MACMILLAN DICTIONARY OF

INFORMATION TECHNOLOGY

SECOND EDITION

DENNIS LONGLEY &
MICHAEL SHAIN

MACMILLAN DICTIONARY OF

INFORMATION TECHNOLOGY

Second Edition

DENNIS LONGLEY
AND
MICHAEL SHAIN

MACMILLAN PRESS
World Publishing Corp

First edition published 1982
Hardcover edition reprinted 1983
Paperback edition reprinted 1984

Second edition first published 1985 by
THE MACMILLAN PRESS LTD
London and Basingstoke

Associated companies in Auckland, Delhi, Dublin, Gaborone, Hamburg, Harare, Hong Kong, Johannesburg, Kuala Lumpur, Lagos, Manzini, Melbourne, Mexico City, Nairobi, New York, Singapore, Tokyo.

British Library Cataloguing in Publication Data

Longley, Dennis
Dictionary of information technology.——2nd ed.
1. Information storage and retrieval systems
——Dictionaries
I. Title II. Shain, Michael
001.5 Z699

ISBN 0-333-37260-3
ISBN 0-333-37261-1 Pbk
ISBN 7-5062-0173-9

Reprint authorized by Macmillan Press Ltd
Reprinted by World Publishing Corporation, Beijing, 1988
for sale in The People's Republic of China (excluding Hong Kong, Macao and Taiwan Province of China)

Introduction to Second Edition

The 1970s was the decade in which the industrialized nations lost cheap energy and discovered microelectronics. This technological revolution promised fundamentally new methods for the manufacturing and information industries: the challenge of the 1980s is to exploit these advances and revitalize economic activity.

If the opportunities offered by the new devices for collection, processing and dissemination of information are to be grasped, however, society's attitudes to the nature, processes and impact of information need to be examined and revised. The benefits of Information Technology lie not in the sophisticated hardware but in the exploitation of these devices to harness the power of human intelligence and endeavour within society. The ultimate success thus lies within society's ability and will to communicate and cooperate.

The authors first became involved in this field when they cooperated on a videotex project in early 1980. At that time they remarked upon the wide range of backgrounds amongst workers in that field and the plethora of terms, both derived from the constituent backgrounds and spawned by the videotex industry, that hindered communication. It later became clear that the videotex field exemplified many of the problems arising in the world of Information Technology. It is the nature of this discipline that it not only generates its own advances, but also makes quantum leaps by exploiting the convergence of existing technologies – cable television, word processing, local area networks, fiber optics, video recording, satellite communications, typesetting, microcomputers.

In December 1980 the authors initially considered what was then the first edition of this dictionary and duly checked on the existence of related reference books. A computer search of one and a half million periodicals and two million books failed to reveal a source book or article on this topic. The case for a reference book to assist newcomers into the field, with the relevant technical terms, was thus established.

In October 1984, prior to the publication of this second edition, a subsequent computer search of the INSPEC database revealed over 1000 major journal articles on IT, and the BLAISE database of book titles indicated over 200 books on the subject. IT has now emerged as a discipline in its own right.

At the outset of the compilation the authors were conscious of the continuing role of the traditional technologies in this field, and the fact that the jargon of the old technologies tends to fuse, and confuse, in the new. The constituent fields were thus selected:

Printing and Publishing
Computers and Databases
Computer Newtworks and Communications
Photography and Cinematography
Television and Recording

Microelectronics and Software
Word Processing and Business Systems

Where the focus in the first edition had been to distinguish between the same terms from different disciplines, the emphasis had now shifted to the newer technologies. For this reason there is now more emphasis on technologies such as cable television, computer networks and data communications, cryptography, expert systems, fifth generation computers, machine translation, microcomputers, on line information retrieval, Open System Interconnection, programming and speech synthesis.

The success of Information Technology will depend, ultimately, upon the readiness of society to communicate and cooperate. It is our hope that this dictionary will assist by lowering a few of the barriers to communication.

How to Use This Dictionary

The design of the dictionary is based upon the principle that most readers never consult this section and so, to avoid confusion, sophisticated listing and cross reference techniques have not been employed.

