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COMPUTER DICTIONARY

SECOND EDITION



COMPLETELY
REVISED AND
UPDATED, WITH NEW
DEFINITIONS AND
ILLUSTRATIONS

THE COMPREHENSIVE
STANDARD FOR
BUSINESS, SCHOOL,
LIBRARY, AND HOME

Microsoft
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INTRODUCTION

The *Microsoft Press Computer Dictionary* is designed to be a comprehensive and authoritative source of definitions for computer-related terms and abbreviations. Written and reviewed by a distinguished team of experts from the computer industry and the business and academic communities, the dictionary includes terms drawn from a wide variety of topics:

Applications	History
Communications	Information Processing
Data and Data Storage	General Computing
Databases	Input/Output
Desktop Publishing	Memory and Memory Management
Electronics	Networks
Hardware	Output
Chips, Cards, and Boards	Print
Computers	Screen
Disks, Drives, and Other Media	Programming
Keyboards	Systems and Environments
Printers and Plotters	
Video	
Other Devices	

Although the book covers nearly every aspect of computing, it does not include entries on specific companies or on most makes and models of computers, nor does it contain entries on most application software products, although some key products of universal importance are covered.

Order of Presentation

Entries are alphabetized letter by letter. Spaces are ignored, as are characters such as hyphens and slashes; for example, *Baudot code* falls between *baud* and *baud rate*, and *machine-independent* falls between *machine identification* and *machine instruction*. Numbers and symbols are located at the beginning of the book and are listed in ascending ASCII order. If an entry begins with a letter or letters but contains a number, it is listed alphabetically, according to the initial letter(s), and then according to ASCII order. Thus, *V20* precedes *V.2x*, and both precede *VAB*.

Format

Information in each entry is presented in a consistent format: entry name, abbreviation, pronunciation (if supplied), alternative name or names, definition, and cross-references (if any).

Phonetic pronunciations are given where appropriate or in cases where pronunciation might not be apparent. If an abbreviation is pronounced simply by saying the successive letters it contains, no pronunciation is given.

Cross-references are of three kinds: A *See* reference simply points to another entry that contains the information sought; a *See also* reference points to one or more entries that contain additional or supplemental information about the topic; and a *Compare* reference points to an entry or entries that offer contrast.

Illustrations are called out in the text. In most cases, illustrations appear on the same page as the entries to which they apply. In some instances, however, page-layout requirements have forced them to a subsequent page. In any event, the caption of each illustration identifies the entry to which it belongs.

Future Printings and Editions

Every effort has been made to ensure the accuracy and completeness of this book. If you find an error, think that an entry does not contain enough information, or seek an entry that does not appear in this edition, please let us know. Address your letter to: Dictionary Editor, Microsoft Press, Dept. 302, One Microsoft Way, Redmond, WA 98052-8302.



real-time operating system An operating system designed or optimized for the needs of a process-control environment. *See also* real-time system.

real-time system A computer and/or a software system that reacts to events before the events become obsolete. For example, airline collision avoidance systems must process radar input, detect a possible collision, and warn air traffic controllers or pilots while they still have time to react.

reboot To restart a computer by reloading the operating system. *See also* boot, bootstrap.

Receive Data *See* RXD.

recompile To compile a program again, usually because of changes that needed to be made in the source code in response to error messages generated by the compiler. *See also* compile.

record As a verb, to retain information, usually in a file. As a noun, a data structure that is a collection of fields (elements), each with its own name and type. Unlike an array, whose elements are accessed using an index, the elements of a record are accessed by name. A record can be accessed as a collective unit of elements, or the elements can be accessed individually. *See also* array, data structure, type.

record format *See* record structure.

record head The device in a tape machine that places data on the tape. In some tape machines, the record head is combined with the read head.

record layout The organization of data fields within a record.

record length Typically, the amount of space required to store a record, typically given in bytes.

record locking A strategy employed in distributed processing and other multiuser situations to prevent more than one user at a time from writing data to a record. *See also* locking.

record number A unique number assigned to a record in a database. A record number can identify an existing record in relation to an entire group of records (for example, the tenth record from the beginning of a database), or it can be a number assigned dynamically to a record when it is generated and added to a database (for

example, the number assigned to entry 742 in a database).

record structure An ordered list of the fields that compose a record, together with a definition of the domain (acceptable values) of each field.

recover To return to a stable condition after some error has occurred. When a program recovers from an error, it stabilizes itself and continues carrying out instructions without user intervention. When a computer user recovers lost or damaged data, a recovery program searches for and salvages whatever information remains in storage. When a database is recovered, it is returned to a previous stable condition after some problem, such as abnormal termination of the database management program, has caused the data to lose its integrity. *See also* data integrity.

recoverable error A nonfatal error—one that can be successfully managed by software, as when the user enters a number when a letter is required.

rectifier A circuit component that passes current flowing in one direction but stops current flowing in the other direction. Rectifiers are used to convert alternating current to direct current.

recto Publishing term for a right-hand page. A recto is always an odd-numbered page. *Compare* verso.

recursion The ability of a routine to call itself. Recursion allows the implementation of certain algorithms with small, simple routines, but it does not guarantee speed or efficiency; in fact, excessive use of recursion can cause a program to run out of stack space during execution, usually resulting in a halt in the program and sometimes causing the entire system to crash. *See also* call, routine.

red-green-blue *See* RGB.

redirection The process of writing to or reading from a file or device different from the one that would normally be the target or the source—for example, redirecting a directory listing from the screen to the printer, as in the MS-DOS or OS/2 command `dir >prn`. *Compare* pipe.

reduced instruction set computing *See* RISC.

redundancy check *See* CRC, LRC.