical wire elements stretched between two suspension cables. { 'kərt·ən ə'rā }

curtain rhombic antenna [ELECTROMAG] A multiple-wire rhombic antenna having a constant input impedance over a wide frequency range; two or more conductors join at the feed and terminating ends but are spaced apart vertically from 1 to 5 feet (30 to 150 centimeters) at the side poles. { 'kərt·ən 'räm·bik an'ten·ə }

curvature effect [ELECTR] Generally, the condition in which the dielectric strength of a liquid or vacuum separating two electrodes is higher for electrodes of smaller radius of curvature. { 'kər·və·chər i'fekt }

curve follower [COMPUT SCI] A device in which a photoelectric, capacitive or inductive pick-off guided by a servomechanism reads data in the form of a graph, such as a curve drawn on paper with suitable ink. Also known as graph follower. { 'kərv ˌfäl·ə·wər }

curve tracer [ENG] An instrument that can produce a display of one voltage or current as a function of another voltage or current, with a third voltage or current as a parameter. { 'kərv ˌtrā·sər }

custom-designed device [ELECTR] An integrated logic circuit element that is generated by a series of steps resembling photographic development from highly complicated artwork patterns. { ˌkəs·təm də'zīnd di'vīs }

customer substation [ELEC] A distribution substation located on the premises of a larger customer, such as a shopping center, commercial building, or industrial plant. { 'kəs·tə·mər 'səb ˌstā·shən }

cut and paste [COMPUT SCI] An editing function of a word processing system in which a portion of text is marked with a particular character at the beginning and at the end and is then copied to another location within the text. Also known as block move. { ˌkət ən 'pāst }

cut constraint [SYS ENG] A condition sometimes imposed in an integer programming problem which excludes parts of the feasible solution space without excluding any integer points. { 'kət kən'strānt }

CUT emulation *See* control unit terminal emulation. { 'kət ˌem·yəˌlā·shən }

cut form [COMPUT SCI] In optical character recognition, any document form, receipt, or such, of standard dimensions which must be issued a separate read command in order to be recognized. { ˌkət ˌfȯrm }

cut-in [CONT SYS] A value of temperature or pressure at which a control circuit closes. [ELEC] An electrical device that allows current to flow through an electric circuit. { 'kət ˌin }

cut-in angle [ELECTR] The phase angle at which a semiconductor diode begins to conduct; it is slightly greater than 0° because the diode requires some forward bias to conduct. { 'kət ˌin ˌaŋ·gəl }

Cutler feed [ELECTROMAG] A resonant cavity that transfers radio-frequency energy from the end of a waveguide to the reflector of a radar spinner assembly. { 'kət·lər ˌfēd }

cut methods [SYS ENG] Methods of solving integer programming problems that employ cut constraints derived from the original problem. { 'kət ˌmeth·əˌ }

cutoff [ELECTR] **1.** The minimum value of bias voltage, for a given combination of supply voltages, that just stops output current in an electron tube, transistor, or other active device. **2.** *See* cutoff frequency. { 'kətˌȯf }

cutoff bias [ELECTR] The direct-current bias voltage that must be applied to the grid of an electron tube to stop the flow of anode current. { 'kətˌȯf ˌbī·əs }

cutoff field *See* critical field. { 'kətˌȯf ˌfēld }

cutoff frequency [ELECTR] A frequency at which the attenuation of a device begins to increase sharply, such as the limiting frequency below which a traveling wave in a given mode cannot be maintained in a waveguide, or the frequency above which an electron tube loses efficiency rapidly. Also known as critical frequency; cutoff. { 'kətˌȯf ˌfrē·kwən·sē }

cutoff limiting [ELECTR] Limiting the maximum output voltage of a vacuum tube circuit by driving the grid beyond cutoff. { 'kətˌȯf ˌlim·əd·iŋ }

cutoff voltage [ELECTR] **1.** The electrode voltage value that reduces the dependent variable of an electron-tube characteristic to a specified low value. **2.** *See* critical voltage. { 'kət,ȯf ,vȯl·tij }

cutoff wavelength [ELECTROMAG] **1.** The ratio of the velocity of electromagnetic waves in free space to the cutoff frequency in a uniconductor waveguide. **2.** The wavelength corresponding to the cutoff frequency. { 'kət,ȯf 'wāv ,leŋkth }

cut-out [CONT SYS] A value of temperature or pressure at which a control circuit opens. { 'kət ,aůt }

cutout [ELEC] **1.** Pairs brought out of a cable and terminated at some place other than at the end of the cable. **2.** An electrical device that is used to interrupt the flow of current through any particular apparatus or instrument, either automatically or manually. Also known as electric cutout. { 'kət,aůt }

cutout angle [ELECTR] The phase angle at which a semiconductor diode ceases to conduct; it is slightly less than 180° because the diode requires some forward bias to conduct. { 'kət ,aůt ,aŋ·gəl }

cutout box [ELEC] A fireproof cabinet or box with one or more hinged doors that contains fuses and switches for various leads in an electrical wiring system. Also known as fuse box. { 'kət ,aůt ,bäks }

cut-set [ELEC] A set of branches of a network such that the cutting of all the branches of the set increases the number of separate parts of the network, but the cutting of all the branches except one does not. { 'kət ,set }

cut-sheet printer [COMPUT SCI] A printer designed to print on separate sheets of paper. { 'kət ,shēt ¦print·ər }

cut-signal-branch operation [ELECTR] In systems where radio reception continues without cutting off the carrier, the cut-signal-branch operation technique disables a signal branch in one direction when it is enabled in the other to preclude unwanted signal reflections. { ¦kət ¦sig·nəl ¦branch ,äp·ə,rā·shən }

cutter [ENG ACOUS] An electromagnetic or piezoelectric device that converts an electric input to a mechanical output, used to drive the stylus that cuts a wavy groove in the highly polished wax surface of a recording disk. Also known as cutting head; head; phonograph cutter; recording head. { 'kəd·ər }

cutting head *See* cutter. { 'kəd·iŋ ,hed }

cutting stylus [ENG ACOUS] A recording stylus with a sharpened tip that removes material to produce a groove in the recording medium. { 'kəd·iŋ ,stī·ləs }

CW *See* continuous wave.

cyberspace [COMPUT SCI] The digital realms, including Web sites and virtual worlds. { 'sī·bər ,spās }

cycle-bound program *See* CPU-bound program. { 'sī·kəl ¦baůnd 'prō·grəm }

cycle count [COMPUT SCI] The operation of keeping track of the number of cycles a computer system goes through during processing time. { 'sī·kəl ,kaůnt }

cycle criterion [COMPUT SCI] Total number of times a cycle in a computer program is to be repeated. { 'sī·kəl krī'tir·ē·ən }

cycle index [COMPUT SCI] **1.** The number of times a cycle has been carried out by a computer. **2.** The difference, or its negative, between the number of executions of a cycle which are desired and the number which have actually been carried out. { 'sī·kəl ,in,deks }

cycle index counter [COMPUT SCI] A device that counts the number of times a given cycle of instructions in a computer program has been carried out. { 'sī·kəl ,in,deks ,kaůnt·ər }

cycle-matching loran *See* low-frequency loran. { 'sī·kəl ,mach·iŋ ,lȯ'ran }

cycle reset [COMPUT SCI] The resetting of a cycle index to its initial or other specified value. { 'sī·kəl 'rē,set }

cycle skip *See* skip logging. { 'sī·kəl ,skip }

cycle stealing [COMPUT SCI] A technique for memory sharing whereby a memory may serve two autonomous masters, commonly a central processing unit and an input-output channel or device controller, and in effect provide service to each simultaneously. { 'sī·kəl ,stēl·iŋ }

cycle time [COMPUT SCI] The shortest time elapsed between one store (or fetch) and the next store (or fetch) in the same memory unit. Also known as memory cycle. { 'sī·kəl ,tīm }

cycle timer [ELECTR] A timer that opens or closes circuits according to a predetermined schedule. { 'sī·kəl ,tīm·ər }

cycle timing diagram [COMPUT SCI] A diagram showing the activity that occurs in each clock cycle of a computer during the execution of a machine-language instruction. { 'sī·kəl ¦tīm·iŋ ,dī·ə,gram }

cyclic code [COMPUT SCI] A code, such as a binary code, that changes only in one digit when going from one number to the number immediately following, and in that digit by only one unit. { 'sīk·lik 'kōd }

cyclic currents *See* mesh currents. { 'sīk·lik ¦kər·ənts }

cyclic feeding [COMPUT SCI] In character recognition, a system employed by character readers in which each input document is issued to the document transport in a predetermined and constant period of time. { 'sīk·lik 'fēd·iŋ }

cyclic redundancy check [COMPUT SCI] A block check character in which each bit is calculated by adding the first bit of a specified byte to the second bit of the next byte, and so forth, spiraling through the block; used to verify the correctness of data. Abbreviated CRC. { 'sīk·lik ri'dən·dən·sē ,chek }

cyclic shift [COMPUT SCI] A computer shift in which the digits dropped off at one end of a word are returned at the other end of the word. Also known as circuit shift; circular shift; end-around shift; nonarithmetic shift; ring shift. { 'sīk·lik 'shift }

cyclic storage [COMPUT SCI] A computer storage device, such as a magnetic drum, whose storage

medium is arranged in such a way that information can be read into or extracted from individual locations at only certain fixed times in a basic cycle. { 'sīk·lik 'stȯr·ij }

cyclic transfer [COMPUT SCI] The automatic transfer of data from some medium to memory or from memory to some medium until all the data are read. { 'sīk·lik 'tranz·fər }

cycling [CONT SYS] A periodic change of the controlled variable from one value to another in an automatic control system. { 'sīk·liŋ }

cycloconverter [ELEC] A device that produces an alternating current of constant or precisely controllable frequency from a variable-frequency alternating-current input, with the output frequency usually one-third or less of the input frequency. { ¦sī·klō·kən'vərd·ər }

cyclomatic complexity [COMPUT SCI] A measure of the complexity of a software module, equal to $e - n + 2$, where e is the number of edges in the control flow graph and n is the number of nodes in this graph (that is, the cyclomatic number of the graph plus one). { ¦sī·klə,mad·ik kəm'plek·səd·ē }

cyclophon *See* beam-switching tube. { 'sī·klə ,fän }

cyclotron-frequency magnetron [ELECTR] A magnetron whose frequency of operation depends on synchronism between the alternating-current electric field and the electrons oscillating in a direction parallel to this field. { 'sī·klə,trän ¦frē·kwən·sē 'mag·nə,trän }

cyclotron-resonance maser *See* gyrotron. { 'sī·klə,trän 'rez·ən·əns 'mā·zər }

cylinder [COMPUT SCI] **1.** The virtual cylinder represented by the tracks of equal radius of a set of disks on a disk drive. **2.** *See* seek area. { 'sil·ən·dər }

cylindrical antenna [ELECTROMAG] An antenna in which hollow cylinders serve as radiating elements. { sə'lin·drə·kəl an'ten·ə }

cylindrical array [ELECTR] An antenna, generally using electronic scanning, in which columns of radiating elements are arranged in a circle; used in some secondary radars. { sə'lin·drə·kəl ə'rā }

cylindrical capacitor [ELEC] A capacitor made of two concentric metal cylinders of the same length, with dielectric filling the space between the cylinders. Also known as coaxial capacitor. { sə'lin·drə·kəl kə'pas·əd·ər }

cylindrical-coordinate robot [CONT SYS] A robot in which the degrees of freedom of the manipulator arm are defined chiefly by cylindrical coordinates. { sə'lin·drə·kəl kō¦ȯrd·ən·ət 'rō ,bät }

cylindrical-film storage [ELECTR] A computer storage in which each storage element consists of a short length of glass tubing having a thin film of nickel-iron alloy on its outer surface. { sə'lin·drə·kəl 'film ,stȯr·ij }

cylindrical pinch *See* pinch effect. { sə'lin·drə·kəl 'pinch }

cylindrical winding [ELEC] The current-carrying element of a core-type transformer, consisting of a single coil of one or more layers wound concentrically with the iron core. { sə'lin·drə·kəl 'wīnd·iŋ }

D

DAB *See* digital audio broadcasting.

DABS *See* Mode S. { dabz *or* ˌdē,ā,bē'es }

dac *See* digital-to-analog converter.

DAC *See* digital-to-analog converter.

daemon [COMPUT SCI] In Unix, a program that runs in the background, such as a server. { 'dē-mən }

Dahlin's algorithm [CONT SYS] A digital control algorithm in which the requirement of minimum response time used in the deadbeat algorithm is relaxed to reduce ringing in the system response. { 'dä-lənz ˌal-gəˌriṯh-əm }

daily keying element [COMMUN] Part of a specific cipher key that changes at predetermined intervals, usually daily. { ¦dā-lē ˌkē-iŋ ˌel-ə-mənt }

daisy chain [COMPUT SCI] A means of connecting devices (readers, printers, and so on) to a central processor by party-line input/output buses which join these devices by male and female connectors, the last female connector being shorted by a suitable line termination. { 'dāz·ē ˌchān }

daisy wheel printer [COMPUT SCI] A serial printer in which the printing element is a plastic hub that has a large number of flexible radial spokes, each spoke having one or more different raised printing characters; the wheel is rotated as it is moved horizontally step by step under computer control, and stops when a desired character is in a desired print position so a hammer can drive that character against an inked ribbon. { 'dāz·ē ˌwēl ˌprint·ər }

damaged pack [COMPUT SCI] A disk drive whose use is impaired by physical damage such as a scratch on the recording surface or by a serious software error that renders control information on the disk unreadable. { 'dam-ijd 'pak }

damper [ELECTR] A diode used in the horizontal deflection circuit of a CRT display device to make the sawtooth deflection current decrease smoothly to zero instead of oscillating at zero; the diode conducts each time the polarity is reversed by a current swing below zero. { 'dam-pər }

damper winding [ELEC] A winding consisting of several conducting bars on the field poles of a synchronous machine, short-circuited by conducting rings or plates at their ends, and used to prevent pulsating variations of the position or magnitude of the magnetic field linking the poles. Also known as amortisseur winding. { 'dam·pər ˌwīnd·iŋ }

damping coefficient *See* resistance. { 'dam·piŋ ˌkō·i,fish·ənt }

damping constant *See* resistance. { 'dam·piŋ ˌkän·stənt }

damping resistor [ELEC] **1.** A resistor that is placed across a parallel resonant circuit or in series with a series resonant circuit to decrease the Q factor and thereby eliminate ringing. **2.** A noninductive resistor placed across an analog meter to increase damping. { 'dam·piŋ riˌzis·tər }

dance-hall machine [COMPUT SCI] A multiprocessor in which the memory is spread over several modules, and a switch is used to make connections between memory modules and processors, so that several processors can use the memory simultaneously. { 'dans ˌhȯl mə ˌshēn }

dangling ELSE [COMPUT SCI] A situation in which it is not clear to which part of a compound conditional statement an ELSE instruction belongs. { ¦daŋ·gliŋ 'els }

daraf [ELEC] The unit of elastance, equal to the reciprocal of 1 farad. { 'daˌraf }

dark conduction [ELECTR] Residual conduction in a photosensitive substance that is not illuminated. { ¦därk kənˌdək·shən }

dark current *See* electrode dark current. { 'därk ˌkər·ənt }

dark-current pulse [ELECTR] A phototube dark-current excursion that can be resolved by the system employing the phototube. { 'därk ˌkər·ənt ¦pəls }

dark discharge [ELECTR] An invisible electrical discharge in a gas. { ¦därk 'disˌchärj }

dark resistance [ELECTR] The resistance of a selenium cell or other photoelectric device in total darkness. { 'därk riˌzis·təns }

dark space [ELECTR] A region in a glow discharge that produces little or no light. { 'därk ˌspās }

dark spot [ELECTR] A spot on a television receiver tube that results from a spurious signal generated in the television camera tube during rescan, generally from the redistribution of secondary electrons over the mosaic in the tube. { 'därk ˌspät }

dark-trace tube [ELECTR] A cathode-ray tube with a bright face that does not necessarily luminesce, on which signals are displayed as dark traces or dark blips where the potassium chloride screen is

hit by the electron beam. Also known as skiatron. { 'därk ,trās ,tüb }

Darlington amplifier [ELECTR] A current amplifier consisting essentially of two separate transistors and often mounted in a single transistor housing. { 'dar·liŋ·tən ,am·plə,fī·ər }

DARS *See* direct audio radio service. { ¦dē¦ä¦är'es *or* därz }

d'Arsonval current [ELEC] A current consisting of isolated trains of heavily damped high-frequency oscillations of high voltage and relatively low current, used in diathermy. { 'dars·ən ,vōl ,kər·ənt }

d'Arsonval galvanometer [ENG] A galvanometer in which a light coil of wire, suspended from thin copper or gold ribbons, rotates in the field of a permanent magnet when current is carried to it through the ribbons; the position of the coil is indicated by a mirror carried on it, which reflects a light beam onto a fixed scale. Also known as light-beam galvanometer. { 'dars·ən ,vōl gal·və'näm·əd·ər }

DASD *See* direct-access storage device. { 'daz,dē }

DAT *See* digital audio tape.

data [COMPUT SCI] **1.** General term for numbers, letters, symbols, and analog quantities that serve as input for computer processing. **2.** Any representations of characters or analog quantities to which meaning, if not information, may be assigned. { 'dad·ə, 'dād·ə, *or* 'däd·ə }

data acquisition [COMMUN] The phase of data handling that begins with the sensing of variables and ends with a magnetic recording or other record of raw data; may include a complete radio telemetering link. { 'dad·ə ,ak·wə ,zish·ən }

data acquisition computer [COMPUT SCI] A computer that is used to acquire and analyze data generated by instruments. { 'dad·ə ,ak·wə ,zish·ən kəm'pyüd·ər }

data aggregate [COMPUT SCI] The set of data items within a record. { 'dad·ə ,ag·rə·gət }

data analysis [COMPUT SCI] The evaluation of digital data. { 'dad·ə ə,nal·ə·səs }

data attribute [COMPUT SCI] A characteristic of a block of data, such as the type of representation used or the length in characters. { 'dad·ə ¦a·trə'byüt }

data automation [COMPUT SCI] The use of electronic, electromechanical, or mechanical equipment and associated techniques to automatically record, communicate, and process data and to present the resultant information. { ¦dad·ə ȯd·ə'mā·shən }

data bank [COMPUT SCI] A complete collection of information such as contained in automated files, a library, or a set of computer disks. { 'dad·ə ,baŋk }

database [COMPUT SCI] A nonredundant collection of interrelated data items that can be shared and used by several different subsystems. { 'dad·ə,bās }

database/data communication [COMPUT SCI] An advanced software product that combines a database management system with data communications procedures. Abbreviated DB/DC. { 'dad·ə,bās 'dad·ə kə,myü·nə'kā·shən }

database machine [COMPUT SCI] A computer that handles the storage and retrieval of data into and out of a database. { 'dad·ə,bās mə,shēn }

database management system [COMPUT SCI] A special data processing system, or part of a data processing system, which aids in the storage, manipulation, reporting, management, and control of data. Abbreviated DBMS. { 'dad·ə,bās 'man·ij·mənt ,sis·təm }

database server [COMPUT SCI] An independently functioning computer in a local-area network that holds and manages the database. { 'dad·ə,bās ,sər·vər }

data break [COMPUT SCI] A facility which permits input/output transfers to occur without disturbing program execution in a computer. { 'dad·ə ,brāk }

data buffering [COMPUT SCI] The temporary collection and storage of data awaiting further processing in physical storage devices, allowing a computer and its peripheral devices to operate at different speeds. { 'dad·ə ,bəf·ə·riŋ }

data bus [ELECTR] An internal channel that carries data between a computer's central processing unit and its random-access memory. { 'dad·ə ,bəs }

data capture [COMPUT SCI] The acquisition of data to be entered into a computer. { 'dad·ə ,kap·chər }

data carrier [COMPUT SCI] A medium on which data can be recorded, and which is usually easily transportable, such as disks or tape. { 'dad·ə ,kar·ē·ər }

data carrier storage [COMPUT SCI] Any type of storage in which the storage medium is outside the computer, such as disks and tape, in contrast to inherent storage. { 'dad·ə ,kar·ē·ər ,stȯr·ij }

data cartridge [COMPUT SCI] A tape cartridge used for nonvolatile and removable data storage in small digital systems. { 'dad·ə ,kar·trij }

data cell drive [COMPUT SCI] A large-capacity storage device consisting of strips of magnetic tape which can be individually transferred to the read-write head. { 'dad·ə ,sel ,drīv }

data center [COMPUT SCI] An organization established primarily to acquire, analyze, process, store, retrieve, and disseminate one or more types of data. { 'dad·ə ,sen·tər }

data chain [COMPUT SCI] Any combination of two or more data elements, data items, data codes, and data abbreviations in a prescribed sequence to yield meaningful information; for example, "date" consists of data elements year, month, and day. { 'dad·ə ,chān }

data chaining [COMPUT SCI] A technique used in scatter reading or scatter writing in which new storage areas are defined for use as soon as the current data transfer is completed. { 'dad·ə ,chān·iŋ }

data channel [COMPUT SCI] A bidirectional data path between input/output devices and the main memory of a digital computer permitting one or more input/output operations to proceed

concurrently with computation. { 'dad·ə ˌchan·əl }

data circuit [ELECTR] A telephone facility that allows transmission of digital data pulses with minimum distortion. { 'dad·ə ˌsər·kət }

data code [COMPUT SCI] A number, letter, character, symbol, or any combination thereof, used to represent a data item. { 'dad·ə ˌkōd }

data collection [COMPUT SCI] The process of sending data to a central point from one or more locations. { 'dad·ə kəˌlek·shən }

data communication network [COMPUT SCI] A set of nodes, consisting of computers, terminals, or some type of communication control units in various locations, connected by links consisting of communication channels providing a data path between the nodes. { 'dad·ə kəˌmyü·nəˌkā·shən 'netˌwərk }

data communications [COMMUN] The conveying from one location to another of information that originates or is recorded in alphabetic, numeric, or pictorial form, or as a signal that represents a measurement; includes telemetering and facsimile but not voice or television. Also known as data transmission. { 'dad·ə kəˌmyü·nə'kā·shənz }

data communications processor [COMPUT SCI] A small computer used to control the flow of data between machines and terminals over communications channels. { 'dad·ə kəˌmyü·nə ¦kā·shənz 'präsˌes·ər }

data compression [COMPUT SCI] Reduction in the number of bits used to represent an item of data. Also known as compression. { 'dad·ə kəm ˌpresh·ən }

data concentrator [ELECTR] A device, such as a microprocessor, that takes data from several different teletypewriter or other slow-speed lines and feeds them to a single higher-speed line. { 'dad·ə kän·sənˌtrād·ər }

data conversion [COMPUT SCI] The changing of the representation of data from one form to another, as from binary to decimal, or from one physical recording medium to another (as from tape to disk), or from one file format to another, or from one programming language to another. Also known as conversion. { 'dad·ə kənˌvər·zhən }

data conversion line [COMPUT SCI] The channel, electronic or manual, through which data elements are transferred between data banks. { 'dad·ə kənˌvər·zhən ˌlīn }

data converter See converter. { 'dad·ə kən ˌvərd·ər }

data definition [COMPUT SCI] The statements in a computer program that specify the physical attributes of the data to be processed, such as location and quantity of data. { 'dad·ə ˌdef·ə'nish·ən }

data dependence graph [COMPUT SCI] A chart that represents a program in a data flow language, in which each node is a function and each arc carries a value. { 'dad·ə diˌpen·dəns ˌgraf }

data description language [COMPUT SCI] A programming language used to specify the arrangement of data items within a database. { 'dad·ə di¦skrip·shən ˌlaŋ·gwij }

data descriptor [COMPUT SCI] A pointer indicating the memory location of a data item. { 'dad·ə di'skrip·tər }

data dictionary [COMPUT SCI] A catalog which contains the names and structures of all data types. { 'dad·əˌdik·shəˌner·ē }

data display [COMPUT SCI] Visual presentation of processed data by specially designed electronic or electromechanical devices, such as video monitors, through interconnection (either on- or off-line) with digital computers or component equipments. { 'dad·ə di¸splā }

data distribution [COMPUT SCI] Data transmission to one or more locations from a central point. { 'dad·əˌdis·trəˌbyü·shən }

data division [COMPUT SCI] The section of a program (written in the COBOL language) which describes each data item used for input, output, and storage. { 'dad·ə di¸vizh·ən }

data-driven execution [COMPUT SCI] A mode of carrying out a program in a data flow system, in which an instruction is carried out whenever all its input values are present. { 'dad·əˌdriv·ən ˌek·sə'kyü·shən }

data element [COMPUT SCI] A set of data items pertaining to information of one kind, such as months of a year. [COMMUN] An item of data as represented before encoding and after decoding. { 'dad·əˌel·ə·mənt }

data encryption standard [COMMUN] A cryptographic algorithm of validated strength which is in the public domain and is accepted as a standard. Abbreviated DES. { 'dad·əˌen¸krip·shən 'stan·dərd }

data entry [COMPUT SCI] The procedures for placing data in a computer system. { 'dad·əˌen·trē }

data entry program [COMPUT SCI] An application program that receives data from a keyboard or other input device and stores it in a computer system. Also known as input program. { 'dad·ə ¦en·trēˌprō·grəm }

data entry terminal [COMPUT SCI] A portable keyboard and small numeric display designed for interactive communication with a computer. { 'dad·ə ¦en·trēˌtər·mən·əl }

data error [COMPUT SCI] A deviation from correctness in data, usually an error, which occurred prior to processing the data. { 'dad·əˌer·ər }

data exchange system [COMPUT SCI] A combination of hardware and software designed to accept data from various sources, sort the data according to its destination and priority, carry out any necessary code conversions, and transmit the data to its destination. { 'dad·ə iks¦chānj ˌsis·təm }

data expansion [COMPUT SCI] The reproduction in its original form of information that has undergone data compression. { 'dad·ə ik¸span·chən }

data field [COMPUT SCI] An area in the main memory of the computer in which a data record is contained. { 'dad·əˌfēld }

data flow [COMMUN] The route followed by a data message from its origination to its destination, including all the nodes through which it travels. [COMPUT SCI] The transfer of data from an

external storage device, through the processing unit and memory, and out to an external storage device. { 'dad·ə ˌflō }

data flow analysis [COMPUT SCI] The development of models for the movement of information within an organization, indicating the sources and destinations of information and where and how information is transmitted, processed, and stored. { 'dad·ə ¦flō əˌnal·ə·səs }

data flow diagram [COMPUT SCI] A chart that traces the movement of data in a computer system and shows how the data is to be processed, using circles to represent data. Also known as bubble chart; system flowchart. { 'dad·ə ¦flō ˌdī·əˌgram }

data flow language [COMPUT SCI] A programming language used in a data flow system. { 'dad·ə ¦flō ˌlaŋ·gwij }

data flow system [COMPUT SCI] An alternative to conventional programming languages and architectures which is able to achieve a high degree of parallel computation, in which values rather than value containers are dealt with, and in which all processing is achieved by applying functions to values to produce new values. { 'dad·ə ¦flō ˌsis·təm }

data flow technique [COMPUT SCI] A method of computer system design in which diagrams and charts that show how data is to be handled by the system are used to prepare detailed specifications from which actual programs can be written. { 'dad·ə ¦flō tekˌnēk }

data formatting [COMPUT SCI] Structuring the presentation of data as numerical or alphabetic and specifying the size and type of each datum. { 'dad·ə fȯr'mad·iŋ }

data fusion [ELECTR] The combining of data as from several radars or other sensors with common fields of view, in order to improve the accuracy of the estimations being made about features of interest. { 'dad·ə ˌfyü·zhən }

data generator [COMPUT SCI] A specialized word generator in which the programming is designed to test a particular class of device, the pulse parameters and timing are adjustable, and selected words may be repeated, reinserted later in the sequence, omitted, and so forth. { 'dad·ə ˌjen·ə ˌrād·ər }

datagram [COMPUT SCI] A unit of information in the Internet Protocol (IP) containing both data and address information. In TCP/IP networks, datagrams are referred to as packets. { 'dad·əˌgram }

data-handling system [COMPUT SCI] Automatically operated equipment used to interpret data gathered by instrument installations. Also known as data reduction system. { 'dad·ə ˌhand·liŋ ˌsis·təm }

data independence [COMPUT SCI] Separation of data from processing, either so that changes in the size or format of the data elements require no change in the computer programs processing them or so that these changes can be made automatically by the database management system. { 'dad·ə in·də'pen·dəns }

data-initiated control [COMPUT SCI] The automatic handling of a program dependent only upon the value of input data fed into the computer. { 'dad·ə iˌnish·ēˌād·əd kən'trōl }

data-intense application [COMPUT SCI] A program or computer system that handles large quantities of data and extremely repetitive tasks. { 'dad·ə in¦tens ˌap·lə'kā·shən }

data interchange [COMPUT SCI] Switching of data in and out of storage units. { 'dad·ə 'in·tərˌchānj }

data item [COMPUT SCI] A single member of a data element. Also known as datum. { 'dad·əˌī·dəm }

data level [COMPUT SCI] The rank of a data element in a source language with respect to other elements in the same record. { 'dad·əˌlev·əl }

data library [COMPUT SCI] A center for the storage of data not in current use by the computer. { 'dad·ə līˌbrer·ē }

data line [COMMUN] An individual circuit that transmits data within a communications or computer channel. { 'dad·əˌlīn }

data line monitor [COMMUN] A test instrument that analyzes the signals transmitted over a communications line and provides a visual display or stores the results for further analysis, or both. { ¦dad·əˌlīn 'män·əd·ər }

data link [COMMUN] The physical equipment for automatic transmission and reception of information. Also known as communication link; information link; tie line; tie-link. { 'dad·əˌliŋk }

data logging [COMPUT SCI] Conversion of electrical impulses from process instruments into digital data to be recorded, stored, and periodically tabulated. { 'dad·əˌläg·iŋ }

data management [COMPUT SCI] The collection of functions of a control program that provide access to data sets, enforce data storage conventions, and regulate the use of input/output devices. { 'dad·əˌman·ij·mənt }

data management program [COMPUT SCI] A computer program that keeps track of what is in a computer system and where it is located, and of the various means to store and access the data efficiently. { 'dad·əˌman·ij·mənt ˌprō·grəm }

data manipulation [COMPUT SCI] The standard operations of sorting, merging, input/output, and report generation. { 'dad·ə məˌnip·yəˌlā·shən }

data manipulation language [COMPUT SCI] The interface between a data base and an applications program, which is embedded in the language of the applications program and provides the programmer with procedures for accessing data in the data base. { 'dad·ə məˌnip·yə¦lā·shən ˌlaŋ·gwij }

data mining [COMPUT SCI] **1.** The identification or extraction of relationships and patterns from data using computational algorithms to reduce, model, understand, or analyze data. **2.** The automated process of turning raw data into useful information by which intelligent computer systems sift and sort through data, with little or no help from humans, to look for patterns or to predict trends. { 'dad·əˌmīn·iŋ }

data module [COMPUT SCI] A sealed disk drive unit that includes mechanical and electronic components for handling data stored on the disk. { 'dad·ə ˌmäj·yül }

data move instruction [COMPUT SCI] An instruction in a computer program to transfer data between memory locations and registers or between the central processor and peripheral devices. { 'dad·ə ˌmüv in'strək·shən }

data name [COMPUT SCI] A symbolic name used to represent an item of data in a source program, in place of the address of the data item. { 'dad·ə ˌnām }

data organization [COMPUT SCI] Any one of the data management conventions for physical and spatial arrangement of the physical records of a data set. Also known as data set organization. { 'dad·ə ˌȯr·gə·nə,zā·shən }

data origination [COMPUT SCI] The process of putting data in a form that can be read by a machine. { 'dad·ə ə,rij·ə'nā·shən }

data patch panel [COMMUN] A plugboard used to rearrange communications lines and modems by connecting them with double-ended cables, or to attach monitoring devices to analyze circuit signals. { 'dad·ə 'pach ˌpan·əl }

data plotter [COMPUT SCI] A device which plots digital information in a continuous fashion. { 'dad·ə ˌplät·ər }

data processing [COMPUT SCI] Any operation or combination of operations on data, including everything that happens to data from the time they are observed or collected to the time they are destroyed. Also known as information processing. { 'dad·ə 'präs,es·iŋ }

data processing center [COMPUT SCI] A computer installation providing data processing service for others, sometimes called customers, on a reimbursable or nonreimbursable basis. { 'dad·ə ˈpräs,es·iŋ ˌsent·ər }

data processing inventory [COMPUT SCI] An identification of all major data processing areas in an agency for the purpose of selecting and focusing upon those in which the use of automatic data processing (ADP) techniques appears to be potentially advantageous, establishing relative priorities and schedules for embarking on ADP studies, and identifying significant relationships among areas to pinpoint possibilities for the integration of systems. { 'dad·ə ˈpräs,es·iŋ ˌin·vən ˌtȯr·ē }

data processor [COMPUT SCI] **1.** Any device capable of performing operations on data, for instance, a desk calculator, an analog computer, or a digital computer. **2.** Person engaged in processing data. { 'dad·ə 'präs,es·ər }

data protection [COMPUT SCI] The safeguarding of data against unauthorized access or accidental or deliberate loss or damage. { 'dad·ə prə,tek·shən }

data purification [COMPUT SCI] The process of removing as many inaccurate or incorrect items as possible from a mass of data before automatic data processing is begun. { 'dad·ə pyůr·ə·fə'kā·shən }

data rate [COMMUN] The number of digital bits per second that are recorded or retrieved from a data storage device during the transfer of a large data block. { 'dad·ə ˌrāt }

data record [COMPUT SCI] A collection of data items related in some fashion and usually contiguous in location. { 'dad·ə ˌrek·ərd }

data recorder [COMPUT SCI] A keyboard device for entering data onto magnetic tape. { 'dad·ə ri,kȯr·dər }

data reduction [COMPUT SCI] The transformation of raw data into a more useful form. { 'dad·ə ri ˌdək·shən }

data reduction system *See* data-handling system. { ˌdad·ə ri,dək·shən ˌsis·təm }

data redundancy [COMPUT SCI] The occurrence of values for data elements more than once within a file or database. { 'dad·ə ri,dən·dən·sē }

data register [COMPUT SCI] A register used in microcomputers to temporarily store data being transmitted to or from a peripheral device. { 'dad·ə ˌrej·ə·stər }

data representation [COMPUT SCI] **1.** The way that the physical properties of a medium are used to represent data. **2.** The manner in which data is expressed symbolically by binary digits in a computer. { 'dad·ə ˌrep·ri·zen'tā·shən }

data retrieval [COMPUT SCI] The searching, selecting, and retrieving of actual data from a personnel file, data bank, or other file. { 'dad·ə ri'trē·vəl }

data rules [COMPUT SCI] Conditions which must be met by data to be processed by a computer program. { 'dad·ə ˌrülz }

data scope [ELECTR] An electronic display that shows the content of the information being transmitted over a communications channel. { 'dad·ə ˌskōp }

data security [COMPUT SCI] The protection of data against the deliberate or accidental access of unauthorized persons. Also known as file security. { 'dad·ə sə,kyůr·əd·ē }

data set [COMPUT SCI] **1.** A named collection of similar and related data records recorded upon some computer-readable medium. **2.** A data file in IBM 360 terminology. { 'dad·ə ˌset }

data set coupler [COMPUT SCI] The interface between a parallel computer input/output bus and the serial input/output of a modem. { 'dad·ə ˌset ˌkəp·lər }

data set label [COMPUT SCI] A data element that describes a data set, and usually includes the name of the data set, its boundaries in physical storage, and certain characteristics of data items within the set. { 'dad·ə ˌset ˌlā·bəl }

data set migration [COMPUT SCI] The process of moving inactive data sets from on-line storage to back up storage in a time-sharing environment. { 'dad·ə ˌset mī,grā·shən }

data set organization *See* data organization. { 'dad·ə ˌset ˌȯr·gə·nə,zā·shən }

data sink [COMPUT SCI] A memory or recording device capable of accepting data signals from a data transmission device and storing data for future use. { 'dad·ə ˌ siŋk }

daughter board [COMPUT SCI] A small printed circuit board that is attached to another printed circuit board. { 'dód·ər ˌbȯrd }

Davisson-Calbick formula [ELECTR] A formula which states that the focal length of a simple electrostatic lens consisting of a circular hole in a conducting plate is equal to four times the potential of the plate divided by the difference in the potential gradients on either side of the plate. { ¦da·və·sən 'kal·bik ˌfȯr·myə·lə }

day clock [COMPUT SCI] An internal binary counter, with a resolution usually of a microsecond and a cycle measured in years, providing an accurate measure of elapsed time independent of system activity. { 'dā ˌkläk }

daylight controls [ENG] Special devices which automatically control the electric power to a lamp, causing the light to operate during hours of darkness and to be extinguished during daylight hours. { 'dāˌlīt kən'trōlz }

daylight lamp [ELEC] An incandescent or fluorescent lamp that emits light whose spectral distribution is approximately that of daylight. { 'dāˌlīt ˌlamp }

dBa *See* adjusted decibel.