The terms are retained in the normal order, ie **automatic window adjust** is listed under automatic. They are sorted in alphabetical order of the complete term, ie **light pen** comes between **lightemitting diode** and **light stability.** This order contrasts with some dictionaries in which the alphabetical order is based on a heavier weighting of the first word in a term, ie all terms commencing with **light** precede all terms commencing with **lighting.** In the alphabetical ordering digits are ranked after the letter 'Z', ie **S100 bus** appears after **System X** and not at the beginning of the 'S' terms.

The area from which the head word is derived, is usually indicated in the definition, eg In computing, In printing . . . If more than one definition is related to a head word, then the entry is itemized to reflect this and the relevant field indicated in each sub-entry.

The terms normally appear in lower case characters, and proper nouns headed by an upper case, eg **Bildschirmtext.** Acronyms are presented in full upper case and the appropriate letters are amplified in the text, eg:

PERT – Program Evaluation and Review Technique

The cross references are given under the three headings: 'Compare', 'See' and 'Synonymous with'.

A significant feature of this dictionary is the use of extended entries dealing with important topics of the subject, i.e. cable television, cellular radio, computer networks, cryptography, data communications, data protection, expert systems, fiber optics, fifth generation computer, global satellite communication system, information technology, interactive video disk, local area networks, machine translation, microcomputers, programming, speech synthesis, typesetting, video disk, videotex and word processing.

A

AA See audio active.

AA'S See author's alterations.

A, B and C series of paper sizes In printing, a triple range of paper sizes adopted by International Standards Organization (ISO), of which the A Series is intended for all kinds of stationery and printed matter, the B Series as intermediate alternatives and the C Series for envelopes. The dimensions for the A series are given in millimeters:

A0	1189×841	A6	148×105
A1	841×594	A7	105×74
A2	594×420	A8	74×52
A3	420×297	A9	52×37
A4	297×210	A10	37×26
A5	210×148		

all sizes are proportionate reductions of the basic A0 sheet, sides being in the ratio 1 : sqrt 2, with A0 being equal to one square meter. See International Standards Organization.

abbreviated addressing In computing, a process that enables a user to employ an address having fewer characters than the full address. It provides a faster means of processing data because the shorter address requires less time to decode. See addressing.

ABC (1) American Broadcasting Corporation. (2) Australian Broadcasting Corporation.

ABCA American Business Communications Association.

aberration (1) In optics, any systematic distortion of an image introduced by an optical element, such as a lens, prism, or mirror. Aberrations common in early lenses were astigmatism, chromatic aberration, curvature of field, distortion, and spherical aberration. (2) In television, image distortion caused by signal interference or electron beam misalignment. See astigmatism, chromatic aberration, curvature of field, distortion, spherical aberration.

ABES US Association for Broadcasting Engineering Standards.

abi/inform A database supplied by Data Courier Inc. and dealing with business & industry, business management. See on line information retrieval.

abort In computing, to terminate, in a controlled manner, a processing activity in a computer system because it is impossible or undesirable for the activity to proceed.

above 890 decision In communications, a 1959 FCC decision allowing individual firms to build microwave systems for their own use utilizing frequencies above 890 MHz. This decision established a precedent in the US for the provision of communication channels by entities other than the then established carriers, Western Union Telegraph Company and AT & T. See FCC microwave.

absolute address In computing, (1) an address in a computer language that identifies a storage location or a device without the use of any intermediate reference, (2) an address that is permanently assigned by the machine designer to a storage location, (3) a pattern of characters that identifies a unique storage location or device without further modification. See address. Synonymous with machine address.

absolute assembler In computer programming, a specific type of assembly language program designed to produce binary programs containing only absolute addresses and address references. See assembly language, absolute address.

absolute code In computing, a code that uses computer instructions with absolute addresses. See absolute address. Synonymous with specific coding.

absolute loader In computing, a routine that reads a computer program into main storage, beginning at the assembled origin. See main storage, routine.

absolute value The value of a number regardless of a prefixed plus or minus sign, i.e. the absolute value of -5 is 5.

absorptance That portion of the quantity of light incident on an object which is absorbed within the object, the energy ultimately being converted into heat. Compare transmittance, reflectance.

absorption In communications, a loss of power of an electromagnetic wave during propagation through a medium. See electromagnetic radiation.

absorption filter In photography, any light filter which blocks certain wavelengths of light and transmits others.

