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PROVIDES SYNONYMS, ACRONYMS, AND ABBREVIATIONS

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**Dictionary of
Electrical and
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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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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	airborne radar
absolute vector	air capacitor
accuracy control system	
ac/dc receiver	

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 definitions 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 systems.

[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 bat , that
ā	as in bait , crate
ä	as in bother , father
e	as in bet , net
ē	as in beet , treat
i	as in bit , skit
ī	as in bite , light
ō	as in boat , note
ó	as in bought , taut
û	as in book , pull
ü	as in boot , pool
ə	as in but , sofa
au	as in crowd , power
oi	as in boil , spoil
yə	as in formula , spectacular
yü	as in fuel , mule

Semivowels/Semiconsonants

w	as in wind , twin
y	as in yet , onion

Stress (Accent)

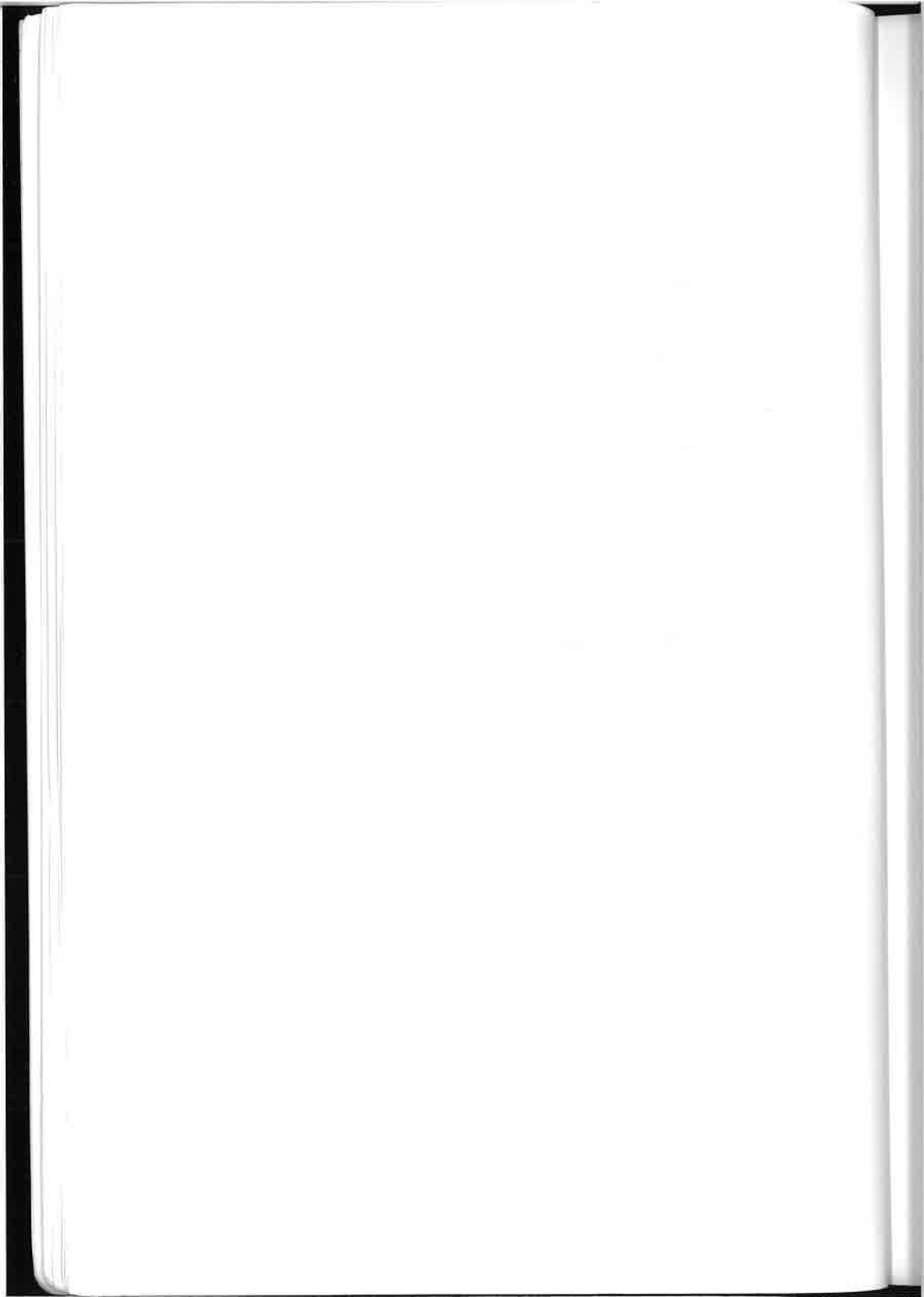
'	precedes syllable with primary stress
ˈ	precedes syllable with secondary stress
ˌ	precedes syllable with variable or indeterminate primary/secondary stress