DB/DC *See* database/data communication.

dBf *See* decibels above 1 femtowatt.

dBk *See* decibels above 1 kilowatt.

dBm *See* decibels above 1 milliwatt.

DBMS *See* database management system.

dBp *See* decibels above 1 picowatt.

dBrn *See* decibels above reference noise.

DBRT diode *See* double-barrier resonant tunneling diode. { ¦dē¦bē¦är¦tē 'dīˌōd }

DB server [COMPUT SCI] The database portion of a Web server, which serves as a repository of data and content. { ¦dē¦bē ˌsər·vər }

DBS system *See* direct broadcasting satellite system. { ¦dē¦bē 'es ˌsis·təm }

dBV *See* decibels above 1 volt.

dBW *See* decibels above 1 watt.

dBx *See* decibels above reference coupling.

dc *See* direct current.

D cable [ELEC] Two-conductor cable, each conductor having the shape of the letter D, with insulation between the conductors and between the conductors and the sheath. { 'dē ˌkā·bəl }

DCFL *See* direct-coupled FET logic.

DCT *See* discrete cosine transform.

DCTL *See* direct-coupled transistor logic.

dc-to-ac converter *See* inverter. { ¦dē¸sē tü ¦ā¸sē kən'vərd·ər }

dc-to-ac inverter *See* inverter. { ¦dē¸sē tü ¦ā¸sē in'vərd·ər }

dc-to-dc converter [ELEC] An electronic circuit which converts one direct-current voltage into another, consisting of an inverter followed by a step-up or step-down transformer and rectifier. { ¦dē¸sē tü ¦dē¸sē kən'vərd·ər }

dcwv *See* direct-current working volts.

DDA *See* digital differential analyzer.

D-display [ELECTR] A radar display format in which the coordinates are the same as in the C-display, with target spots extended vertically to indicate range. Also known as D-indicator; D-scan; D-scope. { 'dē di¸splā }

DDR *See* double data rate.

DDS *See* digital data service.

deaccentuator [ELECTR] A circuit used in a frequency-modulation receiver to offset the pre-emphasis of higher audio frequencies introduced at the transmitter. { ˌdē·ak'sen·chəˌwād·ər }

dead [ELEC] Free from any electric connection to a source of potential difference from electric charge; not having a potential different from that of earth; the term is used only with reference to current-carrying parts which are sometimes alive or charged. { ded }

dead band [ELEC] The portion of a potentiometer element that is shortened by a tap; when the wiper traverses this area, there is no change in output. [ENG] The range of values of the measured variable to which an instrument will not effectively respond. Also known as dead zone; neutral zone. { 'ded ˌband }

deadbeat algorithm [CONT SYS] A digital control algorithm which attempts to follow set-point changes in minimum time, assuming that the controlled process can be modeled approximately as a first-order plus dead-time system. { 'ded¸bēt 'al·gəˌrith·əm }

dead-center position [ELEC] Position in which a brush would be placed on the commutator of a direct-current motor or generator if the field flux were not distorted by armature reaction. { ¦ded 'sen·tər pə'zish·ən }

dead code [COMPUT SCI] Statements in a computer program that are not executed, usually as the result of modification of a large program. { 'ded 'kōd }

dead earth [ELEC] A connection between a line conductor and earth by means of a path of low resistance. { ¦ded 'ərth }

dead end [ELEC] The portion of a tapped coil through which no current is flowing at a particular switch position. { 'ded ˌend }

dead-end effect [ELEC] Absorption of energy by unused portions of a tapped coil. { 'ded ˌend i'fekt }

dead-end switch [ELEC] A switch used to short-circuit unused portions of a tapped coil to prevent dead-end effects. { 'ded ˌend ˌswich }

dead ground [ELEC] A low-resistance connection between the ground and an electric circuit. { ¦ded 'graůnd }

dead halt *See* drop-dead halt. { ¦ded 'hȯlt }

dead letter box [COMMUN] A file for storing undeliverable messages in a data communications system, particularly a message switching system. { ¦ded 'led·ər ˌbäks }

deadlock [COMPUT SCI] A situation in which a task in a multiprogramming system cannot proceed because it is waiting for an event that will never occur. Also known as deadly embrace; interlock; knot. { 'ded¸läk }

deadman switch [ELEC] An electrical switch that activates some function if it is turned off. { 'ded ˌman ˌswich }

dead short [ELEC] A short-circuit path that has extremely low resistance. { 'ded'shȯrt }

dead spot [COMMUN] A geographic location in which signals from a radio or television transmitter are received poorly or not at all. { 'ded ,spät }

dead time [CONT SYS] The time interval between a change in the input signal to a process control system and the response to the signal. [ENG] The time interval, after a response to one signal or event, during which a system is unable to respond to another. Also known as insensitive time. { 'ded ,tīm }

dead-time compensation [CONT SYS] The modification of a controller to allow for time delays between the input to a control system and the response to the signal. { 'ded ,tīm käm·pən'sā·shən }

dead zone *See* dead band. { 'ded ,zōn }

dead zone unit [COMPUT SCI] An analog computer device that maintains an output signal at a constant value over a certain range of values of the input signal. { 'ded ,zōn ,yü·nət }

deallocation [COMPUT SCI] The release of a portion of computer storage or a peripheral unit from control by a computer program when it is no longer needed. { dē,al·ə'kā·shən }

debatable time [COMPUT SCI] In the keeping of computer usage statistics, time that cannot be attributed with certainty to any one of various categories of computer use. { di'bād·ə·bəl 'tīm }

deblocking [COMPUT SCI] Breaking up a block of records into individual records. { dē'bläk·iŋ }

debug [COMPUT SCI] To test for, locate, and remove mistakes from a program or malfunctions from a computer. [ELECTR] To detect and remove secretly installed listening devices popularly known as bugs. [ENG] To eliminate from a newly designed system the components and circuits that cause early failures. { dē'bəg }

debugging routine [COMPUT SCI] A routine to aid programmers in the debugging of their routiness; some typical routines are storage printout, tape printout, and drum printout routines. { dē'bəg·iŋ rü,tēn }

debugging statement [COMPUT SCI] Temporary instructions inserted into a program being tested so as to pinpoint problem areas. { dē'bəg·iŋ ,stāt·mənt }

debug on-line [COMPUT SCI] **1.** To detect and correct errors in a computer program by using only certain parts of the hardware of a computer, while other routines are being processed simultaneouly. **2.** To detect and correct errors in a program from a console distant from a computer in a multiaccess system. { dē'bəg·iŋ ȯn 'līn }

debunching [ELECTR] A tendency for electrons in a beam to spread out both longitudinally and transversely due to mutual repulsion; the effect is a drawback in velocity modulation tubes. { dē'bənch·iŋ }

debye [ELEC] A unit of electric dipole moment, equal to 10^{-18} Franklin centimeter. { də'bī }

Debye theory [ELEC] The classical theory of the orientation polarization of polar molecules in which the molecules have a single relaxation time, and the plot of the imaginary part of the complex relative permittivity against the real part is a semicircle. { də'bī ,thē·ə·rē }

decade [ELEC] A group or assembly of 10 units; for example, a decade counter counts 10 in one column, and a decade box inserts resistance quantities in multiples of powers of 10. { de'kād }

decade box [ELEC] An assembly of precision resistors, coils, or capacitors whose individual values vary in submultiples and multiples of 10; by appropriately setting a 10-position selector switch for each section, the decade box can be set to any desired value within its range. { de'kād ,bäks }

decade bridge [ELECTR] Electronic apparatus for measurement of unknown values of resistances or capacitances by comparison with known values (bridge); one secondary section of the oscillator-driven transformer is tapped in decade steps, the other in 10 uniform steps. { de'kād ,brij }

decade counter *See* decade scaler. { de'kād ,kaunt·ər }

decade scaler [ELECTR] A scaler that produces one output pulse for every 10 input pulses. Also known as counter decade; decade counter; scale-of-ten circuit. { de'kād ,skāl·ər }

decelerating electrode [ELECTR] Of an electron-beam tube, an electrode to which a potential is applied to decrease the velocity of the electrons in the beam. { də'sel·ə,rād·iŋ i'lek,trōd }

deceleration time [COMPUT SCI] For a storage medium, such as magnetic tape that must be physically moved in order for reading or writing to take place, the minimum time that must elapse between the completion of a reading or writing operation and the moment that motion ceases. Also known as stop time. { dē,sel·ə'rā·shən ,tīm }

decentralized data processing [COMPUT SCI] An arrangement comprising a data-processing center for each division or location of a single organization. { dē'sen·trə,lizd 'dad·ə 'präs,es·iŋ }

deception [ELECTR] The deliberate radiation, reradiation, alteration, absorption, or reflection of electromagnetic energy in a manner intended to mislead an enemy in the interpretation of information received by his electronic systems. { di'sep·shən }

decibel adjusted *See* adjusted decibel. { 'des·ə ,bel ə'jəs·təd }

decibel loss [COMMUN] Signal attenuation over a transmission path or a conductor expressed in decibels. { 'des·ə,bel ,lȯs }

decibel meter [ENG] An instrument calibrated in logarithmic steps and labeled with decibel units and used for measuring power levels in communication circuits. { 'des·ə,bel ,mēd·ər }

decibels above 1 femtowatt [ELEC] A power level equal to 10 times the common logarithm of the ratio of the given power in watts to 1 femtowatt

(10^{-15} watt). Abbreviated dBf. { 'des·ə·bəlz ə ˌbəv ˌwən 'fem·tōˌwät }

decibels above 1 kilowatt [ELEC] A measure of power equal to 10 times the common logarithm of the ratio of a given power to 1000 watts. Abbreviated dBk. { 'des·ə·bəlz əˌbəv ˌwən 'kil·əˌwät }

decibels above 1 milliwatt [ELEC] A measure of power equal to 10 times the common logarithm of the ratio of a given power to 0.001 watt; a negative value, such as −2.7 dBm, means decibels below 1 milliwatt. Abbreviated dBm. { 'des·ə·bəlz əˌbəv ˌwən 'milˌwät }

decibels above 1 picowatt [ELEC] A measure of power equal to 10 times the common logarithm of the ratio of a given power to 1 picowatt. Abbreviated dBp. { 'des·ə·bəlz əˌbəv ˌwən 'pēˌkō ˌwät }

decibels above 1 volt [ELEC] A measure of voltage equal to 20 times the common logarithm of the ratio of a given voltage to 1 volt. Abbreviated dBV. { 'des·ə·bəlz əˌbəv ˌwən 'vōlt }

decibels above 1 watt [ELEC] A measure of power equal to 10 times the common logarithm of the ratio of a given power to 1 watt. Abbreviated dBW. { 'des·ə·bəlz əˌbəv ˌwən 'wät }

decibels above reference coupling [ELEC] A measure of the coupling between two circuits, expressed in relation to a reference value of coupling that gives a specified reading on a specified noise-measuring set when a test tone of 90 dBa is impressed on one circuit. Abbreviated dBx. { 'des·ə·bəlz əˌbəv 'ref·rəns ˌkəp·liŋ }

decibels above reference noise [ELEC] Units used to show the relationship between the interfering effect of a noise frequency, or band of noise frequencies, and a fixed amount of noise power commonly called reference noise; a 1000-hertz tone having a power level of −90 dBm was selected as the reference noise power; superseded by the adjusted decibel unit. Abbreviated dBrn. { 'des·ə·bəlz əˌbəv 'ref·rəns ˌnóiz }

decimal attenuator [ELECTR] System of attenuators arranged so that a voltage or current can be reduced decimally. { 'des·məl ə'ten·yəˌwād·ər }

decimal-binary switch [ELEC] A switch that connects a single input lead to appropriate combinations of four output leads (representing 1, 2, 4, and 8) for each of the decimal-numbered settings of its control knob; thus, for position 7, output leads 1, 2, and 4 would be connected to the input. { ˌdes·məl ˌbīn·ə·rē 'swich }

decimal code [COMPUT SCI] A code in which each allowable position has one of 10 possible states; the conventional decimal number system is a decimal code. { ˌdes·məl ˌkōd }

decimal-coded digit [COMPUT SCI] One of 10 arbitrarily selected patterns of 1 and 0 used to represent the decimal digits. Also known as coded decimal. { ˌdes·məl ˌkōd·əd 'dij·ət }

decimal processor [COMPUT SCI] A digital computer organized to calculate by decimal arithmetic. { ˌdes·məl 'präsˌes·ər }

decimal-to-binary conversion [COMPUT SCI] The mathematical process of converting a number written in the scale of 10 into the same number written in the scale of 2. { ˌdes·məl tə ˌbīn·ə·rē kən'vər·zhən }

decision [COMPUT SCI] The computer operation of determining if a certain relationship exists between words in storage or registers, and taking alternative courses of action; this is effected by conditional jumps or equivalent techniques. { di'sizh·ən }

decision box [COMPUT SCI] A flow-chart symbol indicating a decision instruction; usually diamond-shaped. { di'sizh·ənˌbäks }

decision calculus [SYS ENG] A guide to the process of decision-making, often outlined in the following steps: analysis of the decision area to discover applicable elements; location or creation of criteria for evaluation; appraisal of the known information pertinent to the applicable elements and correction for bias; isolation of the unknown factors; weighting of the pertinent elements, known and unknown, as to relative importance; and projection of the relative impacts on the objective, and synthesis into a course of action. { di'sizh·ən 'kal·kyə·ləs }

decision element [ELECTR] A circuit that performs a logical operation such as "and," "or," "not," or "except" on one or more binary digits of input information representing "yes" or "no" and that expresses the result in its output. Also known as decision gate. { di'sizh·ənˌel·ə·mənt }

decision gate [ELECTR] *See* decision element. [NAV] In an instrument landing, that point along the path at which the pilot must decide to land or to execute a missed-approach procedure. { di'sizh·ənˌgāt }

decision instruction *See* conditional jump. { di'sizh·ən in'strək·shən }

decision mechanism [COMPUT SCI] In character recognition, that component part of a character reader which accepts the finalized version of the input character and makes an assessment as to its most probable identity. { di'sizh·ənˌmek·əˌniz·əm }

decision rule [SYS ENG] In decision theory, the mathematical representation of a physical system which operates upon the observed data to produce a decision. { di'sizh·ənˌrül }

decision support [COMPUT SCI] The process of filtering, optimizing, and organizing mined information to support decision making. { di'sizh·ən səˌpórt }

decision support system [COMPUT SCI] A computer-based system that enables management to interrogate the computer system on an ad hoc basis for various kinds of information on the organization and to predict the effect of potential decisions beforehand. Abbreviated DSS. { di'sizh·ən sə'pórt ˌsis·təm }

decision table [COMPUT SCI] **1.** A table of contingencies to be considered in the definition of a problem, together with the actions to be taken, sometimes used in place of a flow chart for program documentation. **2.** *See* DETAB. { di'sizh·ənˌtā·bəl }

decision theory [SYS ENG] A broad spectrum of concepts and techniques which have been developed to both describe and rationalize the process of decision making, that is, making a choice among several possible alternatives. { di'sizh·ən ˌthe·ə·rē }

deck [ENG] A magnetic-tape transport mechanism. { dek }

deck switch *See* gang switch. { 'dek ˌswich }

declaration *See* declarative statement. { ˌdek·lə'rā·shən }

declarative language [COMPUT SCI] A nonprocedural programming language that allows the programmer to state the task to be accomplished without specifying the procedures needed to carry it out. { di'klar·əd·iv 'laŋ·gwij }

declarative macroinstruction [COMPUT SCI] An instruction in an assembly language which directs the compiler to take some action or take note of some condition and which does not generate any instruction in the object program. { di¦klar·əd·iv ¦mak·rō·in¦strək·shən }

declarative markup language [COMPUT SCI] A system of codes for identifying the subdivisions of a text-processing document, without carrying out the actual formatting. { di'klar·əd·iv 'mär·kəp ˌlaŋ·gwij }

declarative statement [COMPUT SCI] Any program statement describing the data which will be used or identifying the memory locations which will be required. Also known as declaration. { di ¦klar·əd·iv 'stāt·mənt }

decode [COMMUN] **1.** To translate coded characters into a more understandable form. **2.** *See* demodulate. { dē'kōd }

decoded stream [COMMUN] The decoded reconstruction of a compressed bit stream. { dē'kōd·əd 'strēm }

decoder [ELECTR] **1.** A matrix of logic elements that selects one or more output channels, depending on the combination of input signals present. **2.** *See* decoder circuit; matrix; tree. { dē'kōd·ər }

decoder circuit [ELECTR] A circuit that responds to a particular coded signal while rejecting others. Also known as decoder. { dē'kōd·ər ˌsər·kət }

decoding gate [COMPUT SCI] The use of combinatorial logic in circuitry to select a device identified by a binary address code. Also known as recognition gate. { dē'kōd·iŋ ˌgāt }

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

decometer [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. { də'käm·əd·ər }

decommutation [ELECTR] The process of recovering a signal from the composite signal previously created by a commutation process. { dē ˌkäm·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'käm·yəˌtād·ər }

decoupling [ELEC] Preventing transfer or feedback of energy from one circuit to another. { dē'kəp·liŋ }

decoupling filter [ELECTR] One of a number of low-pass filters placed between each of several amplifier stages and a common power supply. { dē'kəp·liŋ ˌfil·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'kəp·liŋ ˌnetˌwərk }

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. { 'dēˌkȯi tranˌspän·dər }

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. { 'dek·rə·mənt }

decrement field [COMPUT SCI] That part of an instruction word which is used to modify the contents of a storage location or register. { 'dek·rə·mənt ˌfēld }

decrypt [ELECTR] To convert a crypotogram or series of electronic pulses into plain text by electronic means. { dē'kript }

dedicated file server [COMPUT SCI] A computer that operates solely to provide services to other computers in a particular local-area network and to manage the network operating system. Also known as dedicated server. { ˌded·əˌkād·əd 'fīl ˌsər·vər }

dedicated line [COMPUT SCI] A permanent communications link that is used solely to transmit information between a computer and a data-processing system. { 'ded·əˌkād·əd 'līn }

dedicated server *See* dedicated file server. { ˌded·əˌkād·əd ˌsər·vər }

dedicated terminal [COMPUT SCI] A computer terminal that is permanently connected to a data-processing system by a communications link that is used only to transmit information between the two. { 'ded·əˌkād·əd 'tərm·ən·əl }

deemphasis [ENG ACOUS] A process for reducing the relative strength of higher audio frequencies before reproduction, to complement and thereby offset the preemphasis that was introduced to help override noise or reduce distortion. Also known as postemphasis; postequalization. { dē'em·fə·səs }

deemphasis network [ENG ACOUS] An RC filter inserted in a system to restore preemphasized signals to their original form. { dē'em·fə·səs ˌnetˌwərk }

deenergize [ELEC] To disconnect from the source of power. { dēˌen·ərˌjīz }

deerhorn antenna [ELECTROMAG] A dipole antenna whose ends are swept back to reduce wind resistance when mounted on an airplane. { 'dir ˌhȯrn an'ten·ə }

de facto standard [COMPUT SCI] A set of criteria for software, hardware, or communications procedures that is widely accepted because of the dominance of a particular technology over others rather than the action of a recognized standards organization. { dē 'fak·tō 'stan·dərd }

default [COMPUT SCI] A value automatically used or an action automatically carried out unless another is specified. { di'fȯlt }

default printer [COMPUT SCI] The printer that is automatically used by a program unless another printer is specifically designated. { di'fȯlt ˌprint·ər }

defect conduction [SOLID STATE] Electric conduction in a semiconductor by holes in the valence band. { 'dēˌfekt kə'dək·shən }

defective track [COMPUT SCI] Any circular path on the surface of a magnetic disk which is detected by the system as unable to accept one or more bits of data. { di'fek·tiv 'trak }

deferred addressing [COMPUT SCI] A type of indirect addressing in which the address part of an instruction specifies a location containing an address, the latter in turn specifies another location containing an address, and so forth, the number of iterations being controlled by a preset counter. { di'fərd ə'dres·iŋ }

deferred data item [COMPUT SCI] A quantity or attribute that is assigned a value only at the time it is actually processed. { di'fərd 'dad·ə ˌīd·əm }

deferred entry [COMPUT SCI] The passing of control of the central processing unit to a subroutine or to an entry point as the result of an asynchronous event. { di'fərd 'en·trē }

deferred mount [COMPUT SCI] Postponement of the placement of a tape on a tape drive until it is actually needed, rather than when the program starts to run. { di'fərd 'maùnt }

deferred processing [COMPUT SCI] The making of computer runs which are postponed until nonpeak periods. { di'fərd 'präsˌes·iŋ }

definite network [COMPUT SCI] A sequential network in which no feedback loops exist. { ¦def·ə·nət 'netˌwərk }

definition [COMMUN] The fidelity with which an imaging system conveys and reproduces an image. [ELECTR] The extent to which the fine-line details of a printed circuit correspond to the master drawing. { ˌdef·ə'nish·ən }

deflection [COMPUT SCI] Encouraging a potential attacker of a computer system to direct the attack elsewhere. [ELECTR] The displacement of an electron beam from its straight-line path by an electrostatic or electromagnetic field. { di'flek·shən }

deflection circuit [ELECTR] A circuit which controls the deflection of an electron beam in a cathode-ray tube. { di'flek·shən ˌsər·kət }

deflection coil [ELECTR] One of the coils in a deflection yoke. { di'flek·shən ˌkȯil }

deflection defocusing [ELECTR] Defocusing that becomes greater as deflection is increased in a cathode-ray tube, because the beam hits the screen at a greater slant and the beam spot becomes more elliptical as it approaches the edges of the screen. { di'flek·shən de¦fō·kəs·iŋ }

deflection electrode [ELECTR] An electrode whose potential provides an electric field that deflects an electron beam. Also known as deflection plate. { di'flek·shən iˌlekˌtrōd }

deflection factor [ELECTR] The reciprocal of the deflection sensitivity in a cathode-ray tube. { di'flek·shən ˌfak·tər }

deflection-modulated indicator *See* amplitude-modulated indicator. { di'flek·shən ¦mäj·əˌlād·əd 'in·dəˌkād·ər }

deflection plate *See* deflection electrode. { di'flek·shən ˌplāt }

deflection polarity [ELECTR] Relationship between the direction of a displacement of the cathode beam and the polarity of the applied signal wave. { di'flek·shən pə'lar·əd·ē }

deflection sensitivity [ELECTR] The displacement of the electron beam at the target or screen of a cathode-ray tube per unit of change in the deflection field; usually expressed in inches per volt applied between deflection electrodes or inches per ampere in a deflection coil. { di'flek·shən sen·sə'tiv·əd·ē }

deflection voltage [ELECTR] The voltage applied between a pair of deflection electrodes to produce an electric field. { di'flek·shən ˌvōl·tij }

deflection yoke [ELECTR] An assembly of one or more electromagnets that is placed around the neck of an electron-beam tube to produce a magnetic field for deflection of one or more electron beams. Also known as scanning yoke; yoke. { di'flek·shən ˌyōk }

defocus-dash mode [ELECTR] A mode of cathode-ray tube storage of binary digits in which the writing beam is initially defocused so as to excite a small circular area on the screen; for one kind of binary digit it remains defocused, and for the other kind it is suddenly focused to a concentric dot and drawn out into a dash. { dē ¦fō·kəs ¦dash ˌmōd }

defocus-focus mode [ELECTR] A variation of the defocus-dash mode in which the focused dot is drawn out into a dash. { dē¦fō·kəs ¦fō·kəs ˌmōd }

defragmentation [COMPUT SCI] A procedure in which portions of files on a computer disk are moved until all parts of each file occupy continuous sectors, resulting in a substantial improvement in disk access times. { ˌdē ˌfrag·mən'tā·shən }

defragmenter [COMPUT SCI] A program that analyzes storage locations of files on a computer disk and then carries out defragmentation. { ˌdē ˌfrag'men·tər }

defruit [ELECTR] To remove random asynchronous replies from the video input of a display unit in a secondary (beacon) radar

system by such means as comparing the video signals on successive sweeps. { dē'früt }

degas [ELECTR] To drive out and exhaust the gases occluded in the internal parts of an electron tube or other gastight apparatus, generally by heating during evacuation. { dē'gas }

degauss [ELECTR] To remove, erase, or clear information from a magnetic tape, disk, drum, or core. [ELECTROMAG] To neutralize (demagnetize) a magnetic field of, for example, television tube.

degaussing coil [ELECTROMAG] A plastic-encased coil, about 1 foot (0.3 meter) in diameter, that can be plugged into a 120-volt alternating-current wall outlet and moved slowly toward and away from a color television picture tube to demagnetize adjacent parts. { dē'gaùs·iŋ ˌkȯil }

degenerate amplifier [ELECTR] Parametric amplifier with a pump frequency exactly twice the signal frequency, producing an idler frequency equal to that of the signal input; it is considered as a single-frequency device. { di'jen·ə·rət 'am·pləˌfī·ər }

degeneration [ELECTR] The loss or gain in an amplifier through unintentional negative feedback. { diˌjen·ə'rā·shən }

deglitcher [ELECTR] A nonlinear filter or other special circuit used to limit the duration of switching transients in digital converters. { dē'glich·ər }

degradation [COMPUT SCI] Condition under which a computer operates when some area of memory or some units of peripheral equipment are not available to the user. { ˌdeg·rə'dā·shən }

degradation failure [ENG] Failure of a device because of a shift in a parameter or characteristic which exceeds some previously specified limit. { ˌdeg·rə'dā·shən ˌfāl·yər }

degree of current rectification [ELECTR] Ratio between the average unidirectional current output and the root mean square value of the alternating current input from which it was derived. { di'grē əv 'kər·ənt ˌrek·tə·fə'kā·shən }

degree of voltage rectification [ELECTR] Ratio between the average unidirectional voltage and the root mean square value of the alternating voltage from which it was derived. { di'grē əv 'vōl·tij ˌrek·tə·fə'kā·shən }

deion circuit breaker [ELEC] Circuit breaker built so that the arc that forms when the circuit is broken is magnetically blown into a stack of insulated copper plates, giving the effect of a large number of short arcs in series; each arc becomes almost instantly deionized when the current drops to zero in the alternating current cycle, and the arc cannot reform. { dē'īˌän 'sər·kət ˌbrāk·ər }

deionization [ELECTR] The return of an ionized gas to its neutral state after all sources of ionization have been removed, involving diffusion of ions to the container walls and volume recombination of negative and positive ions. { dēˌī·ən·ə'zā·shən }

deionization potential [ELECTR] The potential at which ionization of the gas in a gas-filled tube ceases and conduction stops. { dēˌī·ən·ə'zā·shən pə'ten·chəl }

deionization time [ELECTR] The time required for a gas tube to regain its preconduction characteristics after interruption of anode current, so that the grid regains control. Also called recontrol time. { dēˌī·ən·ə'zā·shən ˌtīm }

de la Rue and Miller's law [ELECTR] The law that in a field between two parallel plates, the sparking potential of a gas is a function of the product of gas pressure and sparking distance only. { del·əˌrü ən 'mil·ərz ˌlȯ }

delay [COMMUN] **1.** Time required for a signal to pass through a device or a conducting medium. **2.** Time which elapses between the instant at which any designated point of a transmitted wave passes any two designated points of a transmission circuit; such delay is primarily determined by the constants of the circuit. { di'lā }

delay circuit *See* time-delay circuit. { di'lā ˌsərkət }

delay counter [COMPUT SCI] A counter which inserts a time delay in a sequence of events. { di'lā ˌkaùnt·ər }

delay distortion [ELECTR] Phase distortion in which the rate of change of phase shift with frequency of a circuit or system is not constant over the frequency range required for transmission. Also called envelope delay distortion. { di'lā di'stȯrˌshən }

delayed automatic gain control [ELECTR] An automatic gain control system that does not operate until the signal exceeds a predetermined magnitude; weaker signals thus receive maximum amplification. Also known as biased automatic gain control; delayed automatic volume control; quiet automatic volume control. { di'lād ˌȯd·əˌmad·ik 'gān kənˌtrōl }

delayed automatic volume control *See* delayed automatic gain control. { di'lād ˌȯd·əˌmad·ik 'väl·yəm kənˌtrōl }

delayed plan position indicator [ELECTR] A plan position indicator in which initiation of the time base is delayed a fixed time after each transmitted pulse, to give expansion of the range scale for distant targets so that they show more clearly on the screen. { di'lād 'plan pə'zish·ən ˌin·dəˌkād·ər }

delayed sweep [ELECTR] A sweep whose beginning is delayed for a definite time after the pulse that initiates the sweep. { di'lād 'swēp }

delay equalizer [ELECTR] A corrective network used to make the phase delay or envelope delay of a circuit or system substantially constant over a desired frequency range. { di'lā 'ē·kwəˌlīz·ər }

delay flip-flop *See* D flip-flop. { di'lā 'flipˌflap }

delay/frequency distortion [COMMUN] That form of distortion which occurs when the delay of a circuit or system is not constant over the frequency range required for transmissions. { di'lā ¦frē·kwən·sē di'stȯr·shən }

delay line [ELECTR] **1.** A transmission line (as dissipationless as possible), or an electric network approximation of it, which, if terminated in its characteristic impedance, will reproduce at its

output a waveform applied to its input terminals with little distortion, but at a time delayed by an amount dependent upon the electrical length of the line. Also known as artificial delay line. **2.** A circuit component, analog or digital, in a radar system by which pulses may be delayed a controllable amount; used typically for pulse comparisons as in canceler circuits. { di'lā, līn }

delay-line memory *See* circulating memory. { di'lā ,līn 'mem·rē }

delay-line storage *See* circulating memory. { di'lā ,līn 'stór·ij }

delay multivibrator [ELECTR] A monostable multivibrator that generates an output pulse a predetermined time after it is triggered by an input pulse. { di'lā ,məl·tə'vī,brād·ər }

delay relay [ELEC] A relay having predetermined delay between energization and closing of contacts or between deenergization and dropout. { di'lā 'rē,lā }

delay time [CONT SYS] The amount of time by which the arrival of a signal is retarded after transmission through physical equipment or systems. [ELECTR] The time taken for collector current to start flowing in a transistor that is being turned on from the cutoff condition. { di'lā ,tīm }

delay unit *See* transport delay unit. { di'lā ,yü·nət }

deleted representation [COMPUT SCI] In paper tape codes, the superposition of a pattern of holes upon another pattern of holes representing a character, to effectively remove or obliterate the latter. { di'lēd·əd ,rep·rə,zen'tā·shən }

deletion operator [COMPUT SCI] The part of a data structure which allows components to be deleted. { di'lē·shən ,äp·ə,rād·ər }

deletion record [COMPUT SCI] A record which removes and replaces an existing record when it is added to a file. { di'lē·shən ,rek·ərd }

delimiter [COMPUT SCI] A character that separates items of data. { də'lim·əd·ər }

Dellinger fadeout [COMMUN] Type of fadeout that occurs during shortwave reception, believed to be caused by rapid shifting of ionosphere layers during solar eruptions. { 'del·ən·jər 'fād ,aút }

delta [ELECTR] The difference between a partial-select output of a magnetic cell in a one state and a partial-select output of the same cell in a zero state. { 'del·tə }

delta connection [ELEC] A combination of three components connected in series to form a triangle like the Greek letter delta. Also known as mesh connection. { 'del·tə kə'nek·shən }

delta current [ELEC] Electricity going through a delta connection. { 'del·tə ,kər·ənt }

delta-gun tube [ELECTR] A color television picture tube in which three electron guns, arranged in a triangle, provide electron beams that fall on phosphor dots on the screen, causing them to emit light in three primary colors; a shadow mask located just behind the screen ensures that each beam excites only dots of one color. { 'del·tə ,gən ,tüb }

delta matching transformer [ELEC] Impedance device used to match the impedance of an open-wire transmission line to an antenna; the two ends of the transmission line are fanned out so that the impedance of the line gradually increases; the ends of the transmission line are attached to the antenna at points of equal impedance, symmetrically located with respect to the center of the antenna. { 'del·tə ,mach·iŋ tranz,fór·mər }

delta modulation [ELECTR] A pulse-modulation technique in which a continuous signal is converted into a binary pulse pattern, for transmission through low-quality channels. { 'del·tə ,mäj·ə'lā·shən }

delta network [ELEC] A set of three branches connected in series to form a mesh. { 'del·tə ,net,wərk }

delta pulse code modulation [ELECTR] A modulation system that converts audio signals into corresponding trains of digital pulses to give greater freedom from interference during transmission over wire or radio channels. { 'del·tə ,pəls ,kōd ,mäj,ə'lā·shən }

delta-sigma converter *See* sigma-delta converter. { 'del·tə ,sig·mə kən'vərd·ər }

delta-sigma modulator *See* sigma-delta modulator. { 'del·tə,sig·mə 'mä·jə,lād·ər }

delta transformer [ELEC] A three-phase electrical transformer in which the ends of the three windings are connected to form a triangle. { 'del·tə tranz'fór·mər }

delta-Y transformation *See* Y-delta transformation. { 'del·tə ,wī ,tranz·fər'mā·shən }

deltic method [ELECTR] A method of sampling incoming radar, sonar, seismic, speech, or other waveforms along with reference signals, compressing the samples in time, and comparing them by autocorrelation. { 'del·tik ,meth·əd }

demagnetizer [ELECTR] A device for removing undesired magnetism, as from the playback head of a tape recorder or from a recorded reel of magnetic tape that is to be erased. { dē'mag·nə ,tī·zər }

demand *See* demand factor. { də'mand }

demand assignment multiple access [COMMUN] The allocation of bandwidth in a communications system among multiple users based on demand, such as by multiplexing. Abbreviated DAMA. { di'mand ə,sīn·mənt 'məl·tə·pəl 'ak,ses }

demand-driven execution [COMPUT SCI] A mode of carrying out a program in a data flow system in which no calculation is carried out until its results are demanded as input to another calculation. Also known as lazy evaluation. { də'mand ,driv·ən ,ek·sə'kyü·shən }

demand factor [ELEC] The ratio of the maximum demand of a building for electric power to the total connected load. Also known as demand. { də'mand ,fak·tər }

demand limiter *See* current limiter. { də'mand ,lim·əd·ər }

demand meter [ENG] Any of several types of instruments used to determine a customer's maximum demand for electric power over an

appreciable time interval, generally used for billing industrial users. { də'mand ,mēd·ər }

demand paging [COMPUT SCI] The characteristic of a virtual memory system which retrieves only that part of a user's program which is required during execution. { də'mand ,pā·jiŋ }

demand processing [COMPUT SCI] The processing of data by a computer system as soon as it is received, so that it is not necessary to store large amounts of raw data. Also known as immediate processing. { də'mand ,präs,es·iŋ }

demand rate [ELEC] The maximum amount of electric power that must be kept available to a customer. { də'mand ,rāt }

demand reading [COMPUT SCI] A method of carrying out input operations in which blocks of data are transmitted to the central processing unit as needed for processing. { də'mand ,rēd·iŋ }

demand staging [COMPUT SCI] Moving blocks of data from one storage device to another when programs request them. { də'mand ,stā·jiŋ }

demand writing [COMPUT SCI] A method of carrying out output operations in which blocks of data are transmitted from the central processing unit as they are needed by the user. { də'mand ,rīd·iŋ }

Dember effect [ELECTR] Creation of a voltage in a conductor or semiconductor by illumination of one surface. Also known as photodiffusion effect. { dām·bā i'fekt }

demodifier [COMPUT SCI] A data element used to restore part of an instruction which has been modified to its original value. { dē'mād·ə,fī·ər }

demodulate [COMMUN] To recover the modulating wave from a modulated carrier. Also known as decode; detect. { dē'mäj·ə,lāt }

demodulation [COMMUN] The recovery, from a modulated carrier, of a signal having substantially the same characteristics as the original signal. { dē,mäj·ə'lā·shən }

demodulator *See* detector. { dē'mäj·ə,lad·ər }

demount [COMPUT SCI] To take out a magnetic storage medium from a device that reads or writes on it. { dē'maunt }

demountable pack [COMPUT SCI] A disk pack that can be taken out and replaced by another. { dē'maunt·ə·bəl 'pak }

demountable tube [ELECTR] High-power radio tube having a metal envelope with porcelain insulation; can be taken apart for inspection and for renewal of electrodes. { dē'maunt·ə·bəl 'tüb }

DEMS *See* Digital Electronic Message Service.

demultiplexer [ELECTR] A device used to separate two or more signals that were previously combined by a compatible multiplexer and transmitted over a single channel. { dē,məl·tə ,plek·sər }

demultiplexing [COMMUN] The separation of two or more channels previously multiplexed. { dē'məl·tə,pleks·iŋ }

demultiplexing circuit [ELECTR] A circuit used to separate the signals that were combined for transmission by multiplex. { dē'məl·tə,plek·siŋ ,sər·kət }

dense binary code [COMPUT SCI] A code in which all possible states of the binary pattern are used. { 'dens ¦bī·nə·rē 'kōd }

dense list [COMPUT SCI] A list in which all the cells contain records of the file. { ¦dens ¦list }

density modulation [ELECTR] Modulation of an electron beam by making the density of the electrons in the beam vary with time. { 'den·səd·ē ,mäj·ə'lā·shən }

density packing [COMPUT SCI] In computers, the number of binary digit magnetic pulses stored on tape or drum per linear inch on a single track by a single head. { 'den·səd·ē ,pak·iŋ }

density step tablet [COMMUN] Facsimile test chart consisting of a series of areas; density of the areas increases from a low value to a maximum value in steps. Also known as step tablet. { 'den·səd·ē 'step ,tab·lət }

dependency [COMPUT SCI] The necessity for a computer to complete work on some job before execution of another can begin. { di'pen·dən·sē }

dependent segment [COMPUT SCI] In a database management system, a block of data that depends on data at a higher level for its full meaning. { di'pen·dənt 'seg·mənt }

deperm *See* degauss. { dē'pərm }

depletion [ELECTR] Reduction of the charge-carrier density in a semiconductor below the normal value for a given temperature and doping level. { də'plē·shən }

depletion layer [ELECTR] An electric double layer formed at the surface of contact between a metal and a semiconductor having different work functions, because the mobile carrier charge density is insufficient to neutralize the fixed charge density of donors and acceptors. Also known as barrier layer (deprecated); blocking layer (deprecated); space-charge layer. { də'plē·shən ,lā·ər }

depletion-layer capacitance *See* barrier capacitance. { di'plē·shən ,lā·ər kə'pas·əd·əns }

depletion-layer rectification [ELECTR] Rectification at the junction between dissimilar materials, such as a *pn* junction or a junction between a metal and a semiconductor. Also known as barrier-layer rectification. { də'plē·shən ,lā·ər ,rek·tə·fə'kā·shən }

depletion-layer transistor [ELECTR] A transistor that relies directly on motion of carriers through depletion layers, such as spacistor. { də'plē·shən ,lā·ər tran'zis·tər }

depletion mode [ELECTR] Operation of a field-effect transistor in which current flows when the gate-source voltage is zero, and is increased or decreased by altering the gate-source voltage. { də'plē·shən ,mōd }

depletion-mode HEMT [ELECTR] A high-electron mobility transistor (HEMT) in which application of negative bias to the gate electrode cuts off the current between source and drain. Abbreviated D-HEMT. { də'plē·shən ,mōd ,āch,ē,em'tē }

depletion region [ELECTR] The portion of the channel in a metal oxide field-effect transistor in which there are no charge carriers. { də'plē·shən ,rē·jən }

depolarization [ELEC] The removal or prevention of polarization in a substance (for example, through the use of a depolarizer in an electric cell) or of polarization arising from the field due to the charges induced on the surface of a dielectric when an external field is applied. { dē ˌpō·lə·rə'zā·shən }

depolarization factor [ELEC] The ratio of the internal electric field induced by the charges on the surface of a dielectric when an external field is applied to the polarization of the dielectric. { dē,pō·lə·rə'zā·shən ˌfak·tər }

deposit [COMPUT SCI] To preserve the contents of a portion of a computer memory by copying it in a backing storage. { də'päz·ət }

deposited carbon resistor [ELECTR] A resistor in which the resistive element is a carbon film pyrolytically deposited on a ceramic substrate. { də'päz·əd·əd 'kär·bən ri'zis·tər }

derating [ELECTR] The reduction of the rating of a device to improve reliability or to permit operation at high ambient temperatures. { dē 'rād·iŋ }

derivative action [CONT SYS] Control action in which the speed at which a correction is made depends on how fast the system error is increasing. Also known as derivative compensation; rate action. { də'riv·əd·iv ˌak·shən }

derivative compensation *See* derivative action. { də'riv·əd·iv ˌkäm·pən'sā·shən }

derivative network [CONT SYS] A compensating network whose output is proportional to the sum of the input signal and its derivative. Also known as lead network. { də'riv·əd·iv 'net,wərk }

derived sound system [ENG ACOUS] A four-channel sound system that is artificially synthesized from conventional two-channel stereo sound by an adapter, to provide feeds to four loudspeakers for approximating quadraphonic sound. { də'rīvd 'saůnd ˌsis·təm }

DES *See* data encryption standard.