ABSTI Advisory Board on Scientific and Technical Information, Canada.

abstract In library science, (1) a summary of a book, periodical, feature, report or learned paper, (2) a form of current bibliography in which contributions to periodicals and, sometimes, books are summarized; they are accompanied by sufficient information to enable the publications or articles to be traced. See auto abstract, evaluative abstract, general abstract, indicative abstract, informative abstract, selective abstract, slanted abstract.

AC See alternating current, accumulator.

ACARD UK Advisory Council for Applied Research and Development.

ACC See accumulator.

ACCC US Ad Hoc Committee for Competitive Communications.

acceleration potential In electronics, the voltage between the cathode in a cathode ray tube, CRT, and the face of the tube which attracts the beam of focused electrons causing them to impinge on the phosphor dots. See CRT, phosphor dots.

accent In typesetting, a mark used to indicate a specific sound value, stress or pitch, or to indicate that an ordinarily mute vowel should be pronounced.

acceptance angle In photography, the angle in two dimensions covered by a lens or light meter.

acceptance testing In computing, a series of tests designed to demonstrate the functional capabilities of a new computer system. It is usually conducted by the manufacturer to show the customer that the system is in working order.

ACCESS (1) US Army Automated Catalog of Computer Equipment and Software Systems. (2) In computing, the manner in which files or data sets are referred to by the computer. (3) In communications, the public availability of cable broadcasting time in the US. See direct access, random access, sequential access.

access arm In computing, a mechanical device in a disk drive that positions the reading and writing mechanisms. See disk drive, head.

access barred In data communications, a data facility which permits a terminal installation to make outgoing, or receive incoming, calls but not both.

access charge In communications, a charge made by a common carrier for the use of its local exchange facilities. See common carrier, local exchange.

access control In computer networks, the control of system usage, imposed by hardware, software and administrative controls. Such controls include system monitoring, user identification, ensuring data integrity, recording system access and changes and methods for granting user access. See hardware, software.

accession number In library science, an arbitrary serial number given to each item as it enters a collection. See aspect card.

access line In data communications, a telecommunication line that continuously con-

nects a remote station to a DSE. A telephone number is associated with such lines. See DSE.

access mechanism In computing, a mechanism for moving read and write heads to the requisite position on the storage device, or moving the storage medium to the heads, so that data may be accessed.

access time (1) In computing, the time interval from the instant that data is requested from a storage device to the instant it is delivered to the CPU, and vice versa. (2) In recording, the time interval between the moment that information is requested in playback to the moment that it is delivered. See CPU.

accidental destruction In data security, the unintentional overwriting or deletion of data, e.g. by faulty hardware or software. Backup is needed for recovery. See backup copy.

accordion fold In computing, a method of folding paper in which each fold is in the opposite direction to the previous one. A printer or paper tape reader can be fed with accordion folded paper without continuous operator intervention. Synonymous with concertina fold, fanfold.

accumulator In computing, a device that functions as a holding register for arithmetic, logical and input output operations. Normally data words fetched from memory are loaded into the accumulator and words to be stored into memory are first loaded into this register. See input output, register.

accuracy The degree of exactness of an approximation or measurement. It denotes the absolute quality of the result with respect to its true value, as compared with precision which is concerned with the amount of detail used in specifying a result. Thus a two digit result may be more accurate than an incorrect three digit result, but it will be less precise. See precision.

ac/dc ringing In telephony, a method of telephone ringing that uses alternating current to operate a ringer and direct current to activate a relay that stops the ringing when the called party answers. See relay.

ACE Association of Cinema Editors.

achromatic In optics, pertaining to an optical device, e.g. a lens, which has been corrected in manufacture for chromatic aberration. See chromatic aberration.

ACK See acknowledge character.

acknowledge character In data communications, a transmission character transmitted by a station as an affirmative response to the station with which the connection has been set up. Compare negative acknowledgement. See acknowledgement, station.

acknowledgement In data communications, the transmission by a receiver of acknowledge characters as a response to a sender. See affirmative acknowledgement, negative acknowledgement.

ACK0 See affirmative acknowledgement.

ACK1 See affirmative acknowledgement.

ACLS American Council of Learned Societies.

ACM Association for Computing Machinery. A US based organisation which aims to advance computer technology and its applications.

acoustical feedback In recording, the positive feedback between the microphone and loudspeaker, in a sound system, which usually results in an undesirable howling sound. See feedback, microphone.

acoustic coupler In data communications, a type of data communication equipment that permits use of a telephone handset as a connection to a telephone network for data transmission by means of sound transducers. See MODEM, transducer.

acoustics (1) The science concerned with the attributes of sound. (2) The characteristics of an enclosure, e.g. a room, as these affect the sound.

