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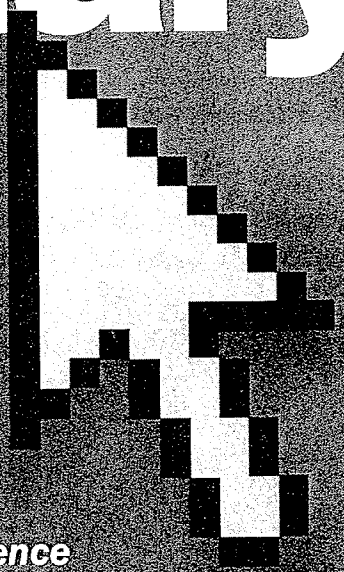

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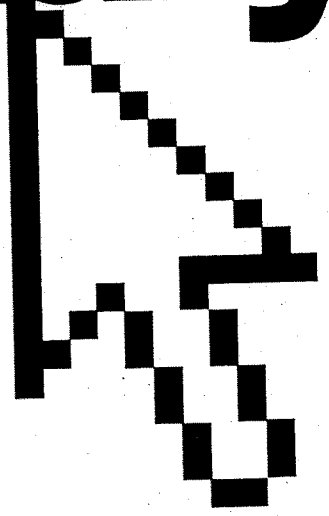

PUBLISHED BY
Microsoft Press
A Division of Microsoft Corporation
One Microsoft Way
Redmond, Washington 98052-6399

Library of Congress Cataloging-in-Publication Data
Microsoft Computer Dictionary. -- 4th ed.
p. cm.
Previous eds. published under title: Microsoft Press computer dictionary
ISBN 0-7356-0615-3
1. Computers Dictionaries. 2. Microcomputers Dictionaries.
I. Microsoft Press computer dictionary.
QA76.15.M538 1999
004'.03--dc21 99-20168
CIP

Printed and bound in the United States of America.

1 2 3 4 5 6 7 8 9 MLML 4 3 2 1 0 9

Distributed in Canada by ITP Nelson, a division of Thomson Canada Limited.

A CIP catalogue record for this book is available from the British Library.

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add-on *n.* **1.** A hardware device, such as an expansion board or chip, that can be added to a computer to expand its capabilities. *Also called* add-in. *See also* open architecture (definition 2). **2.** A supplemental program that can extend the capabilities of an application program. *See also* utility program.

address[1] *n.* **1.** A number specifying a location in memory where data is stored. *See also* absolute address, address space, physical address, virtual address. **2.** A name or token specifying a particular computer or site on the Internet or other network. **3.** A code used to specify an e-mail destination.

address[2] *vb.* To reference a particular storage location.

addressable cursor *n.* A cursor programmed so that it can be moved to any location on the screen, by means of the keyboard or a mouse.

address book *n.* **1.** In an e-mail program, a reference section listing e-mail addresses and individuals' names. **2.** As a Web page, an informal e-mail or URL phone book.

address bus *n.* A bus consisting of 20 to 64 separate hardware lines, that is used to carry the signals specifying memory locations for data. *See also* bus.

address decoder *n.* An electronic device that converts a numeric address to the electrical signals needed to select a specific memory location on one or more RAM chips.

addressing *n.* The process of assigning or referring to an address. In programming, the address is typically a value specifying a memory location. *See also* address[1].

address mapping table *n.* A table used by routers or DNS (Domain Name System) servers to obtain the corresponding IP (Internet Protocol) address of a text name of a computer resource, such as the name of a host computer on the Internet. *Acronym:* AMT. *See also* DNS server, IP address, router.

address mark *n.* *See* index mark.

address mask *n.* A number that, when compared by the computer with a network address number, will block out all but the necessary information. For example, in a network that uses XXX.XXX.XXX.YYY and where all computers within the network use the same first address numbers, the mask will block out XXX.XXX.XXX and use only the significant numbers in the address, YYY. *See also* address[1] (definition 2).

address mode *n.* The method used to indicate an address in memory. *See also* absolute address, indexed address, paged address, relative address.

address modification *n.* The process of updating an address of a location in memory during computation.

address register *n.* A register (a high-speed memory circuit) that holds an address where specific data can be found for the transfer of information. *See also* register.

address resolution *n.* The identification of a computer's IP (Internet Protocol) address by finding the corresponding match in an address mapping table. *See also* address mapping table.