DeSauty's bridge [ELEC] A four-arm bridge used to compare two capacitances; two adjacent arms contain capacitors in series with resistors, while the other two arms contain resistors only. Also known as Wien-DeSauty bridge. { də'sōd·ēz ˌbrij }

descending sort [COMPUT SCI] The arranging of data records from high to low sequence (9 to 0, and Z to A). { di'send·iŋ 'sȯrt }

describing function [CONT SYS] A function used to represent a nonlinear transfer function by an approximately equivalent linear transfer function; it is the ratio of the phasor representing the fundamental component of the output of the nonlinearity, determined by Fourier analysis, to the phasor representing a sinusoidal input signal. { di'skrīb·iŋ ˌfəŋk·shən }

descriptor [COMPUT SCI] A word or phrase used to identify a document in a computer-based information storage and retrieval system. { di'skrip·tər }

desensitization [COMMUN] Reduction in receiver sensitivity due to the presence of a high-level off-channel signal overloading the radio-frequency amplifier or mixer stages, or causing automatic gain control action. { dē,sen·sə·tə'zā·shən }

deserialize [COMMUN] To convert a data stream from a serial stream of bits to parallel streams of bits. { dē'sir·ē·əˌlīz }

designation [COMPUT SCI] An item of data forming part of a computer record that indicates the type of record and thus determines how it is to be processed. { ˌdez·əg'nā·shən }

design-oriented system [COMPUT SCI] A computer system developed primarily to maximize performance of hardware and software, rather than ease of use. { di'zīn ˌōr·ē,ent·əd ˌsis·təm }

desk calculator [COMPUT SCI] A device that is used to perform arithmetic operations and is small enough to be conveniently placed on a desk. { ˌdesk 'kal·kyəˌlād·ər }

desk check *See* dry run. { 'desk ˌchek }

desktop [COMPUT SCI] In a graphical user interface, a screen on which frequently used software resources are represented by icons. { 'desk,täp }

desktop accessory software [COMPUT SCI] A set of computer programs providing functions that simulate the office accessories normally found on a desktop, such as a notepad, appointment calendar, and calculator. Also known as desktop application; desktop organizer. { ˌdesk,täp ik ˌses·ə·rē 'sȯf,wer }

desktop application *See* desktop accessory software. { ˌdesk,täp ˌap·lə'kā·shən }

desktop organizer *See* desktop accessory software. { ˌdesk,täp 'ȯr·gəˌnīz·ər }

desktop publishing [COMPUT SCI] The use of a personal computer to produce printed output of high quality that is camera-ready for a printing facility. { ˌdesk,täp 'pəb·lish·iŋ }

despooler [COMPUT SCI] Software that reads computer output information from a buffer and routes it to a printer. { dē'spül·ər }

despun antenna [ELECTROMAG] Satellite directional antenna pointed continuously at earth by electrically or mechanically despinning the antenna at the same rate that the satellite is spinning for stabilization. { dē'spən an'ten·ə }

destination [COMPUT SCI] The location (record, file, document, program, device, or disk) to which information is moved or copied. { ˌdes·tə'nā·shən }

destination address [COMPUT SCI] The location to which a jump instruction passes control in a program. { ˌdes·tə'nā·shən ə'dres }

destination time [COMPUT SCI] The time involved in a memory access plus the time required for indirect addressing. { ˌdes·tə'nā·shən ˌtīm }

destination warning mark *See* tape mark. { ˌdes·tə'nā·shən ˌwȯrn·iŋ ˌmärk }

destructive breakdown [ELECTR] Breakdown of the barrier between the gate and channel of a field-effect transistor, causing failure of the transistor. { di'strək·tiv 'brāk,daůn }

destructive memory *See* destructive readout memory. { di'strək·tiv 'mem·rē }

destructive read [COMPUT SCI] Reading that partially or completely erases the stored information as it is being read. { di'strək·tiv 'rēd }

destructive readout memory [COMPUT SCI] A memory type in which reading the contents of a storage location destroys the contents of that location. Also known as destructive memory. { di'strək·tiv 'rēd,aút ,mem·rē }

destructive testing [ENG] **1.** Intentional operation of equipment until it fails, to reveal design weaknesses. **2.** A method of testing a material that degrades the sample under investigation. { di'strək·tiv 'test·iŋ }

DETAB [COMPUT SCI] A programming language based on COBOL in which problems can be specified in the form of decision tables. Acronym for decision table. { 'dē,tab }

detachable plugboard [COMPUT SCI] A control panel that can be removed from the computer or other system and exchanged for another without altering the positions of the plugs and cords. Also known as removable plugboard. { di'tach·ə·bəl 'pləg,bȯrd }

detail chart [COMPUT SCI] A flow chart representing every single step of a program. { 'dē,tāl ,chärt }

detail file [COMPUT SCI] A file containing current or transient data used to update a master file or processed with the master file to obtain a specific result. Also known as transaction file. { 'dē,tāl ,fīl }

detailing *See* screening. { 'dē,tāl·iŋ }

detect *See* demodulate. { di'tekt }

detection [COMMUN] The recovery of information from an electrical or electromagnetic signal. { di'tek·shən }

detectivity [ELECTR] The normalized radiation power required to give a signal from a photoconductor that is equal to the noise. { ,dē ,tek'tiv·əd·ē }

detector [ELECTR] The stage in a receiver at which demodulation takes place; in a superheterodyne receiver this is called the second detector. Also known as demodulator; envelope detector. { di'tek·tər }

detector balanced bias [ELECTR] Controlling circuit used in radar systems for anticlutter purposes. { di'tek·tər ,bal·ənst 'bī·əs }

determinant [CONT SYS] The product of the partial return differences associated with the nodes of a signal-flow graph. { də'tər·mə·nənt }

deterministic algorithm *See* static algorithm. { də,tər·mə'nis·tik 'al·gə,rith·əm }

deterrence [COMPUT SCI] Making an attack on a computer sufficiently difficult to discourage potential attackers. { di'tər·əns }

detune [ELECTR] To change the inductance or capacitance of a tuned circuit so its resonant frequency is different from the incoming signal frequency. { dē'tün }

detuning stub [ELECTROMAG] Quarter-wave stub used to match a coaxial line to a sleeve-stub antenna; the stub detunes the outside of the coaxial feed line while tuning the antenna itself. { dē'tün·iŋ 'stəb }

deuterium discharge tube [ELECTR] A tube similar to a hydrogen discharge lamp, but with deuterium replacing the hydrogen; source of high-intensity ultraviolet radiation for spectroscopic microanalysis. { dü'tir·ē·əm 'dis,chärj ,tüb }

developer's toolkit [COMPUT SCI] A collection of program subroutines that are used to help write an application program in a particular programming language or with a particular operating system. { di'vel·əp·ərz 'tül,kit }

development system [COMPUT SCI] The computer and software that are used to create a computer program. { di'vel·əp·mənt ,sis·təm }

development tool [COMPUT SCI] A piece of hardware or software that is used to help design a computer or write a computer program. { di'vel·əp·mənt ,tül }

deviation [ENG] The difference between the actual value of a controlled variable and the desired value corresponding to the set point. { ,dēv·ē'ā·shən }

deviation absorption [COMMUN] Distortion in a frequency-modulated receiver due to inadequate bandwidth, inadequate amplitude-modulation rejection, or inadequate discriminator linearity. { ,dēv·ē'ā·shən əb,sȯrp·shən }

deviation ratio [COMMUN] Ratio of the maximum frequency deviation to the maximum modulating frequency of a frequency-modulated system under specified conditions. { ,dēv·ē'ā·shən ,rā·shō }

device [COMPUT SCI] A general-purpose term used, often indiscriminately, to refer to a computer component or the computer itself. [ELECTR] An electronic element that cannot be divided without destroying its stated function, commonly applied to active elements such as transistors and transducers. { di'vīs }

device address [COMPUT SCI] The binary code which corresponds to a unique device, referred to when selecting this specific device. { di'vīs ə'dres }

device assignment [COMPUT SCI] The use of a logical device number used in conjunction with an input/output instruction, and made to refer to a specific device. { di'vīs ə'sīn·mənt }

device cluster [COMPUT SCI] A collection of peripheral devices (usually terminals) that have a common control unit. { di'vīs ,kləs·tər }

device control character [COMPUT SCI] A special character used to direct a peripheral or communications device to perform a specific function. { di'vīs kən'trōl ,kar·ik·tər }

device dependence [COMPUT SCI] Property of a computer program that will operate only with specified hardware. { di 'vīs de,pen·dəns }

device driver [COMPUT SCI] A subroutine which handles a complete input/output operation. { di'vīs ,drīv·ər }

device-end condition [COMPUT SCI] The completion of an input/output operation, such as the transfer of a complete data block, recognized by the hardware in the absence of a byte count. { di'vīs ,end kən'dish·ən }

device end pending [COMPUT SCI] A hardware error in which a peripheral device does not respond when addressed by the central processing unit, usually because the device has become inoperative. { di'vīs 'end ,pend·iŋ }

device flag [COMPUT SCI] A flip-flop output which indicates the ready status of an input/output device. { di'vīs ˌflag }

device independence [COMPUT SCI] Property of a computer program whose successful execution (without recompilation) does not depend on the type of physical unit associated with a given logical unit employed by the program. { di'vīs ˌin·dəˈpen·dəns }

device-independent colors [COMPUT SCI] Colors produced by printers, monitors, and other output devices that have been modified to conform with a standard method of color description. { di¦vīs ˌin·dəˌpen·dənt 'kəl·ərz }

device-name assignment [COMPUT SCI] The designation of a peripheral device by a symbolic name rather than an address. { di'vīs ¦nām ə ˌsīn·mənt }

device number [COMPUT SCI] The physical or logical number which refers to a specific input/output device. { di'vīs ˌnəm·bər }

device selector [COMPUT SCI] A circuit which gates data-transfer or command pulses to a specific input/output device. { di'vīs si'lek·tər }

D flip-flop [ELECTR] A flip-flop whose output is a function of the input which appeared one pulse earlier. Also known as delay flip-flop. { ¦dē 'flip ˌfläp }

D-frame [COMMUN] A frame coded according to an MPEG-1 mode that uses dc (direct-current or zero-frequency) coefficients only. { 'dē ˌfrām }

DG synchro amplifier [ELECTR] Synchro differential generator driven by servosystem. { ¦dē¦jē ¦siŋ·krō 'am·pləˌfī·ər }

D-HEMT *See* depletion-mode HEMT.

diac *See* trigger diode. { 'dīˌak }

diactor [ELEC] Direct-acting automatic regulator for control of shunt generator voltage output. { dī'ak·tər }

diagnosis [COMPUT SCI] The process of locating and explaining detectable errors in a computer routine or hardware component. { ˌdī·əgˈnō·səs }

diagnostic check *See* diagnostic routine. { ˌdī·əgˈnäs·tik 'chek }

diagnostic message [COMPUT SCI] A statement produced automatically during some computer processing activity, such as program compilation, that provides information on the status of the computer or its software, particularly errors or potential problems. { ¦dī·əg¦näs·tik 'mes·ij }

diagnostic routine [COMPUT SCI] A routine designed to locate a computer malfunction or a mistake in coding. Also known as diagnostic check; diagnostic subroutine; diagnostic test; error detection routine. { ˌdī·əgˈnäs·tik rü'tēn }

diagnostics [ENG] Information on what tests a device has failed and how they were failed, used to aid in troubleshooting. { ˌdī·əgˈnäs·tiks }

diagnostic subroutine *See* diagnostic routine. { ˌdī·əgˈnäs·tik 'səb·rüˌtēn }

diagnostic test *See* diagnostic routine. { ˌdī·əgˈnäs·tik 'test }

diagnotor [COMPUT SCI] A combination diagnostic and edit routine which questions unusual situations and notes the implied results. { ˌdī·əgˈnōd·ər }

diagonal horn antenna [ELECTROMAG] Horn antenna in which all cross sections are square and the electric vector is parallel to one of the diagonals; the radiation pattern in the far field has almost perfect circular symmetry. { dī'ag·ən·əl 'hȯrn anˈten·ə }

diagram [COMPUT SCI] A schematic representation of a sequence of subroutines designed to solve a problem; it is a coarser and less symbolic representation than a flow chart, frequently including descriptions in English words. { 'dī·əˌgram }

dial [COMMUN] In automatic telephone switching, either a type of calling device that, when wound up and released, generates pulses required for establishing connections or a pushbutton array that, with associated electronics, generates dual-tone multifrequency (DTMF) signals. [ENG] A separate scale or other device for indicating the value to which a control is set. { dīl }

dial backup [COMMUN] A dial telephone line that can be used in case a point-to-point line fails, so that data transmission can continue. { 'dīl 'bakˌəp }

dial central office [COMMUN] Telephone or teletypewriter office where necessary automatic equipment is located for connecting two or more users together by wires for communications purposes. { ¦dīl ¦sen·trəl 'ȯf·əs }

dialect [COMPUT SCI] A version of a programming language that differs from other versions in some respects but generally resembles them. { 'dī·əˌlekt }

dial exchange [COMMUN] A telephone exchange area in which all subscribers originate their calls by dialing. { 'dīl iksˌchānj }

dialing key [COMMUN] Method of dialing in which a set of numerical keys is used to originate dial pulses instead of a dial; generally used in connection with voice-frequency dialing. { 'dī·liŋ ˌkē }

dial jacks [ELEC] Strip of jacks associated with and bridged to a regular out-going trunk jack circuit to provide a connection between the dial cords and the outgoing trunks. { 'dīl ˌjaks }

dial key [ELEC] Key unit of the subscriber's cord circuit used to connect the dial into the line. { 'dīl ˌkē }

dial lamp [ELEC] A small lamp used to illuminate a dial. { 'dīl ˌlamp }

dial leg [ELEC] Conductor in a circuit brought out for direct-current dial signaling. { 'dīl ˌleg }

dial office [COMMUN] Central office operating on dial signals. { 'dīl ˌȯf·əs }

dialog [COMPUT SCI] A form of data processing involving an interaction between a computer system and a terminal operator who uses a keyboard and electronic display to enter data which the computer edits and may respond to. { 'dī·əˌläg }

dialog box [COMPUT SCI] On a computer screen, a small window that is used to emphasize the importance of some action or to request an answer to a question. { 'dī·əˌläg ˌbäks }

dial pulse interpreter [ELECTR] A device that converts the signaling pulses of a dial telephone to a form suitable for data entry to a computer. { 'dīl ˌpəls in'tər·prəd·ər }

dial pulsing *See* loop pulsing. { 'dīl ˌpəls·iŋ }

dial telephone system [COMMUN] A telephone system in which telephone connections between customers are ordinarily established by electronic and mechanical apparatus, controlled by manipulations of dials operated by calling parties. { 'dīl 'tel·əˌfōn ˌsist·əm }

dial tone [COMMUN] A tone employed in a dial telephone system to indicate that the equipment is ready for dialing operation. { 'dīl ˌtōn }

dial-up [COMMUN] **1.** The service whereby a dial telephone can be used to initiate and effect station-to-station telephone calls. **2.** In computer networks, pertaining to terminals which must dial up to receive service, as contrasted with those hand-wired or permanently connected into the network. { 'dīl ˌəp }

dial-up telephone system [COMMUN] The switched telephone network that is regulated by national governments; operated in the United States by various carriers. { ¦dīl ˌəp 'tel·əˌfōn ˌsis·təm }

diamagnetic [ELECTROMAG] Having a magnetic permeability less than 1; materials with this property are repelled by a magnet and tend to position themselves at right angles to magnetic lines of force. { ¦dīəmag'ned·ik }

diamond antenna *See* rhombic antenna. { 'dī ˌmənd an'ten·ə }

diamond circuit [ELECTR] A gate circuit that provides isolation between input and output terminals in its off state, by operating transistors in their cutoff region; in the on state the output voltage follows the input voltage as required for gating both analog and digital signals, while the transistors provide current gain to supply output current on demand. { 'dī·mənd ˌsər·kət }

diaphragm [ELECTROMAG] *See* iris. [ENG ACOUS] A thin, flexible sheet that can be moved by sound waves, as in a microphone, or can produce sound waves when moved, as in a loudspeaker. { 'dī·əˌfram }

diaphragm horn [ENG ACOUS] A horn that produces sound by means of a diaphragm vibrated by compressed air, steam, or electricity. { 'dī·əˌfram ˌhȯrn }

diathermy interference [COMMUN] Television interference caused by diathermy equipment; produces a herringbone pattern in a dark horizontal band across the picture. { 'dī·əˌthər·mē ˌin·tər'fir·əns }

diathermy machine [ELECTR] A radio-frequency oscillator, sometimes followed by rf amplifier stages, used to generate high-frequency currents that produce heat within some part of the body for therapeutic purposes. { 'dī·əˌthər·mē mə ˌshēn }

dibit [COMPUT SCI] A pair of binary digits, used to specify one of four values. { 'dīˌbit }

di-cap storage [ELECTR] Device capable of holding data in the form of an array of charged capacitors and using diodes for controlling information flow. { 'dīˌkap 'stȯr·ij }

DICE *See* digital intercontinental conversion equipment.

dichotomizing search [COMPUT SCI] A procedure for searching an item in a set, in which, at each step, the set is divided into two parts, one part being then discarded if it can be logically shown that the item could not be in that part. { dī'käd·əˌmīz·iŋ ˌsərch }

dichotomy [COMPUT SCI] A division into two subordinate classes; for example, all white and all nonwhite, or all zero and all nonzero. { dī'käd·ə·mē }

dicing [ELECTR] Sawing or otherwise machining a semiconductor wafer into small squares, or dice, from which transistors and diodes can be fabricated. { 'dīs·iŋ }

Dicke radiometer [ELECTR] A radiometer-type receiver that detects weak signals in noise by modulating or switching the incoming signal before it is processed by conventional receiver circuits. { 'dik·əˌrād·ē'äm·əd·ər }

dictionary [COMPUT SCI] A table establishing the correspondence between specific words and their code representations. { 'dik·shəˌner·ē }

dictionary code [COMPUT SCI] An alphabetical arrangement of English words and terms, associated with their code representations. { 'dik·shə ˌner·ē ˌkōd }

dictionary encoding [COMPUT SCI] A method of data compression in which each word is replaced by a number which is the position of that word in a dictionary. { 'dik·shəˌner·ē in'kōd·iŋ }

dictionary sort [COMPUT SCI] A sort algorithm that ignores capitalization, punctuation, and spaces, and treats numbers as if they were spelled out alphabetically. { 'dik·shəˌner·ē ˌsȯrt }

die [ELECTR] The tiny, sawed or otherwise machined piece of semiconductor material used in the construction of a transistor, diode, or other semiconductor device; plural is dice. { dī }

dielectric *See* dieletric material. { ˌdī·ə'lek·trik }

dielectric absorption [ELEC] The persistence of electric polarization in certain dielectrics after removal of the electric field. { ˌdī·ə'lek·trik əb'sȯrp·shən }

dielectric amplifier [ELECTR] An amplifier using a ferroelectric capacitor whose capacitance varies with applied voltage so as to give signal amplification. { ˌdī·ə'lek·trik 'am·pləˌfī·ər }

dielectric antenna [ELECTROMAG] An antenna in which a dielectric is the major component used to produce a desired radiation pattern. { ˌdī·ə'lek·trik an'ten·ə }

dielectric breakdown [ELECTR] Breakdown which occurs in an alkali halide crystal at field strengths on the order of 10^6 volts per centimeter. { ˌdī·ə'lek·trik 'brākˌdaůn }

dielectric circuit [ELEC] Any electric circuit which has capacitors. { ˌdī·ə'lek·trik 'sər·kət }

dielectric constant [ELEC] **1.** For an isotropic medium, the ratio of the capacitance of a

capacitor filled with a given dielectric to that of the same capacitor having only a vacuum as dielectric. **2.** More generally, $1 + \gamma\chi$, where γ is 4π in Gaussian and cgs electrostatic units or 1 in rationalized mks units, and χ is the electric susceptibility tensor. Also known as relative dielectric constant; relative permittivity; specific inductive capacity (SIC). { ˌdī·ə'lek·trik 'kän·stənt }

dielectric crystal [ELEC] A crystal which is electrically nonconducting. { ˌdī·ə'lek·trik 'krist·əl }

dielectric current [ELEC] The current flowing at any instant through a surface of a dielectric that is located in a changing electric field. { ˌdī·ə'lek·trik 'kər·ənt }

dielectric displacement *See* electric displacement. { ˌdī·ə'lek·trik di'splās·mənt }

dielectric ellipsoid [ELEC] For an anisotropic medium in which the dielectric constant is a tensor quantity **K**, the locus of points **r** satisfying $\mathbf{r} \cdot \mathbf{K} \cdot \mathbf{r} = 1$. { ˌdī·ə'lek·trik ə'lip,sȯid }

dielectric fatigue [ELECTR] The property of some dielectrics in which resistance to breakdown decreases after a voltage has been applied for a considerable time. { ˌdī·ə'lek·trik fə'tēg }

dielectric field [ELEC] The average total electric field acting upon a molecule or group of molecules inside a dielectric. Also known as internal dielectric field. { ˌdī·ə'lek·trik 'fēld }

dielectric film [ELEC] A film possessing dielectric properties, used as the central layer of a capacitor. { ˌdī·ə'lek·trik 'film }

dielectric flux density *See* electric displacement. { ˌdī·ə'lek·trik 'fləks ˌden·səd·ē }

dielectric gas [ELEC] A gas having a high dielectric constant, such as sulfur hexafluoride. { ˌdī·ə'lek·trik 'gas }

dielectric heating [ELEC] Heating of a nominally electrical insulating material due to its own electrical (dielectric) losses, when the material is placed in a varying electrostatic field. { ˌdī·ə'lek·trik 'hēd·iŋ }

dielectric hysteresis *See* ferroelectric hysteresis. { ˌdī·ə'lek·trik hi·stə'rē·səs }

dielectric leakage [ELEC] A very small steady current that flows through a dielectric subject to a steady electric field. { ˌdī·ə'lek·trik 'lēk·ij }

dielectric lens [ELECTROMAG] A lens made of dielectric material so that it refracts radio waves in the same manner that an optical lens refracts light waves; used with microwave antennas. { ˌdī·ə'lek·trik 'lenz }

dielectric-lens antenna [ELECTROMAG] An aperture antenna in which the beam width is determined by the dimensions of a dielectric lens through which the beam passes. { ˌdī·ə¦lek·trik ¦lenz an'ten·ə }

dielectric loss [ELECTROMAG] The electric energy that is converted into heat in a dielectric subjected to a varying electric field. Also known as dielectric absorption. { ˌdī·ə'lek·trik 'lȯs }

dielectric loss angle [ELEC] difference between 90° and the dielectric phase angle. { ˌdī·ə'lek·trik 'lȯs ˌaŋ·gəl }

dielectric loss factor [ELEC] Product of the dielectric constant of a material and the tangent of its dielectric loss angle. { ˌdī·ə¦lek·trik ¦lȯs ˌfak·tər }

dielectric matching plate [ELECTROMAG] In waveguide technique, a dielectric plate used as an impedance transformer for matching purposes. { ˌdī·ə'lek·trik 'mach·iŋ ˌplāt }

dielectric material [MATER] Also known as dielectric. **1.** A material which is an electrical insulator or in which an electric field can be sustained with a minimum dissipation of power. **2.** In a more general sense, any material other than a condensed state of a metal. { ˌdī·ə'lek·trik mə¦tir·ē·əl }

dielectric phase angle [ELEC] Angular difference in phase between the sinusoidal alternating potential difference applied to a dielectric and the component of the resulting alternating current having the same period as the potential difference. { ˌdī·ə'lek·trik 'fāz ˌaŋ·gl }

dielectric polarization *See* polarization. { ˌdī·ə'lek·trik ˌpō·lə·rə'zā·shən }

dielectric power factor [ELEC] Cosine of the dielectric phase angle (or sine of the dielectric loss angle). { ˌdī·ə'lek·trik 'paůr ˌfak·tər }

dielectric-rod antenna [ELECTROMAG] A surface-wave antenna in which an end-fire radiation pattern is produced by propagation of a surface wave on a tapered dielectric rod. { ˌdī·ə¦lek·trik ¦räd an'ten·ə }

dielectric shielding [ELEC] The reduction of an electric field in some region by interposing a dielectric substance, such as polystyrene, glass, or mica. { ˌdī·ə'lek·trik 'shēld·iŋ }

dielectric strength [ELEC] The maximum electrical potential gradient that a material can withstand without rupture; usually specified in volts per millimeter of thickness. Also known as electric strength. { ˌdī·ə'lek·trik 'streŋkth }

dielectric susceptibility *See* electric susceptibility. { ˌdī·ə'lek·trik sə,sep·tə'bil·əd·ē }

dielectric test [ELEC] A test involving application of a voltage higher than the rated value for a specified time, to determine the margin of safety against later failure of insulating materials. { ˌdī·ə'lek·trik 'test }

dielectric waveguide [ELEC] A waveguide consisting of a dielectric cylinder surrounded by air. { ˌdī·ə'lek·trik 'wāv,gīd }

dielectric wedge [ELECTROMAG] A wedge-shaped piece of dielectric used in a waveguide to match its impedance to that of another waveguide. { dī·ə'lek·trik 'wej }

dielectric wire [ELECTROMAG] A dielectric waveguide used to transmit ultra-high-frequency raio waves short distances between parts of a circuit. { dī·ə'lek·trik 'wīr }

difference amplifier *See* differential amplifier. { 'dif·rəns ˌam·plə,fī·ər }

difference channel [ENG ACOUS] An audio channel that handles the difference between the

signals in the left and right channels of a stereophonic sound system. { 'dif·rəns ˌchan·əl }

difference detector [ELECTR] A detector circuit in which the output is a function of the difference between the amplitudes of the two input waveforms. { 'dif·rəns di'tek·tər }

difference encoding [COMPUT SCI] A method of data compression that takes advantage of a sequence of data that differs little from one value to the next by encoding each value as the difference from the previous value. { 'dif·rəns inˌkōd·iŋ }

difference equation [MATH] An equation expressing a functional relationship of one or more independent variables, one or more functions dependent on these variables, and successive differences of these functions. { 'dif·rəns i'kwā·zhən }

difference in depth modulation [COMMUN] In directive systems employing overlapping lobes with modulated signals, a ratio obtained by subtracting from the percentage of modulation of the larger signal the percentage of modulation of the smaller signal and dividing by 100. { 'dif·rəns 'in ¦depth ˌmäj·ə'lā·shən }

difference mapping [COMMUN] A method of coding information in which a sample value is presented as an error term formed by the difference between the sample and the previous sample. { 'dif·rəns ˌmap·iŋ }

differential [CONT SYS] The difference between levels for turn-on and turn-off operation in a control system. { ˌdif·ə'ren·chəl }

differential amplifier [ELECTR] An amplifier whose output is proportional to the difference between the voltages applied to its two inputs. Also called difference amplifier. { ˌdif·ə'ren·chəl 'am·pləˌfī·ər }

differential analyzer [COMPUT SCI] A mechanical or electromechanical device designed primarily to solve differential equations. { ˌdif·ə'ren·chəl 'an·əˌlīz·ər }

differential backup [COMPUT SCI] Backup of only files that have been changed or added since the last backup. { ˌdif·əˌren·chəl 'bakˌəp }

differential capacitance [ELECTR] The derivative with respect to voltage of a charge characteristic, such as an alternating charge characteristic or a mean charge characteristic, at a given point on the characteristic. { ˌdif·ə'ren·chəl kə'pas·əd·əns }

differential capacitor [ELEC] A two-section variable capacitor having one rotor and two stators so arranged that as capacitance is reduced in one section it is increased in the other. { ˌdif·ə'ren·chəl kə'pas·əd·ər }

differential comparator [ELECTR] A comparator having at least two high-gain differential-amplifier stages, followed by level-shifting and buffering stages, as required for converting a differential input to single-ended output for digital logic applications. { ˌdif·ə'ren·chəl kəm'par·əd·ər }

differential compound motor [ELEC] A direct-current motor whose speed may be made nearly constant or may be adjusted to increase with increasing load. { ˌdif·ə'ren·chəl 'käm,paund ˌmōd·ər }

differential delay [COMMUN] The difference between the maximum and minimum frequency delays occurring across a band. { ˌdif·ə'ren·chəl di'lā }

differential discriminator [ELECTR] A discriminator that passes only pulses whose amplitudes are between two predetermined values, neither of which is zero. { ˌdif·ə'ren·chəl di'skrim·əˌnād·ər }

differential duplex system [ELECTR] System in which the sent currents divide through two mutually inductive sections of a receiving apparatus, connected respectively to the line and to a balancing artificial line in opposite directions, so that there is substantially no net effect on the receiving apparatus; the received currents pass mainly through one section, or through the two sections in the same direction, and operate the apparatus. { ˌdif·ə'ren·chəl 'dü,pleks ˌsis·təm }

differential electromagnet [ELEC] An electromagnet having part of its winding opposed to the other part, so that the force exerted by the magnet can be adjusted. { ˌdif·ə'ren·chəl i ˌlek·trō'mag·nət }

differential encoding [COMMUN] A method of compressing television signals by transmitting only differences between pixels in neighboring lines and successive frames. { ˌdif·əˌren·chəl in'kōd·iŋ }

differential frequency circuit [ELEC] A circuit that provides a continuous output frequency equal to the absolute difference between two continuous input frequencies. { ˌdif·ə'ren·chəl ¦frē·kwən·sē ¦sər·kət }

differential frequency meter [ENG] A circuit that converts the absolute frequency difference between two input signals to a linearly proportional direct-current output voltage that can be used to drive a meter, recorder, oscilloscope, or other device. { ˌdif·ə'ren·chəl 'frē·kwən·sē ˌmēd·ər }

differential gain control [ELECTR] Device for altering the gain of a radio receiver according to expected change of signal level, to reduce the amplitude differential between the signals at the output of the receiver. Also known as gain sensitivity control. { ˌdif·ə'ren·chəl ˌgān kənˌtrōl }

differential galvanometer [ELEC] A galvanometer having a magnetic needle which is free to rotate in the magnetic field produced by currents flowing in opposite directions through two separate identical coils, so that there is no deflection when the currents are equal. { ˌdif·ə'ren·chəl ˌgal·və'näm·əd·ər }

differential game [CONT SYS] A two-sided optimal control problem. { ˌdif·ə'ren·chəl 'gām }

differential gap controller [CONT SYS] A two-position (on-off) controller that actuates when the manipulated variable reaches the high or low value of its range (differential gap). { ˌdif·ə'ren·chəl 'gap kənˌtrōl·ər }

differential generator [ELEC] A generator whose shunt and series windings are opposed to each other, to limit the maximum current. [ˌdif·ə'ren·chəl 'jen·əˌrād·ər]

differential input [ELECTR] Amplifier input circuit that rejects voltages that are the same at both input terminals and amplifies the voltage difference between the two input terminals. [ˌdif·ə'ren·chəl 'inˌpůt]

differential-input capacitance [ELECTR] The capacitance between the inverting and noninverting input terminals of a differential amplifier. [ˌdif·əˌren·chəl ˌinˌpůt kə'pas·əd·əns]

differential-input impedance [ELECTR] The impedance between the inverting and noninverting input terminals of a differential amplifier. [ˌdif·əˌren·chəl ˌinˌpůt im'ped·əns]

differential-input measurement [ELECTR] A measurement in which the two inputs to a differential amplifier are connected to two points in a circuit under test and the amplifier displays the difference voltage between the points. [ˌdif·əˌren·chəl ˌinˌpůt 'mezh·ər·mənt]

differential-input resistance [ELECTR] The resistance between the inverting and noninverting input terminals of a differential amplifier. [ˌdif·əˌren·chəl ˌinˌpůt ri'zis·təns]

differential-input voltage [ELECTR] The maximum voltage that can be applied across the input terminals of a differential amplifier without causing damage to the amplifier. [ˌdif·əˌren·chəl ˌinˌpůt 'vōlˌtij]

differential instrument [ENG] Galvanometer or other measuring instrument having two circuits or coils, usually identical, through which currents flow in opposite directions; the difference or differential effect of these currents actuates the indicating pointer. [ˌdif·ə'ren·chəl 'in·strə·mənt]

differential keying [ELECTR] Method for obtaining chirp-free break-in keying of continuous wave transmitters by using circuitry that arranges to have the oscillator turn on fast before the keyed amplifier stage can pass any signal, and turn off fast after the keyed amplifier stage has cut off. [ˌdif·ə'ren·chəl 'kē·iŋ]

differentially coherent phase-shift keying *See* differential phase-shift keying. [ˌdif·ə'ren·chə·lē kō'hir·ənt 'fāz ˌshift ˌkē·iŋ]

differential microphone *See* double-button microphone. [ˌdif·ə'ren·chəl 'mī·krəˌfōn]

differential-mode gain [ELECTR] The ratio of the output voltage of a differential amplifier to the differential-mode input voltage. [ˌdif·əˌren·chəl ˌmōd ˌgān]

