

**EXHIBIT E**

**DICTIONARY  
OF  
INFORMATION  
TECHNOLOGY**

Second Edition

Dennis Longley  
and  
Michael Shain

New York  
OXFORD UNIVERSITY PRESS  
1986

Grad  
~~Undergrad~~

QA

76.15

.L631

1986

QA

Buhr

© The Macmillan Press Ltd, 1982, 1985, 1986

Second edition first published in the United States in 1986 by  
Oxford University Press, Inc.  
200 Madison Avenue  
New York, NY 10016

Oxford is a registered trademark of Oxford University Press

All rights reserved. No part of this publication may be  
reproduced, stored in a retrieval system, or transmitted, in any  
form or by any means, electronic, mechanical, photocopying,  
recording, or otherwise, without the prior permission of  
Oxford University Press, Inc.

ISBN 0-19-520519-7

**Library of Congress Cataloging in Publication Data**

Longley, Dennis.  
Dictionary of information technology.  
1. Electronic data processing—Dictionaries.  
2. Telecommunication—Dictionaries. 3. Information  
science—Dictionaries. I. Shain, Michael. II. Title.  
QA76.15.L63 020'.3'21 86-12435  
ISBN 0-19-520519-7

Printed in Great Britain

**em rule** In typesetting, a sign used to indicate the omission of a word.

**ems per hour** In typesetting, a unit of measurement used to evaluate the speed of text production by an operator or machine. An average of two characters is assumed to equal one em. See em.

**emulator** In computing, special purpose hardware or software which enables one machine to act as if it were another. It is used to minimize reprogramming effort when a new computer replaces an existing one.

**emulsion** (1) In photography, the essential light sensitive coating on photographic film comprising gelatine and silver salts. (2) In recording, iron oxide on magnetic tape.

**emulsion laser storage** In computing, a digital storage medium in which a controlled laser beam is used to expose very small areas on a photosensitive surface.

**en** In typesetting, a measure equal to half the width of an em. See em.

**enable** In electronics, a pulse signal used for control purposes, e.g. to open a gate thus permitting other operations. See gate.

**encipher** Synonymous with encryption.

**encode** In data communications, (1) to convert data, by means of a code, in such a way that it may be subsequently reconverted to its original form, (2) to convert from one system of communication to another. Compare decode. Synonymous with code.

**encoder** In computing, a device capable of translating from one method of expression to another.

**encryption** In data security, the conversion of a plaintext message into a form which renders it unavailable for reading or modification, by an unauthorized person. Encryption will involve the use of cryptographic keys by both the sender and receiver of the message. See cryptography, public key cryptosystem.

**end** In computer programming, a statement

in a high level language program to inform the translator that the end of the source program has been attained. See translator.

**end around carry** In electronics, a carry generated in the most significant bit of a number in a register, and carried around to be added to the least significant bit of the same register. See least significant bit, register, most significant bit.

**endless loop** (1) In recording, a sealed continuous loop of magnetic cassette tape. (2) In computer programming, an error state in which there is no exit from a loop of instructions.

**end of address** In data communications, a control character which indicates to the receiver that the last character of the address has been transmitted and successive characters relate to the message.

**end of block** In data communications, a control character which indicates to the receiver that the last character of a block has been transmitted. See block.

**end of copy signal** In document transmission, a signal indicating the end of transmission.

**end of document** In character recognition, a mark on a document, recognizable by a detector, to indicate that the last position where data can be entered has been passed.

**end office** Synonymous with central office.

**end of file** In computing, a character indicating that the last record of a file has been read. See file, record.

**end of message** In data communications, a control character which indicates an end of message; used to separate messages in a multmessage stream. See end of text.

**end of page indicator** On a typewriter, a device giving a warning of the approach of the end of page during the typing operation.

**end of text** In data communications, a control character which indicates to the receiver

## I

**IACBDT** UNESCO International Advisory Committee on Bibliography, Documentation and Terminology.

**IACDT** UNESCO International Advisory Committee for Documentation and Technology.

**IADIS** Irish Association for Documentation and Information Services.

**IAM** See intermediate access memory.

**IARD** Information Analysis and Retrieval Division of the American Institute of Physics.

**IBA** UK Independent Broadcasting Authority.

**IBI** Intergovernmental Bureau for Informatics, an organization developed by UNESCO with the remit 'to permanently assist people in the field of informatics to help them live in the context created by this discipline, to understand better its impact on society and to derive the maximum benefit from its possibilities'. See informatics.

