



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

Copyright © 1997 by Microsoft Corporation

All rights reserved. No part of the contents of this book may be reproduced or transmitted in any form or by any means without the written permission of the publisher.

Library of Congress Cataloging-in-Publication Data  
Microsoft Press Computer Dictionary. -- 3rd ed.

p. cm.  
ISBN 1-57231-446-X  
1. Computers--Dictionaries. 2. Microcomputers--Dictionaries.  
I. Microsoft Press.  
QA76.15.M54 1997  
004'03--dc21

97-15489  
CIP

Printed and bound in the United States of America.

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

Distributed to the book trade in Canada by Macmillan of Canada, a division of Canada Publishing Corporation.

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

Microsoft Press books are available through booksellers and distributors worldwide. For further information about international editions, contact your local Microsoft Corporation office. Or contact Microsoft Press International directly at fax (425) 936-7329.

Macintosh, Power Macintosh, QuickTime, and TrueType are registered trademarks of Apple Computer, Inc. Intel is a registered trademark of Intel Corporation. DirectInput, DirectX, Microsoft, Microsoft Press, MS-DOS, Visual Basic, Visual C++, Win32, Win32s, Windows, Windows NT, and XENIX are registered trademarks and ActiveMovie, ActiveX, and Visual J++ are trademarks of Microsoft Corporation. Java is a trademark of Sun Microsystems, Inc. Other product and company names mentioned herein may be the trademarks of their respective owners.

Acquisitions Editor: Kim Fryer

Project Editor: Maureen Williams Zimmerman, Anne Taussig

Technical Editors: Dail Magee Jr., Gary Nelson, Jean Ross, Jim Fuchs, John Conrow, Kurt Meyer, Robert Lyon, Roslyn Lutsch

## Installer

programs are necessary for copy-protected applications, which cannot be copied by normal operating-system commands. They typically limit the number of copies that can be installed.

**Installer** \in-stā'tār\ *n.* A program, provided with the Apple Macintosh operating system, that allows the user to install system upgrades and make bootable (system) disks.

**Instance** \in'stāns\ *n.* An object, in object-oriented programming, in relation to the class to which it belongs. For example, an object *myList* that belongs to a class *List* is an instance of the class *List*. *See also* class, instance variable, instantiate, object (definition 2).

**Instance variable** \in'stāns vār'ē-ə-bl\ *n.* A variable associated with an instance of a class (an object). If a class defines a certain variable, each instance of the class has its own copy of that variable. *See also* class, instance, object (definition 2), object-oriented programming.

**Instantiate** \in-stān'shē-āt\ *vb.* To create an instance of a class. *See also* class, instance, object (definition 2).

**Instruction** \in-struk'shān\ *n.* An action statement in any computer language, most often in machine or assembly language. Most programs consist of two types of statements: declarations and instructions. *See also* declaration, statement.

**Instruction code** \in-struk'shān kōd'\ *n.* *See* operation code.

**Instruction counter** \in-struk'shān coun'tār\ *n.* *See* instruction register.

**Instruction cycle** \in-struk'shān sī'kl\ *n.* The cycle in which a processor retrieves an instruction from memory, decodes it, and carries it out. The time required for an instruction cycle is the sum of the instruction (fetch) time and the execution (translate and execute) time and is measured by the number of clock ticks (pulses of a processor's internal timer) consumed.

**Instruction mix** \in-struk'shān miks'\ *n.* The assortment of types of instructions contained in a program, such as assignment instructions, mathematical instructions (floating-point or integer), control instructions, and indexing instructions. Knowledge of instruction mixes is important to designers of CPUs because it tells them which instructions should be shortened to yield the great-

est speed, and to designers of benchmarks because it enables them to make the benchmarks relevant to real tasks.

**Instruction pointer** \in-struk'shān pōin'tār\ *n.* *See* program counter.

**Instruction register** \in-struk'shān rej'ə-stār\ *n.* A register in a central processing unit that holds the address of the next instruction to be executed.

**Instruction set** \in-struk'shān set'\ *n.* The set of machine instructions that a processor recognizes and can execute. *See also* assembler, microcode.

**Instruction time** \in-struk'shān tīm'\ *n.* The number of clock ticks (pulses of a computer's internal timer) required to retrieve an instruction from memory. Instruction time is the first part of an instruction cycle, the second part is the execution (translate and execute) time. *Also called* I-time.