differential-mode input [ELECTR] The voltage difference between the two inputs of a differential amplifier. [ˌdif·əˌren·chəl ˌmōd ˌinˌpůt]

differential-mode signal [ELECTR] A signal that is applied between the two ungrounded terminals of a balanced three-terminal system. [ˌdif·əˌren·chəl ˌmōd ˌsig·nəl]

differential modulation [COMMUN] Modulation in which the choice of the significant condition for any signal element is dependent on the choice for the previous signal element. [ˌdif·ə'ren·chəl ˌmäj·ə'lā·shən]

differential motor [ELEC] A direct-current motor whose shunt and series field windings oppose each other to produce a constant speed. [ˌdif·ə'ren·chəl 'mōd·ər]

differential operational amplifier [ELECTR] An amplifier that has two input terminals, used with additional circuit elements to perform mathematical functions on the difference in voltage between the two input signals. [ˌdif·ə'ren·chəl äp·ə'rā·shən·əl 'am·pləˌfī·ər]

differential output voltage [ELECTR] The difference between the values of two ac voltages, 180° out of phase, present at the output terminals of an amplifier when a differential input voltage is applied to the input terminals of the amplifier. [ˌdif·ə'ren·chəl 'aůtˌpůt ˌvōl·tij]

differential phase [ELECTR] Difference in output phase of a small high-frequency sine-wave signal at two stated levels of a low-frequency signal on which it is superimposed in a video transmission system. [ˌdif·ə'ren·chəl 'fāz]

differential phase-shift keying [COMMUN] Form of phase-shift keying in which the reference phase for a given keying interval is the phase of the signal during the preceding keying interval. Also known as differentially coherent phase-shift keying. [ˌdif·ə'ren·chəl 'fāz ˌshift ˌkē·iŋ]

differential-pressure pickup [ELEC] An instrument that measures the difference in pressure between two pressure sources and translates this difference into a change in inductance, resistance, voltage, or some other electrical quality. [ˌdif·əˌren·chəl 'preshˌər ˌpikˌəp]

differential pulse-code modulation [COMMUN] A type of pulse-code modulation in which an analog signal is sampled and the difference between its actual value and its predicted value, based on a previous sample or samples, is quantized; for example, in television transmission, only the differences between the continuous picture elements on the scanning lines are transmitted, enabling the bandwidth of the signal to be reduced. Abbreviated DPCM. [dif·ə'ren·chəl 'pəls ˌkōd ˌmäj·ə'lā·shən]

differential relay [ELEC] A two-winding relay that operates when the difference between the currents in the two windings reaches a predetermined value. [ˌdif·ə'ren·chəl 'rēˌlā]

differential selsyn [ELEC] Selsyn in which both rotor and stator have similar windings that are spread 120° apart; position of the rotor corresponds to the algebraic sum of the fields produced by the stator and rotor. [ˌdif·ə'ren·chəl 'sel·sən]

differential signal [ELECTR] In a circuit, a signal that is the voltage difference between two nodes, neither of which is at ground potential. Also known as floating signal. [ˌdif·ə'ren·chəl 'sig·nəl]

differential stage [ELECTR] A symmetrical amplifier stage with two inputs balanced against each other so that with no input signal or equal input signals, no output signal exists, while a signal

to either input, or an input signal unbalance, produces an output signal proportional to the difference. { ˌdif·əˈren·chəl ˈstā| }

differential synchro *See* synchro differential receiver; synchro differential transmitter. { ˌdif·əˈren·chəl ˈsiŋ·krō }

differential transducer |ELEC| A transducer that simultaneously senses two separate sources and provides an output proportional to the difference between them. { ˌdif·əˈren·chəl tranzˈdü·sər }

differential transformer |ELEC| A transformer used to join two or more sources of signals to a common transmission line. { ˌdif·əˈren·chəl tranzˈfȯr·mər }

differential-transformer transducer |ELEC| A transducer in which movement of the iron core of a transformer varies the output voltage across two series-opposing secondary windings. { ˌdif·əˌren·chəl tranzˌfȯr·mər tranzˈdü·sər }

differential voltage gain |ELECTR| Ratio of the change in output signal voltage at either terminal, or in a differential device, to the change in signal voltage applied to either input terminal, all voltages being measured to common reference. { ˌdif·əˌren·chəl ˈvōl·tij ˌgān }

differential voltmeter |ELEC| A voltmeter that measures only the difference between a known voltage and an unknown voltage. { ˌdif·əˈren·chəl ˈvōltˌmēd·ər }

differential winding |ELEC| A winding whose magnetic field opposes that of a nearby winding. { ˌdif·əˈren·chəl ˈwīnd·iŋ }

differential wound field |ELEC| Type of motor or generator field having both series and shunt coils that are connected to oppose each other. { ˌdif·əˌren·chəl ˌwaünd ˈfēld }

differentiating circuit |ELEC| A circuit whose output voltage is proportional to the rate of change of the input voltage. Also known as differentiating network. { ˌdif·əˌren·chēˌād·iŋ ˌsər·kət }

differentiating network *See* differentiating circuit. { ˌdif·əˌren·chēˌād·iŋ ˈnetˌwərk }

differentiator |ELECTR| A device whose output function is proportional to the derivative, or rate of change, of the input function with respect to one or more variables. { ˌdif·əˈren·chēˌād·ər }

diffractional pulse-height discriminator *See* pulse-height selector. { diˈfrak·shən·əl ˈpəls ˌhīt diˈskrim·əˌnād·ər }

diffused-alloy transistor |ELECTR| A transistor in which the semiconductor wafer is subjected to gaseous diffusion to produce a nonuniform base region, after which alloy junctions are formed in the same manner as for an alloy-junction transistor; it may also have an intrinsic region, to give a *pnip* unit. Also known as drift transistor. { dəˌfyüzd ˈalˌȯi tranˈzis·tər }

diffused-base transistor |ELECTR| A transistor in which a nonuniform base region is produced by gaseous diffusion; the collector-base junction is also formed by gaseous diffusion, while the emitter-base junction is a conventional alloy junction. { dəˌfyüzd ˌbās tranˈzis·tər }

diffused emitter-collector transistor |ELECTR| A transistor in which both the emitter and collector are produced by diffusion. { dəˌfyüzd iˈmid·ər kəˈlek·tər tranˈzis·tər }

diffused junction |ELECTR| A semiconductor junction that has been formed by the diffusion of an impurity within a semiconductor crystal. { dəˈfyüzd ˈjəŋk·shən }

diffused-junction rectifier |ELECTR| A semiconductor diode in which the *pn* junction is produced by diffusion. { dəˌfyüzd ˌjəŋk·shən ˈrek·təˌfī·ər }

diffused-junction transistor |ELECTR| A transistor in which the emitter and collector electrodes have been formed by diffusion by an impurity metal into the semiconductor wafer without heating. { dəˌfyüzd ˌjəŋk·shən tranˈzis·tər }

diffused mesa transistor |ELECTR| A diffused-junction transistor in which an *n*-type impurity is diffused into one side of a *p*-type wafer; a second *pn* junction, required for the emitter, is produced by alloying or diffusing a *p*-type impurity into the newly formed *n*-type surface; after contacts have been applied, undesired diffused areas are etched away to create a flat-topped peak called a mesa. { dəˌfyüzd ˌmā·sə tranˈzis·tər }

diffused resistor |ELECTR| An integrated-circuit resistor produced by a diffusion process in a semiconductor substrate. { dəˈfyüzd riˈzis·tər }

diffusion |ELECTR| A method of producing a junction by difusing an impurity metal into a semiconductor at a high temperature. { dəˈfyü·zhən }

diffusion capacitance |ELECTR| The rate of change of stored minority-carrier charge with the voltage across a semiconductor junction. { dəˈfyü·zhən kəˈpas·əd·əns }

diffusion theory |ELEC| The theory that in semiconductors, where there is a variation of carrier concentration, a motion of the carriers is produced by diffusion in addition to the drift determined by the mobility and the electric field. { dəˈfyü·zhən ˌthē·ə·rē }

diffusion transistor |ELECTR| A transistor in which current flow is a result of diffusion of carriers, donors, or acceptors, as in a junction transistor. { dəˈfyü·zhən tranˌzis·tər }

digicom |COMMUN| A wire communication system that transmits speech signals in the form of corresponding trains of pulses and transmits digital information directly from computers, radar, tape readers, teleprinters, and telemetering equipment. { ˈdij·əˌkäm }

digicon |ELECTR| An image tube in which the image produced by electrons from the photocathode is focused directly on a silicon diode array and each incoming photoelectron produces an electrical pulse that is amplified and recorded. { ˈdij·əˌkän }

digit |COMPUT SCI| In a decimal digital computer, the space reserved for storage of one digit of information. { ˈdij·ət }

digit absorbing selector |ELECTR| Dial switch arranged to set up and then fall back on the first one of two digits dialed; it then operates on the next digit dialed. { ˈdij·ət əbˌsȯrb·iŋ siˈlek·tər }

digital |COMPUT SCI| Pertaining to data in the form of digits. { ˈdij·əd·əl }

digital audio broadcasting [COMMUN] The radio broadcasting of audio signals encoded in digital form. Abbreviated DAB. { ¦dij·əd·əl ¦ȯd·ē·ō 'brȯd,kast·iŋ }

digital audio tape [COMPUT SCI] A magnetic tape on which sound is recorded and played back in digital form. Abbreviated DAT. { ¦dij·əd·əl 'ȯd·ē·ō ˌtāp }

digital camera [ELECTR] A television camera that breaks up a picture into a fixed number of pixels and converts the light intensity (or the intensities of each of the primary colors) in each pixel to one of a finite set of numbers. { 'dij·əd·əl 'kam·rə }

digital channel [COMMUN] A transmission path that carries only digital signals. { 'dij·əd·əl 'chan·əl }

digital circuit [ELECTR] A circuit designed to respond at input voltages at one of a finite number of levels and, similarly, to produce output voltages at one of a finite number of levels. { 'dij·əd·əl 'sər·kət }

digital circuit multiplication equipment [COMMUN] Equipment that uses digital compression techniques to increase the capacity of digital satellite and cable links carrying voice, facsimile, and voice-frequency modem traffic. { ˌdij·əd·əl ˌsər·kət ˌməl·tə·plə'kā·shən i,kwip·mənt }

digital communications [COMMUN] System of telecommunications employing a nominally discontinuous signal that changes in frequency, amplitude, time, or polarity. { 'dij·əd·əl kə,myü·nə'kā·shənz }

digital comparator [ELECTR] A comparator circuit operating on input signals at discrete levels. Also known as discrete comparator. { 'dij·əd·əl kəm'par·əd·ər }

digital computer [COMPUT SCI] A computer operating on discrete data by performing arithmetic and logic processes on these data. { 'dij·əd·əl kəm'pyüd·ər }

digital control [CONT SYS] The use of digital or discrete technology to maintain conditions in operating systems as close as possible to desired values despite changes in the operating environment. { 'dij·əd·əl kən'trōl }

digital converter [ELECTR] A device that converts voltages to digital form, examples include analog-to-digital converters, pulse-code modulators, encoders, and quantizing encoders. { 'dij·əd·əl kən'vərd·ər }

digital counter [ELECTR] A discrete-state device (one with only a finite number of output conditions) that responds by advancing to its next output condition. { 'dij·əd·əl 'kaunt·ər }

digital data [COMPUT SCI] Data that are electromagnetically stored in the form of discrete digits. { 'dij·əd·əl 'dad·ə }

digital data modulation system [COMMUN] A digital communications system in which the information source consists of a finite number of discrete messages which are coded into a sequence of waveforms or symbols, each one selected from a specified and finite set. { 'dij·əd·əl 'dad·ə ˌmäj·ə'lā·shən ˌsis·təm }

digital data recorder [COMPUT SCI] Electronic device that converts continuous electrical analog signals into number (digital) values and records these values onto a data log via a high-speed typewriter. { 'dij·əd·əl ¦dad·ə ri,kȯrd·ər }

digital data service [COMMUN] A telephone communication system developed specifically for digital data, using existing local digital lines combined with data-under-voice microwave transmission facilities. Abbreviated DDS. { 'dij·əd·əl 'dad·ə ˌsər·vəs }

digital delayer [ENG ACOUS] A device for introducing delay in the audio signal in a sound-reproducing system, which converts the audio signal to digital format and stores it in a digital shift register before converting it back to analog form. { 'dij·əd·əl di'lā·ər }

digital delay generator [ELECTR] A high-precision adjustable time-delay generator in which delays may be selected in increments such as 1, 10, or 100 nanoseconds by means of panel switches and sometimes by remote programming. { 'dij·əd·əl di¦lā jen·ə'rād·ər }

digital differential analyzer [COMPUT SCI] A differential analyzer which uses numbers to represent analog quantities. Abbreviated DDA. { 'dij·əd·əl ˌdif·ə,ren·chəl 'an·əˌlīz·ər }

digital display [COMPUT SCI] A display in which the result is indicated in directly readable numerals. { 'dij·əd·əl di'splā }

Digital Electronic Message Service [COMMUN] A communication system whose purpose is to provide efficient means for two-way high-speed data communications, transfer of graphic images (fascimile), and teleconferencing between cities and within a city environment. Abbreviated DEMS. { 'dij·əd·əl i,lek'trän·ik 'mes·ij ˌsər·vəs }

digital filter [ELECTR] An electrical filter that responds to an input which has been quantified, usually as pulses. { 'dij·əd·əl 'fil·tər }

digital format [COMPUT SCI] Use of discrete integral numbers in a given base to represent all the quantities that occur in a problem or calculation. { 'dij·əd·əl 'fȯr·mat }

digital frequency meter [ELECTR] A frequency meter in which the value of the frequency being measured is indicated on a digital display. { 'dij·əd·əl 'frē·kwən·sē ˌmēd·ər }

digital incremental plotter [COMPUT SCI] A device for converting digital signals in the output of a computer into graphical form, in which the digital signals control the motion of a plotting pen and of a drum that carries the paper on which the graph is drawn. { 'dij·əd·əl ˌiŋ·krə,ment·əl 'plād·ər }

digital integrator [COMPUT SCI] A device for computing definite integrals in which increments in the input variables and output variable are represented by digital signals. { 'dij·əd·əl 'in·tə ˌgrād·ər }

digital intercontinental conversion equipment [ELECTR] Equipment which uses pulse-code modulation to convert a 525-line, 60-frame-per-second television signal used in the United

States into a 625-line, 50-frame-per-second phase-alternation line signal used in Europe; the 525-line signal is sampled and quantized into a pulse-code modulation signal which is stored in shift registers from which the phase-alternation line signal is read out. Abbreviated DICE. { 'dij·əd·əl ˌin·tərˌkänt·ən'ent·əl kən'vər·zhən iˌkwip·mənt }

digital loop carrier [COMMUN] A technology for providing 24 or more telephone circuits on many fewer pairs of wires, in which analog input signals are first sampled and digitized, and the binary digital signals from each user is then time-multiplexed into a single bit stream. { 'dij·əd·əl 'lüp ˌkar·ē·ər }

digital message entry system [ELECTR] A system that encodes formatted messages in digital form; it enters the encoded digital information into a voice communications transceiver by frequency shift techniques. { ¦dij·əd·əl ¦mes·ij 'en·trē ˌsis·təm }

digital microwave radio [COMMUN] Transmission of voice and data signals in digital form on microwave links, as in the 2-gigahertz common-carrier bands; pulse-code modulation is used. { ¦dij·əd·əl ¦mī·krōˌwāv 'rād·ē·ō }

digital modulation [COMMUN] A method of placing digital traffic on a microwave system without use of modems, by transmitting the information in the form of discrete phase or frequency states determined by the digital signal. { 'dij·əd·əl ˌmäj·ə'lā·shən }

digital monitor [ELECTR] A display unit that accepts digital signals and converts them to analog signals internally in order to illuminate the screen. { 'dij·əd·əl 'män·əd·ər }

Digital Multiplexed Interface [COMPUT SCI] A cost-effective, high-speed interconnection between terminals and host computers in a private branch exchange environment. { 'dij·əd·əl 'məl·tə‚plekst 'in·tərˌfās }

digital multiplier [ELECTR] A multiplier that accepts two numbers in digital form and gives their product in the same digital form, usually by making repeated additions; the multiplying process is simpler if the numbers are in binary form wherein digits are represented by a 0 or 1. { 'dij·əd·əl 'məl·təˌplī·ər }

digital object identifier [COMPUT SCI] A system for identifying and exchanging intellectual properties (including, for example, physical objects as well as digital files) in the digital environment. { ¦dij·əd·əl ¦äb‚jekt ī'den·təˌfī·ər }

digital output [ELECTR] An output signal consisting of a sequence of discrete quantities coded in an appropriate manner for driving a printer or digital display. { 'dij·əd·əl 'aütˌpüt }

digital phase shifter [ELECTR] Device which provides a signal phase shift by the application of a control pulse; a reversal or phase shift requires a control pulse of opposite polarity. { 'dij·əd·əl 'fāz ˌshif·tər }

digital plotter [ELECTR] A recorder that produces permanent hard copy in the form of a graph from digital input data. { 'dij·əd·əl 'pläd·ər }

digital printer [COMPUT SCI] A printer that provides a permanent readable record of binary-coded decimal or other coded data in a digital form that may include some or all alphanumeric characters and special symbols along with numerals. Also known as digital recorder. { 'dij·əd·əl 'print·ər }

digital private automatic branch exchange [COMMUN] A central communications switching system for a local-area network, which employs existing telephone wires in a building for the connection of telephones and computer terminals and systems. { 'dij·əd·əl ¦prīv·ət ¦ȯd·ə¦mad·ik 'branch iksˌchānj }

digital radio [COMMUN] The microwave transmission of digital signals through space or the atmosphere. { ¦dij·əl·əl 'rād·ē·ō }

digital recorder *See* digital printer. { 'dij·əd·əl ri'kȯrd·ər }

digital recording [ELECTR] Magnetic recording in which the information is first coded in a digital form, generally with a binary code that uses two discrete values of residual flux. { 'dij·əd·əl ri'kȯrd·iŋ }

digital representation [COMPUT SCI] The use of discrete impulses or quantities arranged in coded patterns to represent variables or other data in the form of numbers or characters. { 'dij·əd·əl ˌrep·rəˌzen'tā·shən }

digital resolution [COMPUT SCI] The ability of a digital computer to approach a truly correct answer, generally established by the number of places expressed, and the value of the least significant digit in a digitally coded representation. { 'dij·əd·əl ˌrez·ə'lü·shən }

digital set-top box [COMMUN] A device that is attached to a television receiver and can collect, store, and output digitally compressed television signals. { ˌdij·əd·əl 'set‚täp ˌbäks }

digital signal analyzer [ELECTR] A signal analyzer in which one or more analog inputs are sampled at regular intervals, converted to digital form, and fed to a memory. { 'dij·əd·əl 'sig·nəl ˌan·əˌlīz·ər }

digital signal processing *See* signal processing. { ˌdij·əd·əl ˌsig·nəl 'prä·səs·iŋ }

digital signal processing chip [COMPUT SCI] A digital device for executing algorithms for the transformation or extraction of information from signals originally in analog form, such as audio or images. Abbreviated DSP chip. Also known as digital signal processor. { ˌdij·əd·əl ˌsig·nəl 'prä·səs·iŋ ˌchip }

digital signal processor *See* digital signal processing chip. { ˌdij·əd·əl 'sig·nəl ˌprä‚ses·ər }

digital signature [COMMUN] A set of alphabetic or numeric characters used to authenticate a cryptographic message by ensuring that the sender cannot later disavow the message, the receiver cannot forge the message or signature, and the receiver can prove to others that the contents of the message are genuine and originated with the sender. { 'dij·əd·əl 'sig·nə·chər }

digital simulation [COMPUT SCI] The representation of a system in a form acceptable to a digital

computer as opposed to an analog computer. { 'dij·əd·əl ,sim·yə'lā·shən }

digital speech communications [COMMUN] Transmission of voice in digitized or binary form via landline or radio. { 'dij·əd·əl 'spēch kə ,myün·ə,kā·shənz }

digital speech interpolation [COMMUN] In digital speech communications, the use of periods of inactivity or constant signal level to increase the transmission efficiency by insertion of additional signals. Abbreviated DSI. { ,dij·əd·əl 'spēch ,in·tər·pə,lā·shən }

digital subscriber line [COMMUN] A system that provides subscribers with continuous, uninterrupted connections to the Internet over existing telephone lines, offering a choice of speeds ranging from 32 kilobits per second to more than 50 megabits per second. Abbreviated DSL. { ¦dij·əd·əl səb'skrīb·ər ,līn }

digital synchronometer [ELECTR] A time comparator that provides a direct-reading digital display of time with high precision by making accurate comparisons between its own digital clock and high-accuracy time transmissions from radio station WWV or a loran C station. { 'dij·əd·əl ,siŋ·krə'näm·əd·ər }

digital system [COMPUT SCI] Any of the levels of operation for a digital computer, including the wires and mechanical parts, the logical elements, and the functional units for reading, writing, storing, and manipulating information. { 'dij·əd·əl 'sis·təm }

digital telemetering [COMPUT SCI] Conversion of a continuous electrical analog signal into a digital (number system) code prior to transmitting the signal to a receiver. { 'dij·əd·əl ¦tel·ə¦mēd·ər·iŋ }

digital television [COMMUN] Television in which picture information is encoded into digital signals on the transmitter, and decoded at the receiver. Abbreviated DTV. { 'dij·əd·əl 'tel·ə ,vizh·ən }

digital television converter [ELECTR] A converter used to convert television programs from one system to another, such as for converting 525-line 60-field United States broadcasts to 625-line 50-field European PAL (phase-alternation line) or SECAM (sequential couleur á memoire) standards; the video signal is digitized before conversion. { 'dij·əd·əl ¦tel·ə,vizh·ən kən'vərd·ər }

digital-to-analog converter [ELECTR] A converter in which digital input signals are changed to essentially proportional analog signals. Abbreviated DAC. { 'dij·əd·əl tü ¦an·ə,läg kən'vərd·ər }

digital-to-synchro converter [ELECTR] A converter that changes binary-coded decimal or other digital input data to a three-wire synchro output signal representing corresponding angular data. { ¦dij·əd·əl tü ¦siŋ·krō kən'vərd·ər }

digital transducer [ELECTR] A transducer that measures physical quantities and transmits the information as coded digital signals rather than as continuously varying currents or voltages. { 'dij·əd·əl tranz'dü·sər }

digital versatile disk *See* DVD. { ¦dij·əd·əl 'vər·səd·əl ,disk }

digital video disk *See* DVD. { ¦dij·əd·əl 'vid·ē·ō ,disk }

digital voltmeter [ELECTR] A voltmeter in which the unknown voltage is compared with an internally generated analog voltage, the result being indicated in digital form rather than by a pointer moving over a meter scale. { 'dij·əd·əl 'vōlt ,mēd·ər }

digital watermark [COMPUT SCI] Invisible or inaudible data (a random pattern of bits or noise) permanently embedded in a graphic, video, or audio file for protecting copyright or authenticating data. { ,dij·əd·əl 'wȯd·ər,märk }

digit-coded voice [COMPUT SCI] A limited, spoken vocabulary, each word of which corresponds to a code and which, upon keyed inquiry, can be strung in meaningful sequence and can be outputted as audio response to the inquiry. { 'dij·ət ,kōd·əd 'vȯis }

digit compression [COMPUT SCI] Any process which increases the number of digits stored at a given location. { 'dij·ət kəm'presh·ən }

digit delay element [ELECTR] A logic element that introduces a delay of one digit period in a series of signals or pulses. { 'dij·ət di'lā ,el·ə·mənt }

digitize [COMPUT SCI] To convert an analog measurement of a quantity into a numerical value. { 'dij·ə,tīz }

digitizer [COMPUT SCI] A large drawing table connected to a computer video display and equipped with a penlike or pucklike instrument whose motions are reproduced on the screen. Also known as digitizer tablet. { 'dij·ə,tīz·ər }

digitizer tablet *See* digitizer. { 'dij·ə,tīz·ər ,tab·lət }

digit period [ELECTR] The time interval between successive pulses, usually representing binary digits, in a computer or in pulse modulation, determined by the pulse-repetition frequency. Also known as digit time. { 'dij·ət ,pir·ē·əd }

digit plane [COMPUT SCI] In a computer memory consisting of magnetic cores arranged in a three-dimensional array, a plane containing elements for a particular digit position in various words. { 'dij·ət ,plān }

digit pulse [ELECTR] An electrical pulse which induces a magnetizing force in a number of magnetic cores in a computer storage, all corresponding to a particular digit position in a number of different words. { 'dij·ət ,pəls }

digit rearrangement [COMPUT SCI] A method of hashing which consists of selecting and shifting digits of the original key. { 'dij·ət ,rē·ə'rānj·mənt }

digit time *See* digit period. { 'dij·ət ,tīm }

digram encoding [COMPUT SCI] A method of data compression that relies on the fact that there are unused characters in the alphabet and uses these characters to represent common pairs of characters. { 'dī,gram in,kōd·iŋ }

diheptal base [ELECTR] A tube base having 14 pins or 14 possible pin positions; used chiefly on television cathode-ray tubes. { dī'hept·əl 'bās }

dimension [COMPUT SCI] A declarative statement that specifies the width and height of an array of data items. { də'men·chən }

dimension declaration statement [COMPUT SCI] A FORTRAN statement identifying arrays and specifying the number and bounds of the subscripts. { də'men·chən·əl dek·lə'rā·shən ˌstāt·mənt }

diminution [COMPUT SCI] Limiting the negative effect of an attack on a computer system. { ˌdim·ə'nü·shən }

DIMM [COMPUT SCI] A small circuit board that holds semiconductor memory chips with two independent rows of input/output contacts. Derived from dual in-line memory module.

dimmer [ELEC] An electrical or electronic control for varying the intensity of a lamp or other light source. { 'dim·ər }

dina [ELECTR] An airborne radar-jamming transmitter operating in the band from 92 to 210 megahertz with an output of 30 watts, radiating noise in one side band for spot or barrage jamming; the carrier and the other side band are suppressed. { 'dī·nə }

D-indicator *See* D-display. { 'dē ˌin·dəˌkād·ər }

diode [ELECTR] **1.** A two-electrode electron tube containing an anode and a cathode. **2.** *See* semiconductor diode. { 'dīˌōd }

diode alternating-current switch *See* trigger diode. { 'dīˌōd ¦ól·tərˌnād·iŋ ¦kər·ənt ˌswich }

diode amplifier [ELECTR] A microwave amplifier using an IMPATT, TRAPATT, or transferred-electron diode in a cavity, with a microwave circulator providing the input/output isolation required for amplification; center frequencies are in the gigahertz range, from about 1 to 100 gigahertz, and power outputs are up to 20 watts continuous-wave or more than 200 watts pulsed, depending on the diode used. { 'dīˌōd 'am·plə ˌfī·ər }

diode bridge [ELECTR] A series-parallel configuration of four diodes, whose output polarity remains unchanged whatever the input polarity. { 'dīˌōd ˌbrij }

diode-capacitor transistor logic [ELECTR] A circuit that uses diodes, capacitors, and transistors to provide logic functions. { ¦dīˌōd kə¦pas·əd·ər tran'zis·tər ˌläj·ik }

diode characteristic [ELECTR] The composite electrode characteristic of an electron tube when all electrodes except the cathode are connected together. { 'dīˌōd ˌkar·ik·tə·'ris·tik }

diode clamp *See* diode clamping circuit. { 'dīˌōd ˌklamp }

diode clamping circuit [ELECTR] A clamping circuit in which a diode provides a very low resistance whenever the potential at a certain point rises above a certain value in some circuits or falls below a certain value in others. Also known as diode clamp. { ¦dīˌōd 'klamp·iŋ ˌsər·kət }

diode clipping circuit [ELECTR] A clipping circuit in which a diode is used as a switch to perform the clipping action. { ¦dīˌōd 'klip·iŋ ˌsər·kət }

diode-connected transistor [ELECTR] A bipolar transistor in which two terminals are shorted to give diode action. { 'dīˌōd kə¦nek·təd tran'zis·tər }

diode demodulator [ELECTR] A demodulator using one or more diodes to provide a rectified output whose average value is proportional to the original modulation. Also known as diode detector. { 'dīˌōd dē'mäj·əˌlād·ər }

diode detector *See* diode demodulator. { 'dīˌōd di'tek·tər }

diode drop *See* diode forward voltage. { 'dīˌōd ˌdräp }

diode forward voltage [ELECTR] The voltage across a semiconductor diode that is carrying current in the forward direction; it is usually approximately constant over the range of currents commonly used. Also known as diode drop; diode voltage; forward voltage drop. { 'dīˌōd ¦fȯr·wərd 'vōl·tij }

diode function generator [ELECTR] A function generator that uses the transfer characteristics of resistive networks containing biased diodes; the desired function is approximated by linear segments. { 'dīˌōd 'feŋk·shən ˌjen·əˌrād·ər }

diode gate [ELECTR] An AND gate that uses diodes as switching elements. { 'dīˌōd ˌgāt }

diode laser *See* semiconductor laser. { 'dīˌōd ˌlāz·ər }

diode limiter [ELECTR] A peak-limiting circuit employing a diode that becomes conductive when signal peaks exceed a predetermined value. { ˌdīˌōd 'lim·əd·ər }

diode logic [ELECTR] An electronic circuit using current-steering diodes, such that the relations between input and output voltages correspond to AND or OR logic functions. { 'dīˌōd ˌläj·ik }

diode matrix [ELECTR] A two-dimensional array of diodes used for a variety of purposes such as decoding and read-only memory. { 'dīˌōd ˌmā·triks }

diode mixer [ELECTR] A mixer that uses a crystal or electron tube diode; it is generally small enough to fit directly into a radio-frequency transmission line. { 'dīˌōd ˌmik·sər }

diode modulator [ELECTR] A modulator using one or more diodes to combine a modulating signal with a carrier signal; used chiefly for low-level signaling because of inherently poor efficiency. { 'dīˌōd 'mäj·əˌlād·ər }

diode pack [ELECTR] Combination of two or more diodes integrated into one solid block. { dīˌōd ˌpak }

diode peak detector [ELECTR] Diode used in a circuit to indicate when peaks exceed a predetermined value. { 'dīˌōd 'pēk diˌtek·tər }

diode-pentode [ELECTR] Vacuum tube having a diode and a pentode in the same envelope. { ¦dīˌōd ¦penˌtōd }

diode rectifier [ELECTR] A half-wave rectifier of two elements between which current flows in only one direction. { 'dīˌōd 'rek·təˌfī·ər }

diode rectifier-amplifier meter [ELECTR] The most widely used vacuum tube voltmeter for measurement of alternating-current voltage,

has separate tubes for rectification and direct-current amplification, permitting an optimum design for each. { ¦dī,ōd ¦rek·tə,fī·ər 'am·plə ,fī·ər ,mēd·ər }

diode switch [ELECTR] Diode which is made to act as a switch by the successive application of positive and negative biasing voltages to the anode (relative to the cathode), thereby allowing or preventing, respectively, the passage of other applied waveforms within certain limits of voltage. { 'dī,ōd ,swich }

diode theory [ELEC] The theory that in a semiconductor, when the barrier thickness is comparable to or smaller than the mean free path of the carriers, then the carriers cross the barrier without being scattered, much as in a vacuum tube diode. { 'dī,ōd ,thē·ə·rē }

diode transistor logic [ELECTR] A circuit that uses diodes, transistors, and resistors to provide logic functions. Abbreviated DTL. { ¦dī,ōd tran'zis·tər ,läj·ik }

diode-triode [ELECTR] Vacuum tube having a diode and a triode in the same envelope. { ¦dī ,ōd 'trī,ōd }

diode voltage *See* diode forward voltage. { 'dī ,ōd ,vōl·tij }

diode voltage regulator [ELECTR] A voltage regulator with a Zener diode, making use of its almost constant voltage over a range of currents. Also known as Zener diode voltage regulator. { ¦dī ,ōd 'vōl·tij ,reg·yə,lād·ər }

DIP *See* dual in-line package. { dip }

diphase generator [ELEC] A generator that produces two alternating currents in quadrature. { 'dī,fāz 'jen·ə,rād·ər }

diplexer [ELECTR] A coupling system that allows two different transmitters to operate simultaneously or separately from the same antenna. { 'dī ,plek·sər }

diplex operation [COMMUN] Simultaneous transmission or reception of two signals using a specified common element, such as a single antenna or a single carrier. { 'dī,pleks ,äp·ə,rā·shən }

diplex radio transmission [COMMUN] The simultaneous transmission of two signals by using a common carrier wave. { ¦dī,pleks 'rād·ē·ō tranz ,mish·ən }

diplex reception [ELEC] Simultaneous reception of two signals which have some features in common, such as a single receiving antenna or a single carrier frequency. { 'dī,pleks ri'sep·shən }

dipole antenna [ELECTROMAG] An antenna approximately one-half wavelength long, split at its electrical center for connection to a transmission line whose radiation pattern has a maximum at right angles to the antenna. Also known as doublet antenna; half-wave dipole. { 'dī,pōl an'ten·ə }

dipole disk feed [ELECTROMAG] Antenna, consisting of a dipole near a disk, used to reflect energy to the disk. { 'dī,pōl 'disk ,fēd }

dipole moment *See* electric dipole moment. { 'dī ,pōl ,mō·mənt }

dipole polarization *See* orientation polarization. { 'dī,pōl ,pō·lə·rə'zā·shən }

dipole relaxation [ELEC] The process, occupying a certain period of time after a change in the applied electric field, in which the orientation polarization of a substance reaches equilibrium. { 'dī,pōl ,rē,lak'sā·shən }