ACR See audio cassette recorder.

ACRL Association of College and Research Libraries.

actinic light In photography, light which is capable of causing photochemical changes in a photosensitive material.

action field In photography, the portion of the area in front of the camera which is recorded.

action message In computing, a message issued because of a condition that requires an operator response.

action paper Synonymous with carbonless paper.

activating In document copiers, the action of an activator on the exposed sensitized material in some photochemical process to cause development of the latent image. See activator, latent image.

activation In a computer network, the process by which a component of a node is made ready to perform the functions for which it was designed. See node.

activator In document copiers, a liquid used for developing certain types of sensitized material. See activating.

active device In electronics, a circuit which contains an amplifier providing gain. Compare passive. See amplifier, gain.

active file In computing, a permanent file or a temporary file, having an expiration date that is later than the job date. See job.

active state In microelectronics, the digital state which causes a given action to occur. It may be either the high state or low state, depending on the circuit and pin in question.

activity In data processing, the percentage of records in a file that are processed in a run. See volatility.

activity loading In data processing, a method of storing records on a file in which the most frequently processed records can be located most readily. See record.

activity ratio In data processing, the ratio of the number of records in a file that are in use to the total number of records in that file. See record.

AC transfer In recording, a videotape duplication by contact between high coercivity master and low coercivity slave in a high frequency AC field. See coercivity.

ACTSU US Association of Computer Time Sharing Users.

actual data transfer rate In data communications, the average number of bits, characters or blocks per unit of time transferred from a data source and received by a data sink. See source, sink.

actuator A device which is capable of mechanical action under the control of a signal. See robot.

ACU See automatic calling unit.

acuity In physiology, (1) the ability of the eye to perceive fine detail, (2) the ability of the ear to detect very low sound levels or small changes in frequency.

acutance In photography, pertaining to the ability of a lens or film to reproduce edges sharply.

ada In computer programming, a general purpose, high level language, adopted by the US Department of Defense, and available for scientific and industrial applications on a variety of computers. See high level language.

ADAPSO US and Canada Association of Data Processing Service Organisations.

adaptation In physiology, (1) the ability to hear a particular sound in a high level of background noise, (2) the ability of the eye to establish a range of luminance levels about a mean level, after a change in mean level. See luminance.

adaptive channel allocation In communications, a method of multiplexing where channels are allocated according to demand rather than on a fixed predetermined plan. See multiplexing, frequency division multiple access, time division multiple access.

adaptive routing In data communications, a routing scheme for packets or messages in which the behaviour adapts to network changes such as line failures or variation of the traffic pattern. See packet switching, message switching.

adaptive systems Systems which display the ability to learn to change, alter their state or otherwise react to a stimulus.

ADC See analog to digital converter.

ADCCP See advanced data communications control procedure.

added entry In library science, a secondary entry in a catalogue, i.e. any other than the main entry. Compare main entry.

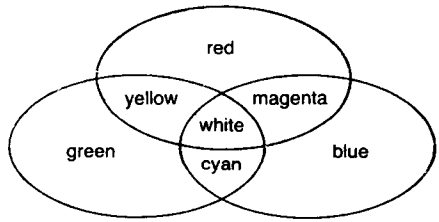
addend In computing, the operand of the addition operation, the number added to the augend to form a sum. See augend, operand.

adder In computing, a device that forms an output resulting from the sum of two or more numbers presented as inputs. See full adder, half adder.

add-in In computing, an expansion board which slots into a microcomputer to provide additional facilities. This is a very simple method of enhancing a microcomputer. The boards available allow for additional RAM, additional operating facilities, particularly CP/M, enhanced graphics, modems, instrumentation etc. See CP/M, MODEM, RAM.

additive colour mixing A means of reproducing colours by mixing lights. Compare subtractive colour mixing.

additive primary colours In television, the red-orange, green and blue-violet colours. In varying combinations, they produce all other colours and white. See primary colours, RGB, triad.



additive colour mixing

address In computing, (1) a character or group of characters that identifies a register, a particular part of storage, or some other data source or destination, (2) to refer to a device or an item of data by its address. (3) In communications, the part of the selection signals that indicates the destination of a call. (4) In word processing, the location, identified by an address code, of a specific section of the recording medium or storage.