Consonants

b	as in bib , dribble
ch	as in charge , stretch
d	as in dog , bad
f	as in fix , safe
g	as in good , signal
h	as in hand , behind
j	as in joint , digit
k	as in cast , brick
ƙ	as in Bach (used rarely)
l	as in loud , bell
m	as in mild , summer
n	as in new , dent
̃	indicates nasalization of preceding vowel
ŋ	as in ring , single
p	as in pier , slip
r	as in red , scar
s	as in sign , post
sh	as in sugar , shoe
t	as in timid , cat
th	as in thin , breath
̥	as in then , breathe
v	as in veil , weave
z	as in zoo , cruise
zh	as in beige , treasure

Syllabication

·	Indicates syllable boundary when following syllable is unstressed
---	---



a See ampere.
A See ampere.
a Ω See abohm.
(a Ω)⁻¹ See abmho.
A+ See A positive.
aA See abampere.
aA/cm² See abampere per square centimeter.
A AND NOT B gate See AND NOT gate. { 'ā an nōt '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/cm². { 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 aCm. { 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/cm³. { ab'kü-lōm pər 'kyū-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/cm². { ab'kü-lōm pər 'skwer 'sen-tə,mēd-ər }
abeam See on the beam. { 'a'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 10⁹ 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 10⁹ mhos. Abbreviated (a Ω)⁻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'nōr-məl ,glō 'dis-chāŋ }
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'nōr-məl ,prəp-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'nōr-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 a Ω . { a'bōm }
abohm centimeter [ELEC] The centimeter-gram-second unit of resistivity. Abbreviated a Ω cm. { a'bōm 'sen-tə,mēd-ər }
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'bōrt }
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'bōrt ,branch }

AB power pack

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. { 'ā'bē'pau-ər,pak }

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.

abslemens 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-sə,lüt 'ə'dres }

absolute addressing [COMPUT SCI] The identification of storage locations in a computer program by their physical addresses. { 'ab-sə,lüt 'ə'dres-ŋg }

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-sə,lüt kad-ə,gōr-ē rād-ŋg mēn 'ə'pīn-yən ,skōr }

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-sə,lüt 'sēl ,ref-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-sə,lüt '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,lüt ə'fīsh-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-sə,lüt ə'lek'trām-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,lüt ,gān əv ən an'ten-ə }

absolute index of refraction See index of refraction. { 'ab-sə,lüt 'īn,dēks əv rī'frak-shən }

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

absolute programming [COMPUT SCI] Programming with the use of absolute code. { 'ab-sə,lüt 'prō-gram-ŋg }

absolute refractive constant See index of refraction. { 'ab-sə,lüt rī'frak-tīv 'kän-stənt }

absolute-value computer [COMPUT SCI] A computer that processes the values of the variables rather than their increments. { 'ab-sə,lüt 'val-yū kəm'pyūd-ər }

absolute vector [COMPUT SCI] In computer graphics, a vector whose end points are given in absolute coordinates. { 'ab-sə,lüt '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'sōrbd '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'sōr-bər }

absorber control See absorption control. { 'əb'sōr-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'sōrp-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'sōrp-shən 'sar-kət }

absorption control See absorption modulation. { 'əb'sōrp-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'sōrp-shən 'kōr-rēnt }

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

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'sōrp-shən ,lōs }

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'sōrp-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'sōrp-shən mād-yū'lā-shən }

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

a calibrated tunable circuit and a resonance indicator. { 'ab'sörp-shän 'wäv,méd-är }

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 ó'tam-á-tá 'thē-á-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-á,típ }

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,vólt }

abvolt per centimeter [ELEC] In the electromagnetic centimeter-gram-second system of units, the unit of electric field strength. Abbreviated aV/cm. { 'ab,vólt pər 'sen-tá,méd-är }

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-á,räd-äd 'graf-iks ,pórt }

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-á,räd-äd '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-á,räd-ín 'lěk,tröd }

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

accelerating relay [ELEC] Any relay that is used to assist in starting a motor or increasing its speed. { 'ak'sel-á,räd-ín 'rē,lā }

acceleration-error constant [CONTSYS] The ratio of the acceleration of a controlled variable of a servomechanism to the actuating error when the actuating error is constant. { 'ak,sel-á'rā-shän 'er-är 'kän-stənt }

acceleration switch [ELEC] A switch that opens or closes in the presence of acceleration that 0 exceeds a certain value. { 'ak,sel-á'rā-shän ,swích }

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

acceleration tolerance [ENG] The degree to which personnel or equipment withstands acceleration. { 'ak,sel-á'rā-shän 'tāl-är-əns }

acceleration voltage [ELECTR] The voltage between a cathode and accelerating electrode of an electron tube. { 'ak,sel-á'rā-shän 'vól-tāj }

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

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-chá,wäd-är }

accentuator circuit See accentuator. { 'ak'sen-chá,wäd-är '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 'pyūr-ə-dē }

acceptor material See acceptor. { 'ak'sep-tər mō 'tīr-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 ,kód }

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'tröl }

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'tröl ,list }

access-control mechanism See reference monitor. { 'ak,ses kən'tröl ,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'tröl ,rej-ə-stər }