**IBM** International Business Machines.

**IBM PC** In computing, a 16 bit personal computer produced by IBM. See microcomputer, personal computer.

**IC** See integrated circuit.

**ICA** International Communications Association, a US telecommunications user group.

**ICAI** See intelligent computer assisted instruction.

**ICIC** UNESCO International Copyright Information Center.

**ICIREPAT** International Cooperation in Information Retrieval among Examining Patent offices.

**ICL** International Computers Limited.

**ICOGRADA** The International Council of GRAPHic Design Associations, a body set up to provide a central focus for all aspects of graphic design.

**icon** In computing, a pictorial representation of an object in a computer graphic display. Used in display systems for an executive workstation to represent the functional component of an executive desk, e.g. documents, folders, in trays. See Lisa, mouse.

**ICOT** In computing, Institute for New Generation Computer Technology. The Japanese fifth generation computer research laboratory. See fifth generation computer.

**ICR** International Council for Reprography.

**ICSSD** International Committee for Social Sciences Documentation and Information.

**ID** See identification character.

**IDD** International Direct Distance Dialing.

**ideal format** In photography, a popular negative format (60 x 70mm), an alternative to 35mm format (24 x 36mm), which is smaller and more elongated.

**identification** In data communications, the procedure carried out by a host computer in determining the identity of an individual line, device, subscriber, etc. requiring access. See host computer.

**identification character** In data communications, a character that identifies a remote data station to the central station. See identification.

**identifier** In computing and communications, a character or group of characters used to identify, indicate or name a body of data. See terminal identity.

**sequence** An arrangement of items arranged according to a specified set of rules, e.g. items arranged alphabetically, numerically or chronologically.

**sequential access** In computing, an access mode in which records are obtained from, or placed into, a file in such a way that each successive access to the file refers to the next subsequent record in the file. Compare direct access. Synonymous with serial access.

**sequential access storage** In computing, a storage device in which the access time depends upon the location of the data and on a reference to data previously accessed. Compare direct access storage, random access memory.

**sequential batch processing** In computing, a mode of operation in which a run must be completed before another run can be started.

**sequential computer** One in which events occur one after the other with little or no provision for simultaneity or overlap. Compare parallel computer.

**sequential data set** In computing, a data set that is organized on the basis of the successive physical location of records on a storage medium, e.g. magnetic tape. See data set, record.

**sequential logic** In electronics, a logic circuit in which the output depends upon the previous states of the inputs. Compare combinational logic.

**sequential operation** A mode of operation in which two or more operations are performed one after the other in a specified order.

**sequential processing** In computing, the processing of records in the order that they are accessed. See record.

**serial access** Synonymous with sequential access.

**serial adder** In computing, a digital adder in which addition is performed by adding, digit place after digit place, the corresponding digits of the operands.

**serial computer** (1) A computer with a single logic and arithmetic unit. (2) A computer which has a specified characteristic that is serial in its operation. Compare parallel computer. Synonymous with sequential computer.

**serial input output interface** In computing, a device that accepts serial information from a peripheral device, cassette or keyboard, and presents it to the computer, and vice versa.

**serial interface** In data communications, an interface, e.g. between a DTE and a modem, which can only pass data in serial transmission form. Compare parallel interface. See DTE, MODEM, serial transmission.

**serializer** In computing, a device that converts a space distribution of simultaneous states representing data into a corresponding time sequence of states.

**serial operation** Pertaining to the sequential or consecutive execution of two or more operations in a single device, e.g. an arithmetic or logic unit.

**serial printer** Synonymous with character printer.

**serial transmission** In computing and communications, a method of information transfer in which each bit of a character is sent in sequence. Compare parallel transmission.

**series circuit** In electronics, a circuit in which the components are connected end to end so that the same current flows through each one. Compare parallel circuit.

**series connection** The connection of units such that the output of one unit is fed to the input of only one other unit. Compare parallel circuit.

**series to parallel converter** In electronics, a device that accepts the serial input of a word, or byte, on one line and produces a parallel version of that input on  $n$  lines ( $n$  being the number of bits in the word or byte). Compare parallel to series converter.

**serif** In printing, the short strokes projec-