Address Resolution Protocol *n.* *See* ARP.

address space *n.* The total range of memory locations addressable by a computer.

address translation *n.* The process of converting one kind of address to another, such as a virtual address to a physical address.

ad-hoc network *n.* A temporary network formed by communicating stations or computers in a wireless LAN. *See also* wireless LAN.

ADJ *n.* Short for **adj**acent. A Boolean qualifier to indicate cases where two instances are adjacent to each other. In the case of a search string, "Microsoft ADJ Word" would return only instances where "Microsoft" and "Word" are adjacent in the string.

ADN *n.* *See* Advanced Digital Network.

Adobe Type Manager *n.* Software from Adobe Systems, Inc., that manages PostScript fonts on a system. *Acronym:* ATM. *See also* PostScript.

ADP *n.* *See* data processing.

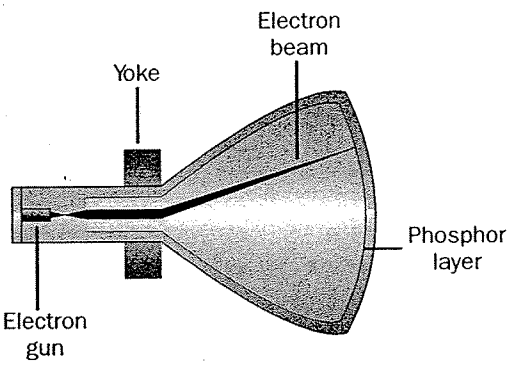
ADPCM *n.* *See* adaptive delta pulse code modulation.

ADSL *n.* Acronym for asymmetric digital subscriber line. Technology and equipment allowing high-speed digital communication, including video signals, across an ordinary twisted-pair copper phone line, with speeds up to 8 Mbps (megabits per second) downstream (to the customer) and up to 640 Kbps (kilobits per second) upstream. ADSL access to the Internet is offered by some regional telephone companies, offering users faster connection times than those available through connections made over standard phone lines. *Also called* asymmetric digital subscriber loop. *Compare* SDSL.

cross-post *vb.* To copy a message or news article from one newsgroup, conference topic, e-mail system, or other communications channel to another—for example, from a Usenet newsgroup to a CompuServe forum or from e-mail to a newsgroup.

crosstalk *n.* Interference caused by a signal transferring from one circuit to another, as on a telephone line.

CRT *n.* Acronym for cathode-ray tube. The basis of the television screen and the standard microcomputer display screen. A CRT display is built around a vacuum tube containing one or more electron guns whose electron beams rapidly sweep horizontally across the inside of the front surface of the tube, which is coated with a material that glows when irradiated. Each electron beam moves from left to right, top to bottom, one horizontal scan line at a time. To keep the screen image from flickering, the electron beam refreshes the screen 30 times or more per second. The clarity of the image is determined by the number of pixels on the screen. *See also* pixel, raster, resolution (definition 1). See the illustration.



CRT. Cutaway view of a CRT.

CRT controller *n.* The part of a video adapter board that generates the video signal, including the horizontal and vertical synchronization signals. *See also* video adapter.

cruise *vb. See* surf.

crunch *vb.* To process information. *See also* number crunching.

cryoelectronic *adj.* Involving the use of superconducting electronics kept in a cryogenic environment at very low temperatures.

crypto *n. See* cryptography.

cryptoanalysis *n.* The decoding of electronically encrypted information for the purpose of understanding encryption techniques. *See also* cryptography, encryption.

cryptography *n.* The use of codes to convert data so that only a specific recipient will be able to read it, using a key. The persistent problem of cryptography is that the key must be transmitted to the intended recipient and may be intercepted. Public key cryptography is a recent significant advance. *Also called* crypto. *See also* code[1] (definition 2), encryption, PGP, private key, public key.

CSD *n. See* circuit-switched data.

C shell *n.* One of the command-line interfaces available under UNIX. The C shell is very usable but is not on every system. *Compare* Bourne shell, Korn shell.