- access-control words** [COMPUT SCI] Permanently wired instructions channeling transmitted words into reserved locations. { 'ak,ses,kən'trɒl,wɜ:dz }
- 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,lɪn }
- 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-ɪj-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-'trɪks }
- access mechanism** [COMPUT SCI] The mechanism of positioning reading or writing heads onto the required tracks of a magnetic disk. { 'ak,ses'mek-ə,nɪz-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,mɒd }
- 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,'prɪv-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,'prɒd-ə,kɒl }
- access provider** See service provider. { 'ak,ses,'prə,vɪd-ər }
- access time** [COMPUT SCI] The time period required for reading out of or writing into the computer memory. { 'ak,ses,tɪm }
- 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,tɪp }
- 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,kəm-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,kəm-ə'dā-shən,tɪm }
- accordion cable** [ELECTR] 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'kɔ:rd-ɪ-ən 'kæ-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'kaʊnt-ɪŋ 'pak-ɪj }
- 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. [ELECTR] See storage battery. { ə'kyü-myə,läd-ər }
- accumulator battery** See storage battery. { ə'kyü-myə,läd-ər 'bäd-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,läd-ər,'jʌmp in'stræk-shən }
- accumulator register** See accumulator. { ə'kyü-myə,läd-ər 'rej-ə-stɔ: }
- 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,läd-ər 'shift in'stræk-shən }
- accumulator transfer instruction** See accumulator jump instruction. { ə'kyü-myə,läd-ər 'trans-fɜ: in'stræk-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'trɒl,'sɪs-təm }
- ac/dc motor** See universal motor. { ə,sē,dē-sē 'mɒd-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. { ə,sē,dē-sē rɪ'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. { ək'nä-lɪj 'kär-ək-tər }
- acknowledgement** See acknowledge character. { ək'nä-lɪj-mənt }
- aΩcm** See abohm centimeter.
- acorn tube** [ELECTR] An ultra-high-frequency electron tube resembling an acorn in shape and size. { 'ä,kɔ:rn,tüb }
- acoustic amplifier** [ELECTR] A device that amplifies mechanical vibrations directly at audio and

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ultrasonic frequencies. Also known as acoustoelectric amplifier. { ə'küs-tik 'am-plə,fi-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'rä }

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,fi-ər }

acoustic convolver See convolver. { ə'küs-tik kən 'völv-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'lä }

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'lä ,lin }

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 'fəd ,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 ,räd-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 'hörn }

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 'lin }

acoustic radiator [ENG ACOUS] A vibrating surface that produces sound waves, such as a loudspeaker cone or a headphone diaphragm. { ə'küs-tik 'räd-ē,ä-d-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 ,räd-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 'rä-shö }

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,klə-zhər }

acoustic regeneration See acoustic feedback. { ə'küs-tik rē,jen-ə'rä-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 'fö-r-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,fi-ər }

acoustoelectric amplifier See acoustic amplifier. { ə'küs-tō-ə'lek-trik 'am-plə,fi-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,kūs-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 preterronics. {ə,kūs-tō-ə'lek'trən-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,kūs-tō'āp-tō-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,kūs-tō'āp-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,kūs-tō'āp-tik 'mäd-yə,lād-ər}

acoustooptics [OPTICS] The science that deals with interactions between acoustic waves and light. {ə,kūs-tō'āp-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. {ə'kwīz-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. {ə'kwīz-ən ən 'trak-ŋ ,rā,dār}

acquisition tone [COMPUT SCI] An audible tone that verifies entry into a computer. {ə'kwīz-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. {ə'k-tō-nō,dī-ə'lek-trik}

actinodielectricity [ELEC] The electromotive force produced in a substance by electromag-

netic radiation incident upon it. {ə'k-tō-nō-i ,lek'trīs-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. {ə'k-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. {ə'k-shən ,pīr-ē-əd}

action portion [COMPUT SCI] The lower portion of a decision table, comprising the action stub and action entries. {ə'k-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). {ə'k-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. {ə'k-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. {ə'k-tə,vād-əd 'kath,əd}

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. {ə'k-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. {ə'k-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. {ə'k-tiv ə'kām-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. {ə'k-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. {ə'k-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. {ə'k-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 ,myü-nə'kə-shənz 'sad-ə,lit }

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 ,sis-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 'net,wɜ:k }

active electronic countermeasures [ELECTR] The major subdivision of electronic countermeasures that concerns electronic jamming and electronic deceptions. { 'ak-tiv ə,lek'trən-ik 'kaünt-ər,mez-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 'fil }

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-ig }

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 'lāj-ik }

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

active master item [COMPUT SCI] A relatively active item in a computer master file, as determined by usage data. { 'ak-tiv 'mas-tər 'i-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 mət'ir-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 di,sp'lā }

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 'pau-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 'järsē '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 'järlē'sē 'fil-tər }

active satellite [ENG] A satellite which transmits a signal. { 'ak-tiv 'sad-ə,lit }