DIP switch [COMPUT SCI] A unit with several small rocker-type switches that plugs into a dual in-line package (DIP) on a printed circuit board. { 'dip ,swich }

dipulse [COMMUN] Transmission of a binary code in which the presence of one cycle of a sine-wave tone represents a binary "1" and the absence of one cycle represents a binary "0." { 'dī,pəls }

direct access *See* random access. { də'rekt 'ak·ses }

direct-access library [COMPUT SCI] A disk-stored set of programs, each of which is directly accessible without sequential search. { də¦rekt ¦ak·ses 'lī,brer·ē }

direct-access memory *See* random-access memory. { də¦rekt ¦ak·ses 'mem·rē }

direct-access method [COMPUT SCI] A technique for directly determining the location of data on a disk (track and sector address) from an identifying key in the record. { də¦rekt 'ak,ses ,meth·əd }

direct-access storage *See* random-access memory. { də¦rekt ¦ak·ses 'stȯr·ij }

direct-access storage device [COMPUT SCI] Any peripheral storage device, such as a disk or drum, that can be directly addressed by a computer. Abbreviated DASD. { də¦rekt ¦ak,ses 'stȯr·ij di ,vīs }

direct-acting recorder [ENG] A recorder in which the marking device is mechanically connected to or directly operated by the primary detector. { də¦rekt ¦akt·iŋ ri'kȯrd·ər }

direct address [COMPUT SCI] Any address specifying the location of an operand. { də¦rekt 'a ,dres }

direct-address processing [COMPUT SCI] Any computer operation during which data are accessed by means of addresses rather than contents. { də¦rekt ¦a,dres 'präs,es·iŋ }

direct allocation [COMPUT SCI] A system in which the storage locations and peripheral units to be assigned to use by a computer program are specified when the program is written, in contrast to dynamic allocation. { də¦rekt ,al·ə,kā·shən }

direct-aperture antenna [ELECTROMAG] An antenna whose conductor or dielectric is a surface or solid, such as a horn, mirror, or lens. { də¦rekt ¦ap·ə·chər an'ten·ə }

direct audio radio service [COMMUN] Radio broadcasting from satellites directly to receivers on the ground. Abbreviated DARS. { də,rekt ¦ȯd·ē·ō 'rād·ē·ō ˌ sər·vəs }

direct broadcasting satellite system [COMMUN] A television broadcasting system in which program signals are transmitted from ground stations to satellite repeater stations in geostationary orbit, and from there directly to

home consumer terminals. Abbreviated DBS. { də'rekt 'bród,kast·iŋ 'sad·əl,īt ,sis·təm }

direct broadcast radio satellite [COMMUN] A satellite in geosynchronous orbit that broadcasts radio programming directly to inexpensive home, car-mounted, and portable radio receivers. { di ¦rekt ¦bród,kast 'rād·ē·ō ,sad·əl,īt }

direct code [COMPUT SCI] A code in which instructions are written in the basic machine language. { də¦rekt 'kōd }

direct connect modem [COMMUN] A device that transforms binary signals into electronic pulses (as opposed to sound modulations) that can be carried over a communications channel. { də'rekt kə¦nekt 'mō,dem }

direct control [COMPUT SCI] The control of one machine in a data-processing system by another, without human intervention. { də¦rekt kən'trōl }

direct control function See regulatory control function. { də¦rekt kən'trōl ,fəŋk·shən }

direct-coupled amplifier [ELECTR] A direct-current amplifier in which a resistor or a direct connection provides the coupling between stages, so small changes in direct currents can be amplified. { də¦rekt ¦kəp·əld 'am·plə,fī·ər }

direct-coupled FET logic [ELECTR] A logic gate configuration used with gallium arsenide field-effect transistors operating in the enhancement mode, whose low power consumption and circuit simplicity lead to high packing density and potential use in very large-scale integrated circuits. Abbreviated DCFL. { də'rekt ¦kəp·əld ¦ef¦ē¦tē 'läj·ik }

direct-coupled transistor logic [ELECTR] Integrated-circuit logic using only resistors and transistors, with direct conductive coupling between the transistors; speed can be up to 1 megahertz. Abbreviated DCTL. { də¦rekt ¦kəp·əld tran¦zis·tər 'läj·ik }

direct coupling [ELEC] Coupling of two circuits by means of a non-frequency-sensitive device, such as a wire, resistor, or battery, so both direct and alternating current can flow through the coupling path. { də¦rekt 'kəp·liŋ }

direct current [ELEC] Electric current which flows in one direction only, as opposed to alternating current. Abbreviated dc. { də¦rekt 'kə·rənt }

direct-current amplifier [ELECTR] An amplifier that is capable of amplifying dc voltages and slowly varying voltages. { də¦rekt ¦kə·rənt 'am·plə,fī·ər }

direct-current circuit [ELEC] Any combination of dc voltage or current sources, such as generators and batteries, in conjunction with transmission lines, resistors, and power converters such as motors. { də¦rekt ¦kə·rənt 'sər·kət }

direct-current circuit theory [ELEC] An analysis of relationships within a dc circuit. { də¦rekt ¦kə·rənt 'sər·kət ,thē·ə·rē }

direct-current component [COMMUN] The average value of a signal; in television, it represents the average lumininance of the picture being transmitted, in radar, the level from which the transmitted and received pulses rise. { də¦rekt ¦kə·rənt kəm'pō·nənt }

direct-current continuity [ELEC] Property of a circuit in which there is an established pathway for conduction of current from a direct-current source. { də¦rekt ¦kə·rənt ,känt·ən'ü·əd·ē }

direct-current coupling [ELECTR] That type of coupling in which the zero-frequency term of the Fourier series representing the input signal is transmitted. { də¦rekt ¦kə·rənt 'kəp·liŋ }

direct-current discharge [ELECTR] The passage of a direct current through a gas. { də¦rekt ¦kə·rənt 'dis,chärj }

direct-current dump [ELECTR] Removal of all direct-current power from a computer system or component intentionally, accidentally, or conditionally; in some types of storage, this results in loss of stored information. { də¦rekt ¦kə·rənt 'dəmp }

direct-current erase [ELECTR] Use of direct current to energize an erasing head of a tape recorder. { də¦rekt ¦kə·rənt ə'rās }

direct-current generator [ELEC] A rotating electric machine that converts mechanical power into dc power. { də¦rekt ¦kə·rənt 'jen·ə,rād·ər }

direct-current inserter [ELECTR] An analog television transmitter stage that adds to the video signal a dc component known as the pedestal level. { də¦rekt ¦kə·rənt in'sərd·ər }

direct-current motor [ELEC] An electric rotating machine energized by direct current and used to convert electric energy to mechanical energy. { də¦rekt ¦kə·rənt 'mōd·ər }

direct-current motor control See electronic motor control. { də¦rekt ¦kə·rənt 'mōd·ər kən,trōl }

direct-current offset [ELECTR] A direct-current level that may be added to the input signal of an amplifier or other circuit. { də¦rekt ¦kə·rənt 'ó f,set }

direct-current picture transmission [COMMUN] Television transmission in which the signal contains a dc component that represents the average illumination of the entire scene. Also known as direct-current transmission. { də¦rekt ¦kə·rənt 'pik·chər tranz,mish·ən }

direct-current plate resistance [ELECTR] Value or characteristic used in vacuum-tube computations; it is equal to the direct-current plate voltage divided by the direct-current plate current. { də¦rekt ¦kə·rənt 'plāt ri,zis·təns }

direct-current power [ELEC] The power delivered by a dc power system, equal to the line voltage times the load current. { də¦rekt ¦kə·rənt 'paú·ər }

direct-current power supply [ELEC] A power supply that provides one or more dc output voltages, such as a dc generator, rectifier-type power supply, converter, or dynamotor. { də ¦rekt ¦kə·rənt 'paú·ər sə,plī }

direct-current quadruplex system [COMMUN] Direct-current telegraph system which affords simultaneous transmission of two messages in each direction over the same line, achieved by superimposing neutral telegraph upon polar telegraph. { də¦rekt ¦kə·rənt 'kwä·drə,pleks ,sis·təm }

direct-current receiver [ELECTR] A radio receiver designed to operate directly from a 115-volt dc power line. { də¦rekt ¦kə·rənt ri'sēv·ər }

direct-current reinsertion See clamping. { də¦rekt ¦kə·rənt ˌrē·in'sər·shən }

direct-current restoration See clamping. { də¦rekt ¦kə·rənt res·tə'rā·shən }

direct-current restorer [ELECTR] A clamp circuit used to establish a dc reference level in a signal without modifying to any important degree the waveform of the signal itself. Also known as clamper; reinserter. { də¦rekt ¦kə·rənt ri'stór·ər }

direct-current signaling [ELEC] A transmission method that uses direct current. { də¦rekt ¦kə·rənt 'sig·nəl·iŋ }

direct-current SQUID [ELECTR] A type of superconducting quantum interference device (SQUID) which contains two Josephson junctions in a superconducting loop; its state is determined from direct-current measurements. { də¦rekt ¦kə·rənt 'skwid }

direct-current tachometer [ELEC] A dc generator operating with negligible load current and with constant field flux provided by a permanent magnet, so its dc output voltage is proportional to speed. { də¦rekt ¦kə·rənt tə'käm·əd·ər }

direct-current telegraphy [COMMUN] Telegraphy in which direct current controlled by the transmitting apparatus is supplied to the line to form the transmitted signal. { də¦rekt ¦kə·rənt tə'leg·rə·fē }

direct-current transducer [ELECTR] A transducer that requires dc excitation and provides a dc output that varies with the parameter being sensed. { də¦rekt ¦kə·rənt tranz'düs·ər }

direct-current transmission See direct-current picture transmission. { də¦rekt ¦kə·rənt tranz'mish·ən }

direct-current vacuum-tube voltmeter [ELECTR] The amplifying and indicating portions of the diode rectifier-amplifier meter, which are usually designed so that the diode rectifier can be disconnected for dc measurements. { də¦rekt ¦kə·rənt ¦vak·yəm ¦tüb 'vōlt,mēd·ər }

direct-current voltage See direct voltage. { də ¦rekt ¦kə·rənt 'vōl·tij }

direct-current working volts [ELEC] The maximum continuously applied dc voltage for which a capacitor is rated. Abbreviated dcwV. { də¦rekt ¦kə·rənt 'wərk·iŋ ˌvōlts }

direct digital control [CONT SYS] The use of a digital computer generally on a time-sharing or multiplexing basis, for process control in petroleum, chemical, and other industries. { də ¦rekt ¦dij·əd·əl kən'trōl }

direct distance dialing [COMMUN] A telephone exchange service that allows a telephone user to dial subscribers outside the local area using a standard routing pattern from the local or end office. { də¦rekt ¦dis·təns 'dī·liŋ }

direct-drive arm [CONT SYS] A robot arm whose joints are directly coupled to high-torque motors. { də'rekt ¦drīv ˌärm }

direct electromotive force [ELEC] Unidirectional electromotive force in which the changes in values are either zero or so small that they may be neglected. { də'rekt i,lek·trō'mōd·iv 'fórs }

direct-entry terminal [COMPUT SCI] A device from which data are received into a computer immediately, and which edits data at the time of receipt, allowing computer files to be accessed to validate the information entered, and allowing the terminal operator to be notified immediately of any errors. { də¦rekt ¦en·trē 'tərm·ən·əl }

direct expert control system [CONT SYS] An expert control system that contains rules that directly associate controller output values with different values of the controller measurements and set points. Also known as rule-based control system. { də¦rekt ˌeks·pərt kən'trōl ˌsis·təm }

direct-feedback system [CONT SYS] A system in which electrical feedback is used directly, as in a tachometer. { də¦rekt 'fēd,bak ˌsis·təm }

direct grid bias See grid bias. { də¦rekt ¦grid ˌbī·əs }

direct hierarchy control [COMPUT SCI] A method of manipulating data in a computer storage hierarchy in which data transfer is completely under the control of built-in algorithms and the user or programmer is not concerned with the various storage subsystems. { də¦rekt 'hī·ər ˌär·kē kən,trōl }

direct input/output [COMPUT SCI] The transfer of data to and from a computer's main storage by passing it through the central processing unit. { də'rekt 'in,půt 'aůt,půt }

direct-insert subroutine [COMPUT SCI] A body of coding or a group of instructions inserted directly into the logic of a program, often in multiple copies, whenever required. { də¦rekt ¦in·sərt 'səb·rü,tēn }

direct instruction [COMPUT SCI] An instruction containing the address of the operand on which the operation specified in the instruction is to be performed. { də'rekt in'strək·shən }

direct interelectrode capacitance See interelectrode capacitance. { də'rekt ˌin·tər·i'lek,trōd kə'pas·əd·əns }

direct inward dialing [COMMUN] The capability for dialing individual telephone extensions in a large organization directly from outside, without going through a central switchboard. { də'rekt ¦in·wərd 'dī·liŋ }

directional antenna [ELECTROMAG] An antenna that radiates or receives radio waves more effectively in some directions than others. { də'rek·shən·əl an'ten·ə }

directional beam [ELECTROMAG] A radio or radar wave that is concentrated in a given direction. { də'rek·shən·əl 'bēm }

directional coupler [ELECTR] A device that couples a secondary system only to a wave traveling in a particular direction in a primary transmission system, while completely ignoring a wave traveling in the opposite direction. Also known as directive feed. { də'rek·shən·əl 'kəp·lər }

directional filter [ELECTR] A low-pass, band-pass, or high-pass filter that separates the bands of frequencies used for transmission in opposite directions in a carrier system. Also known as

directional separation filter. { dəˈrek·shən·əl ˈfil·tər }

directional gain *See* directivity index. { dəˈrek·shən·əl ˈgān }

directional microphone [ENG ACOUS] A microphone whose response varies significantly with the direction of sound incidence. { dəˈrek·shən·əl ˈmī·krəˌfōn }

directional pattern *See* radiation pattern. { dəˈrek·shən·əl ˈpad·ərn }

directional phase shifter [ELEC] Passive phase shifter in which the phase change for transmission in one direction differs from that for transmission in the opposite direction. { dəˈrek·shən·əl ˈfāz ˌshif·tər }

directional relay [ELEC] Relay which functions in conformance with the direction of power, voltage, current, pulse, rotation, and so on. { dəˈrek·shən·əl ˈrēˌlā }

directional response pattern *See* directivity pattern. { dəˈrek·shən·əl riˈspäns ˌpad·ərn }

directional separation filter *See* directional filter. { dəˈrek·shən·əl sep·əˈrā·shən ˌfil·tər }

direction finder *See* radio direction finder. { dəˈrek·shən ˌfīnd·ər }

direction-independent radar [ENG] Doppler radar used in sentry applications. { dəˈrek·shən ˌin·dəˈpen·dənt ˈrāˌdär }

direction rectifier [ELECTR] A rectifier that supplies a direct-current voltage whose magnitude and polarity vary with the magnitude and relative polarity of an alternating-current synchro error voltage. { dəˈrek·shən ˈrek·təˌfī·ər }

directive [COMPUT SCI] An instruction in a source program that guides the compiler in making the translation to machine language, and is usually not translated into instructions in the object program. { dəˈrek·tiv }

directive feed *See* directional coupler. { dəˈrek·tiv ˌfēd }

directive gain [ELECTROMAG] Of an antenna in a given direction, 4π times the ratio of the radiation intensity in that direction to the total power radiated by the antenna. { dəˈrek·tiv ˌgān }

directivity [ELECTR] The ability of a logic circuit to ensure that the input signal is not affected by the output signal. [ELECTROMAG] **1.** The value of the directive gain of an antenna in the direction of its maximum value. **2.** The ratio of the power measured at the forward-wave sampling terminals of a directional coupler, with only a forward wave present in the transmission line, to the power measured at the same terminals when the direction of the forward wave in the line is reversed; the ratio is usually expressed in decibels. { dəˌrek'tiv·əd·ē }

directivity factor [ENG ACOUS] **1.** The ratio of radiated sound intensity at a remote point on the principal axis of a loudspeaker or other transducer, to the average intensity of the sound transmitted through a sphere passing through the remote point and concentric with the transducer; the frequency must be stated. **2.** The ratio of the square of the voltage produced by sound waves arriving parallel to the principal axis of a microphone or other receiving transducer, to the mean square of the voltage that would be produced if sound waves having the same frequency and mean-square pressure were arriving simultaneously from all directions with random phase; the frequency must be stated. { dəˌrek'tiv·əd·ə ˌfak·tər }

directivity index [ENG ACOUS] The directivity factor expressed in decibels; it is 10 times the logarithm to the base 10 of the directivity factor. Also known as directional gain. { dəˌrek'tiv·əd·ə ˌinˌdeks }

directivity pattern [ENG ACOUS] A graphical or other description of the response of a transducer used for sound emission or reception as a function of the direction of the transmitted or incident sound waves in a specified plane and at a specified frequency. Also known as beam pattern; directional response pattern. { dəˌrek'tiv·əd·ə ˌpad·ərn }

direct keying device [COMPUT SCI] A computer input device which enables direct entry of information by means of a keyboard. { dəˈrekt ˈkē·iŋ diˌvīs }

directly heated cathode *See* filament. { dəˈrect·lē ˈhēd·əd ˈkāˌthōd }

direct-map cache [COMPUT SCI] A cache memory that is organized by linking it to locations in random-access memory. { dəˌrekt ˌmap ˈkash }

direct memory access [COMPUT SCI] The use of special hardware for direct transfer of data to or from memory to minimize the interruptions caused by program-controlled data transfers. Abbreviated dma. { dəˈrekt ˈmem·rē ˈakˌses }

direct numerical control [COMPUT SCI] The use of a computer to program, service, and log a process such as a machine-tool cutting operation. { dəˈrekt nüˈmer·i·kəl kənˈtrōl }

director [ELECTR] Telephone switch which translates the digits dialed into the directing digits actually used to switch the call. [ELECTROMAG] A parasitic element placed a fraction of a wavelength ahead of a dipole receiving antenna to increase the gain of the array in the direction of the major lobe. { dəˈrek·tər }

direct organization [COMPUT SCI] A type of processing in which records within data sets stored on direct-access devices may be fetched directly if their physical locations are known. { dəˈrekt ȯr·gə·nəˈzā·shən }

directory [COMPUT SCI] The listing and description of all the fields of the records making up a file. { dəˈrek·trē }

directory service [COMPUT SCI] **1.** A directory of the names and addresses of all the mail recipients on a particular network, which provides electronic mail addresses. **2.** A provider of online directories of Web sites and search engines. { dəˈrek·trē ˌsər·vəs }

directory tree [COMPUT SCI] A graphic representation of the hierarchical branching structure in which files are organized in a hard disk or other storage device. { dəˈrek·trē ˌtrē }

direct outward dialing [COMMUN] A private automatic branch telephone exchange that permits

all local stations to dial outside numbers. Abbreviated DOD. { də¦rekt ¦aůt·wərd 'dīl·iŋ }

direct piezoelectricity [SOLID STATE] Name sometimes given to the piezoelectric effect in which an electric charge is developed on a crystal by the application of mechanical stress. { de'rekt pē ¦ā·zō,i,lek'tris·əd·ē }

direct point repeater [ELECTR] Telegraph repeater in which the receiving relay controlled by the signals received over a line repeats corresponding signals directly into another line or lines without the interposition of any other repeating or transmitting apparatus. { də¦rekt ¦pȯint ri'pēd·ər }

direct-power generator [ENG] Any device which converts thermal or chemical energy into electric power by methods more direct than the conventional thermal cycle. { də¦rekt ¦paů·ər 'jen·ə ˌrād·ər }

direct-radiator speaker [ENG ACOUS] A loudspeaker in which the radiating element acts directly on the air, without a horn. { də¦rekt ¦rād·ē,ād·ər ˌspēk·ər }

direct read after write [COMPUT SCI] The reading of data immediately after the data have been written in order to check for errors in the recoding process. Abbreviated DRAW. { də¦rekt ¦rēd ˌaf·tər 'rīt }

direct realization [ELECTR] An active filter configuration that is derived by systematically replacing the elements of a passive RLC prototype filter (a filter that consists entirely of resistors, inductors, and capacitors) according to some rule. { di ¦rekt ˌrē·ə·lə'zā·shən }

direct resistance-coupled amplifier [ELECTR] Amplifier in which the collector, drain, or plate of one stage is connected either directly or through a resistor to the base, gate, or control grid of the next stage; used to amplify small changes in direct current. { də¦rekt ri¦zis·təns ˌkəp·əld 'am·plə,fī·ər }

direct route [ELEC] In wire communications, the trunks that connect a pair of switching centers, regardless of the geographical direction the actual trunk facilities may follow. { də¦rekt 'rüt }

direct sequence system [COMMUN] A system for generating spread spectrum transmissions by phase-modulating a sine wave pseudorandomly by an unending string of pseudonoise code symbols, each of duration much smaller than a bit. { də'rekt 'sē·kwəns ˌsis·təm }

direct stroke [ELEC] A lightning stroke that actually strikes some part of a power or communication system. { də¦rekt 'strōk }

direct symbol recognition [COMPUT SCI] Recognition by sensing the unique geometrical properties of symbols. { də¦rekt 'sim·bəl ˌrek·ig ˌnish·ən }

direct-view storage tube [ELECTR] A cathode-ray tube in which secondary emission of electrons from a storage grid is used to provide an intensely bright display for long and controllable periods of time. Also known as display storage tube; viewing storage tube. { də¦rekt ¦vyü 'stȯr·ij ˌtüb }

direct voltage [ELEC] A voltage that forces electrons to move through a circuit in the same direction continuously, thereby producing a direct current. Also known as direct-current voltage. { də¦rekt 'vōl·tij }

direct wave [COMMUN] A radio wave that is propagated directly through space from transmitter to receiver without being refracted by the ionosphere. { də¦rekt 'wāv }

direct-wire circuit [ELEC] Supervised protective signaling circuit usually consisting of one metallic conductor and a ground return and having signal-receiving equipment responsive to either an increase or a decrease in current. { də¦rekt ¦wīr 'sər·kət }

direct-writing galvanometer [ENG] A direct-writing recorder in which the stylus or pen is attached to a moving coil positioned in the field of the permanent magnet of a galvanometer. { də¦rekt ¦wrīd·iŋ ˌgal·və'näm·əd·ər }

direct-writing recorder [ENG] A recorder in which the permanent record of varying electrical quantities or signals is made on paper, directly by a pen attached to the moving coil of a galvanometer or indirectly by a pen moved by some form of motor under control of the galvanometer. Also known as mechanical oscillograph. { də¦rekt ¦wrīd·iŋ ri'kȯrd·ər }

disability glare *See* glare. { dis·ə'bil·əd·ē ˌglār }

disable [COMPUT SCI] **1.** To prevent some action from being carried out. **2.** To turn off a computer system or a piece of equipment. { dis'ā·bəl }

disappearing filament pyrometer *See* optical pyrometer. { 'dis·əˌpir·iŋ ˌfil·ə·mənt pī'räm·əd·ər }

disassemble [COMPUT SCI] To translate a program from machine language to assembly language to aid in its understanding. { ˌdis·ə 'sem·bəl }

disassembler [COMPUT SCI] A program that translates machine language into assembly language. { ˌdis·ə'sem·blər }

disaster dump [COMPUT SCI] A listing of the contents of a computer's central processing unit that is created when the computer detects an error that it cannot handle in the course of processing. { di'zas·tər ˌdəmp }

disc *See* disk. { disk }

discharge [ELEC] To remove a charge from a battery, capacitor, or other electric-energy storage device. [ELECTR] The passage of electricity through a gas, usually accompanied by a glow, arc, spark, or corona. Also known as electric discharge. { 'dis,chärj }

discharge key [ELEC] Device for switching a capacitor suddenly from a charging circuit to a load through which it can discharge. { 'dis,chärj ˌkē }

discharge lamp [ELECTR] A lamp in which light is produced by an electric discharge between electrodes in a gas (or vapor) at low or high pressure. Also known as electric-discharge lamp; gas-discharge lamp; vapor lamp. { 'dis,chärj ˌlamp }

discharger [ELEC] A silver-impregnated cotton wick encased in a flexible plastic tube with an

aluminum mounting lug, used on aircraft to reduce precipitation static. { 'dis,chärj·ər }

discharge tube [ELECTR] An evacuated enclosure containing a gas at low pressure, through which current can flow when sufficient voltage is applied between metal electrodes in the tube. Also known as electric-discharge tube. { 'dis ,chärj ,tüb }

discomfort glare *See* glare. { dis'kəm·fərt ,gler }

discone antenna [ELECTROMAG] A biconical antenna in which one of the cones is spread out to 180° to form a disk; the center conductor of the coaxial line terminates at the center of the disk, and the cable shield terminates at the vertex of the cone. { 'dis,kōn an'ten·ə }

disconnect [ELEC] To open a circuit by removing wires or connections, as distinguished from opening a switch to stop current flow. [ENG] To sever a connection. { ,dis·kə'nekt }

disconnect fitting [ELEC] An electrical connection that can be disconnected without tools. { ¦dis·kə'nekt ,fid·iŋ }

disconnecting switch [ELEC] A switch that isolates a circuit or piece of electrical apparatus after interruption of the current. Also known as disconnector. { ,dis·kə'nek·tiŋ ,swich }

disconnector *See* disconnecting switch. { ,dis·kə'nek·tər }

disconnector release [ELEC] Device which disengages the apparatus used in a telephone connection to restore it to its original condition when not in use. { ,dis·kə'nek·tər ri'lēs }

discontinuous amplifier [ELECTR] Amplifier in which the input waveform is reproduced on some type of averaging basis. { ,dis·kən'tin·yə·wəs 'am·plə,fī·ər }

discrete address beacon system *See* Mode S. { di,skrēt 'ad·res 'bē·kən ,sis·təm }

discrete comparator *See* digital comparator. { di'skrēt kəm'par·əd·ər }

discrete cosine transform [COMMUN] A mathematical transform, used in bit rate reduction applications, in which the reconstructed bit stream is identical to the bit stream input to the system; in this regard, the transform is a mathematical process that can be perfectly undone. Abbreviated DCT. { di'skrēt 'kō,sīn 'tranz,fȯrm }

discrete sampling [ELECTR] Sampling in which the individual samples are of such long duration that the frequency response of the channel is not deteriorated by the sampling process. { di'skrēt 'sam·pliŋ }

discrete sound system [ENG ACOUS] A quadraphonic sound system in which the four input channels are preserved as four discrete channels during recording and playback processes; sometimes referred to as a 4-4-4 system. { di'skrēt 'saund ,sis·təm }

discrete system [CONT SYS] A control system in which signals at one or more points may change only at discrete values of time. Also known as discrete-time system. { di'skrēt 'sis·təm }

discrete-time system *See* discrete system. { di'skrēt ,tīm 'sis·təm }

discrete transfer function *See* pulsed transfer function. { di¦skrēt 'tranz·fər ,fəŋk·shən }

discrete-word intelligibility [COMMUN] The percent of intelligibility obtained when the speech units under consideration are words, usually presented so as to minimize the contextual relation between them. { di¦skrēt ,wərd in ,tel·ə·jə'bil·əd·ē }

discrimination [COMMUN] **1.** In frequency-modulated systems, the detection or demodulation of the imposed variations in the frequency of the carriers. **2.** In a tuned circuit, the degree of rejection of unwanted signals. **3.** Of any system or transducer, the difference between the losses at specified frequencies with the system or transducer terminated in specified impedances. [COMPUT SCI] *See* conditional jump. { di,skrim·ə'nā·shən }

discriminator [ELECTR] A circuit in which magnitude and polarity of the output voltage depend on how an input signal differs from a standard or from another signal. { di'skrim·ə,nād·ər }

discriminator transformer [ELECTR] A transformer designed to be used in a stage where frequency-modulated signals are converted directly to audio-frequency signals or in a stage where frequency changes are converted to corresponding voltage changes. { di'skrim·ə ,nād·ər tranz'fȯr·mər }

disengage [ENG] To break the contact between two objects. { ,dis·ən'gāj }

dish *See* parabolic reflector. { dish }

disintegration voltage [ELECTR] The lowest anode voltage at which destructive positive-ion bombardment of the cathode occurs in a hot-cathode gas tube. { dis,in·tə'grā·shən ,vōl·tij }

disjunctive search [COMPUT SCI] A search to find items that have at least one of a given set of characteristics. { dis'jənk·tiv 'sərch }

disk [COMPUT SCI] A rotating circular plate having a surface on which information may be stored as a pattern of magnetically polarized spots (on a magnetic disk) or holes (on an optical disk) on concentric recording tracks. Also known as magnetic disk. Also spelled disc. { disk }

disk armature [ELEC] The armature in a motor that has a disk winding or is made up of a metal disk. { 'disk ,är·mə·chər }

disk cache [COMPUT SCI] A portion of random-access memory that contains the data most recently read from or written to the disk, allowing rapid access by the central-processing unit. { 'disk ,kash }

disk capacitor [ELEC] A small, flat, circular capacitor that usually has a ceramic dielectric. { 'disk kə,pas·əd·ər }

disk cartridge [COMPUT SCI] A removable module that contains a single magnetic disk platter which remains attached to the housing when placed into the disk drive. { 'disk ,kär·trij }

disk crash *See* head crash. { 'disk ,krash }

disk drive [COMPUT SCI] The physical unit that holds, spins, reads, and writes the magnetic disks. Also known as disk unit. { 'disk ,drīv }

disk drive controller [COMPUT SCI] A device that enables a microcomputer to control the functioning of a disk drive. { 'disk ¦drīv kən'trō·lər }

diskette *See* floppy disk. { di'sket }

disk file [COMPUT SCI] An organized collection of records held on a magnetic disk. { 'disk ˌfīl }

diskless work station [COMPUT SCI] A computer in a network that has no disk storage of its own. { ¦disk·ləs 'wərk ˌstā·shən }

disk memory *See* disk storage. { 'disk ˌmem·rē }

disk operating system [COMPUT SCI] An operating system which uses magnetic disks as its primary on-line storage. Abbreviated DOS. { ¦disk ¦äp·əˌrād·iŋ ˌsis·təm }

disk pack [COMPUT SCI] A set of magnetic disks that can be removed from a disk drive as a unit. { 'disk ˌpak }

disk recording [ENG ACOUS] **1.** The process of inscribing suitably transformed acoustical or electrical signals on a phonograph record. **2.** *See* phonograph record. { ¦disk ri'kȯrd·iŋ }

disk-seal tube [ELECTR] An electron tube having disk-shaped electrodes arranged in closely spaced parallel layers, to give low interelectrode capacitance along with high power output, up to 2500 megahertz. Also known as lighthouse tube; megatron. { 'disk ˌsēl ˌtüb }

disk storage [ELECTR] An external computer storage device consisting of one or more disks spaced on a common shaft, and magnetic heads mounted on arms that reach between the disks to read and record information on them. Also known as disk memory; magnetic disk storage. { ¦disk ¦stȯr·ij }

disk striping [COMPUT SCI] The distribution of a unit of data over two or more hard disks, enabling the data to be read more quickly. Also known as data striping. { 'disk ˌstrīp·iŋ }

disk thermistor [ELECTR] A thermistor which is produced by pressing and sintering an oxide binder mixture into a disk,0.2–0.6 inch (5–15 millimeters) in diameter and 0.04–0.5 inch (1.0–13 millimeters) thick, coating the major surfaces with conducting material, and attaching leads. { ¦disk thər'mis·tər }

disk unit *See* disk drive. { 'disk ˌyü·nət }

dispatching [COMPUT SCI] The control of priorities in a queue of requests in a multiprogramming or multitasking environment. { dis'pach·iŋ }

dispatching priority [COMPUT SCI] In a multiprogramming or multitasking environment, the priority assigned to an active (non-real time, nonforeground) task. { dis'pach·iŋ prīˌär·əd·ē }

dispenser cathode [ELECTR] An electron tube cathode having provisions for continuously replacing evaporated electron-emitting material. { də'spen·sər ˌkathˌōd }

disperse [COMPUT SCI] A data-processing operation in which grouped input items are distributed among a larger number of groups in the output. { də'spərs }

dispersion [COMMUN] The entropy of the output of a communications channel when the input is known. [ELECTROMAG] Scattering of microwave radiation by an obstruction. { də'spər·zhən }

displacement [COMPUT SCI] The number of character positions or memory locations from some point of reference to a specified character or data item. Also known as offset. [ELEC] *See* electric displacement. { dis'plās·mənt }

displacement angle [ELEC] The change in the phase of an alternator's terminal voltage when a load is applied. { dis'plās·mənt ˌaŋ·gəl }

display [ELECTR] **1.** A visible representation of information, in words, numbers, or drawings, as on the cathode-ray tube screen of a radar set, navigation system, or computer console. **2.** The device on which the information is projected. Also known as display device. **3.** The image of the information. { di'splā }

display adapter *See* video display board. { di'splā əˌdap·tər }

display console [COMPUT SCI] A cathode-ray tube or other display unit on which data being processed or stored in a computer can be presented in graphical or character form; sometimes equipped with a light pen with which the user can alter the information displayed. { di'splā ˌkän ˌsōl }

display control [COMPUT SCI] A unit in a computer system consisting of channels and associated control circuitry that connect a number of visual display units with a central processor. { di'splā kənˌtrōl }

display cycle [COMPUT SCI] In computer graphics, the sequence of operations carried out to display an image. { diˌsplā ˌsī·kəl }

display device *See* display. { di'splā diˌvīs }

display element [COMPUT SCI] In computer graphics, a basic component of a display, such as a circle, line, or dot. { di'splā ˌel·ə·mənt }

display entity [COMPUT SCI] In computer graphics, a group of display elements that can be manipulated as a unit. { di'splā ˌen·təd·ē }

display formats *See* radar display formats. { di ˌsplā ˌfȯr·matz }

display frame [COMPUT SCI] In computer graphics, one of a sequence of frames making up a computer-generated animation. { di'splā ˌfrām }

display information processor [COMPUT SCI] Computer used to generate situation displays in a combat operations center. { di'splā inˌfər 'mā·shən ˌpräsˌes·ər }

display list [COMPUT SCI] In computer graphics, a set of vectors that form an image stored in vectors graphics format. { di'splā ˌlist }

display packing [COMPUT SCI] An efficient means of transmitting the x and y coordinates of a point packed in a single word to halve the time required to freshen the spot on a cathode-ray tube display. { di'splā ˌpak·iŋ }

display power management signaling [COMPUT SCI] Signaling whereby a video adapter can instruct a monitor to reduce its power level to conserve electricity. Abbreviated DPMS. { di ¦splā 'paù·ər ˌman·ij·mənt ˌsig·nəl·iŋ }

display primary [COMMUN] One of the primary colors produced in a video system that, when mixed in proper proportions, serve to produce the other desired colors. { di'splā 'prīˌmer·ē }

display processor [COMPUT SCI] A section of a computer which handles the routines required to display an output on a cathode-ray tube. { di'splā ˌpräsˌes·ər }

display screen *See* video monitor. { di'splā ˌskrēn }

display storage tube *See* direct-view storage tube. { di'splā 'stȯr·ij ˌtüb }

display system [COMPUT SCI] The total system, combining hardware and software, needed to achieve a visible representation of information in a data-processing system. { di'splā ˌsis·təm }

display terminal [COMPUT SCI] A computer output device in which characters and sometimes graphic information appear on the screen of a cathode-ray tube; now largely replaced by monitors using bit-mapped displays. Also known as display unit; video display terminal (VDT). { di'splā ˌtər·mən·əl }

display tube [ELECTR] A cathode-ray tube used to provide a visual display. Also known as visual display unit. { di'splā ˌtüb }

display unit *See* display terminal. { di'splā ˌyü·nət }

display window [COMMUN] Width of the portion of the frequency spectrum presented on panoramic presentation, expressed in frequency units, usually megahertz. { di'splā ˌwinˌdō }

disposition [COMPUT SCI] The status of a file after it has been closed by a computer program, for example, retained or deleted. { ˌdis·pə'zish·ən }

disruptive discharge [ELEC] A sudden and large increase in current through an insulating medium due to complete failure of the medium under electrostatic stress. { dis¦rəp·tiv 'disˌchärj }

dissector tube [ELECTR] Camera tube having a continuous photo cathode on which is formed a photoelectric emission pattern which is scanned by moving its electron-optical image over an aperture. { də'sek·tərˌtüb }

dissipation factor [ELEC] The inverse of Q, the storage factor. { ˌdis·ə'pā·shən ˌfak·tər }

dissipation line [ELECTROMAG] A length of stainless steel or Nichrome wire used as a noninductive terminating impedance for a rhombic transmitting antenna when several kilowatts of power must be dissipated. { ˌdis·ə'pā·shən ˌlīn }

dissipation loss [ELEC] A measure of the power loss of a transducer in transmitting signals, expressed as the ratio of its input power to its output power. { ˌdis·ə'pā·shən ˌlȯs }

dissymmetrical network *See* dissymmetrical transducer. { ˌdis·ə'me·trə·kəl 'netˌwərk }

dissymmetrical transducer [ELECTR] A transducer whose input and output image impedances are not equal. Also known as dissymmetrical network. { ˌdis·ə'me·trə·kəl tranz'dü·sər }

distance mark [ELECTR] A movable point produced on a radar display by a special signal generator, so that when the mark is moved to a target position on the screen the range to the target can be read on the calibrated dial of the signal generator; usually used for gun laying where highly accurate distance is important. { 'dis·təns ˌmärk }

distance marker [ENG] One of a series of concentric circles, painted or otherwise fixed on the screen of a plan position indicator, from which the distance of a target from the radar antenna can be read directly; used for surveillance and navigation where the relative distances between a number of targets are required simultaneously. Also known as radar range marker; range marker. { 'dis·təns ˌmärk·ər }

distance protection [ELEC] Effect of a device operative within a predetermined electrical distance on the protected circuit to cause and maintain an interruption of power in a faulty circuit. { 'dis·təns prəˌtek·shən }

distance reception [COMMUN] Reception of messages from, or communication with, distant radio stations. Abbreviated DX. { 'dis·təns ri'sep·shən }

distance relay [ELEC] Protective relay, the operation of which is a function of the distance between the relay and the point of fault. { 'dis·təns ˌrē ˌlā }

distance resolution [ENG] The minimum radial distance by which targets must be separated to be separately distinguishable by a particular radar. Also known as range discrimination; range resolution. { 'dis·təns ˌrez·əˌlü·shən }

distance/velocity lag [CONT SYS] The delay caused by the amount of time required to transport material or propagate a signal or condition from one point to another. Also known as transportation lag; transport lag. { ¦dis·təns və'läs·əd·ē ˌlag }

distant field [ELECTROMAG] The electromagnetic field at a distance of five wavelengths or more from a transmitter, where the radial electric field becomes negligible. { ¦dis·tənt ¦fēld }

distortion [ELECTR] Any undesired change in the waveform of an electric signal passing through a circuit or other transmission medium. [ENG] In general, the extent to which a system fails to accurately reproduce the characteristics of an input signal at its output. [ENG ACOUS] Any undesired change in the waveform of a sound wave. { di'stȯr·shən }

distortion factor [COMMUN] Ratio of the effective value of the residue of a wave after elimination of the fundamental to the effective value of the original wave. { di'stȯr·shən ˌfak·tər }

distortion meter [ENG] An instrument that provides a visual indication of the harmonic content of an audio-frequency wave. { di'stȯr·shən ˌmēd·ər }

distress frequency [COMMUN] A frequency allotted to distress calls, generally by international agreement; for ships at sea and aircraft over the sea, it is 500 kilohertz. { də'stres ˌfrē·kwən·sē }

distributed amplifier [ELECTR] A wide-band amplifier in which tubes are distributed along artificial delay lines made up of coils acting with the input and output capacitances of the tubes. { di'strib·yəd·əd 'am·pləˌfī·ər }

distributed bulletin board [COMPUT SCI] A collection of newsgroups on a wide-area network.