addressability In computer graphics, the number of addressable points within a specified display space or image space. See display space.

addressable horizontal positions (1) In micrographics, the number of positions within a specified film frame at which a full length vertical line can be placed. (2) In computer graphics, a display line. See display line.

addressable vertical positions (1) In micrographics, the number of positions within a specified film frame at which a full length horizontal line can be placed. (2) In computer graphics, a display column. See display column.

address bus In computing, a unidirectional bus over which digital information is transmitted to identify either a particular memory location or a particular input output device. Compare control bus, data bus. See bus, input output devices.

address field In computing, the specific portion of a computer word that contains

either the address of the operand or the information necessary to derive that address. See operand, word.

address format In computing, the arrangement of the parts of a simple address, such as those required for identifying a channel, module, or track on a magnetic disk.

addressing (1) In computing, the assignment of addresses to the instructions of a program. (2) In communications, the means whereby the originator or control station selects the unit to which it is going to send a message. See station.

address modification In computing, an operation that causes an address to be altered in a prescribed way by a stored program computer.

address register In computing, a special register used by the CPU to store the address of data to be fetched from, or stored in, the computer memory. See CPU, register.

address track In computing, a track on a magnetic disk containing the addresses of files, records etc. stored on other tracks of the same device. See magnetic disk, track.

add time In computing, the time required by a particular CPU to add two multidigit numbers not including the time taken to read the numbers or store the result. Microcomputers are often rated by comparing add times as a criterion of their relative speed. See microcomputer.

Adherography In printing, the trade name for a duplicating process in which the image is formed by adherence of a powder to a sticky, latent image. See latent image.

ADI American Documentation Institute.

ADIS Automatic Data Interchange System.

adjacency In character recognition, a condition in which the character spacing reference lines, of two consecutively printed characters on the same line, are separated by less than a specified distance.

adjacent channel In communications, the next channel, or the one in close proximity, either physically or electrically to the one in current use. See channel.

adjust In word processing, an editing feature in which the system automatically adjusts the right hand margin for insertion or deletion of copy during playback. Word and sometimes page wraparound is automatically performed as needed. See wraparound.

ADLC See advanced data link control.

ADP See automatic data processing.

ADRES US Army Data REtrieval System.

advanced data communications control procedure In data communications, pertaining to the operation of a data link using an advanced (SDLC, HDLC) protocol. See HDLC, protocol, SDLC.

advanced data link control In data communications, a link protocol used in HDLC and SDLC systems. See HDLC, SDLC.

advanced sprocket feed In computing, pertaining to paper tape sprocket holes that line up with the leading edge of the code holes. Compare center sprocket feed. See paper tape.

AECT US Association for Educational Communication and Technology.

AEDS US Association for Educational Data Systems.

aerial Synonymous with antenna.

aerial cable In telecommunications, a cable connected to poles or similar overhead structures.

aerial image In optics, a real image formed at a plane in space in an optical system.

AEWIS US Army Electronic Warfare Information System.

affective domain In educational theory, the category of instructional objectives relating

to attitudes, values and appreciations within human behaviour.

affiliate In communications, a US broadcast station contracted to a network for more than 10 hours of programming a week.

affirmative acknowledgement In data communications, the replies ACK 0 and ACK 1 in binary synchronous transmission indicate that the previous transmission block was accepted by the receiver and that it is ready to accept the next block. ACK 0 and ACK 1 sent alternately provide sequential checking for a series of replies. ACK 0 is also used as an affirmative reply to station selection signal in a multidrop circuit, or to an initialization sequence in a point to point operation. See binary synchronous communications, multidrop circuit, point to point connection.

AFIPS American Federation of Information Processing Societies.

AFNOR Association Française de NORmalisation – the French Standards Organisation.

afterglow Synonymous with persistence.

agate In typesetting, a type smaller than 6 point. Fourteen lines of agate make one inch of matter for newspaper advertising. See matter, point.

agate line See agate.

AGC See automatic gain control.

agenda item In communications, an FCC proceeding which has been placed on the Commission's formal agenda, and a public notice given. See FCC, sunshine notice.

Agricola A database supplied by U.S. Department of Agriculture and dealing with agriculture, food and nutrition. See on line information retrieval.