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 'sō,när }

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'dūs-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 'ār-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 'pōint }

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-īŋ ,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-īŋ }

acyclic machine See homopolar generator. { ,ā'sik-lik mō'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 reliability and efficiency requirements imposed by these systems. { 'ā-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. { ,əd'ap-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. { ,əd'ap-tər ,tranz,fōr-mər }

adaptive antenna [ELECTROMAG] An antenna that adjusts its pattern automatically to be the inverse to any nonuniform distribution in angle of off-feeding interference sources, tending to "whiten" or make appear uniform the noise in angle and minimizing the effects of strong jamming. { ,əd'ap-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. { ,əd'ap-tiv 'brānch }

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. { ,əd'ap-tiv kə ,myū-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. { ,əd'ap-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. { ,əd'ap-tiv ,dif-ə'ren-chəl 'pōls ,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. { ,əd'ap-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. { ,əd'ap-tiv 'fil-tər }

adaptive robot [CONT SYS] A robot that can alter its responses according to changes in the environment. { ,əd'ap-tiv 'rō,bāt }

adaptive signal processing [COMMUN] The design of adaptive systems for signal-processing applications. { 'adap-tiv 'sig-nəl 'prə-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. { 'adap-tiv 'strəktʃər }

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. { 'adap-tiv 'sis-təm }

adaptive system theory [COMPUT SCI] The branch of automata theory dealing with adaptive, or self-organizing, systems. { 'adap-tiv 'sis-təm 'the-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. { 'adap-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 'æn'ten-ə }

Adcock direction finder [NAV] A radio direction finder utilizing one or more pairs of Adcock antennas. { 'ad-käk dɪ'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'dəkt-tər 'kath,əd }

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-ɪŋ 'sər-kət }

adding machine [COMPUT SCI] A device which performs the arithmetical operation of addition and subtraction. { 'ad-ɪŋ mə'shīn }

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

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

addition record [COMPUT SCI] A new record inserted into an updated master file. { 'ə'dɪ-shən 'rek-əd }

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'dɪ-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 'sɪn-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-ɪv wɪt 'gaʊ-sē-ən 'nɔɪz }

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

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

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 'bʌs }

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-pyətā-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 'kaʊnt-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 'fi:ld }

address format

address format [COMPUT SCI] A description of the number of addresses included in a computer instruction. { 'ad-res ,fôr-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 ,frē-'prô-grâm }

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 ,jen-â'râ-shân }

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. { 'âd-res-ig }

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. { 'âd-res-ig ,môd }

addressing system [COMPUT SCI] A labeling technique used to identify storage locations within a computer system. { 'âd-res-ig ,sis-tôm }

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 ,in-târ'lêv-ig }

addressless instruction format See zero-address instruction format. { 'âd-res-lâs ,in'strôk-shân 'fôr-mat }

address modification See address computation. { 'ad-res ,mäd-â-fô-kâ-shân }

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 ,pârt }

address register [COMPUT SCI] A register wherein the address part of an instruction is stored by a computer. { 'ad-res ,rej-â-stôr }

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 ,rez-â-lü-shân }

address sort routine [COMPUT SCI] A debugging routine which scans all instructions of the program being checked for a given address. { 'ad-res 'sôrt ,rü'tên }

address space [COMPUT SCI] The number of storage locations available to a computer program. { 'ad-râs ,spâs }

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 ,trak }

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

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 sâb'trakt ,tîm }

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 ,tîm }

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. { 'ad tō 'mem-rē 'tek-nêk }

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

ADF See automatic direction finder.

ad hoc inquiry [COMPUT SCI] A single request for a piece of information, such as a report. { 'ad 'hâk in'kwî-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. { 'âdi,spîlâ }

adjacency [COMPUT SCI] A condition in character recognition in which two consecutive graphic characters are separated by less than a specified distance. { 'â'jâs-ân-sē }

adjacent-channel interference [COMMUN] Interference that is caused by a transmitter operating in an adjacent channel. Also known as A-scan; A-scope. { 'â'jâs-ânt 'chan-âl in-târ'fir-ôns }

adjacent-channel selectivity [ELECTR] The ability of a radio receiver to respond to the desired signal and to reject signals in adjacent frequency channels. { 'â'jâs-ânt 'chan-âl sâ,lek'tiv-âd-ē }

adjustable resistor [ELEC] A resistor having one or more sliding contacts whose position may be changed. { 'â'jâs-tâ-bôl ri'zîs-tôr }

adjustable transformer See variable transformer. { 'â'jâs-tâ-bôl tranz'fôr-môr }

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. { 'â'jâs-tâd 'des-â,bel }

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

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reciprocal of impedance, it is expressed in siemens. {ad'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. {ad'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'ār ,stüd-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. {ad'vānst '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. {ad,vānst ri'sərch ,prā,jeks ,ā-jən-sē ,net,work }