whose postings are available to every user. { di,strib·yəd·əd 'bül·ət·ən ,bȯrd }

distributed capacitance [ELEC] Capacitance that exists between the turns in a coil or choke, or between adjacent conductors or circuits, as distinguished from the capacitance concentrated in a capacitor. { di'strib·yəd·əd kə'pas·əd·əns }

distributed circuit [ELECTR] A film circuit whose effective components cannot be easily recognized as discrete. { di'strib·yəd·əd 'sər·kət }

distributed communications [COMMUN] Information transfer beyond the local level that may involve the originating source to transmit information to all communications centers on any one network, and may also cause an interchange of communications among several whole networks. { di'strib·yəd·əd kə'myü·nə'kā·shənz }

distributed computing [COMPUT SCI] The use of multiple network-connected computers for solving a problem or for information processing. { di,strib·yəd·əd kəm'pyüd·iŋ }

distributed control system [CONT SYS] A collection of modules, each with its own specific function, interconnected tightly to carry out an integrated data acquisition and control application. { di'strib·yəd·əd kən'trōl ,sis·təm }

distributed database [COMPUT SCI] A database maintained in physically separated locations and supported by a computer network so that it is possible to access all parts of the database from various points in the network. { di'strib·yəd·əd 'dad·ə ,bās }

distributed-emission photodiode [ELECTR] A broad-band photodiode proposed for detection of modulated laser beams at millimeter wavelengths; incident light falls on a photocathode strip that generates a traveling wave of photocurrent having the same wave velocity as the transmission line which the photodiode feeds. { di'strib·yəd·əd ə'mish·ən ,fōd·ō,dī,ōd }

distributed free space [COMPUT SCI] Empty spaces in a data layout to allow new data to be inserted at a future time. { di'strib·yəd·əd ¦frē ¦spās }

distributed intelligence [COMPUT SCI] The existence of processing capability in terminals and other peripheral devices of a computer system. Also known as distributed logic. { di'strib·yəd·əd in'tel·ə·jəns }

distributed logic *See* distributed intelligence. { di¦strib·yəd·əd 'läj·ik }

distributed logic cluster word processor [COMPUT SCI] A system of word processors each of which can operate independently, although printers are generally shared by a number of terminals. { di'strib·yəd·əd 'läj·ik,kləs·tər 'wərd ,prās,es·ər }

distributed network [COMMUN] A communications network in which there exist alternative routings between the various nodes. [COMPUT SCI] A computer network in which at least some of the processing is done at individual work stations and information is shared by and often stored at the work stations. { di'strib·yəd·əd 'net,wərk }

distributed numerical control [CONT SYS] The use of central computers to distribute part-classification data to machine tools which themselves are controlled by computers or numerical control tapes. { di'strib·yəd·əd nü'mer·ə·kəl kən'trōl }

distributed-parameter system *See* distributed system. { di'strib·yəd·əd pə'ram·əd·ər ,sis·təm }

distributed paramp [ELECTR] Paramagnetic amplifier that consists essentially of a transmission line shunted by uniformly spaced, identical varactors; the applied pumping wave excites the varactors in sequence to give the desired traveling-wave effect. { di'strib·yəd·əd ¦par ¦amp }

distributed processing system [COMPUT SCI] An information processing system consisting of two or more programmable devices, connected so that information can be exchanged. { di'strib·yəd·əd 'präs,es·iŋ ,sis·təm }

distributed system [COMPUT SCI] A computer system consisting of a collection of autonomous computers linked by a network and equipped with software that enables the computers to coordinate their activities and to share the resources of system hardware, software, and data, so that users perceive a single, integrated computing facility. [CONT SYS] A collection of modules, each with its own specific function, interconnected to carry out integrated data acquisition and control in a critical environment. [SYS ENG] A system whose behavior is governed by partial differential equations, and not merely ordinary differential equations. Also known as distributed-parameter system. { di'strib·yəd·əd 'sis·təm }

distributing frame [ELECTR] Structure for terminating permanent wires of a central office, private branch exchange, or private exchange, and for permitting the easy change of connections between them by means of cross-connecting wires. { di'strib·yəd·iŋ ,frām }

distributing terminal assembly [ELECTR] Frame situated between each pair of selector bays to provide terminal facilities for the selector bank wiring and facilities for cross-connection to trunks running to succeeding switches. { di'strib·yəd·iŋ 'tərm·ən·əl ə,sem·blē }

distribution amplifier [ELECTR] A radio-frequency power amplifier used to feed television or radio signals to a number of receivers, as in an apartment house or a hotel. [ENG ACOUS] An audio-frequency power amplifier used to feed a speech or music distribution system and having sufficiently low output impedance so changes in load do not appreciably affect the output voltage. { ,dis·trə'byü·shən 'am·plə,fī·ər }

distribution cable [ELEC] Cable extending from a feeder cable into a specific area for the purpose of providing service to that area. { ,dis·trə'byü·shən ,kā·bəl }

distribution center [ELEC] In an alternating-current power system, the point at which

control and routing equipment is installed. { ˌdis·trəˈbyü·shən ˌsen·tər }

distribution control See linearity control. { ˌdis·trəˈbyü·shən kənˈtrōl }

distribution frame [COMMUN] A place where a number of cables converge and signals are redistributed among them. { ˌdis·trəˈbyü·shən ˌfrām }

distribution substation [ELEC] An electric power substation associated with the distribution system and the primary feeders for supply to residential, commercial, and industrial loads. { ˌdis·trəˈbyü·shən ˈsəbˌstā·shən }

distribution switchboard [ELEC] Power switchboard used for the distribution of electrical energy at the voltage common for each distribution within a building. { ˌdis·trəˈbyü·shən ˈswich ˌbōrd }

distribution system [ELEC] Circuitry involving high-voltage switchgear, step-down transformers, voltage dividers, and related equipment used to receive high-voltage electricity from a primary source and redistribute it at lower voltages. Also known as electric distribution system. { ˌdis·trəˈbyü·shən ˌsis·təm }

distribution transformer [ELEC] An element of an electric distribution system located near consumers which changes primary distribution voltage to secondary distribution voltage. { ˌdis·trəˈbyü·shən tranzˈfȯr·mər }

distributor [ELEC] **1.** Any device which allocates a telegraph line to each of a number of channels, or to each row of holes on a punched tape, in succession. **2.** A rotary switch that directs the high-voltage ignition current in the proper firing sequence to the various cylinders of an internal combustion engine. [ELECTR] The electronic circuitry which acts as an intermediate link between the accumulator and drum storage. { dəˈstrib·yəd·ər }

distributor points [ELEC] Cam-operated contacts, the opening of which triggers the ignition pulse in an internal combustion engine. { dəˈstrib·yəd·ər ˌpȯints }

disturbance [COMMUN] An undesired interference or noise signal affecting radio, television, or data reception. { dəˈstər·bəns }

disturbed-one output [ELECTR] One output of a magnetic cell to which partial-read pulses have been applied since that cell was last selected for writing. { dəˈstərbd ˌwən ˈaůtˌpůt }

dither [COMMUN] A technique for representing the entire gray scale of a picture by picture elements with only one of two levels ("white" and "black"), in which a multilevel input image signal is compared with a position-dependent set of thresholds, and picture elements are set to "white" only where the image input signal exceeds the threshold. [CONT SYS] A force having a controlled amplitude and frequency, applied continuously to a device driven by a servomotor so that the device is constantly in small-amplitude motion and cannot stick at its null position. Also known as buzz. { ˈdiţh·ər }

dither matrix [COMMUN] A square matrix of threshold values that is repeated as a regular array to provide a threshold pattern for an entire image in the dither method of image representation. { ˈdiţh·ər ˌmā·triks }

divergence [ELECTR] The spreading of a cathode-ray stream due to repulsion of like charges (electrons). { dəˈvər·jəns }

diversity [COMMUN] Method of signal extraction by which an optimum resultant signal is derived from a combination of, or selection from, a plurality of transmission paths, channels, techniques, or physical arrangements; the system may employ space diversity, polarization diversity, frequency diversity, or any other arrangement by which a choice can be made between signals. { dəˈvər·səd·ē }

diversity factor [ELEC] Ratio of the sum of the individual maximum demands to total maximum demand, as applied to an electrical distribution system. { dəˈvər·səd·ē ˌfak·tər }

diversity gain [COMMUN] Gain in reception as a result of the use of two or more receiving antennas. { dəˈvər·səd·ē ˌgān }

diversity radar [ENG] A radar that uses two or more transmitters and receivers, each pair operating at a slightly different frequency but sharing a common antenna and video display, to obtain greater effective range and reduce susceptibility to jamming. { dəˈvər·səd·ē ˈrāˌdär }

diversity receiver [ELECTR] A radio receiver designed for space or frequency diversity reception. { dəˈvər·səd·ē riˈsē·vər }

diversity reception [COMMUN] Radio reception in which the effects of fading are minimized by combining two or more sources of signal energy carrying the same modulation. { dəˈvər·səd·ē riˈsep·shən }

diverter [ELEC] A low resistance which is connected in parallel with the series or commutating pole winding of a direct-current machine and diverts current from it, causing the magnetomotive force produced by the winding to vary. { dəˈvərd·ər }

diverter-pole generator [ELEC] Compound wound direct-current generator with the series winding of the diverter pole opposing the flux generated by the shunt wound main pole; provides a close voltage regulation. { dəˈvərd·ərˌpōl ˈjen·əˌrād·ər }

divide check [COMPUT SCI] An error signal indicating that an illegal division (such as dividing by zero) was attempted. { dəˈvīd ˌchek }

divided slit scan [COMPUT SCI] In optical character recognition, a device consisting of a narrow column of photoelectric cells which scans an input character at given intervals for the purpose of obtaining its horizontal and vertical components. { də'vīd·əd 'slit ˌskan }

dividing network See crossover network. { də'vīd·iŋ ˌnet,wərk }

division [COMPUT SCI] One of four required parts of a COBOL program, labeled identification, environment, data, and procedure, each with a set of rules governing the contents. { də'vizh·ən }

division subroutine [COMPUT SCI] A built-in program which achieves division by methods such as repetitive subtraction. { də'vizh·ən 'səb·rü,tēn }

dma See direct memory access.

DNS See domain name system.

Dobrowolsky generator [ELEC] Three-wire, direct-current generator with a balance coil connected across the armature; the coil's midpoint produces the midpoint voltage for the system. { ˌdō·brə'väl·skē 'jen·əˌrād·ər }

docking station [COMPUT SCI] A device that connects a portable computer with peripherals such as an external monitor, keyboard, and so on, allowing a portable computer to function as a desktop computer. { 'däk·iŋ ˌstā·shən }

document [COMPUT SCI] **1.** Any record, printed or otherwise, that can be read by a human or a machine. **2.** To prepare a written text and charts describing the purpose, nature, usage, and operation of a program or a system of programs. { 'däk·yə·mənt }

document alignment [COMPUT SCI] The phase of the reading process in which a transverse force is applied to a document to line up its reference edge with that of the reading station. { 'däk·yə·mənt əˌlīn·mənt }

documentation [COMPUT SCI] The collection, organized and stored, of records that describe the purpose, use, structure, details, and operational requirements of a program, for the purpose of making this information easily accessible to the user. { ˌdäk·yə·mən'tā·shən }

document comparison utility [COMPUT SCI] A program that compares two documents created by word-processing programs and provides a display of the differences between them. { ˌdäk·yə·mənt kəm'par·ə·sən yü,til·əd·ē }

document flow [COMPUT SCI] The path taken by documents as they are processed through a record handling system. { 'däk·yə·mənt ˌflō }

document handling [COMPUT SCI] In character recognition, the process of loading, feeding, transporting, and unloading a cut-form document that has been submitted for character recognition. { 'däk·yə·mənt ˌhand·liŋ }

document image processing [COMPUT SCI] The scanning of paper documents followed by the storage, retrieval, display, and management of the resulting electronic images. Also known as document imaging. { ˌdäk·yə·mənt 'im·ij ˌprä ˌses·iŋ }

document imaging See document image processing. { 'däk·yə·mənt ˌim·ij·iŋ }

document leading edge [COMPUT SCI] In character recognition, that edge which is the foremost one encountered during the reading process and whose relative position defines the document's direction of travel. { 'däk·yə·mənt ˌlēd·iŋ 'ej }

document misregistration [COMPUT SCI] In character recognition, the improper state of appearance of a document, on site in a character reader, with respect to real or imaginary horizontal baselines. { 'däk·yə·mənt ˌmis·rej·ə'strā·shən }

document number [COMPUT SCI] The number given to a document by its originators to be used as a means for retrieval; it will follow any one of various systems, such as chronological, subject area, or accession. { 'däk·yə·mənt ˌnəm·bər }

document processing [COMPUT SCI] The creation, handling, labeling, and modification of text documents, such as in word processing and in the indexing of documents for retrieval based on their content. { ˌdäk·yə·mənt 'präˌses·iŋ }

document reader [COMPUT SCI] An optical character reader which reads a limited amount of information (one to five lines) and generally operates from a predetermined format. { 'däk·yə·mənt ˌrēd·ər }

document reference edge [COMPUT SCI] In character recognition, that edge of a source document which provides the basis of all subsequent reading processes, insofar as it indicates the relative position of registration marks, and the impending text. { 'däk·yə·mənt 'ref·rəns ˌej }

Document Type Definition [COMPUT SCI] In Standard Generalized Markup Language, a file that specifies the tags in a particular document and the relationships among the fields that they represent. Abbreviated DTD. { 'däk·yə·mənt ˌtīp ˌdef·əˌnish·ən }

docuterm [COMPUT SCI] A word or phrase descriptive of the subject matter or concept of an item of information and considered important for later retrieval of information. { 'däk·yəˌtərm }

DOD See direct outward dialing.

dog [COMPUT SCI] A name for the hexadecimal digit whose decimal equivalent is 13. { dȯg }

doghouse [ELECTR] Small enclosure placed at the base of a transmitting antenna tower to house antenna tuning equipment. { 'dȯgˌhaùs }

Doherty amplifier [ELECTR] A linear radio-frequency power amplifier that is divided into two sections whose inputs and outputs are connected by quarter-wave networks; for all values of input signal voltage up to one-half maximum amplitude, section no. 1 delivers all the power to the load; above this level, section no. 2 comes into operation. { 'dō·ərd·ē ˌam·plə ˌfī·ər }

do loop [COMPUT SCI] A FORTRAN iterative technique which enables any number of instructions to be executed repeatedly. { 'dü ˌlüp }

domain [COMPUT SCI] **1.** The set of all possible values contained in a particular field for every record of a file. **2.** The protected resources that are surrounded by the security perimeter of a distributed computer system. Also known as

enclave; protected subnetwork. **3.** The final two or three letters of an Internet address, which specifies the highest subdivision; in the United States this is the type of organization, such as commercial, educational, or governmental, while outside the United States it is usually a country. { dō'mān }

domain name [COMPUT SCI] An alphanumeric string which identifies a particular computer or a network on the Internet. { dō'mān ˌnām }

domain name system [COMPUT SCI] Abbreviated DNS. **1.** A system used on the Internet to map the easily remembered names of host computers (domain names) to their respective Internet Protocol (IP) numbers. **2.** A software database program that converts domain names to Internet Protocol addresses, and vice versa. { dōˌmān ˈnām ˌsis·təm }

domain tip memory [COMPUT SCI] A computer memory in which the presence or absence of a magnetic domain in a localized region of a thin magnetic film designates a 1 or 0. Abbreviated DOT memory. Also known as magnetic domain memory. { dō'mān ˌtip 'mem·rē }

domestic induction heater [ENG] A cooking utensil heated by current (usually of commercial power line frequency) induced in it by a primary inductor. { də'mes·tik in'dək·shən ˌhēd·ər }

domestic public-frequency bands [COMMUN] Radio-frequency bands reserved for public service within the United States. { də'mes·tik ¦pəb·lik 'frē·kwən·sē ˌbanz }

domestic satellite [ENG] A satellite in stationary orbit 22,300 miles (35,680 kilometers) above the equator for handling 12 or more separate color television programs, thousands of private-line telephone calls, or an equivalent number of channels for other communication services within the United States. Abbreviated DOMSAT. { də'mes·tik 'sad·əl,īt }

dominant mode *See* fundamental mode. { 'däm·ə·nənt 'mōd }

DOMSAT *See* domestic satellite. { 'däm,sat }

dongle [COMPUT SCI] A hardware device that plugs into a computer or printer port and serves as a copy-protection device for certain software, which must verify its presence in order to run properly. Also known as hardware key. { 'daŋ·gəl }

donor [SOLID STATE] An impurity that is added to a pure semiconductor material to increase the number of free electrons. Also known as donor impurity; electron donor. { 'dō·nər }

donor impurity *See* donor. { 'dō·nər im,pyur·ədē }

do-nothing instruction *See* NO OP. { 'dü ˌnəth·iŋ in,strək·shən }

doorknob capacitor [ELEC] A high-voltage, plastic-encased capacitor resembling a doorknob in size and shape. { 'dȯr,näb kə,pas·əd·ər }

dopant *See* doping agent. { 'dō·pənt }

dope *See* doping agent. { dōp }

doped junction [ELECTR] A junction produced by adding an impurity to the melt during growing of a semiconductor crystal. { ¦dōpt 'jəŋk·shən }

doping [ELECTR] The addition of impurities to a semiconductor to achieve a desired characteristic, as in producing an *n*-type or *p*-type material. Also known as semiconductor doping. { 'dōp·iŋ }

doping agent [ELECTR] An impurity element added to semiconductor materials used in crystal diodes and transistors. Also known as dopant; dope. { 'dōp·iŋ ˌā·jənt }

doping compensation [ELECTR] The addition of donor impurities to a *p*-type semiconductor or of acceptor impurities to an *n*-type semiconductor. { 'dōp·iŋ käm·pən'sā·shən }

Doppler filtering [ELECTR] A form of coherent signal processing in a Doppler radar involving, in a pulsed radar, multiple pulses in a coherent processing interval so that one Doppler shift, indicative of the target radial velocity, may be distinguished from another; similar Doppler-sensitive processing in a continuous-wave radar. { 'däp·lər ˌfil·tər·iŋ }

Doppler radar [ENG] Coherent radar, either continuous wave or pulsed, capable of sensing the radial motion of targets by sensing the Doppler shift of the echoes. { 'däp·lər 'rāˌdär }

Doppler sonar [ENG] Sonar based on Doppler shift measurement technique. Abbreviated DS. { 'däp·lər 'sōˌnär }

Doppler tracking [ENG] Tracking of a target by using Doppler radar. { 'däp·lər ˌtrak·iŋ }

Doppler VOR [NAV] A ground-based navigational aid operating at very high frequency and using a wide-aperture radiation system to reduce azimuth errors caused by reflection from terrain and other obstacles; makes use of the Doppler principle to solve the problem of ambiguity that arises from the use of a radiation system with apertures that exceed one-half wavelength. { 'däp·lər ¦vē¦ō'är }

DOS *See* disk operating system. { däs }

dot *See* button. { dät }

dot-addressable [COMPUT SCI] The ability of an electronic display or a dot-matrix printer to specify the individual dots that form images of characters. { ¦dät ə'dres·ə·bəl }

dot character printer *See* dot matrix printer. { 'dät 'kar·ik·tər ˌprint·ər }

dot cycle [COMMUN] In teletypewriter systems, an on-off or mark-space cycle in which both mark and space have the same length as the unit pulse. { 'dät ˌsī·kəl }

dot generator [ELECTR] A signal generator that produces a dot pattern on the screen of a color display device for use in convergence adjustments. { 'dät ˌjen·əˌrād·ər }

dot matrix [COMPUT SCI] An array of dots that forms a character or graphic symbol. { ¦dät 'mā·triks }

dot matrix printer [COMPUT SCI] A type of printer that forms each character as a group of small dots, using a group of wires located in the printing element. Also known as dot character printer. { 'dät ¦mā·triks 'prin·tər }

dot-sequential color television [ELECTR] An analog color television system in which the red, blue, and green primary-color dots are formed in rapid succession along each scanning line. { ¦dät sə¦kwen·chəl 'kəl·ər 'tel·əˌvizh·ən }

dot system [ELECTR] Manufacturing technique for producing microelectronic circuitry. { 'dät ˌsis·təm }

double-amplitude-modulation multiplier [ELECTR] A multiplier in which one variable is amplitude-modulated by a carrier, and the modulated signal is again amplitude-modulated by the other variable; the resulting double-modulated signal is applied to a balanced demodulator to obtain the product of the two variables. { ˌdəb·əl ˌam·plə,tüd ˌmäj·ə,lā·shən 'məl·tə,plī·ər }

double armature [ELEC] An armature with two separate windings on a single core. { 'dəb·əl 'är·mə·chər }

double-barrier resonant tunneling diode [ELECTR] A variant of the tunnel diode with thin layers of aluminum gallium arsenide and gallium arsenide that have sharp interfaces and have widths comparable to the Schrödinger wavelengths of the electrons, permitting resonant behavior. Abbreviated DBRT diode. { ˌdəb·əl ˌbar·ē·ər ˌrez·ən·ənt ˌtən·əl·iŋ 'dī,ōd }

double-base diode *See* unijunction transistor. { ˌdəb·əl ˌbās 'dī,ōd }

double-base junction diode *See* unijunction transistor. { ˌdəb·əl ˌbās 'jəŋk·shən 'dī,ōd }

double-base junction transistor [ELECTR] A tetrode transistor that is essentially a junction triode transistor having two base connections on opposite sides of the central region of the transistor. Also known as tetrode junction transistor. { ˌdəb·əl ˌbās 'jəŋk·shən tran'zis·tər }

double-beam cathode-ray tube [ELECTR] A cathode-ray tube having two beams and capable of producing two independent traces that may overlap; the beams may be produced by splitting the beam of one gun or by using two guns. { ˌdəb·əl ˌbēm ˌkāth,ōd 'rā ˌtüb }

double-bounce calibration [ELECTR] Method of radar calibration which is used to determine the zero set error by using round-trip echoes; the correct range is the difference between the first and second echoes. { ˌdəb·əl ˌbau̇ns kal·ə'brā·shən }

double-break switch [ELEC] Switch which opens the connected circuit at two points. { ˌdəb·əl ˌbrāk 'swich }

double bridge *See* Kelvin bridge. { ˌdəb·əl 'brij }

double-buffered data transfer [COMPUT SCI] The transmission of data into the buffer register and from there into the device register proper. { ˌdəb·əl ˌbəf·ərd'dad·ə ˌtrans·fər }

double bus-double breaker [ELEC] A substation switching arrangement having two common buses and two breakers per connection. { ˌdəb·əl 'bəs ˌdəb·əl ˌbrāk·ər }

double bus-single breaker [ELEC] A substation switching arrangement that involves two common buses and only one breaker per connection. { ˌdəb·əl 'bəs ˌsiŋ·gəl ˌbrāk·ər }

double-button microphone [ENG ACOUS] A carbon microphone having two carbon-filled buttonlike containers, one on each side of the diaphragm, to give twice the resistance change obtainable with a single button. Also known as differential microphone. { ˌdəb·əl ˌbət·ən 'mī·krəˌfōn }

double-channel duplex [COMMUN] A method that provides for simultaneous communication between two stations through use of two radio-frequency channels, one in each direction. { ˌdəb·əl ˌchan·əl 'dü,pleks }

double-channel simplex [COMMUN] A method that provides for nonsimultaneous communication between two stations through use of two radio-frequency channels, one in each direction. { ˌdəb·əl ˌchan·əl 'sim,pleks }

double-click [COMPUT SCI] To depress and release a mouse button twice in quick succession; often used to initiate an action such as opening a file, and to extend actions that result from a single click. { ˌdəb·əl 'klik }

double-current cable code [COMMUN] A cable code in which characters are determined by bipolar characters of equal length. { ˌdəb·əl ˌkə·rənt 'kā·bəl ˌkōd }

double-current generator [ELEC] Machine which supplies both direct and alternating current from the same armature winding. { ˌdəb·əl ˌkə·rənt 'jen·əˌrād·ər }

double-current signaling [COMMUN] A system of telegraph signaling that uses both positive and negative currents. { ˌdəb·əl ˌkə·rənt 'sig·nəl·iŋ }

double data rate [COMPUT SCI] A clocking technique that increases the transfer speeds of synchronous memories by using both the leading and trailing edges of the clock signal to transfer data, effectively doubling the transfer rate or bandwidth. { ˌdəb·əl 'dad·əˌrāt }

double density [COMPUT SCI] Property of a computer storage medium that holds twice as much data per unit of storage space as the standard; applied particularly to floppy disks. { 'dəb·əl 'den·səd·ē }

double-diffused transistor [ELECTR] A transistor in which two *pn* junctions are formed in the semiconductor wafer by gaseous diffusion of both *p*-type and *n*-type impurities; an intrinsic region can also be formed. { ˌdəb·əl dəˌfyüzd tran'zis·tər }

double-diode limiter [ELECTR] Type of limiter which is used to remove all positive signals from a combination of positive and negative pulses.

or to remove all the negative signals from such a combination of positive and negative pulses. { ¦dəb·əl ¦dī,ōd 'lim·əd·ər }

double-doped transistor [ELECTR] The original grown-junction transistor, formed by successively adding *p*-type and *n*-type impurities to the melt during growing of the crystal. { ¦dəb·əl ¦dōpt tran'zis·tər }

double-doublet antenna [ELECTROMAG] Two half-wave doublet antennas criss-crossed at their center, one being shorter than the other to give broader frequency coverage. { ¦dəb·əl ¦dəb·lət an'ten·ə }

double frequency shift keying [COMMUN] Multiplex system in which two telegraph signals are combined and transmitted simultaneously by a method of frequency shifting between four radio frequencies. { ¦dəb·əl 'frē·kwən·sē ¦shift 'kē·iŋ }

double image [ELECTR] A television picture consisting of two overlapping images due to reception of the analog signal over two paths of different length so that signals arrive at slightly different times. { ¦dəb·əl 'im·ij }

double-length number [COMPUT SCI] A number having twice as many digits as are ordinarily used in a given computer. Also known as double-precision number. { ¦dəb·əl ¦leŋkth 'nəm·bər }

double limiter *See* cascade limiter. { ¦dəb·əl 'lim·əd·ər }

double-list sorting [COMPUT SCI] A method of internal sorting in which the entire unsorted list is first placed in one portion of main memory and sorting action then takes place, creating a sorted list, generally in another area of memory. { ¦dəb·əl ¦list 'sȯrd·iŋ }

double moding [ELECTR] Undesirable shifting of a magnetron from one frequency to another at irregular intervals. { ¦dəb·əl 'mōd·iŋ }

double modulation [COMMUN] A method of modulation in which a subcarrier is first modulated with the desired intelligence, and the modulated subcarrier is then used to modulate a second carrier having a higher frequency. { ¦dəb·əl ¦mäj·ə'lā·shən }

double-polarity pulse-amplitude modulation [COMMUN] Pulse-amplitude modulation employing pulses of positive and negative polarity, the average value being equal to zero. Also known as bidirectional pulse-amplitude modulation. { ¦dəb·əl pə'lar·əd·ē 'pəls ¦am·plə ¦tüd ¦mäj·ə'lā·shən }

double-pole double-throw switch [ELEC] A six-terminal switch or relay contact arrangement that simultaneously connects one pair of terminals to either of two other pairs of terminals. Abbreviated dpdt switch. { ¦dəb·əl ¦pōl ¦dəb·əl ¦thrō 'swich }

double-pole single-throw switch [ELEC] A four-terminal switch or relay contact arrangement that simultaneously opens or closes two separate circuits or both sides of the same circuit. Abbreviated dpst switch. { ¦dəb·əl ¦pōl ¦siŋ·gəl ¦thrō 'swich }

double-pole switch [ELEC] A switch that operates simultaneously in two separate electric circuits or in both lines of a single circuit. { ¦dəb·əl ¦pōl 'swich }

double précision [COMPUT SCI] The use of two computer words to represent a double-length number. { ¦dəb·əl prə'sizh·ən }

double-precision hardware [COMPUT SCI] Special arithmetic units in a computer designed to handle double-length numbers, employed in operations in which greater accuracy than normal is desired. { ¦dəb·əl prə¦sizh·ən 'härd,wer }

double-precision number *See* double-length number. { ¦dəb·əl prə¦sizh·ən 'nəm·bər }

double-pulse recording [COMPUT SCI] A technique for recording binary digits in magnetic cells in which each cell consists of two regions that can be magnetized in opposite directions and the value of each bit (0 or 1) is determined by the order in which the regions occur. { ¦dəb·əl ¦pəls ri'kȯrd·iŋ }

doubler *See* frequency doubler. { 'dəb·lər }

double refraction *See* birefringence. { ¦dəb·əl ri'frak·shən }

double screen [ELECTR] Three-layer cathode-ray tube screen consisting of a two-layer screen with the addition of a second long-persistence coating having a different color and different persistence from the first. { ¦dəb·əl 'skrēn }

double-shield enclosure [ELEC] Type of shielded enclosure or room in which the inner wall is partially isolated electrically from the outer wall. { ¦dəb·əl ¦shēld in'klō·zhər }

double-sideband modulation [COMMUN] Amplitude modulation in which the modulated wave is composed of a carrier, an upper sideband whose frequency is the sum of the carrier and modulation frequencies, and a lower sideband whose frequency is the difference between the carrier and modulation frequencies. Abbreviated DSB. Also known as double-sideband transmitted-carrier modulation (DSB-TC modulation; DSTC modulation). { ¦dəb·əl ¦sīd,band ¦mäj·ə'lā·shən }

double-sideband reduced-carrier modulation [COMMUN] A form of amplitude modulation in which both the upper and lower sidebands are transmitted but the power contained in the unmodulated carrier is reduced to a fixed level below that provided to the modulator. Abbreviated DSB-RC modulation. { ¦dəb·əl ¦sīd ¦band ri¦düst ¦kar·ē·ər ¦mä·jə¦lā·shən }

double-sideband suppressed-carrier modulation [COMMUN] A form of amplitude modulation in which both the upper and lower sidebands are transmitted but the power contained in the unmodulated carrier is reduced to a fixed level below that provided to the modulator. Abbreviated DSB-SC modulation. { ¦dəb·əl ¦sīd ¦band sə¦prest ¦kar·ē·ər ¦mäj·ə¦lā·shən }

double-sideband transmission [COMMUN] The transmission of a modulated carrier wave accompanied by both of the sidebands resulting from modulation; the upper sideband corresponds to the sum of the carrier and modulation frequencies, whereas the lower sideband corresponds to the difference between

the carrier and modulation frequencies. { ¦dəb·əl ¦sīd,band tranz'mish·ən }

double-sideband transmitted-carrier modulation *See* double-sideband modulation. { ¦dəb·əl ¦sīd ,band tranz¦mid·əd ¦kar·ē·ər ,mäj·ə'lā·shən }

double-sided board [ELECTR] A printed wiring board that contains circuitry on both external layers. { ¦dəb·əl ,sīd·əd 'bȯrd }

double-sided disk [COMPUT SCI] A diskette that can be written on both of its sides. { ¦dəb·əl ¦sīd·əd 'disk }

double-stream amplifier [ELECTR] Microwave traveling-wave amplifier in which amplification occurs through interaction of two electron beams having different average velocities. { ¦dəb·əl ,strēm 'am·plə,fī·ər }

double-stub tuner [ELECTROMAG] Impedance-matching device, consisting of two stubs, usually fixed three-eighths of a wavelength apart, in parallel with the main transmission lines. { ¦dəb·əl ,stəb 'tün·ər }

double-superheterodyne reception [COMMUN] Method of reception in which two frequency converters are employed before final detection. Also known as triple detection. { ¦dəb·əl ,sü·pər¦het·rə,dīn ri'sep·shən }

doublet antenna *See* dipole antenna. { 'dəb·lət an'ten·ə }

double-throw circuit breaker [ELEC] Circuit breaker by means of which a change in the circuit connections can be obtained by closing either of two sets of contacts. { ¦dəb·əl ,thrō 'sər·kət ,brāk·ər }

double-throw switch [ELEC] A switch that connects one set of two or more terminals to either of two other similar sets of terminals. { ¦dəb·əl ,thrō 'swich }

double-track tape recorder [ENG ACOUS] A tape recorder with a recording head that covers half the tape width, so two parallel tracks can be recorded on one tape. Also known as dual-track tape recorder; half-track tape recorder. { ¦dəb·əl ,trak 'tāp ri,kȯrd·ər }

double triode [ELECTR] An electron tube having two triodes in the same envelope. Also known as duotriode. { ¦dəb·əl 'trī,ōd }

doublet trigger [ELECTR] A trigger signal consisting of two pulses spaced a predetermined amount for coding purposes. { 'dəb·lət ,trig·ər }

double-tuned amplifier [ELECTR] Amplifier of one or more stages in which each stage uses coupled circuits having two frequencies of resonance, to obtain wider bands than those obtainable with single tuning. { ¦dəb·əl ,tünd 'am·plə,fī·ər }

double-tuned circuit [ELECTR] A circuit that is resonant to two adjacent frequencies, so that there are two approximately equal values of peak response, with a dip between. { ¦dəb·əl ,tünd 'sər·kət }

double-tuned detector [ELECTR] A type of frequency-modulation discriminator in which the limiter output transformer has two secondaries, one tuned above the resting frequency and the other tuned an equal amount below. { ¦dəb·əl ,tünd di'tek·tər }

double-winding synchronous generator [ELEC] Synchronous generator which has two similar windings, in phase with one another, mounted on the same magnetic structure but not connected electrically, designed to supply power to two independent external circuits. { ¦dəb·əl ¦wīnd·iŋ ¦siŋ·krə·nəs 'jen·ə,rād·ər }

double word [COMPUT SCI] A unit containing twice as many bits as a word. { ¦dəb·əl 'wərd }

double-word addressing [COMPUT SCI] An addressing mode in computers with short words (less than 16 bits) in which the second of two consecutive instruction words contains the address of a location. { ¦dəb·əl ,wərd 'a ,dres·iŋ }

doubly linked ring [COMPUT SCI] A cycle arrangement of data elements in which searches are possible in both directions. { ¦dəb·lē ¦liŋkt 'riŋ }

do-until structure [COMPUT SCI] A set of program statements that is executed once, and may then be executed repeatedly, depending on the results of a test specified in the first statement. { 'dü ən'til ,strək·chər }

do-while structure [COMPUT SCI] A set of program statements that is executed repeatedly, as long as some condition, specified in the first statement, remains in effect. { 'dü 'wīl ,strək·chər }

down-lead *See* lead-in. { 'daun ,lēd }

downlink [COMMUN] The radio or optical transmission path downward from a communications satellite to the earth or an aircraft, or from an aircraft to the earth. { 'daun,liŋk }

download [COMPUT SCI] To transfer a program or data file from a central computer to a remote computer or to the memory of an intelligent terminal. { 'daun,lōd }

downward compatibility [COMPUT SCI] The ability of an older or smaller computer to accept programs from a newer or larger one. Also known as backward compatibility. { 'daun·wərd kəm ,pad·ə'bil·əd·ē }

Dow oscillator *See* electron-coupled oscillator. { ¦daù 'äs·ə,lād·ər }

DPCM *See* differential pulse-code modulation.

dpdt switch *See* double-pole double-throw switch. { ¦dē¦pē¦dē'tē ,swich }

DPMS *See* display power management signaling.

dpst switch *See* double-pole single-throw switch. { ¦dē¦pē¦es'tē ,swich }

drag [COMPUT SCI] To move an object across a screen by moving a pointing device while holding down the control button. { drag }

drag and drop [COMPUT SCI] A feature whereby operations are performed on objects, such as icons or blocks of text, by dragging them across the screen to a particular spot. { ¦drag ən 'dräp }

drag-cup motor [ELEC] An induction motor having a cup-shaped rotor or conducting material, inside of which is a stationary magnetic core. { 'drag ,kəp 'mōd·ər }

drain [ELEC] *See* current drain. [ELECTR] The region into which majority carriers flow in a field-effect transistor; it is comparable to the collector of a bipolar transistor and the anode of an electron tube. { drān }

drain wire [ELEC] Metallic conductor frequently used in contact with foil-type signal-cable shielding to provide a low-resistance ground return at any point along the shield. ['drān ˌwīr]

DRAM *See* dynamic random-access memory. ['dē,ram]

DRAW *See* direct read after write. [drȯ]

drawing program [COMPUT SCI] A graphics program that maintains images in vector graphics format, allowing the user to design and illustrate objects on the display screen. Also known as illustration program. ['drȯ-iŋ ˌprō·gram]

dress [ELECTR] The arrangement of connecting wires in a circuit to prevent undesirable coupling and feedback.

drift [ENG] A gradual deviation from a set adjustment, such as frequency or balance current, or from a direction. [drift]

drift-corrected amplifier [ELECTR] A type of amplifier that includes circuits designed to reduce gradual changes in output, used in analog computers. [¦drift kə¦rek·təd 'am·plə,fī·ər]

drift error [COMPUT SCI] An error arising in the use of an analog computer due to gradual changes in the output of circuits (such as amplifiers) in the computer. ['drift ˌer·ər]

drift space [ELECTR] A space in an electron tube which is substantially free of externally applied alternating fields and in which repositioning of electrons takes place. ['drift ˌspās]

drift speed [ELEC] Average speed at which electrons or ions progress through a medium. ['drift ˌspēd]

drift transistor [ELECTR] **1.** A transistor having two plane parallel junctions, with a resistivity gradient in the base region between the junctions to improve the high-frequency response. **2.** *See* diffused-alloy transistor. ['drift tranˌzis·tər]

drill circuit [COMMUN] A telegraph circuit used only to practice sending and receiving. ['dril ˌsər·kət]