CSLIP \C´slip\ *n. See* Compressed SLIP.

CSMA/CA *n.* Acronym for Carrier Sense Multiple Access with Collision Avoidance, a protocol for controlling network access similar to CSMA/CD, in that nodes listen to the network and transmit only when it is free. But in CSMA/CA, nodes avoid data collisions by signaling their intention with a brief Request to Send (RTS) signal and then waiting for acknowledgment before actually transmitting.

CSMA/CD *n.* Acronym for Carrier Sense Multiple Access with Collision Detection. A network protocol for handling situations in which two or more nodes (stations) transmit at the same time, thus causing a collision. With CSMA/CD, each node on the network monitors the line and transmits when it senses that the line is not busy. If a collision occurs because another node is using the same opportunity to transmit, both nodes stop transmitting. To avoid another collision, both then wait for differing random amounts of time before attempting to transmit again. *Compare* token passing.

CSO *n.* Acronym for Computing Services Office. An Internet directory service that matches users' own names with e-mail addresses, generally at colleges and universities. The CSO service, which can be reached through Gopher, was originally developed at the Computing Services Office at the University of Illinois.

CSO name server *n.* A facility that provides e-mail directory information through the CSO system. *See also* CSO.

CSS *n. See* cascading style sheets.

disk server *n.* A node on a local area network that acts as a remote disk drive shared by network users. Unlike a file server, which performs the more sophisticated tasks of managing network requests for files, a disk server functions as a storage medium on which users can read and write files. A disk server can be divided into sections (volumes), each of which appears to be a separate disk. *Compare* file server.

disk striping *n.* The procedure of combining a set of same-size disk partitions that reside on separate disks (from 2 to 32 disks) into a single volume, forming a virtual "stripe" across the disks that the operating system recognizes as a single drive. Disk striping enables multiple I/O operations in the same volume to proceed concurrently, thus offering enhanced performance. *See also* disk striping with parity, input/output.

disk striping with parity *n.* The technique of maintaining parity information across a disk stripe so that if one disk partition fails, the data on that disk can be re-created using the information stored across the remaining partitions in the disk stripe. *See also* disk striping, fault tolerance, parity.

disk unit *n.* A disk drive or its housing.

dispatcher *n.* In some multitasking operating systems, the set of routines responsible for allocating CPU (central processing unit) time to various applications.

dispatch table *n.* A table of identifiers and addresses for a certain class of routines such as interrupt handlers (routines carried out in response to certain signals or conditions). *Also called* interrupt vector table, jump table, vector table. *See also* interrupt handler.

disperse *vb.* To break up and place in more than one location—for example, to disperse results among several sets of data or to disperse items (such as fields in records) so that they appear in more than one place in the output. *Compare* distribute.

dispersion *n.* The degree to which, at any given time, data in a distributed (interconnected) system of computers is stored at different locations or on different devices.

display *n.* The visual output device of a computer, which is commonly a CRT-based video display. With portable and notebook computers, the display is usually an LCD-based or a gas plasma–based flat-panel display. *See also* flat-panel display, liquid crystal display, video adapter, video display.

display adapter *n. See* video adapter.

display attribute *n.* A quality assigned to a character or image displayed on the screen. Display attributes include such features as color, intensity, and blinking. Users of applications can control display attributes when programs allow them to change color and other screen elements.

display background *n.* In computer graphics, the portion of an on-screen image that remains static while other elements change; for example, window borders on a screen, or a palette of shapes or patterns in a drawing program.

display board *n. See* video adapter.

display card *n. See* video adapter.

display cycle *n.* The complete set of events that must occur in order for a computer image to be displayed on the screen, including both the software creation of an image in a computer's video memory and the hardware operations required for accurate on-screen display. *See also* refresh cycle.

Display Data Channel *n. See* DDC.

display device *n. See* display.

display element *n. See* graphics primitive.

display entity *n. See* entity, graphics primitive.