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. {ad'vānst 'sig-nəl 'präs-əs-iŋ ,sis-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. {ad'vānst 'tel-ə,vizh-ən tek'nāl-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. {'e-rō'jen-ə,rād-ər }

aeronautical mobile satellite service [COMMUN] A mobile satellite service in which the mobile earth stations are located on board aircraft. Abbreviated AMSS. {'er-ə'nöd-ə-kəl ,mō-bəl 'sād-əl,īt ,sər-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. {'er-ə'nöd-ə-kəl ,mō-bəl 'sər-vəs }

aerophare See radio beacon. {'e-rə'fer }

aerospace electronics [ELECTR] The field of electronics as applied to aircraft and spacecraft. {'e-rō'spās i,lek'trən-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 'fōr,māt }

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 'fŋk-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. {'ā-j-iŋ }

AGP See accelerated graphics port.

agricultural robot [CONTSYS] A robot used to pick and harvest farm products and fruits. {ag-rə 'kəl-čə-rə 'rō,bāt }

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. { 'äd-äd 'trak-iŋ ,mek-ä ,niz-äm }

aided-tracking ratio [ENG] The ratio between the constant velocity of the aided-tracking mechanism and the velocity of the moving target. { 'äd-äd 'trak-iŋ ,rä-shö }

A/in.² See ampere per square inch.

A-indicator See A-display. { 'ä ,in-dö ,käd-ör }

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

airblast circuit breaker [ELEC] An electric switch which, on opening, utilizes a high-pressure gas blast (air or sulfur hexafluoride) to break the arc. { 'er ,blast 'sör-kat 'bräk-ör }

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. { 'er ,börn ka'lizh-än ä'vöid-äns ,sis-täm }

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. { 'er ,börn ka'lizh-än 'wörn-iŋ ,sis-täm }

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

airborne electronic survey control [ENG] The airborne portion of very accurate positioning systems used in controlling surveys from aircraft. { 'er ,börn i ,lek'trän-ik 'sör-vä kan'tröl }

airborne intercept radar [ENG] Airborne radar used to track and "lock on" to another aircraft to be intercepted or followed. { 'er ,börn 'in-tör ,sept ,rä,där }

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). { 'er ,börn 'prö ,fil ri ,körd-ör }

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. { 'er ,börn 'rä,där }

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. { 'er ,börn |self-prö'tek-shän ,jam-ör }

air-break switch See air switch. { 'er 'bräk ,swich }

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

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

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

air condenser See air capacitor. { 'er ,kən'dens-ör }

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'tröl ,sent-ör }

air-cooled condenser See air condenser. { 'er ,küld kən'dens-ör }

air-core coil [ELECTR] An inductor without a magnetic core. { 'er ,kör ,köl }

aircraft antenna [ELECTR] An airborne device used to detect or radiate electromagnetic waves. { 'er ,kraft an'ten-ä }

aircraft detection [ENG] The sensing and discovery of the presence of aircraft; major techniques include radar, acoustical, and optical methods. { 'er ,kraft di'tek-shän }

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'pöl-ä ,rizd 'bad-ä-rë }

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 ,gap }

air-ground communication [COMMUN] Two-way communication between aircraft and stations on the ground. { 'er 'gräund kə ,myü-nä'kə-shän }

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-sä'lād-äd 'səb ,stā-shän }

air mileage indicator [ENG] An instrument on an airplane which continuously indicates mileage through the air. { 'er ,mī-lij 'in-dö'käd-ör }

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 ,mī-lij ,yü-nät }

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 aviation. { 'er ,nav-ä'gā-shän }

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. { 'er ,pört 'sər-fəs di'tek-shän i ,kwip-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;

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usually composed of both primary and secondary radars. { 'er,pōrt sər'vā-ləns ,rā,dār }
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,rūt sər'vā-ləns ,rā,dār }
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 ,rā,dār }
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,dār '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 radio-telegraph alarm signal transmitted to actuate automatic devices that sound an alarm indicating that a distress message is about to be broadcast. { ə'lārm ,sig-nəl }
alarm system [ENG] A system which operates a warning device after the occurrence of a dangerous or undesirable condition. { ə'lārm ,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 ,bāks }

alerting signal [COMMUN] Specific signal that is applied to subscriber access lines to indicate an incoming call. { ə'lərt-ig '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. { əl-ig'zan-dər-sən an,tēn-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. { əl-fərd ,lūp }
algebraic computation system See symbolic system. { əl-jə,bṛā-ik ,kām-pyā'tā-shən ,sis-təm }
algebraic manipulation language [COMPUT SCI] A programming language used in the solution of analytic problems by symbolic computation. { əl-jə,bṛā-ik mə-ni-pyā'lā-shən ,lāg-gwīj }
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. { əl-gō 'rith-mik 'er-ər }
algorithmic language [COMPUT SCI] A language in which a procedure or scheme of calculations can be expressed accurately. { əl-gō'rith-mik 'lāg-gwīj }
algorithm translation [COMPUT SCI] A step-by-step computerized method of translating one programming language into another programming language. { 'al-gō,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-yās-ig }
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. { əl-kā ,līn ,sel }

alkaline-manganese cell See alkaline cell. { 'al-ka,lin |maŋ-gə,nēs ,sel }

alkaline storage battery [ELEC] A storage battery in which the electrolyte consists of an alkaline solution, usually potassium hydroxide. { 'al-ka,lin 'stôr-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. { 'ôl ,chan-əl 'tün-ij }