Agris A database supplied by Food and Agriculture Organization of the United Nations (FAO), AGRIS Coordinating Center and dealing with agriculture. See on line information retrieval.

AI See artificial intelligence.

A & I Abstracting and Indexing.

air gap In recording, the very narrow gap between the two elements of a magnetic recording or playback head. See head.

ALA American Library Association.

alarm A visual or audio signal to signify that an error has arisen or an abnormal situation exists.

albumen plate In printing, a lithographic plate made from a photographic negative using a light sensitive coating, so named because it formerly contained the white of egg. See lithography.

ALC See automatic level control.

ALGOL In computer programming, ALGOrithmic Language, an early block structured language providing many elegant features that were lacking in other early high level languages. See programming, high level language, Pascal.

algorithm A finite set of well defined rules for the solution of a problem in a finite number of steps, for example, a precise description of the steps involved in determining the record with the highest value of a specified numerical attribute. See programming, attribute, record.

algorithmic language A computer language designed for expressing algorithms. See ALGOL.

aliasing An effect that occurs when a signal is sampled at a rate less than twice the highest frequency present in the signal. When a subsequent signal is recovered from the samples it will not contain the high frequency component of the original signal and it will display a false low frequency signal.

aligner On a typewriter, a device that enables the paper to be correctly lined up in the machine for typing.

aligning edge In optical character recognition, the edge of a form which, in conjunction with the leading edge, serves to correctly position the document that is to be scanned. See scan.

alignment (1) In printing, pertaining to the position of letters within a line which has an even appearance when looked at horizontally. (2) In radiocommunications, the simultaneous tuning of two or more circuits. (3) In recording, the positioning of microphones or loudspeakers for stereophonic effects.

alignment pin In electronics, any pin or device that will ensure the correct mating of two components designed to be connected.

all call In an electronic learning laboratory, a single control which enables the instructor to talk to all stations simultaneously while overriding all educational programming.

all in In printing, all copy and proofs are available.

all in hand In typesetting, the state of a job after all copy has been passed out to the typographers. See typography.

allocate In computing, (1) to assign a resource, such as a disk or a diskette file, to a specific task, (2) to assign main routines and subroutines to storage. See task.

allocation See assigned frequency.

allophone In acoustics, a manifestation of a phoneme in a speech signal. A phoneme may be acoustically different depending upon word position and an allophone is a positional variant of the same phoneme. See phoneme, speech synthesis.

all up In printing, pertaining to the state of a print job after all copy has been set.

Aloha In computer networks, a packet switched system at the University of Hawaii which uses radio broadcast techniques. See Slotted Aloha.

ALPAC US National Academy of Sciences Automated Language Processing Advisory Committee.

alphabet (1) An ordered set of all the letters and associated marks used in a language or work. (2) An ordered set of letters used in a code language, e.g. the morse code alphabet, the 128 characters of the ASCII alphabet. See morse code, ASCII.

alpha beta technique In artificial intelligence, a technique used in game playing routines to determine the best set of moves for a given player. The player will pick the set of moves to maximise his score whilst the adversary will always attempt to select moves that will minimise his losses. The successive set of moves can be represented by a tree structure, one player having the choice of branches from one level and the adversary the choice at the next level. The alpha beta technique eliminates subtrees to be searched from the tree, thus reducing the effort of searching for optimum moves. See tree structure.

alphabetic character set A character set that contains letters but not digits. The set may contain control characters, special characters, and the space character. Compare alphanumeric. See control character.

alphabetic shift A control for selecting the alphabetic character set in an alphanumeric keyboard printer.

alphabetic string A character string consisting of letters from the same alphabet. See string.

alphabet length In typesetting, the measurement, in points, of the lower case alphabet of a particular style and size. See point.

alphageometric In videotex, a standard in which the codes can instruct the terminal to produce line drawings, fill areas with colour, etc. in addition to normal character display modes. Compare alphamosaic. See videotex.

alphamosaic In videotex, a standard in which the codes determine the alphanumeric character or mosaic pattern to be displayed in a character space. Compare alphageometric. See alphanumeric, videotex, character space.

alphanumeric Pertaining to a character set that contains letters, digits and usually other characters, e.g. punctuation marks.

alphanumeric character set A character set that contains both letters and digits and may contain control characters, special characters, and the space character. See alphanumeric.