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 'daun]

drill up [COMPUT SCI] In data mining, viewing data in less detail; for example, viewing total sales as opposed to individual sales. [¦dril 'əp]

drive [ELECTR] *See* excitation. [ENG] The means by which a machine is given motion or power or by which power is transferred from one part of a machine to another. [drīv]

drive array [COMPUT SCI] A collection of hard disks organized to increase speed and improve reliability, often with the help of data stripping. ['drīv əˌrā]

drive bay [COMPUT SCI] A space in the cabinet of a personal computer where disk drives, tape drives, and CD-ROM drives can be installed. Also known as bay. ['drīv ˌbā]

drive control *See* horizontal drive control. ['drīv kənˌtrōl]

driveless work station [COMPUT SCI] A computer or terminal in a local area network that does not have its own disk drives and relies on a central mass storage facility for information storage. ['driv·ləs 'wərk ˌstā·shən]

drive light [COMPUT SCI] A lamp on the front of a disk drive that lights to indicate when the unit is reading or writing data. ['drīv ˌlīt]

driven array [ELECTROMAG] An antenna array consisting of a number of driven elements, usually half-wave dipoles, fed in phase or out of phase from a common source. [¦driv·ən ə'rā]

driven blocking oscillator *See* monostable blocking oscillator. [¦driv·ən ¦bläk·iŋ 'äs·əˌlād·ər]

driven element [ELECTROMAG] An antenna element that is directly connected to the transmission line. [¦driv·ən 'el·ə·mənt]

drive pattern [COMMUN] In a facsimile system, undesired pattern of density variations caused by periodic errors in the position of the recording spot. ['drīv ˌpad·ərn]

drive pulse [ELECTR] An electrical pulse which induces a magnetizing force in an element of a magnetic core storage, reversing the polarity of the core. ['drīv ˌpəls]

driver [COMPUT SCI] A sequence of program instructions that controls an input/output device such as a tape drive or disk drive. [ELECTR] The amplifier stage preceding the output stage in a receiver or transmitter. [ENG ACOUS] The portion of a horn loudspeaker that converts electrical energy into acoustical energy and feeds the acoustical energy to the small end of the horn. ['drī·vər]

driver element [ELECTROMAG] Antenna array element that receives power directly from the transmitter. ['drī·vər ˌel·ə·mənt]

driver sweep [ELECTR] Sweep triggered only by an incoming signal or trigger. ['drī·vər ˌswēp]

driver transformer [ELECTR] A transformer in the input circuit of an amplifier, especially in the transmitter. ['drī·vər tranz'fȯr·mər]

drive winding [ELECTR] A coil of wire that is inductively coupled to an element of a magnetic memory. Also known as drive wire. ['drīv ˌwīn·diŋ]

drive wire *See* drive winding. ['drīv ˌwīr]

driving clock [ENG] A mechanism for driving an instrument at a required rate. ['drīv·iŋ ˌkläk]

driving-point function [CONT SYS] A special type of transfer function in which the input and output variables are voltages or currents measured between the same pair of terminals in an electrical network. ['drīv·iŋ ˌpȯint, fəŋk·shən]

driving-point impedance [ELECTR] The complex ratio of applied alternating voltage to the resulting alternating current in an electron tube, network, or other transducer. ['drīv·iŋ ˌpȯint im'pēd·əns]

driving signal [ELECTR] Television signal that times the scanning at the pickup point. ['drīv·iŋ ˌsig·nəl]

drop bar [ELEC] Protective device used to ground a high-voltage capacitor when opening a door. ['dräp ˌbär]

drop bracket transposition [ELEC] Reversal of the relative positions of two parallel wire

conductors while depressing one, so that the crossover is in a vertical plane. { 'dräp ,brak·ət tranz·pə'zish·ən }

drop-dead halt [COMPUT SCI] A machine halt from which there is no recovery; such a halt may occur through a logical error in programming; examples in which a drop-dead halt could occur are division by zero and transfer to a nonexistent instruction word. Also known as dead halt. { ¦dräp ¦ded 'hȯlt }

drop-in [COMPUT SCI] The accidental appearance of an unwanted bit, digit, or character on a magnetic recording surface or during reading from or writing to a magnetic storage device. { 'dräp ,in }

dropout [COMPUT SCI] The accidental disappearance of a valid bit, digit, or character from a storage medium or during reading from or writing to a storage device. [ELEC] Of a relay, the maximum current, voltage, power, or such, at which it will release from its energized position. [ELECTR] A reduction in output signal level during reproduction of recorded data, sufficient to cause a processing error. { 'dräp,aůt }

dropout current [ELEC] The maximum current at which a relay or other magnetically operated device will release to its deenergized position. { 'dräp,aůt ,kə·rənt }

dropout error [ELECTR] Loss of a recorded bit or any other error occurring in recorded magnetic tape due to foreign particles on or in the magnetic coating or to defects in the backing. { 'dräp,aůt ,er·ər }

dropout fuse [ELEC] A fuse used on utility line poles which springs open when the fuse metal melts to provide rapid arc extinction, and which drops to an open-circuit position readily distinguishable from the ground. Also known as flip-open cutout fuse. { 'dräp,aůt ,fyüz }

dropout voltage [ELEC] The maximum voltage at which a relay or other magnetically operated device will release to its deenergized position. { 'dräp,aůt ,vōl·tij }

dropping resistor [ELEC] A resistor used in series with a load to decrease the voltage applied to the load. { 'dräp·iŋ ri,zis·tər }

drop relay [ELEC] Relay activated by incoming ringing current to call an operator's attention to a subscriber's line. { ¦dräp 'rē,lā }

drop repeater [ELECTR] Microwave repeater that is provided with the necessary equipment for local termination of one or more circuits. { 'dräp ri,pēd·ər }

drop wire [ELEC] Wire suitable for extending an open wire or cable pair from a pole or cable terminal to a building. { 'dräp ,wīr }

drum [ELECTR] A computer storage device consisting of a rapidly rotating cylinder with a magnetizable external surface on which data can be read or written by many read/write heads floating a few millionths of an inch off the surface; once used as a primary storage device but now used as an auxiliary device. Also known as drum memory; drum storage; magnetic drum; magnetic drum storage. { drəm }

drum armature [ELEC] An armature that has a drum winding. { 'drəm ,ärm·ə·chər }

drum controller [ELEC] An electric device that has a drum switch for its main switching element; used to govern the way electric power is delivered to a motor. { 'drəm kən,trō·lər }

drum disk rectifier [ELEC] A mechanical rectifier using synchronous contacts and a copper oxide dry disk. { 'drəm ,disk 'rek·tə,fī·ər }

drum mark [COMPUT SCI] A character indicating the termination of a record on a magnetic drum. { 'drəm ,märk }

drum memory *See* drum. { ¦drəm 'mem·rē }

drum meter *See* liquid-sealed meter. { 'drəm ,mēd·ər }

drum parity error [COMPUT SCI] Parity error occurring during transfer of information onto or from drums. { ¦drəm 'par·əd·ē ,er·ər }

drum plotter [ENG] A graphics output device that draws lines with a continuously moving pen on a sheet of paper rolled around a rotating drum that moves the paper in a direction perpendicular to the motion of the pen. { 'drəm ,plād·ər }

drum printer [COMPUT SCI] An impact printer in which a complete set of characters for each print position on a line is on a continuously rotating drum behind an inked ribbon, with paper in front of the ribbon; identical characters are printed simultaneously at all required positions on a line, on the fly, by signal-controlled hammers. { 'drəm ,print·ər }

drum recorder [ELECTR] A facsimile recorder in which the record sheet is mounted on a rotating drum or cylinder. { 'drəm ri,kȯrd·ər }

drum storage *See* drum. { 'drəm ,stȯr·ij }

drum switch [ELEC] A switch in which the electrical contacts are made on pins, segments, or surfaces on the periphery of a rotating cylinder or sector, or by the operation of a rotating cam. { 'drəm ,swich }

drum transmitter [ELECTR] A facsimile transmitter in which the subject copy is mounted on a rotating drum or cylinder. { ¦drəm tranz'mid·ər }

drum winding [ELEC] A type of winding in electric machines in which coils are housed in long, narrow gaps either in the outer surface of a cylindrical core or in the inner surface of a core with a cylindrical bore. { 'drəm ,wīnd·iŋ }

drunk mouse [COMPUT SCI] A mouse whose pointer jumps irrationally, usually as a result of dirt or grease on the rollers. { ¦drəŋk 'maůs }

dry battery [ELEC] A battery made up of a series, parallel, or series-parallel arrangement of dry cells in a single housing to provide desired voltage and current values. { ¦drī 'bad·ə·rē }

dry cell [ELEC] A voltage-generating cell having an immobilized electrolyte. { 'drī ,sel }

dry-charged battery [ELEC] A storage battery in which the electrolyte is drained from the battery for storage, and which is filled with electrolyte and charged for a few minutes to prepare for use. { ¦drī ,chärjd 'bad·ə·rē }

dry circuit [ELEC] A relay circuit in which open-circuit voltages are very low and closed-circuit

currents extremely small, so there is no arcing to roughen the contacts. { ¦drī ¦sər·kət }

dry contact [ELEC] A contact that does not break or make current. { ¦drī 'kan,takt }

dry-disk rectifier *See* metallic rectifier. { ¦drī ,disk 'rek·tə,fī·ər }

dry electrolytic capacitor [ELEC] An electrolytic capacitor in which the electrolyte is a paste rather than a liquid; the dielectric is a thin film of gas formed on one of the plates by chemical action. { ¦drī i¦lek·trə¦lid·ik kə'pas·əd·ər }

dry flashover voltage [ELECTR] Voltage at which the air surrounding a clean dry insulator or shell completely breaks down between electrodes. { ¦drī 'flash,ō·vər ,vōl·tij }

dry plasma etching *See* plasma etching. { ¦drī 'plaz·mə }

dry-plate rectifier *See* metallic rectifier. { 'drī ,plāt 'rek·tə,fī·ər }

dry reed relay [ELEC] Reed-type relay which does not use mercury at the relay contacts. { ¦drī ,rēd 'rē,lā }

dry reed switch [ELEC] A switch having contacts mounted on magnetic reeds in a vacuum enclosure, designed for reliable operation in dry circuits. { ¦drī ,rēd 'swich }

dry run [COMPUT SCI] A check of the logic and coding of a computer program in which the program's operations are followed from a flow chart and written instructions, and the results of each step are written down, before the program is run on a computer. Also known as desk check. [ENG] Any practice test or session. { ¦drī 'rən }

Drysdale ac polar potentiometer [ENG] A potentiometer for measuring alternating-current voltages in which the voltage is applied across a slide-wire supplied with current by a phase-shifting transformer; this current is measured by an ammeter and brought into phase with the unknown voltage by adjustment of the transformer rotor, and the unknown voltage is measured by observation of the slide-wire setting for a null indication of a vibration galvanometer. { 'drīz,dāl ¦ā¦sē ¦pō·lər pə,ten·chē'ām·əd·ər }

dry-tape fuel cell [ELEC] A fuel cell in which the fuel is in the form of a dry tape, coated with fuel, oxidant, and electrolyte, which is fed into the cell at a rate corresponding to the demand for electric energy. { 'drī ,tāp 'fyül ,sel }

DS *See* Doppler sonar.

DSB *See* double-sideband modulation.

DSB-RC modulation *See* double-sideband reduced-carrier modulation. { ¦dē¦es'bē ¦är'sē ,mäj·ə,lā·shən }

DSB-SC modulation *See* double-sideband suppressed-carrier modulation. { ¦dē,es,bē ¦es'sē ,mäj·ə,lā·shən }

DSB-TC modulation *See* double-sideband modulation. { ¦de¦es¦bē ¦tē'sē ,mäj·ə,lā·shən }

D-scan *See* D-display. { 'dē ,skan }

D-scope *See* D-display. { 'dē ,skōp }

DSECT *See* dummy section. { ¦dē'sekt }

D-shell connector [COMPUT SCI] The connector at the end of the cable between a video adapter and a monitor that is plugged into the video adapter. { 'dē,shel kə,nek·tər }

DSI *See* digital speech interpolation.

DSL *See* digital subscriber line.

DSP chip *See* digital signal processing chip. { ¦de ¦es'pē ,chip }

DSS *See* decision support system.

DSTC modulation *See* double-sideband modulation. { ¦dē¦es¦tē'sē ,mäj·ə,lā·shən }

DTD *See* Document Type Definition.

DTL *See* diode transistor logic.

DTMF *See* dual-tone mulitfrequency.

DTMF dialing *See* push-button dialing. { ¦dē¦tē ¦em'ef ,dī·liŋ }

DTV *See* digital television.

D/U [COMMUN] Ratio of desired to undesired signals, usually expressed in decibels.

dual-actuator hard disk [COMPUT SCI] A hard disk that is equipped with two read/write heads. { ¦dül 'ak·chə,wād·ər ¦härd ,disk }

dual-channel amplifier [ENG ACOUS] An audio-frequency amplifier having two separate amplifiers for the two channels of a stereophonic sound system, usually operating from a common power supply mounted on the same chassis. { ¦dü·əl ¦chan·əl 'am·plə,fī·ər }

dual control [CONT SYS] An optimal control law for a stochastic adaptive control system that gives a balance between keeping the control errors and the estimation errors small. { ¦dü·əl kən'trōl }

dual diversity receiver [ELECTR] A diversity radio receiver in which the two antennas feed separate radio-frequency systems, with mixing occurring after the converter. { ¦dü·əl də'vər·səd·ē ri ,sē·vər }

dual-emitter transistor [ELECTR] A passivated *pnp* silicon planar epitaxial transistor having two emitters, for use in low-level choppers. { ¦dü·əl i'mid·ər tran,zis·tər }

dual-gun cathode-ray tube [ELECTR] A dual-trace oscilloscope in which beams from two electron guns are controlled by separate balanced vertical-deflection plates and also have separate brightness and focus controls. { ¦dü·əl ¦gən ,kath,ōd 'rā ,tüb }

dual in-line package [ELECTR] Microcircuit package with two rows of seven vertical leads that are easily inserted into an etched circuit board. Abbreviated DIP. { ¦dü·əl ¦in ,līn 'pak·ij }

duality principle Also known as principle of duality. [ELEC] The principle that for any theorem in electrical circuit analysis there is a dual theorem in which one replaces quantities with dual quantities; current and voltage, impedance and admittance, and meshes and nodes are examples of dual quantities. [ELECTR] The principle that

analogies may be drawn between a transistor circuit and the corresponding vacuum tube circuit. [ELECTROMAG] The principle that one can obtain new solutions of Maxwell's equations from known solutions by replacing **E** with **H**, **H** with $-\mathbf{E}$, ϵ with μ, and μ with ϵ. [MATH] A principle that if a theorem is true, it remains true if each object and operation is replaced by its dual; important in projective geometry and Boolean algebra. { dü'al·əd·ē ˌprin·sə·pəl }

dual meter [ENG] Meter constructed so that two aspects of an electric circuit may be read simultaneously. { 'dü·əl ˌmēd·ər }

dual-mode control [CONT SYS] A type of control law which consists of two distinct types of operation, in linear systems, these modes usually consist of a linear feedback mode and a bang-bang-type mode. { 'dü·əl ˌmōd kən'trōl }

dual modulation [COMMUN] The process of modulating a common carrier wave or subcarrier with two different types of modulation, each conveying separate information. { 'dü·əl ˌmäj·ə'lā·shən }

dual network [ELEC] A network which has the same number of terminal pairs as a given network, and whose open-circuit impedance network is the same as the short-circuit admittance matrix of the given network, and vice versa. { 'dü·əl 'net ˌwərk }

dual-scanned liquid-crystal display [ELECTR] A passive matrix liquid-crystal display that is improved by being refreshed twice as frequently as standard displays of this type. { ˈdül ˌskand lik·wəd 'krist·əl di,splā }

dual-stripe magnetoresistive head [COMPUT SCI] A type of read/write head for hard disks that has separate areas for reading and writing, reduced vulnerability to outside interference, and the ability to pack data densely on disks. { ˈdül ˈstrīp mag,ned·ō·ri,zis·div 'hed }

dual-tone multifrequency [COMMUN] Signaling method employing set combinations of two specific frequencies used by subscribers and telephone private branch exchange attendants, if their switchboard positions are so equipped, to indicate telephone address digits, precedence ranks, and end of signaling. Abbreviated DTMF. { 'dü·əl ˌtōn ˌməl·tē'frē·kwən·sē }

dual-tone multifrequency dialing *See* pushbutton dialing. { 'dü·əl ˌtōn ˌməl·tē'frē·kwən·sē 'dī·liŋ }

dual-trace amplifier [ELECTR] An oscilloscope amplifier that switches electronically between two signals under observation in the interval between sweeps, so that waveforms of both signals are displayed on the screen. { 'dü·əl ˌtrās 'am·plə,fī·ər }

dual-trace oscilloscope [ELECTR] An oscilloscope which can compare two waveforms on the face of a single cathode-ray tube, using any one of several methods. { 'dü·əl ˌtrās ä'sil·ə ˌskōp }

dual-track tape recorder *See* double-track tape recorder. { 'dü·əl ˌtrak 'tāp ri,kȯrd·ər }

dual-use line [COMMUN] Communications link normally used for more than one mode of transmission, such as voice and data. { 'dü·əl ˌyüs ˌlīn }

dual-use radar [ENG] Radar designed to perform both as surveillance radar and weather radar, of particular value in air traffic management where both the monitoring of aircraft and estimation of the weather environment are important. { 'dü·əl ˌyüs 'rā,där }

dub [ENG ACOUS] **1.** To transfer recorded material from one recording to another, with or without the addition of new sounds, background music, or sound effects. **2.** To combine two or more sources of sound into one record. **3.** To add a new sound track or new sounds to a motion picture film, or to a recorded radio or television production. { dəb }

duct [COMMUN] An enclosed runway for cables. { dəkt }

dull emitter [ELECTR] An electron tube whose cathode is a filament that does not glow brightly. { ˈdəl ə'mid·ər }

dumb terminal [COMPUT SCI] A computer input/output device that lacks the capability to process or format data, and is thus entirely dependent on the main computer for these activities. { ˈdəm 'term·ən·əl }

dummy [COMMUN] Telegraphy network simulating a customer's loop for adjusting a telegraph repeater; the dummy side of the repeater is that toward the customer. [COMPUT SCI] An artificial address, instruction, or other unit of information inserted in a digital computer solely to fulfill prescribed conditions (such as word length or block length) without affecting operations. { 'dəm·ē }

dummy antenna [ELECTR] A device that has the impedance characteristic and power-handling capacity of an antenna but does not radiate or receive radio waves; used chiefly for testing a transmitter. Also known as artificial antenna. { ˈdəm·ē an'ten·ə }

dummy argument [COMPUT SCI] The variable appearing in the definition of a macro or function which will be replaced by an address at call time. { ˈdəm·ē 'är·gyə·mənt }

dummy file [COMPUT SCI] A nonexistent file which is treated by a computer program as if it were receiving its output data, when in fact the data are being ignored; used to suppress the creation of files that are needed only occasionally. { 'dəm·ē 'fīl }

dummy instruction [COMPUT SCI] An artificial instruction or address inserted in a list to serve a purpose other than the execution as an instruction. { ˈdəm·ē in'strək·shən }

dummy load [ELECTR] A dissipative device used at the end of a transmission line or waveguide to convert transmitted energy into heat, so that essentially no energy is radiated outward or reflected back to its source. { 'dəm·ē ˌlōd }

dummy message [COMMUN] A message sent for some purpose other than its content, which

may consist of dummy groups or may have a meaningless text. { ¦dəm·ē 'mes·ij }

dummy parameter [COMPUT SCI] A parameter whose value has no significance but which is included in an instruction or command to satisfy the requirements of the system. { 'dəm·ē pə'ram·əd·ər }

dummy record [COMPUT SCI] Meaningless information that is stored for some purpose such as fulfillment of a length requirement. { 'dəm·ē 'rek·ərd }

dummy section [COMPUT SCI] The part of an assembly language program in which the arrangement of the data in memory is specified. Abbreviated DSECT. { 'dəm·ē 'sek·shən }

dump [COMPUT SCI] To copy the contents of all or part of a storage, usually from an internal storage device into an external storage device. [ELECTR] To withdraw all power from a system or component accidentally or intentionally. { dəmp }

dump check [COMPUT SCI] A computer check that usually consists of adding all the digits during dumping, and verifying the sum when retransferring. { 'dəmp ˌchek }

dump power [ELEC] Electric power, generated by any source, which is in excess of the needs of the electric system and which cannot be stored or conserved. { 'dəmp ˌpaù·ər }

dump routine [COMPUT SCI] A program within a computer's operating system that handles the processing of dumps. { 'dəmp rü,tēn }

duodiode [ELECTR] An electron tube having two diodes in the same envelope, with either a common cathode or separate cathodes. Also known as double diode. { ˌdü·ō'dī,ōd }

duodiode-pentode [ELECTR] An electron tube having two diodes and a pentode in the same envelope, generally with a common cathode. { ˌdü·ō'dī,ōd 'pen,tōd }

duodiode-triode [ELECTR] An electron tube having two diodes and a triode in the same envelope, generally with a common cathode. { ˌdü·ō'dī ˌōd 'trī,ōd }

duoplasmatron [ELECTR] An ion-beam source in which electrons from a hot filament are accelerated sufficiently to ionize a gas by impact, the resulting positive ions are drawn out by high-voltage electrons and focused into a beam by electrostatic lens action. { ˌdü·ō'plaz·mə,trän }

duotriode *See* double triode. { ˌdü·ō'trī,ōd }

duplex artificial line [ELEC] A balancing network, simulating the impedance of the real line and distant terminal apparatus, which is employed in a duplex circuit for the purpose of making the receiving device unresponsive to outgoing signal currents. { 'dü,pleks ärd·ə,fish·əl 'līn }

duplex cable [ELEC] Two insulated stranded conductors twisted together, they may have a common insulating covering. { ¦dü,pleks 'kā·bəl }

duplex channel [COMMUN] A communication channel providing simultaneous transmission in both directions. { ¦dü,pleks 'chan·əl }

duplex computer [COMPUT SCI] Two identical computers, either one of which can ensure continuous operation of the system when the other is shut down. { ¦dü,pleks kəm'pyüd·ər }

duplexed system [ENG] A system with two distinct and separate sets of facilities, each of which is capable of assuming the system function while the other assumes a standby status. Also known as redundant system. { 'dü,plekst ˌsis·təm }

duplexer [ELECTR] A switching device used in radar to permit alternate use of the same antenna for both transmitting and receiving; other forms of duplexers serve for two-way radio communication using a single antenna at lower frequencies. Also known as duplexing assembly. { 'dü,plek·sər }

duplexing [COMMUN] *See* duplex operation. [COMPUT SCI] The provision of redundant hardware or excess capacity which can pick up the work load in the event of failure of one part of a computer system. { 'dü,pleks·iŋ }

duplexing assembly *See* duplexer. { 'dü,pleks·iŋ ə,sem·blē }

duplex operation [COMMUN] The operation of associated transmitting and receiving apparatus concurrently, as in ordinary telephones, without manual switching between talking and listening periods. Also known as duplexing, duplex transmission. [ENG] In radar, operation in which two identical and interchangeable equipments are provided, generally to enhance system reliability, one in an active state and the other immediately available for operation. { ¦dü,pleks äp·ə'rā·shən }

duplex transmission *See* duplex operation. { ¦dü,pleks tranz'mish·ən }

duplex tube [ELECTR] Combination of two vacuum tubes in one evelope. { ¦dü,pleks 'tüb }

duplicate record [COMPUT SCI] An unwanted record that has the same key as another record in the same file. { 'düp·lə·kət 'rek·ərd }

duplication check [COMPUT SCI] A check based on the identity in results of two independent performances of the same task. { ˌdüp·lə'kā·shən ˌchek }

duration control [ELECTR] Control for adjusting the time duration of reduced gain in a sensitivity-time control circuit. { də'rā·shən kən,trōl }

Dushman equation *See* Richardson-Dushman equation. { 'dùsh·mən iˌkwā·zhən }

dust core *See* ferrite core. { 'dəst ˌkór }

duty classification of a relay [ELEC] Expression of the frequency with which the relay may be required to operate without exceeding prescribed limitations. { 'düd·ē ˌklas·ə·fəˌkā·shən əv ə 'rē ˌlā }

duty cycle [ENG] **1.** The time intervals devoted to starting, running, stopping, and idling when a device is used for intermittent duty. **2.** The ratio of working time to total time for an intermittently operating device, usually expressed as a percent. Also known as duty factor. { 'düd·ē ˌsī·kəl }

duty factor [COMMUN] **1.** In a pulse radar or similar system, the ratio of average to pulse power, basically, the product of the pulse width (for square pulses) and the pulse repetition

frequency. Also known as duty ratio. **2.** *See* duty cycle. { 'düd·ē ˌfak·tər }

duty ratio *See* duty factor. { 'düd·ē ˌrā·shō }

DUV *See* data under voice.

DVD |COMMUN| An optical disk that has formats for audio, video, and computer storage applications, and that uses the same basic structure as the compact disk (CD) to store data, but achieves a greater storage capability by using a track pitch less than half that of the CD, pits and lands as little as half as long as the shortest on a CD, and two substrates, bonded together. Derived from digital versatile disk; digital video disk.

DVD-audio |COMMUN| A DVD format for digital storage of audio information. Also known as Book C. { ¦dē¦vē¦dē 'ȯd·ē·ō }

DVD-RAM *See* DVD-rewritable. { ¦dē¦vē¦dē 'ram }

DVD-read-only |COMMUN| A DVD format in which data written on the disk at the time of its manufacture are permanent, and the disk cannot be written or erased after that. Also known as Book A; DVD-ROM. { ¦dē¦vē¦dē ˌrēd 'ōn·lē }

DVD-rewritable |COMMUN| A DVD format that allows audio or other digital data to be written, read, erased, and rewritten. Also known as Book E; DVD-RAM. { ¦dē¦vē¦dē rē'rīd·ə·bəl }

DVD-ROM *See* DVD-read-only. { ¦dē¦vē¦dē 'räm }

DVD-video |COMMUN| A DVD format for digital storage of video information. Also known as Book B. { ¦dē¦vē¦dē 'vid·ē·ō }

DVD-write once |COMMUN| A DVD format that allows users to record audio or other digital data in such a way that the recording is permanent and may be read indefinitely but cannot be erased. Also known as Book D. { ¦dē¦vē¦dē ˌrīt 'wəns }

dwell |ELEC| The number of degrees through which the distributor cam rotates from the time that the contact points close to the time that they open again. Also known as dwell angle. { dwel }

dwell angle *See* dwell. { 'dwel ˌaŋ·gəl }

dwell time |ELECTR| The length of time a radar examines a single target in making a single estimate about it; it is limited by the antenna rotation rate and beam width in simple radars, while in more flexible radars it is established by the computer-generated scheduling of operations. Also known as look time. { 'dwel ˌtīm }

DX *See* distance reception.

dyadic processor |COMPUT SCI| A type of multiprocessor that includes two processors which operate under control of the same copy of the operating system. { dī'ad·ik 'präs,es·ər }

dye polymer recording |COMPUT SCI| An optical recording technique in which dyed plastic layers are used as the recording medium. { ¦dī 'päl·ə·mər ri'kȯrd·iŋ }

dynamic acceleration *See* dynamic resolution. { dī¦nam·ik ik,sel·ə'rā·shən }

dynamic address translator |COMPUT SCI| A hardware device used in a virtual memory system to automatically identify a virtual address inquiry in terms of segment number, page number within the segment, and position of the record with reference to the beginning of the page. { dī ¦nam·ik 'a,dres ˌtranz,lād·ər }

dynamic algorithm |COMPUT SCI| An algorithm whose operation is, to some extent, unpredictable in advance, generally because it contains logical decisions that are made on the basis of quantities computed during the course of the algorithm. Also known as heuristic algorithm. { dī¦nam·ik 'al·gəˌrith·əm }

dynamic beam forming |ELECTR| A cathode-ray-tube design that ensures that the electron beam will impact a perfectly circular area of the display screen regardless of the location on the screen to which it is directed. { dī¦nam·ik 'bēm ˌform·iŋ }

dynamic behavior |ENG| A description of how a system or an individual unit functions with respect to time. { dī¦nam·ik bə'hāv·yər }

dynamic characteristic *See* load characteristic. { dī¦nam·ik kar·ik·tə'ris·tik }

dynamic check |ENG| Check used to ascertain the correct performance of some or all components of equipment or a system under dynamic or operating conditions. { dī¦nam·ik 'chek }

dynamic circuit |ELECTR| A metal oxide semiconductor circuit designed to make use of its high input impedance to store charge temporarily at certain nodes of the circuit and thereby increase the speed of the circuit. { dī¦nam·ik 'sər·kət }

dynamic condenser electrometer |ELEC| A sensitive voltage-measuring instrument in which an object carrying charge resulting from the voltage is moved back and forth in an electrostatic field and the resulting alternating-current signal is observed. { dī¦nam·ik kən¦den·sər i ˌlek'träm·əd·ər }

dynamic convergence |ELECTR| The process whereby the locus of the point of convergence of electron beams in a multibeam cathode-ray tube is made to fall on a specified surface during scanning. { dī¦nam·ik kən'vər·jəns }

dynamic debugging routine |COMPUT SCI| A debugging routine which operates in conjunction with the program being checked and interacts with it while the program is running. { dī¦nam·ik dē'bəg·iŋ rü,tēn }

dynamic dump |COMPUT SCI| A dump performed during the execution of a program. { dī¦nam·ik 'dəmp }

dynamic error |ELECTR| Error in a time-varying signal resulting from inadequate dynamic response of a transducer. { dī¦nam·ik 'er·ər }

dynamic focusing |ELECTR| The process of varying the focusing electrode voltage for a color picture tube automatically so the electron-beam spots remain in focus as they sweep over the flat surface of the screen. { dī¦nam·ik 'fō·kəs·iŋ }

dynamic impedance |ELEC| The impedance of a circuit having an inductance and a capacitance in parallel at the frequency at which this impedance has a maximum value. Also known as rejector impedance. { dī¦nam·ik im'ped·əns }

dynamicizer |COMPUT SCI| A device that converts a collection of data represented by a spatial arrangement of bits in a computer storage device into a series of signals occurring in time. { dī'nam·əˌsīz·ər }

dynamic link [COMPUT SCI] A linking of data in two different programs, whereby modification in either program causes a similar change of the data in the other. { dī'nam·ik 'liŋk }

dynamic loudspeaker [ENG ACOUS] A loudspeaker in which the moving diaphragm is attached to a current-carrying voice coil that interacts with a constant magnetic field to give the in-and-out motion required for the production of sound waves. Also known as dynamic speaker; moving-coil loudspeaker. { dī'nam·ik 'laud ˌspēk·ər }

dynamic memory *See* dynamic storage. { dī 'nam·ik 'mem·rē }

dynamic memory allocation *See* dynamic storage allocation. { dī'nam·ik 'mem·rē al·əˌkā·shən }

dynamic microphone [ENG ACOUS] A moving-conductor microphone in which the flexible diaphragm is attached to a coil positioned in the fixed magnetic field of a permanent magnet. Also known as moving-coil microphone. { dī'nam·ik 'mī·krəˌfōn }

dynamic noise suppressor [ENG ACOUS] An audio-frequency filter circuit that automatically adjusts its band-pass limits according to signal level, generally by means of reactance tubes; at low signal levels, when noise becomes more noticeable, the circuit reduces the low-frequency response and sometimes also reduces the high-frequency response. { dī'nam·ik 'nȯiz səˌpres·ər }

dynamic pickup [ELECTR] A pickup in which the electric output is due to motion of a coil or conductor in a constant magnetic field. Also known as dynamic reproducer; moving-coil pickup. { dī'nam·ik 'pikˌəp }

dynamic plate impedance [ELECTR] Internal resistance to the flow of alternating current between the cathode and plate of a tube. { dī 'nam·ik 'plāt imˌpēd·əns }

dynamic plate resistance [ELECTR] Opposition that the plate circuit of a vacuum tube offers to a small increment of plate voltage; it is the ratio of a small change in plate voltage to the resulting change in the plate current, other tube voltages remaining constant. { dī'nam·ik 'plāt riˌzis·təns }

dynamic printout [COMPUT SCI] A printout of data which occurs during the machine run as one of the sequential operations. { dī'nam·ik 'print ˌau̇t }

dynamic problem check [COMPUT SCI] Any dynamic check used to ascertain that the computer solution satisfies the given system of equations in an analog computer operation. { dī'nam·ik 'präb·ləm ˌchek }

dynamic programming [MATH] A mathematical technique, more sophisticated than linear programming, for solving a multidimensional optimization problem, which transforms the problem into a sequence of single-stage problems having only one variable each. { dī'nam·ik'prō·grə·miŋ }

dynamic program relocation [COMPUT SCI] The act of moving a partially executed program to another location in main memory, without hindering its ability to finish processing normally. { dī'nam·ik 'prō·grəm ˌrē·lōˌkā·shən }

dynamic random-access memory [COMPUT SCI] A read-write random-access memory whose storage cells are based on transistor-capacitor combinations, in which the digital information is represented by charges that are stored on the capacitors and must be repeatedly replenished in order to retain the information. Abbreviated DRAM. { dī'nam·ik ˌran·dəm 'akˌses ˌmem·rē }

dynamic range [ELECTR] The ratio of the specified maximum signal level capability of a system or component to its noise level; usually expressed in decibels. { dī'nam·ik 'rānj }

dynamic regulator [ELECTR] Transmission regulator in which the adjusting mechanism is in self-equilibrium at only one or a few settings and requires control power to maintain it at any other setting. { dī'nam·ik 'reg·yəˌlād·ər }

dynamic relocation [COMPUT SCI] The ability to move computer programs or data from auxiliary memory into main memory at any convenient location. { dī'nam·ik ˌrē·lō'kā·shən }

dynamic reproducer *See* dynamic pickup. { dī 'nam·ik rē·prə'dü·sər }

dynamic resistance [ELEC] A device's electrical resistance when it is in operation. { dī'nam·ik ri'zis·təns }

dynamic resolution [COMPUT SCI] A feature of some mice whereby the pointer moves a larger distance in proportion to the mouse's actual displacement when the mouse is moved quickly and a smaller distance when it is moved slowly. Also known as automatic acceleration; ballistic tracking; dynamic acceleration; variable acceleration. { dī'nam·ik ˌrez·ə'lü·shən }

dynamic sequential control [COMPUT SCI] Method of operation of a digital computer through which it can alter instructions as the computation proceeds, or the sequence in which instructions are executed, or both. { dī'nam·ik səˈkwen·chəl kən'trōl }

dynamic shift register [COMPUT SCI] A shift register that stores information by using temporary charge storage techniques. { dī'nam·ik 'shift ˌrej·ˌə·stər }

dynamic speaker *See* dynamic loudspeaker. { dī 'nam·ik 'spēk·ər }

dynamic stop [COMPUT SCI] A loop in a computer program which is created by a branch instruction in the presence of an error condition, and which signifies the existence of this condition. { dī 'nam·ik 'stäp }

dynamic storage [COMPUT SCI] **1.** Computer storage in which information at a certain position is not always available instantly because it is moving, as in an acoustic delay line or magnetic drum. Also known as dynamic memory. **2.** Computer storage consisting of capacitively charged circuit elements which must be continually refreshed or recharged at regular intervals. { dī'nam·ik 'stȯr·ij }

dynamic storage allocation [COMPUT SCI] A computer system in which memory capacity is made

available to a program on the basis of actual, momentary need during program execution, and areas of storage may be reassigned at any time. Also known as dynamic allocation; dynamic memory allocation. { dī'nam·ik ˌstór·ij ˌal·ə'kā·shən }

dynamic subroutine [COMPUT SCI] Subroutine that involves parameters, such as decimal point position or item size, from which a relatively coded subroutine is derived by the computer itself. { dī'nam·ik 'səb·rüˌtēn }

dynamic time warping [ENG ACOUS] In speech recognition, the operation of compressing or stretching the temporal pattern of speech signals to take speaker variations into account. { dīˌnam·ik 'tīm ˌwȯrp·iŋ }

dynamo *See* generator. { 'dī·nəˌmō }

dynamoelectric amplifier generator [ELEC] A generator that serves as a power amplifier at low frequencies or direct current; the input signal is applied to the stationary field to change the excitation, and the amplified output is taken from the rotating armature. { ˌdī·nəˌmō·i'lek·trik 'am·pləˌfī·ərˌjen·əˌrād·ər }

dynamometer [ENG] **1.** An instrument in which current, voltage, or power is measured by the force between a fixed coil and a moving coil. **2.** A special type of electric rotating machine used to measure the output torque or driving torque of rotating machinery by the elastic deformation produced. { ˌdī·nə'mäm·əd·ər }

dynamometer multiplier [ELEC] A multiplier in which a fixed and a moving coil are arranged so that the deflection of the moving coil is proportional to the product of the currents flowing in the coils. { dī·nə'mäm·əd·ər 'məl·təˌplī·ər }

dynamostatic [ELEC] Pertaining to a machine that uses direct or alternating current to produce static electricity. { ˌdī·nəˌmō'stad·ik }

dynamotor [ELEC] A rotating electric machine having two or more windings on a single armature containing a commutator for direct-current operation and slip rings for alternating-current operation; when one type of power is fed in for motor operation, the other type is delivered by generator action. Also known as rotary converter; synchronous inverter. { 'dī·nəˌmō·dər }

dynatron [ELECTR] A screen-grid tube in which secondary emission of electrons from the anode causes the anode current to decrease as anode voltage increases, resulting in a negative resistance characteristic. Also known as negatron. { 'dī·nəˌträn }

dynatron oscillator [ELECTR] An oscillator in which secondary emission of electrons from the anode of a screen-grid tube causes the anode current to decrease as anode voltage is increased, giving the negative resistance characteristic required for oscillation. { 'dī·nəˌträn ˌäs·əˌlād·ər }

dynode [ELECTR] An electrode whose primary function is secondary emission of electrons; used in multiplier phototubes and some types of television camera tubes. Also known as electron mirror. { 'dīˌnōd }

E

E *See* electric-field vector.