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. { 'ôl dalfyüzd ,mān-əl-lith-ik 'in-tə,grād-əd 'sar-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. { 'ôl dij-əd-əl 'ā ,em 't,bāk }

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. { 'ôl dij-əd-əl 'ef,em 't,bāk }

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. { 'al-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. { 'a-lō,kāt }

allotter [COMMUN] A telephone term referring to a distributor, which allots an idle line-finder in preparation for an additional call. { 'ālād-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. { 'a,lōi ,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. { 'a,lōi ,jəŋk-shən 'dī ,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 *pn* transistor. Also known as fused-junction transistor. { 'a,lōi ,jəŋk-shən tranz'is-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. { 'ôl 'pas 'net ,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. { 'ôl ,tranz'lā-shən-əl 'sis-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. { 'ôl ,wāv ri'sē-vər }

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

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

alphabetic character [COMPUT SCI] A letter or other symbol used to form data, other than a digit. { 'al-fə|bed-ik 'kar-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 'kōd-ij }

alphabetic string See character string. { 'al-fə|bed-ik 'strɪŋ }

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. { 'al-fə 'kād,ōf ,frē-kwən-sē }

alphanumeric technique See alphamosaic technique. { 'al-fə,jē-ə'me-trik ,tek,nēk }

alphameric characters See alphanumeric characters. { 'al-fə,mer-ik 'kar-ik-təz }

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 'tɪp,bār }

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 alphanumeric technique. { 'al-fə,mō'zā-ik ,tek,nēk }

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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-fa-nū-mer-ik 'kar-ik-tarz }

alphanumeric display device [ELECTR] A device which visibly represents alphanumeric output information from some signal source. { 'al-fa-nū-mer-ik dis'plā di,vis }

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-fa-nū-mer-ik in'strāk-shən }

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

alphanumeric reader [ELECTR] A device capable of reading alphabetic, numeric, and special characters and punctuation marks. { 'al-fa-nū-mer-ik 'rēd-ər }

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

alpha test site [COMPUT SCI] A place where a complete computer system is tested with actual data and transactions. { 'al-fa ,test ,sit }

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. { 'ōl-tər-nāt 'chan-əl in-tər'fir-əns }

alternate index *See* secondary index. { 'ōl-tər-nāt 'in,deks }

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. { 'ōl-tər-nāt ,kē }

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. { 'ōl-tər-nāt 'rūt-ing }

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

alternating current [ELEC] Electric current that reverses direction periodically, usually many times per second. Abbreviated ac. { 'ōl-tər,nād-ing 'kar-ənt }

alternating-current circuit theory [ELEC] The mathematical description of conditions in an electric circuit driven by an alternating source or sources. { 'ōl-tər,nād-ing 'kar-ənt 'sər-kət ,thē-ə-rē }

alternating-current coupling [ELECTR] A coupling which passes alternating-current signals but blocks direct-current signals. { 'ōl-tər,nād-ing 'kar-ənt 'kəp-lig }

alternating-current/direct-current [ELECTR] Pertaining to electronic equipment capable of operation from either an alternating-current or

direct-current primary power source. { 'ōl-tər,nād-ing 'kar-ənt di'rekt 'kar-ənt }

alternating-current dump [ELECTR] The removal of all alternating-current power from a computer intentionally, accidentally, or conditionally. { 'ōl-tər,nād-ing 'kar-ənt 'dɒmp }

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. { 'ōl-tər,nād-ing 'kar-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. { 'ōl-tər,nād-ing 'kar-ənt ə'rās-ing ,hed }

alternating-current generator [ELEC] A machine, usually rotary, which converts mechanical power into alternating-current electric power. { 'ōl-tər,nād-ing 'kar-ənt 'jen-ə,rād-ər }

alternating-current magnetic biasing [ELECTR] Biasing with alternating current, usually well above the signal frequency range, in magnetic tape recording. { 'ōl-tər,nād-ing 'kar-ənt mag'ned-ik 'bī-as-ing }

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. { 'ōl-tər,nād-ing 'kar-ənt 'mōd-ər }

alternating-current network [ELEC] An electrical network that has elements with both resistance and reactance. { 'ōl-tər,nād-ing 'kar-ənt 'net ,wɜ:k }

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. { 'ōl-tər,nād-ing 'kar-ənt 'paʊ-ər sʌ,plī }

alternating-current resistance *See* high-frequency resistance. { 'ōl-tər,nād-ing 'kar-ənt rɪ'zɪs-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. { 'ōl-tər,nād-ing 'kar-ənt tranz'mish-ən }

alternating voltage [ELEC] Periodic voltage, the average value of which over a period is zero. { 'ōl-tər,nād-ing 'vōl-tij }

alternator [ELEC] A mechanical, electrical, or electromechanical device which supplies alternating current. { 'ōl-tər,nād-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-tə ,tūd dɪ'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-tə ,tūd ,hōl }

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

ALT key See alternate key. { 'ölt 'kē }

ALU See arithmetical unit.

aluminum arrester See aluminum-cell arrester. { ə'lūm-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'lūm-ə-nəm 'kā-bəl 'stēl ,rē-in'fōrst }

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'lūm-ə-nəm ,səl 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'lūm-ə-nəm kən'dəkt-ər }

A/m² See ampere per square meter.