alphanumeric data Data represented by letters and digits and perhaps special characters and the space character. See alphanumeric, special character.

alphanumeric display device See character display device.

alphanumeric keyboard In videotex, a keyboard used for entering letters, numbers, and special characters. It is required by IPs for creating frames. Users with this keyboard can send messages via electronic mail or fill response frames with alphanumeric information. Users who are only equipped with numeric keypads enter such information in a format determined by a predefined menu selection. See alphanumeric, electronic mailbox, frame, IP, keypad, response frame.

alphanumerics mode In videotex, the display mode in which the display characters are those of the alphanumerics set. Compare graphics mode. See display mode.

alphanumerics set In videotex, the set of 96 display characters comprising all the alphanumerics characters. See display character.

alphaphotographic In videotex, a method of displaying alphanumeric characters and picture quality graphics from individually transmitted and stored picture elements. See Picture Prestel.

alpha wrap In recording, a method of winding videotape around the drum of a helical scan device. The tape circumnavigates the drum producing a shape like the Greek letter alpha, leaving the drum at a higher level than that which it entered. The video scans are diagonal on the tape and cover the width of it. The edge of the tape is also required for audio recording and thus there is a compromise between good sound recording and drop out. Compare omega wrap. See sound track, drop out.

alternate mode In computing, a method of using a virtual terminal by which each of two interacting systems or users has access to its data structure in turn. The associated protocols include facilities to allow the orderly transfer of control from one user to the other. Compare free running mode. See virtual terminal, data structure.

alternate route In communications, a secondary or backup route that is used if normal routing is not possible.

alternate track In computing, a track on a magnetic disk or other storage device, which is automatically substituted for a damaged track. See track.

alternating current Electric power supply in the form of a sine wave, normally a frequency of 60 Hz in the US, and 50 Hz in the UK. Compare direct current. See Hz.

ALU See arithmetic logic unit.

Alvey A research program, named after Mr John Alvey, of pre-competitive research in advanced information technology costing some £300 million over five years. See ESPRIT.

AM See amplitude modulation.

A-MAC In television, a variant of C-MAC which requires a lower bandwidth per channel. Compare C-MAC. See MAC.

ambient noise level In electronics and recording, random, uncontrollable and irreducible noise level at a location or circuit. See noise.

ambisonics In recording, the use of two or more sound channels to give the effect of more than one spatial dimension. Compare stereo. Synonymous with surround sound.

America; History & Life (AHL) A database supplied by ABC-Clio Information Services

and dealing with history, politics & political science. See on line information retrieval.

American National Standards Institute A body which organizes committees formed of computer users, manufacturers, etc., to develop and publish industry standards, e.g. ANSI FORTRAN, ANSI Standard Code for Periodical Identification.

ammonia duplication process In printing, a form of diazo process in which a latent image is made visible by exposure to evaporating ammonia. See diazo process, latent image.

ampere In electronics, the basic unit of electrical current. Compare volt. See current.

amplification In electronics, (1) the strengthening of a weak signal, (2) the ratio between some measure of the output signal and the input signal of a device. Compare attenuation.

amplified telephone In teleconferencing, the general term for a hands free telephone, using a loudspeaker and microphone unit rather than a telephone handset.

amplifier In electronics, a normally unidirectional device which increases the power or amplitude of an electrical signal. See amplitude.

amplitude The magnitude of the greatest deviation from the midpoint value of a periodic signal or phenomenon. See frequency, wavelength.

amplitude distortion In electronics, a distortion caused by an undesired amplitude characteristic, e.g. in an amplifier the output signal would not be a faithful reproduction of the input signal.

amplitude frequency characteristic In electronics, a graphical representation of the variation in output amplitude of a device with changes in input frequency at constant input amplitude.

amplitude modulation In communications, a form of modulation in which the amplitude of the carrier signal is varied in accordance with the amplitude of the modulating signal. Compare frequency modulation, phase modulation. See carrier, modulation.

analog In computing and communications, pertaining to the form of continuously variable physical quantities. For example, a telephone conversation can be represented fully in analog form by a voltage derived from the telephone transmitters. Compare digital. See transducer.

analog channel In communications, a data channel on which the information transmitted can take any value between the limits defined for the channel. Voice grade channels are analog channels. See analog.