EA *See* electronic attack.

EADI *See* electronic attitude directional indicator.

E and M lead signaling [COMMUN] Communications between a trunk circuit and a separate signaling unit over two leads: an M lead that transmits battery or ground signals to the signaling equipment, and an E lead which receives open or ground signals from the signaling unit. { ¦ē ən ¦em 'lēd ˌsig·nəl·iŋ }

early binding [COMPUT SCI] The assignment of data types (such as integer or string) to variables during the compilation of a computer program rather than at run time. { 'ər·lē ¦bīnd·iŋ }

early effect [ELECTR] A change in the base width of a bipolar transistor as a function of base-collector bias voltage. { 'ər·lē iˌfekt }

Earnshaw's theorem [ELEC] The theorem that a charge cannot be held in stable equilibrium by an electrostatic field. { 'ərnˌshȯz ˌthir·əm }

EAROM *See* electrically alterable read-only memory. { 'ēˌräm }

earphone [ENG ACOUS] **1.** An electroacoustical transducer, such as a telephone receiver or a headphone, actuated by an electrical system and supplying energy to an acoustical system of the ear, the waveform in the acoustical system being substantially the same as in the electrical system. **2.** A small, lightweight electroacoustic transducer that fits inside the ear, used chiefly with hearing aids. { 'irˌfōn }

earth *See* ground. { ərth }

earth current [ELEC] Return, fault, leakage, or stray current passing through the earth from electrical equipment. Also known as ground current. { 'ərth ˌkə·rənt }

earth detector *See* leakage indicator. { 'ərth di'tek·tər }

earthed system *See* grounded system. { 'ərtht ˌsis·təm }

earth electrode *See* ground electrode. { 'ərth iˌlek ˌtrōd }

earthing reactor *See* grounding reactor. { 'ərth·iŋ rēˌak·tər }

earth station [COMMUN] A facility with a land-based antenna used to transmit and receive information to and from a communications satellite. { 'ərth ˌstā·shən }

Easter-egging [ELECTR] An undirected procedure for checking electronic equipment, which derives its name from the children's activity of searching for hidden eggs at Eastertime. { 'ē·stər ˌeg·iŋ }

easy [COMPUT SCI] A name for the hexadecimal digit whose decimal equivalent is 14. { 'ē·zē }

EBCDIC *See* extended binary-coded decimal interchange code. { 'eb·səˌdik }

E bend [ELECTROMAG] A smooth change in the direction of the axis of a waveguide, throughout which the axis remains in a plane parallel to the direction of polarization. Also known as E-plane bend. { 'ē ˌbend }

EBIS *See* electron-beam ion source. { 'ēˌbis }

EBIT *See* electron-beam ion trap. { 'ēˌbit *or* ¦ēˌbē ¦ī'tē }

e-business *See* electronic commerce. { 'ē ˌbiz·nəs }

ECB *See* block encryption.

Eccles-Jordan circuit *See* bistable multivibrator. { ¦ek·əlz 'jȯrd·ən ˌsər·kət }

Eccles-Jordan multivibrator *See* bistable multivibrator. { ¦ek·əlz 'jȯrd·ən ˌməl·ti'vīˌbrād·ər }

ECDIS *See* electronic chart display and information system. { 'ek,dis or ¦ēˌsēˌdēˌī'es }

E cell [ELEC] A timing device that converts the current-time integral of an electrical function into an equivalent mass integral (or the converse operation) up to a maximum of several thousand microampere-hours. { 'ē ˌsel }

echo [ELECTR] **1.** The signal reflected, or backscattered, by a radar target, or that scattered in the receiver's direction in a bistatic radar; also, the indication of this signal on the radar display. Also known as echo pulse; radar echo; return. **2.** *See* ghost signal. { 'ek·ō }

echo amplitude [ELECTR] In radar, an empirical measure of the strength of a target signal as determined from the appearance of the echo; the amplitude of the echo waveform usually is measured by the deflection of the electron beam from the base line of an amplitude-modulated indicator. { ¦'ek·ō 'am·pləˌtüd }

echo area [ELECTROMAG] In radar, the area of a fictitious perfect reflector of electromagnetic waves that would reflect the same amount of energy back to the radar as the actual target. Also known as target cross section. { 'ekˌō ˌer·ē·ə }

echo attenuation [ELECTR] The power transmitted at an output terminal of a transmission line, divided by the power reflected back to the same output terminal. { 'ekˌō əˌten·yə'wā·shən }

echo box [ELECTR] A calibrated high-Q resonant cavity that stores part of the transmitted radar pulse power and gradually feeds this energy into the receiving system after completion of the pulse transmission; used to provide an artificial target signal for test and tuning purposes; being replace in design by other forms of built-in test equipment (BITE). { 'ek,ō ,bäks }

echo check [COMPUT SCI] A method of ascertaining the accuracy of transmission of data in which the transmitted data are returned to the sending end for comparison with original data. Also known as loopback check; loop check; readback check. { 'ek·ō ,chek }

echo contour [ELECTR] A trace of equal signal intensity of the radar echo displayed on a range height indicator or plan position indicator. { ¦ek·ō 'kän,tůr }

echo frequency [ELECTR] The number of fluctuations, per unit time, in the power or amplitude of a radar target signal, often in reference to a moving target's echo going through cycles of constructive and destructive interference with coincident stationary clutter echo. { 'ek·ō ,frē·kwən·sē }

echo intensity [ELECTR] The brightness or brilliance of a radar echo as displayed on an intensity-modulated indicator; echo intensity is, within certain limits, proportional to the voltage of the target signal or to the square root of its power. { ¦ek·ō in'ten·səd·ē }

echo matching [ENG] Rotating an antenna to a position in which the pulse indications of an echo-splitting radar are equal. { 'ek·ō ,mach·iŋ }

echoplex technique [COMPUT SCI] A technique for detecting errors in a data communication system with full duplex lines, in which the signal generated when a character is typed on a keyboard is transmitted to a receiver and retransmitted to a display terminal, enabling the operator to check if the character displayed is the same as the character typed. { 'ek·ō,pleks tek,nēk }

echo power [ELECTR] The electrical strength, or power, of a radar target signal, normally measured in watts or dBm (decibels referred to 1 milliwatt). { 'ek·ō ,paů·ər }

echo pulse *See* echo. { 'ek·ō ,pəls }

echo recognition [ENG] Identification of a sonar reflection from a target, as distinct from energy returned by other reflectors. { 'ek·ō ,rek·ig ,nish·ən }

echo repeater [ENG ACOUS] In sonar calibration and training, an artificial target that returns a synthetic echo by receiving a signal and retransmitting it. { 'ek·ō ri,pēd·ər }

echo signal *See* target signal. { 'ek·ō ,sig·nəl }

echo-splitting radar [ENG] Radar in which the echo is split by special circuits associated with the antenna lobe-switching mechanism, to give two echo indications on the radarscope screen; when the two echo indications are equal in height, the target bearing is read from a calibrated scale. { ¦ek·ō ,splid·iŋ 'rā,där }

echo suppressor [ELECTR] **1.** A circuit that desensitizes radar navigation equipment for a fixed period after the reception of one pulse, for the purpose of rejecting delayed pulses arriving from longer, indirect reflection paths. **2.** A relay or other device used on a transmission line to prevent a reflected wave from returning to the sending end of the line. { 'ek·ō sə,pres·ər }

echo talker [COMPUT SCI] The interference created by the retransmission of a message back to its source while the source is still transmitting. { 'ek·ō ,tȯk·ər }

ECL *See* emitter-coupled logic.

ECM *See* embrittlement control message.

eco *See* electron-coupled oscillator.

e-commerce *See* electronic commerce. { 'ē ,käm·ərs }

economy [COMPUT SCI] The ratio of the number of characters to be coded to the maximum number available with the code; for example, binary-coded decimal using 4 bits provides 16 possible characters but uses only 10 of them. { ē'kän·ə·mē }

ECRIS *See* electron cyclotron resonance source.

ECR source *See* electron cyclotron resonance source. { ¦ē¦sē¦är 'sȯrs }

ECSW *See* extended channel status word.

ED *See* electronic dummy.

eddy-current heating *See* induction heating. { 'ed·ē ,kə·rənt ,hēd·iŋ }

eddy-current sensor [ENG] A proximity sensor which uses an alternating magnetic field to create eddy currents in nearby objects, and then the currents are used to detect the presence of the objects. { 'ed·ē ,kə·rənt 'sen·sər }

eddy-current tachometer [ENG] A type of tachometer in which a rotating permanent magnet induces currents in a spring-mounted metal cylinder; the resulting torque rotates the cylinder and moves its attached pointer in proportion to the speed of the rotating shaft. Also known as drag-type tachometer. { 'ed·ē ,kə·rənt tə'käm·əd·ər }

EDEL room [ENG ACOUS] A control room in a sound-recording studio in which reflective or diffusive surfaces are placed near the loudspeaker and above the mixing console, while the rear wall behind the mixer is made absorptive. Derived from LEDE room (by reverse spelling). { 'ed·əl ,rüm *or* ¦ē¦dē¦ē'el ,rüm }

EDFA *See* erbium-doped fiber amplifier. { 'ed,fä *or* ¦ē¦dē¦ef'ā }

edgeboard connector *See* card-edge connector. { 'ej,bȯrd kə,nek·tər }

edge connector [ELECTR] A row of etched lines on the edge of a printed circuit board that is inserted into a slot to establish a connection with another printed circuit board. { 'ej kə,nek·tər }

edge effect [ELEC] An outward-curving distortion of lines of force near the edges of two parallel metal plates that form a capacitor. { 'ej i,fekt }

Edison battery [ELEC] A storage battery composed of cells having nickel and iron in an alkaline solution. Also known as nickel-iron battery. { ¦ed·ə·sən ¦bad·ə·rē }

Edison distribution system [ELEC] Three-wire direct-current distribution system, usually 120

to 240 volts, for combined light and power service from a single set of mains. { ¦ed·ə·sən ¸dis·trə'byü·shən ¸sis·təm }

Edison effect *See* thermionic emission. { 'ed·ə·sən i¸fekt }

E-display [ELECTR] A radar display format in which the horizontal coordinate indicates range, the vertical indicates elevation, and the intensity of the target spot is proportional to signal strength. Also known as E-indicator; E-scan; E-scope. { 'ē di¸splā }

edit [COMPUT SCI] **1.** To modify the form or format of an output or input by inserting or deleting characters such as page numbers or decimal points. **2.** A computer instruction directing that this step be performed. { 'ed·ət }

edit capability [COMPUT SCI] The degree of sophistication available to the programmer to modify his or her statements while in the time-sharing mode. { 'ed·ət ¸kāp·ə¸bil·əd·ē }

edit check [COMPUT SCI] A program instruction or subroutine that tests the validity of input in a data entry program. Also known as edit test. { 'ed·ət ¸chek }

edit mask [COMPUT SCI] The receiving word through which a source word is filtered, allowing for the suppression of leading zeroes, the insertion of floating dollar signs and decimal points, and other such formatting. { 'ed·ət ¸mask }

edit mode [COMPUT SCI] A software mode of operation in which previously entered text or data can be modified or replaced. { 'ed·ət ¸mōd }

editor program [COMPUT SCI] A special program by means of which a user can easily perform corrections, insertions, modifications, or deletions in an existing program or data file. { 'ed·ə·tər ¸prō·grəm }

edit test *See* edit check. { 'ed·ət ¸test }

EDO RAM *See* extended data out random-access memory. { ¸ē·dō 'ram *or* ¦ē¦dē¦ō }

EDP *See* electronic data processing.

EDP center *See* electronic data-processing center. { ¦ē¦dē'pē ¸sen·tər }

eduicorate [COMPUT SCI] To eliminate irrelevant data from a data file. { ē'dəl·kə¸rāt }

EDVAC [COMPUT SCI] The first stored program computer, built in 1952. Derived from electron discrete variable automatic compiler. { 'ed¸vak }

EEPROM *See* electrically erasable programmable read-only memory. { ¦ē'ē¸präm }

EER *See* equal error rate.

effective address [COMPUT SCI] The address that is obtained by applying any specified indexing or indirect addressing rules to the specified address; the effective address is then used to identify the current operand. { ə¦fek·tiv 'a¸dres }

effective ampere [ELEC] The amount of alternating current flowing through a resistance that produces heat at the same average rate as 1 ampere of direct current flowing in the same resistance. { ə¦fek·tiv 'am¸pir }

effective bandwidth [ELECTR] The bandwidth of an assumed rectangular band-pass having the same transfer ratio at a reference frequency as a given actual band-pass filter, and passing the same mean-square value of a hypothetical current having even distribution of energy throughout that bandwidth. { ə¦fek·tiv 'band ¸width }

effective capacitance [ELEC] Total capacitance existing between any two given points of an electric circuit. { ə¦fek·tiv kə'pas·əd·əns }

effective center [ENG ACOUS] In a sonar projector, the point where lines coincident with the direction of propagation, as observed at different points some distance from the projector, apparently intersect. Also known as apparent source. { ə¦fek·tiv 'sen·tər }

effective confusion area [ENG] Amount of chaff whose radar cross-sectional area equals the radar cross-sectional area of the particular aircraft at a particular frequency. { ə¦fek·tiv kən'fyü·zhən ¸er·ē·ə }

effective current [ELEC] The value of alternating current that will give the same heating effect as the corresponding value of direct current. Also known as root-mean-square current. { ə¦fek·tiv 'kə·rənt }

effective earth radius [COMMUN] A radius value used in place of the geometric radius to correct for atmospheric refraction in estimating ranges of antennas when the index of refraction in the atmosphere changes linearly with height; under conditions of standard refraction it is $\frac{4}{3}$ the geometric radius. Also known as effective radius of the earth. { ə¦fek·tiv 'ərth ¸rād·ē·əs }

effective facsimile band [COMMUN] Frequency band of a facsimile signal wave equal in width to that between zero frequency and maximum keying frequency. { ə¦fek·tiv fak'sim·ə·lē ¸band }

effective horizon [COMMUN] A horizon whose distance at a given height above sea level is the distance to the horizon of a fictitious earth, having a radius $\frac{4}{3}$ times the earth's true radius; used to estimate ranges of antennas, taking atmospheric refraction into account. { ə¦fek·tiv hə'rīz·ən }

effective instruction [COMPUT SCI] The computer instruction that results from changing a basic instruction during program modification. Also known as actual instruction. { ə¦fek·tiv in'strək·shən }

effective isotropic radiated power [COMMUN] A measure of the strength of the signal leaving a satellite antenna in a particular direction, equal to the product of the power supplied to the satellite transmit antenna and its gain in that direction. Abbreviated eirp. { i¸fek·tiv ¸ī·sə ¸träp·ik ¸rād·ē¸ād·əd 'paù·ər }

effectively grounded [ELEC] Grounded through a connection of sufficiently low impedances (inherent or intentionally added) so that fault

grounds which may occur cannot build up voltages dangerous to connected personnel or other equipment. { ə¦fek·tiv·lē 'graůnd·əd }

effectiveness level [COMPUT SCI] A measure of the effectiveness of data-processing equipment, equal to the ratio of the operational use time to the total performance period, expressed as a percentage. Also known as average effectiveness level. { ə'fek·tiv·nəs ˌlev·əl }

effective percentage modulation [COMMUN] For a single sinusoidal input component, the ratio of the peak value of the fundamental component of the envelope to the average amplitude of the modulated wave expressed in percent. { ə¦fek·tiv pər¦sent·ij ˌmäj·ə'lā·shən }

effective radiated power [ELECTROMAG] The product of antenna input power and antenna power gain, expressed in kilowatts. Abbreviated ERP. { ə¦fek·tiv ˌrād·ē,ād·əd 'paú·ər }

effective radius of the earth *See* effective earth radius. { ə¦fek·tiv 'rād·ē·əs əv thē 'ərth }

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

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 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 ¦thər·məl ri'zis·təns }

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

effective value *See* root-mean-square value. { ə¦fek·tiv 'val·yü }

effector [CONT SYS] A motor, solenoid, or hydraulic piston that turns commands to a teleoperator into specific manipulatory actions. { ə'fek·tər }

EFL *See* error frequency limit.

e format [COMPUT SCI] A decimal, normalized form of a floating point number in FORTRAN in which a number such as 18.756 appears as .18756E + 02, which stands for $.18756 \times 10^2$. { 'ē ˌfȯr,mat }

EGNOS *See* European Geostationary Navigation Overlay System. { 'eg,nōs }

E-HEMT *See* enhancement-mode high-electron-mobility transistor.

EHF *See* extremely high frequency.

EHSI *See* electronic horizontal-situation indicator.

E-H T junction [ELECTROMAG] In microwave waveguides, a combination of E- and H-plane T junctions forming a junction at a common point of intersection with the main waveguide. { ¦ē ¦āch 'tē ˌjəŋk·shən }

E-H tuner [ELECTROMAG] Tunable E-H T junction having two arms terminated in adjustable plungers used for impedance transformation. { ¦ē ¦āch 'tün·ər }

eight-level code [COMMUN] A teletypewriter code that uses eight impulses, in addition to the start and stop impulses, to define a character. { ¦āt ¦lev·əl 'kōd }

E-indicator *See* E-display. { 'ē ˌin·də,kād·ər }

Einthoven galvanometer *See* string galvanometer. { 'īnt,hō·vən ˌgal·və'näm·əd·ər }

Einzel lens [ELECTR] An electrostatic lens that consists of three cylindrical tubes through which charged particles pass sequentially, the middle one of which is at a higher potential than the other two. { 'īnt·səl ˌlenz }

eject [COMPUT SCI] To move the printing mechanism to the top of the following page, skipping the remainder of the current page. { ē'jekt }

E-JFET *See* enhancement-mode junction field-effect transistor.

elaboration [COMPUT SCI] A technique, used chiefly in the Ada programming language, of setting up a hierarchy of calculated constants so that the values of one or more of them determine others further down in the hierarchy. { i,lab·ə'rā·shən }

elastance [ELEC] The reciprocal of capacitance. { i'las·təns }

elastoresistance [ELEC] The change in a material's electrical resistance as it undergoes a stress within its elastic limit. { i¦las·tō·ri'zis·təns }

elbow [ELECTROMAG] In a waveguide, a bend of comparatively short radius, normally 90°, and sometimes for acute angles down to 15°. { 'el ˌbō }

electret [ELEC] A solid dielectric possessing persistent electric polarization, by virtue of a long time constant for decay of a charge instability. { i'lek,tret }

electret headphone [ENG ACOUS] A headphone consisting of an electret transducer, usually in the form of a push-pull transducer. { i'lek,tret 'hed,fōn }

electret microphone [ENG ACOUS] A microphone consisting of an electret transducer in which the foil electret diaphragm is placed next to a perforated, ridged, metal or metal-coated backplate, and output voltage, taken between diaphragm and backplate, is proportional to the displacement of the diaphragm. { i'lek,tret 'mī·krə,fōn }

electret transducer [ELECTR] An electroacoustic or electromechanical transducer in which a foil electret, stretched out to form a diaphragm, is placed next to a metal or metal-coated plate, and motion of the diaphragm is converted to voltage between diaphragm and plate, or vice versa. { i'lek,tret tranz'dü·sər }

electric [ELEC] Containing, producing, arising from, or actuated by electricity; often used interchangeably with electrical. { i'lek·trik }

electrical [ELEC] Related to or associated with electricity, but not containing it or having its properties or characteristics; often used interchangeably with electric. { ə'lek·trə·kəl }

electrical angle [ELEC] An angle that specifies a particular instant in an alternating-current

cycle or expresses the phase difference between two alternating quantities; usually expressed in electrical degrees. { ə'lek·trə·kəl 'aŋ·gəl }

electrical breakdown *See* breakdown. { ə'lek·trə·kəl 'brāk,daun }

electrical center [ELEC] Point approximately midway between the ends of an inductor or resistor that divides the inductor or resistor into two equal electrical values. { ə'lek·trə·kəl 'sen·tər }

electrical circuit theory *See* circuit theory. { ə'lek·trə·kəl 'sər·kət ,thē·ə·rē }

electrical code [ELEC] A systematic body of rules governing the practical application and installation of electrically operated equipment and devices and electric wiring systems. { ə'lek·trə·kəl 'kōd }

electrical conductance *See* conductance. { ə'lek·trə·kəl kən'dək·təns }

electrical conduction *See* conduction. { ə'lek·trə·kəl kən'dək·shən }

electrical conductivity *See* conductivity. { ə'lek·trə·kəl ,kän,dək'tiv·əd·ē }

electrical conductivity analyzer [ELEC] Alternating-current, resistance-bridge device used to measure the electrical conductivity of solutions, slurries, or wet solids. { ə'lek·trə·kəl ,kän,dək'tiv·əd·ē 'an·ə,līz·ər }

electrical degree [ELEC] A unit equal to $\frac{1}{360}$ cycle of an alternating quantity. { i'lek·trə·kəl də'grē }

electrical drainage [ELEC] Diversion of electric currents from subterranean pipes to prevent electrolytic corrosion. { i'lek·trə·kəl 'drān·ij }

electrical engineer [ENG] An engineer whose training includes a degree in electrical engineering from an accredited college or university (or who has comparable knowledge and experience), to prepare him or her for dealing with the generation, transmission, and utilization of electric energy. { i'lek·trə·kəl ,en·jə'nir }

electrical engineering [ENG] Engineering that deals with practical applications involving current flow through conductors, as in motors and generators. { i'lek·trə·kəl ,en·jə'nir·iŋ }

electrical equipment [ELEC] Apparatus, appliances, devices, wiring, fixtures, fittings, and material used as a part of or in connection with an electrical installation. { i'lek·trə·kəl i'kwip·mənt }

electrical fault *See* fault. { i'lek·trə·kəl 'fôlt }

electrical impedance Also known as impedance. [ELEC] **1.** The total opposition that a circuit presents to an alternating current, equal to the complex ratio of the voltage to the current in complex notation. Also known as complex impedance. **2.** The ratio of the maximum voltage in an alternating-current circuit to the maximum current; equal to the magnitude of the quantity in the first definition. { i'lek·trə·kəl im'pēd·əns }

electrical impedance meter [ELEC] An instrument which measures the complex ratio of voltage to current in a given circuit at a given frequency. Also known as impedance meter. { i'lek·trə·kəl im'pēd·əns ,mēd·ər }

electrical instability [ELEC] A persistent condition of unwanted self-oscillation in an amplifier or other electric circuit. { i'lek·trə·kəl ,in·stə'bil·əd·ē }

electrical insulator *See* insulator. { i'lek·trə·kəl 'in·sə,lād·ər }

electrical interference *See* interference. { i'lek·trə·kəl ,in·tər'fir·əns }

electrical length [ELECTROMAG] The length of a conductor expressed in wavelengths, radians, or degrees. { i'lek·trə·kəl 'leŋkth }

electrical loading *See* loading. { i'lek·trə·kəl 'lōd·iŋ }

electrically alterable read-only memory [COMPUT SCI] A read-only memory that can be reprogrammed electrically in the field a limited number of times, after the entire memory is erased by applying an appropriate electric field. Abbreviated EAROM. { i'lek·trə·klē 'ōl·trə·bəl 'rēd ,ōn·lē 'mem·rē }

electrically connected [ELEC] Connected by means of a conducting path, or through a capacitor, as distinguished from connection merely through electromagnetic induction. { i'lek·trə·klē kə'nek·təd }

electrically erasable programmable read-only memory [COMPUT SCI] An integrated-circuit memory chip that has an internal switch to permit a user to erase the contents of the chip and write new contents into it by means of electrical signals. Abbreviated EEPROM. { i'lek·trə·klē i'rās·ə·bəl prō'gram·ə·bəl 'rēd ,ōn·lē 'mem·rē }

electrical measurement [ELEC] The measurement of any one of the many quantities by which electricity is characterized. { i'lek·trə·kəl 'mezh·ər·mənt }

electrical model [ELEC] A model in the form of a mathematical description or an electrical equivalent circuit that represents the behavior of an electrical device or system. { i'lek·trə·kəl 'mäd·əl }

electrical noise [ELEC] Noise generated by electrical devices, for example, motors, engine ignition, power lines, and so on, and propagated to the receiving antenna direct from the noise source. { i'lek·trə·kəl 'nȯiz }

electrical potential energy [ELEC] Energy possessed by electric charges by virtue of their position in an electrostatic field. { i'lek·trə·kəl pə'ten·chəl'en·ər·jē }

electrical pressure transducer *See* pressure transducer. { i'lek·trə·kəl 'presh·ər tranz,dü·sər }

electrical properties [ELEC] Properties of a substance which determine its response to an electric field, such as its dielectric constant or conductivity. { i'lek·trə·kəl 'präp·ərd·ēz }

electrical resistance *See* resistance. { i'lek·trə·kəl ri'zis·təns }

electrical resistivity [ELEC] The electrical resistance offered by a material to the flow of current, times the cross-sectional area of current flow and per unit length of current path; the reciprocal of

the conductivity. Also known as resistivity; specific resistance. { i'lek·trə·kəl ,rē·zis'tiv·əd·ē }

electrical resistor *See* resistor. { i'lek·trə·kəl ri 'zis·tər }

electrical resonator *See* tank circuit. { i'lek·trə·kəl 'rez·ən,ād·ər }

electrical symbol [ELEC] A simple geometrical symbol used to represent a component of a circuit in a schematic circuit diagram. { i'lek·trə·kəl 'sim·bəl }

electrical system [ELEC] System of wiring, switches, relays, and other equipment associated with receiving and distributing electricity. { i'lek·trə·kəl ,sis·təm }

electrical transcription *See* transcription. { i'lek·trə·kəl tranz'krip·shən }

electrical unit [ELEC] A standard in terms of which some electrical quantity is evaluated. { i'lek·trə·kəl 'yü·nət }

electrical zero [ELEC] A standard reference position from which rotor angles are measured in synchros and other rotating devices. { i'lek·trə·kəl 'zir·ō }

electric arc [ELEC] A discharge of electricity through a gas, normally characterized by a voltage drop approximately equal to the ionization potential of the gas. Also known as arc. { i¦lek·trik 'ärk }

electric-arc lamp *See* arc lamp. { i'lek·trik ,ärk 'lamp }

electric cell [ELEC] **1.** A single unit of a primary or secondary battery that converts chemical energy into electric energy. **2.** A single unit of a device that converts radiant energy into electric energy, such as a nuclear, solar, or photovoltaic cell. { i¦lek·trik 'sel }

electric charge *See* charge. { i¦lek·trik 'chärj }

electric circuit [ELEC] Also known as circuit. **1.** A path or group of interconnected paths capable of carrying electric currents. **2.** An arrangement of one or more complete, closed paths for electron flow. { i¦lek·trik 'sər·kət }

electric circuit theory *See* circuit theory. { i¦lek·trik 'sər·kət ,thē·ə·rē }

electric coil *See* coil. { i¦lek·trik 'kȯil }

electric comparator [ELEC] A comparator in which movement results in a change in some electrical quantity, which is then amplified by electrical means. { i¦lek·trik kəm'par·əd·ər }

electric condenser *See* capacitor. { i¦lek·trik kən'den·sər }

electric conductor *See* conductor. { i¦lek·trik kən'dək·tər }

electric connection [ELEC] A direct wire path for current between two points in a circuit. { i¦lek·trik kə'nek·shən }

electric connector [ELEC] A device that joins electric conductors mechanically and electrically to other conductors and to the terminals of apparatus and equipment. { i¦lek·trik kə'nek·tər }

electric constant [ELEC] The permittivity of empty space, equal to 1 in centimeter-gram-second electrostatic units and to $10^7/4\pi c^2$ farads per meter or, numerically, to 8.854×10^{-12} farad per meter in International System units, where c is the speed of light in meters per second. Symbolized ϵ_0. { i¦lek·trik 'kän·stənt }

electric contact [ELEC] A physical contact that permits current flow between conducting parts. Also known as contact. { i¦lek·trik 'kän,takt }

electric contactor *See* contactor. { i¦lek·trik 'kän ,tak·tər }

electric control [ELEC] The control of a machine or device by switches, relays, or rheostats, as contrasted with electronic control by electron tubes or by devices that do the work of electron tubes. { i¦lek·trik kən'trōl }

electric controller [ELEC] A device that governs in some predetermined manner the electric power delivered to apparatus. { i¦lek·trik kən'trōl·ər }

electric converter *See* synchronous converter. { i¦lek·trik kən'vərd·ər }

electric corona *See* corona discharge. { i¦lek·trik kə'rō·nə }

electric current *See* current. { i¦lek·trik 'kə·rənt }

electric current density *See* current density. { i¦lek·trik ¦kə·rənt ,den·səd·ē }

electric current meter *See* ammeter. { i¦lek·trik ¦kə·rənt ,mēd·ər }

electric cutout *See* cutout. { i¦lek·trik 'kəd,aůt }

electric delay line [ELECTR] A delay line using properties of lumped or distributed capacitive and inductive elements; can be used for signal storage by recirculating information-carrying wave patterns. { i¦lek·trik di'lā ,līn }

electric dipole [ELEC] A localized distribution of positive and negative electricity, without net charge, whose mean positions of positive and negative charges do not coincide. { i¦lek·trik 'dī ,pōl }

electric dipole moment [ELEC] A quantity characteristic of a charge distribution, equal to the vector sum over the electric charges of the product of the charge and the position vector of the charge. { i¦lek·trik 'dī,pōl ,mō·mənt }

electric discharge *See* discharge. { i¦lek·trik 'dis ,chärj }

electric-discharge lamp *See* discharge lamp. { i'lek·trik 'dis,chärj ,lamp }

electric-discharge tube *See* discharge tube. { i'lek·trik 'dis,chärj ,tüb }

electric displacement [ELEC] The electric field intensity multiplied by the permittivity. Symbolized D. Also known as dielectric displacement; dielectric flux density; displacement; electric displacement density; electric flux density; electric induction. { i'lek·trik dis'plās·mənt }

electric displacement density *See* electric displacement. { i'lek·trik dis'plās·mənt ,den·səd·ē }

electric distribution system *See* distribution system. { i'lek·trik ,dis·trə'byü·shən ,sis·təm }

electric energy measurement [ELEC] The measurement of the integral, with respect to time, of the power in an electric circuit. { i¦lek·trik 'en·ər·jē ,mezh·ər·mənt }

electric energy meter [ELEC] A device which measures the integral, with respect to time, of the power in an electric circuit. { i¦lek·trik ¦enər·jē ,mēd·ər }

electric eye See photocell; phototube. { i¦lek·trik 'ī }

electric field [ELEC] **1.** One of the fundamental fields in nature, causing a charged body to be attracted to or repelled by other charged bodies; associated with an electromagnetic wave or a changing magnetic field. **2.** Specifically, the electric force per unit test charge. { i¦lek·trik 'fēld }

electric-field intensity See electric-field vector. { i¦lek·trik ¦fēld in'ten·səd·ē }

electric-field strength See electric-field vector. { i¦lek·trik ¦fēld 'strenkth }

electric-field vector [ELEC] The force on a stationary positive charge per unit charge at a point in an electric field. Designated **E**. Also known as electric-field intensity; electric-field strength; electric vector. { i¦lek·trik ¦fēld 'vek·tər }

electric filter [ELECTR] **1.** A network that transmits alternating currents of desired frequencies while substantially attenuating all other frequencies. Also known as frequency-selective device. **2.** See filter. { i¦lek·trik 'fil·tər }

electric flowmeter [ELEC] Fluid-flow measurement device relying on an inductance or impedance bridge or on electrical-resistance rod elements to sense flow-rate variations. { i¦lek·trik 'flō,mēd·ər }

electric flux [ELEC] **1.** The integral over a surface of the component of the electric displacement perpendicular to the surface; equal to the number of electric lines of force crossing the surface. **2.** The electric lines of force in a region. { i¦lek·trik 'fləks }

electric flux density See electric displacement. { i¦lek·trik 'fləks ,den·səd·ē }

electric flux line See electric line of force. { i¦lek·trik 'fləks ,līn }

electric forming [ELECTR] The process of applying electric energy to a semiconductor or other device to modify permanently its electrical characteristics. { i¦lek·trik 'fȯr·miŋ }

electric fuse See fuse. { i¦lek·trik 'fyüz }

electric heating [ENG] Any method of converting electric energy to heat energy by resisting the free flow of electric current. { i¦lek·trik 'hēd·iŋ }

electric hysteresis See ferroelectric hysteresis. { i¦lek·trik ,his·tə'rē·səs }

electrician [ENG] A skilled worker who installs, repairs, maintains, or operates electric equipment. { i,lek'trish·ən }

electric image [ELEC] A fictitious charge used in finding the electric field set up by fixed electric charges in the neighborhood of a conductor; the conductor, with its distribution of induced surface charges, is replaced by one or more of these fictitious charges. Also known as image. { i¦lek·trik 'im·ij }

electric induction See electric displacement. { i¦lek·trik in'dək·shən }

electric instrument [ENG] An electricity-measuring device that indicates, such as an ammeter or voltmeter, in contrast to an electric meter that totalizes or records. { i¦lek·trik 'in·strə·mənt }

electric lamp [ELEC] A lamp in which light is produced by electricity, as the incandescent lamp, arc lamp, glow lamp, mercury-vapor lamp, and fluorescent lamp. { i¦lek·trik 'lamp }

electric line of force [ELEC] An imaginary line drawn so that each segment of the line is parallel to the direction of the electric field or of the electric displacement at that point, and the density of the set of lines is proportional to the electric field or electrical displacement. Also known as electric flux line. { i¦lek·trik ¦līn əv 'fȯrs }

electric main See power transmission line. { i¦lek·trik 'mān }

electric meter [ENG] An electricity-measuring device that totalizes with time, such as a watthour meter or ampere-hour meter, in contrast to an electric instrument. { i¦lek·trik 'mēd·ər }

electric moment [ELEC] One of a series of quantities characterizing an electric charge distribution; an l-th moment is given by integrating the product of the charge density, the l-th power of the distance from the origin, and a spherical harmonic Y^*_{lm} over the charge distribution. { i¦lek·trik 'mō·mənt }

electric monopole [ELEC] A distribution of electric charge which is concentrated at a point or is spherically symmetric. { i¦lek·trik 'män·ə,pōl }

electric motor See motor. { i¦lek·trik 'mōd·ər }

electric network See network. { i¦lek·trik 'net ,wərk }

electric octupole moment [ELEC] A quantity characterizing an electric charge distribution; obtained by integrating the product of the charge density, the third power of the distance from the origin, and a spherical harmonic Y^*_{3m} over the charge distribution. { i¦lek·trik 'äk·tə,pōl 'mō·mənt }

electric outlet See outlet. { i¦lek·trik 'aůt,let }

electric polarizability [ELEC] Induced dipole moment of an atom or molecule in a unit electric field. { i¦lek·trik ,pō·lə,rī·zə'bil·əd·ē }

electric polarization See polarization. { i¦lek·trik ,pō·lə·rə'zā·shən }

electric potential [ELEC] The work which must be done against electric forces to bring a unit charge from a reference point to the point in question; the reference point is located at an infinite distance, or, for practical purposes, at the surface of the earth or some other large conductor. Also known as electrostatic potential; potential. Abbreviated V. { i¦lek·trik pə'ten·chəl }

electric power [ELEC] The rate at which electric energy is converted to other forms of energy, equal to the product of the current and the voltage drop. { i¦lek·trik 'paů·ər }

electric power line See power line. { i¦lek·trik 'paů·ər ,līn }

electric power meter [ENG] A device that measures electric power consumed, either at an instant, as in a wattmeter, or averaged over a time interval, as in a demand meter. Also known as power meter. { i¦lek·trik 'paů·ər ,mēd·ər }

electric power station [ELEC] A generating station or an electric power substation. { i¦lek·trik 'paů·ər ,stā·shən }