AM See amplitude modulation.

amateur bands [COMMUN] Bands of frequencies assigned to licensed radio amateurs. { 'a-mə-čər ,bānz }

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-čər '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. { ,əm-bə'gyū-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. { ,əm-bə'gyū-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. { əm'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 $1/(1 + (1 - f)/p)$, where f is the fraction of the work of the program that must be done in serial mode. { 'əm,dälz ,lō }

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 'stān-dərd 'kōd fər in-fər'mā-shən 'in-tər,čān }

AM field signature [ELECTR] The characteristic pattern of an alternating magnetic field, as displayed by detection and classification equipment. { |ä'm 'fēld ,sig-nə-čər }

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. { ə'mórd-ə'sər 'wind-ŋ }

amp See ampere; ampere. { əmp }

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

amperage [ELEC] The amount of electric current in amperes. Abbreviated amp. { 'əm-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. { 'əm,pir }

Ampère balance See current balance. { 'əm,pir ,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. { 'əm,pir 'aü-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. { 'əm,pir 'aü-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. { 'əm,pir 'aü-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. { |əm,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. { 'əm,pir pər ,skwer 'inč }

ampere per square meter [ELEC] The SI unit of current density. Abbreviated A/m². { 'əm,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-plə,tüd |vər-səs |frē-kwən-sē dī'stōr-shən }.

AM radio See amplitude-modulation radio. { 'ā |əm 'rād-ē,ō }

AM signature [COMMUN] A graphic representation of the significant identifying characteristics of an amplitude-modulated signal. { 'ā |əm 'sig-nə-čər }

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-əl,äg }

analog adder [ELECTR] A device with one output voltage which is a weighted sum of two input voltages. { 'an-əl,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-əl,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-əl,äg kə,myū-nə'kō-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-əl,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-əl,äg kəm'pyüd-ər }

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

analog-digital computer See hybrid computer. { 'an-əl,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-əl,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 'mān-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-əl,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-əl,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-əl,äg 'net,work }

analog output [CONT SYS] Transducer output in which the amplitude is continuously proportional to a function of the stimulus. { 'an-əl,äg 'aüt,püt }

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-əl,äg rī'kōrd-īŋ }

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-əl,äg 'sig-nəl }

analog simulation [COMPUT SCI] The representation of physical systems and phenomena by variables such as translation, rotation, resistance, and voltage. { 'an-əl,äg ,sīm-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-əl,äg ,swīč }

analog-to-digital converter [ELECTR] A device which translates continuous analog signals into proportional discrete digital signals. { 'an-əl,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-əl,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-əl,äg 'vōlt-ij }

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'sīn-thə-səs }

analytical engine [COMPUT SCI] An early-19th-century form of mechanically operated digital computer. { ,an-əl'id-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-əl'id-ə-kəl 'fəŋk-shən ,jen-ə,rād-ər }

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

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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. { 'an-ol'id-ik 'hī-ər ,är-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. { 'an-ol,iz-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. { 'aŋ-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. { 'aŋ-kərd 'graf-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. { 'aŋ-kər ,frām }

AND circuit See AND gate. { 'and ,sər-kat }

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. { 'an-dər-sən ,brɪdʒ }

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. { 'and ,gæt }

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. { 'and 'nɔr ,gæt }

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. { 'and 'nät ,gæt }

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. { 'and 'ɔr ,sər-kat }

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. { 'and 'ɔr 'in'vɜrt ,gæt }

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. { 'ān-jəl ,ek-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. { 'aŋ-gəl də'vɜr-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. { 'aŋ-gəl ,jam-ɪŋ }

angle marker See azimuth marker. { 'aŋ-gəl ,mɑrk-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. { 'aŋ-gəl məj-ə'lä-shən }

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

angle of departure See angle of radiation. { 'aŋ-gəl əv dɪ'pɑr-çər }

angle of divergence [ELECTR] The angular spread of an electron beam in an oscilloscope. { 'aŋ-gəl əv də'vɜrj-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. { 'aŋ-gəl 'trak-ɪŋ ,nɔɪz }

angular error of closure See error of closure. { 'an-gyə-lər 'er-ər əv 'klōz-ər }

angular resolver See resolver. { 'an-gyə-lər 'rɪzolv-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. { ,an-ə'tā-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. { 'an-yə-wəl 'sər-vəs ə ,vāl-ə'bɪl-əd-ē ,in ,deks }

annular conductor [ELEC] A number of wires stranded in three reversed concentric layers around a saturated hemp core. { 'an-yə-lər kən'dəkt-ər }

annular transistor [ELECTR] Mesa transistor in which the semiconductor regions are arranged in concentric circles about the emitter. { 'an-yə-lər tran'zɪs-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. { ə'nʌn-sē-əd-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 ,kōil }

anode characteristic [ELECTR] Relationship of anode current to anode voltage in a vacuum tube. { 'a,nōd ,kər-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 dī,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 dī,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 ,drāp }