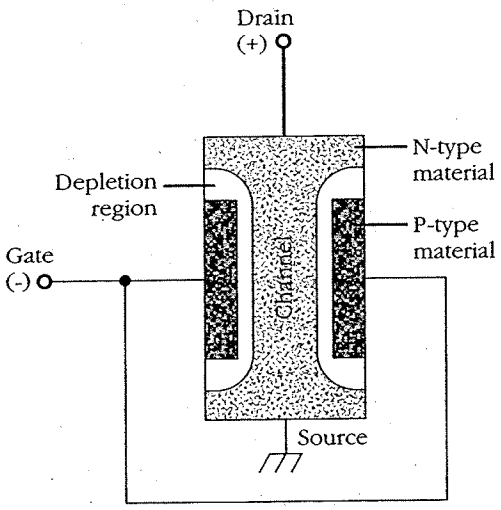
display face *n.* A typeface suitable for headings and titles in documents, distinguished by its ability to stand out from other text on the page. Sans serif faces such as Helvetica and Avant Garde often work well as display faces. *See also* sans serif. *Compare* body face.

display frame *n.* One image in an animation sequence. *See also* frame (definition 3).

display image *n.* The collection of elements displayed together at a single time on a computer screen.

display page *n.* One screenful of display information stored in a computer's video memory. Computers can have enough video memory to hold more than one display page at a time. In such instances, programmers, especially those concerned with creating animation sequences, can update the screen rapidly by creating or modifying one display page while another is being viewed by the user. *See also* animation.

include the junction FET and the metal-oxide semiconductor FET (MOSFET). See the illustration. *See also* MOSFET.



FET. An N-channel junction field-effect transistor.

fetch *vb.* To retrieve an instruction or an item of data from memory and store it in a register. Fetching is part of the execution cycle of a microprocessor; first an instruction or item of data must be fetched from memory and loaded into a register, after which it can be executed (if it is an instruction) or acted upon (if it is data).

fetch time *n. See* instruction time.

FF *n. See* form feed.

FFT *n. See* fast Fourier transform.

FFTDCA *n. See* Final-Form-Text DCA.

Fiber Distributed Data Interface *n. See* FDDI.

fiberoptic cable or **fiber-optic cable** *n.* A form of cable used in networks that transmits signals optically, rather than electrically as do coaxial and twisted-pair cable. The light-conducting heart of a fiberoptic cable is a fine glass or plastic fiber called the core. This core is surrounded by a refractive layer called the cladding that effectively traps the light and keeps it bouncing along the central fiber. Outside both the core and the cladding is a final layer of plastic or plastic-like material called the coat, or jacket. Fiberoptic cable can transmit clean signals at speeds as high as 2 Gbps. Because it transmits light, not electricity, it is also immune to eavesdropping.

fiber optics *n.* A technology for the transmission of light beams along optical fibers. A light beam, such as that produced in a laser, can be modulated to carry information. Because light has a higher frequency on the electromagnetic spectrum than other types of radiation, such as radio waves, a single fiber-optic channel can carry significantly more information than most other means of information transmission. Optical fibers are thin strands of glass or other transparent material, with dozens or hundreds of strands housed in a single cable. Optical fibers are essentially immune to electromagnetic interference. *See also* optical fiber.

Fibonacci numbers \fib-e-nä´chē num`bərz\ *n.* In mathematics, an infinite series in which each successive integer is the sum of the two integers that precede it—for example, 1, 1, 2, 3, 5, 8, 13, 21, 34, ... Fibonacci numbers are named for the thirteenth-century mathematician Leonardo of Pisa. In computing, Fibonacci numbers are used to speed binary searches by repeatedly dividing a set of data into groups in accordance with successively smaller pairs of numbers in the Fibonacci sequence. For example, a data set of 34 items would be divided into one group of 21 and another of 13. If the item being sought is in the group of 13, the group of 21 is discarded, and the group of 13 is divided into groups of 5 and 8; the search would continue until the item was located. The ratio of two successive terms in the Fibonacci sequence converges on the Golden Ratio, a "magic number" that seems to represent the proportions of an ideal rectangle. The number describes many things, from the curve of a nautilus shell to the proportions of playing cards or, intentionally, the Parthenon, in Athens, Greece. *See also* binary search.

fiche \fēsh\ *n. See* microfiche.