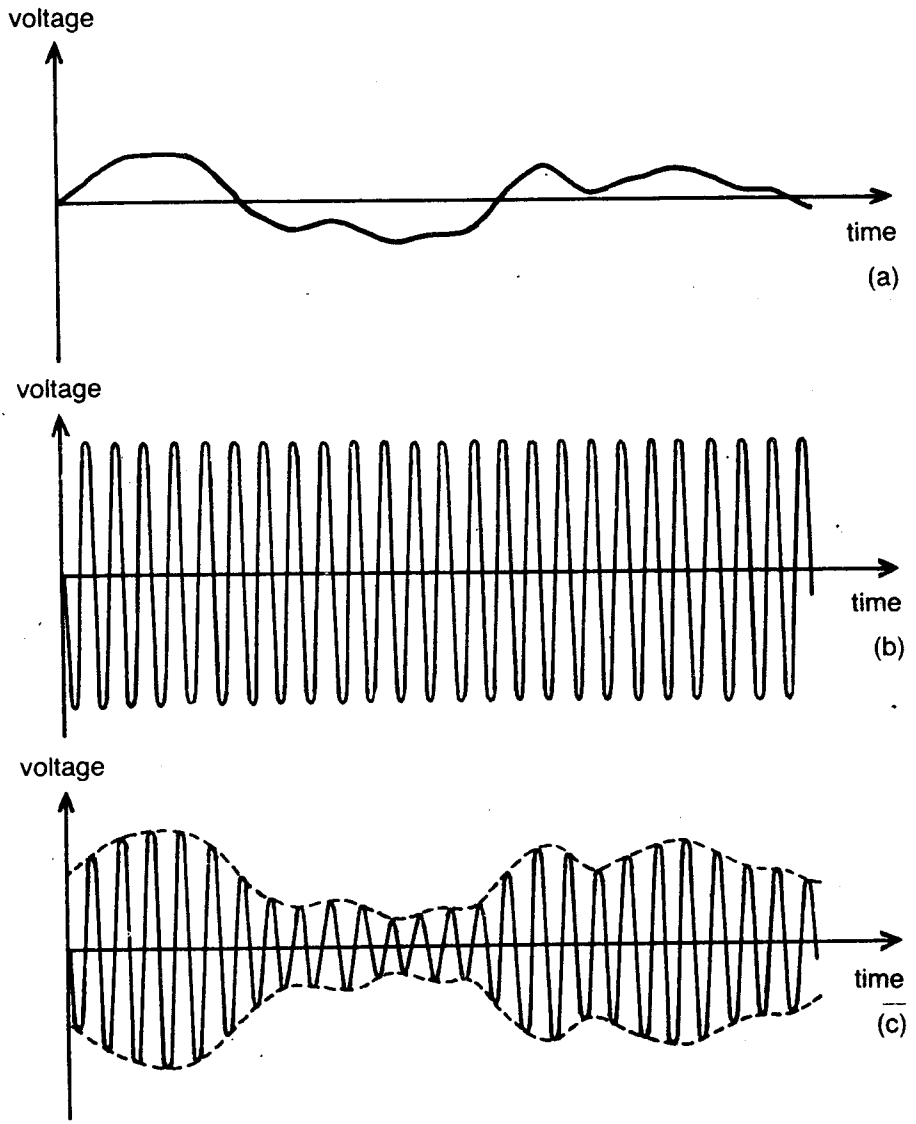
analog computer In computing, a device that performs mathematical functions on variables, usually voltages, and produces a solution in the form of an analog signal. They were used extensively in the study of dynamic systems and as simulators. The basic building block of the analog computer was the operational amplifier, used to produce the mathematical functions of addition, subtraction, integration and multiplication. Non linear effects, e.g. saturation were also effected with special diode units. Unlike digital computers they were parallel in operation, easy to program for their class of problems and relatively fast. They did not benefit, however, from the rapid advances in digital technology and they are now obsolete except for special purpose applications. See digital computer, hybrid computer, simulator, operational amplifier.

analog data In computing, data represented in a continuous form.

analog recording A method of recording control information by a continuous but varying signal. Compare digital recording. See analog signal.

analog signal A signal that varies continuously according to the information in transmission, e.g. sound waves. Compare digital signal.

analog to digital converter In computing and communications, a device which periodically samples analog signals and produces



amplitude modulation
(*a*) message signal; (*b*) carrier; (*c*) resulting amplitude modulation