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 ,fōl }

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,pūt ,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 rī,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'nām-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'nām-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'nām-ə-lē dī,tek-shən }

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

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"anonymous" as their user ID, and their e-mail address as password. { 'ə,nān-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,tron }

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 ,rān }

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-ig ,kōrd }

answering jack [ELEC] Jack on which a station calls in and is answered by an operator. { 'an-sər-ig ,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-plā,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 ,kōil }

antenna counterpoise See counterpoise. { an'ten-ə 'kaunt-ər,pōiz }

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 'krōs ,tōk }

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 'dā'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- rekt'iv-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 'l'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-ig }

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-ig }

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-lā-rā'zā-shən }

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

antenna resistance

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 rɪ'zɪs-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 'tɪlt ,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-ɪŋ ,tek,nēk}

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

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,əd}

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'tɪs-ə-pə,tɔr-ē 'stāj-ɪŋ}

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'klad-ər 'gān kən,trol}

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'ɪn-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-zən ,rā,dār}

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-ɪŋ an'ten-ə}

antiglare shield [COMPUT SCI] A sheet of non-reflective material placed over the screen of an electronic display to reduce the amount of light reflected from the screen. {an-tē'glər 'shēld}

anti-g suit See g suit. {an-tē'jē ,sūt}

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'trū-zən ,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-ɪŋ}

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-ɪk}

antinnoise microphone [ENG ACOUS] Microphone with characteristics which discriminate against acoustic noise. {an-tē'nɔɪz 'mɪ-kro ,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-rɪ'flek-shən ,kōd-ɪŋ}

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'sɪd,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-ɪk 'mat}

anti-transmit-receive tube [ELECTR] A switching tube that prevents the received echo signal from being dissipated in the transmitter. {an-tē-tranz'mɪt rɪ'sev ,tüb}

antivirus software [COMPUT SCI] Software that is designed to protect against computer viruses. {an-tē,vɪ-rəs 'sɒf,wer}

A-O-I gate See AND-OR-INVERT gate. {ā,ə'ɪ ,gæt}

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. {ə,pɪr-ē'əd-ɪk an'ten-ə}

aperiodic waves [ELEC] The transient current wave in a series circuit with resistance R, inductance L, and capacitance C when $R^2C = 4L$. {ə,pɪr-ē'əd-ɪk 'wævz}

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

aperture antenna [ELECTROMAG] Antenna in which the beam width is determined by the dimensions of a horn, lens, or reflector. {'ap-ə ,ʃər 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,ʃər ,grɪl 'pɪk-ʃər ,tüb}

aperture mask See shadow mask. {'ap-ə,ʃər ,mask}

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

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. { ,ə-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 'pāz-əd-iv }

A power supply See A supply. { 'ā 'pau-ər sə,plī }

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 'pau-ər }

apparent source See effective center. { ,ə'pa-rənt 'sɔrs }

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

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'pli-əns }

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'pli-əns ,pan-əl }

application [COMPUT SCI] A computer program that performs a specific task, for example, a word processor, a Web browser, or a spread sheet. { ,ap-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. { ,ap-lə'kā-shən dī'vel-əp-mənt ,læŋ-gwɪj }

application development system [COMPUT SCI] An integrated group of software products used to assist in the efficient development of computer programs and systems. { ,ap-lə'kā-shən dī'vel-əp-mənt ,sis-təm }

application generator [COMPUT SCI] A commercially prepared software package used to create applications programs or parts of such programs. { ,ap-lə'kā-shən ,jen-ə,rād-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. { ,ap-lə'kā-shən ,pak-ij }

application processor [COMPUT SCI] A computer that processes data. { ,ap-lə'kā-shən 'prə ,ses-ər }

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

application program interface [COMPUT SCI] A language that enables communication between computer programs, in particular between application programs and control programs. Abbreviated API. { ,ap-lə'kā-shən 'prō-gram 'in-tər,fās }

application server [COMPUT SCI] A computer that executes commands requested by a Web server to fetch data from databases. Also known as app server. { ,ap-lə'kā-shən ,ser-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. { ,ap-lə'kā-shən spɪ'sɪf-ɪk ,int-ɪ,grəd-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 ,stəd-ē }

application system [COMPUT SCI] A group of related applications programs designed to perform a specific function. { ,ap-lə'kā-shən ,sis-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. { ,ap-lə'kā-shən ,wɪn,dō }

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-lə,kəd-iv 'læŋ-gwɪj }

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'plɪd ɪpɪs-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 }