Fidonet /fī`dō-net/ *n.* **1.** A protocol for sending e-mail, newgroups postings, and files over telephone lines. The protocol originated on the Fido BBS, initiated in 1984 by Tom Jennings, and maintaining low costs has been a factor in its subsequent development. Fidonet can exchange e-mail with the Internet. **2.** The network of BBS's, private companies, NGO's (non-government organizations), and individuals that use the Fidonet protocol.

field *n.* **1.** A location in a record in which a particular type of data is stored. For example, EMPLOYEE-RECORD might contain fields to store Last-Name,

First-Name, Address, City, State, Zip-Code, Hire-Date, Current-Salary, Title, Department, and so on. Individual fields are characterized by their maximum length and the type of data (for example, alphabetic, numeric, or financial) that can be placed in them. The facility for creating these specifications usually is contained in the data definition language (DDL). In relational database management systems, fields are called *columns*. **2.** A space in an on-screen form where the user can enter a specific item of information.

field-effect transistor *n. See* FET.

field-programmable logic array *n.* An integrated circuit containing an array of logic circuits in which the connections between the individual circuits, and thus the logic functions of the array, can be programmed after manufacture, typically at the time of installation in the field. Programming can be performed only once, typically by passing high current through fusible links on the chip. *Acronym:* FPLA. *Also called* PLA, programmable logic array.

field separator *n.* Any character that separates one field of data from another. *See also* delimiter, field (definition 1).

FIFO \fi´fō\ *n. See* first in, first out.

fifth-generation computer *n. See* computer.

fifth normal form *n.* Abbreviated 5NF. *See* normal form (definition 1).

file *n.* A complete, named collection of information, such as a program, a set of data used by a program, or a user-created document. A file is the basic unit of storage that enables a computer to distinguish one set of information from another. A file is the "glue" that binds a conglomeration of instructions, numbers, words, or images into a coherent unit that a user can retrieve, change, delete, save, or send to an output device.

file allocation table *n.* A table or list maintained by some operating systems to manage disk space used for file storage. Files on a disk are stored, as space allows, in fixed-size groups of bytes (characters) rather than from beginning to end as contiguous strings of text or numbers. A single file can thus be scattered in pieces over many separate storage areas. A file allocation table maps available disk storage space so that it can mark flawed segments that should not be used and can find and link the pieces of a file. In MS-DOS, the file allocation table is commonly known as the FAT. *See also* FAT file system.

file attribute *n.* A restrictive label attached to a file that describes and regulates its use—for example, hidden, system, read-only, archive, and so forth. In MS-DOS, this information is stored as part of the file's directory entry.

file backup *n. See* backup.

file compression *n.* The process of reducing the size of a file for transmission or storage. *See also* data compression.

file control block *n.* A small block of memory temporarily assigned by a computer's operating system to hold information about an opened file. A file control block typically contains such information as the file's identification, its location on disk, and a pointer that marks the user's current (or last) position in the file. *Acronym:* FCB.

file conversion *n.* The process of transforming the data in a file from one format to another without altering the data—for example, converting a file from a word processor's format to its ASCII equivalent. In some cases, information about the data, such as formatting, may be lost. Another, more detailed, type of file conversion involves changing character coding from one standard to another, as in converting EBCDIC characters (which are used primarily with mainframe computers) to ASCII characters. *See also* ASCII, EBCDIC.

file extension *n. See* extension (definition 1).

file extent *n. See* extent.

file format *n.* The structure of a file that defines the way it is stored and laid out on the screen or in print. The format can be fairly simple and common, as are files stored as "plain" ASCII text, or it can be quite complex and include various types of control instructions and codes used by programs, printers, and other devices. Examples include RTF (Rich Text Format), DCA (Document Content Architecture), PICT, DIF (Data Interchange Format), DXF, TIFF (Tagged Image File Format), and EPSF (Encapsulated PostScript Format).

file fragmentation *n.* **1.** The breaking apart of files as they are stored by the operating system into small, separate segments on disk. The condition is a natural consequence of enlarging files and saving them on a crowded disk that no longer contains contiguous blocks of free space large enough to hold them. File fragmentation is not an integrity problem, although it