**Instruction word** \in-struk'shān wōrd'\ *n.* **1.** The length of a machine language instruction. **2.** A machine language instruction containing an operation code identifying the type of instruction, possibly one or more operands specifying data to be affected or its address, and possibly bits used for indexing or other purposes. *See also* assembler, machine code.

**Insulator** \in'sā-lā'tār\ *n.* **1.** Any material that is a very poor conductor of electricity, such as rubber, glass, or ceramic. *Also called* nonconductor. *Compare* conductor, semiconductor. **2.** A device used to separate elements of electrical circuits and prevent current from taking unwanted paths, such as the stacks of ceramic disks that suspend high-voltage power lines from transmission towers.

**Integer** \in'tjər'\ *n.* **1.** A positive or negative "whole" number, such as 37, -50, or 764. **2.** A data type representing whole numbers. Calculations involving only integers are much faster than calculations involving floating-point numbers, so integers are widely used in programming for counting and numbering purposes. Integers can be signed (positive or negative) or unsigned (positive). They can also be described as long or short, depending on the number of bytes needed to store them. Short integers cover a smaller range of numbers (for example, -32,768 through 32,767) than do long integers (for example, -2,147,483,648 through 2,147,483,647). *Also called* integral number. *See also* floating-point notation.

## integer



**Pin grid array.** The pin grid array on the back of a Pentium chip.

**pipe** \ˈpɪp\ *n.* **1.** A portion of memory that can be used by one process to pass information along to another. Essentially, a pipe works like its namesake: it connects two processes so that the output of one can be used as the input to the other. *See also* input stream, output stream. **2.** The vertical line character (|) that appears on a PC keyboard as the shift character on the backslash (\) key. **3.** In UNIX, a command function that transfers the output of one command to the input of a second command.

**pipeline processing** \ˈpɪp ˈlɪn prosˈes-ɪŋ\ *n.* A method of processing on a computer that allows fast parallel processing of data. This is accomplished by overlapping operations using a *pipe*, or a portion of memory that passes information from one process to another. *See also* parallel processing, pipe (definition 1), pipelining (definition 3).

**pipelining** \ˈpɪp ˈlɪn ɪŋ\ *n.* **1.** A method of fetching and decoding instructions (preprocessing) in which, at any given time, several program instructions are in various stages of being fetched or decoded. Ideally, pipelining speeds execution time by ensuring that the microprocessor does not have to wait for instructions, when it completes execution of one instruction, the next is ready and waiting. *See also* superpipelining. **2.** In parallel processing, a method in which instructions are passed from one processing unit to another, as on an assembly line, and each unit is specialized for performing a particular type of operation. **3.** The use of pipes in passing the output of one task as input to another until a desired sequence of tasks has been carried out. *See also* pipe (definition 1), pour.

**piracy** \ˈpɪr-ə-seɪ\ *n.* **1.** The theft of a computer design or program. **2.** Unauthorized distribution and use of a computer program.

**.pit** \ˈdɒt-pɪt, dot P-I-T\ *n.* A file extension for an archive file compressed with PackIT. *See also* PackIT.

**pitch** \ˈpɪtʃ\ *n.* **1.** A measure, generally used with monospace fonts, that describes the number of characters that fit in a horizontal inch. *See also* characters per inch. *Compare* point<sup>1</sup> (definition 1). **2.** *See* screen pitch.

**pixel** \ˈpɪksəl\ *n.* Short for picture (**pix**) element. One spot in a rectangular grid of thousands of such spots that are individually "painted" to form an image produced on the screen by a computer or on paper by a printer. A pixel is the smallest element that display or print hardware and software can manipulate in creating letters, numbers, or graphics. *See* the illustrations. *Also called* pel.



**Pixel.** The letter A (top) is actually made up of a pattern of pixels in a grid, as is the cat's eye (bottom).

**pixel image** \ˈpɪksəl ɪm-ɪʒ\ *n.* The representation of a color graphic in a computer's memory. A pixel image is similar to a bit image, which also describes a screen graphic, but a pixel image has an added dimension, sometimes called depth, that describes the number of bits in memory assigned to each on-screen pixel.

**pixel map** \ˈpɪksəl mæp\ *n.* A data structure that describes the pixel image of a graphic, including such features as color, image, resolution, dimen-

Microsoft Press<sup>®</sup>  
**Computer  
Dictionary**  
Third  
Edition

**The Comprehensive  
Standard for Business,  
School, Library, and Home**

MICROSOFT PRESS COMPUTER DICTIONARY, THIRD EDITION, is the authoritative source of definitions for computer terms, concepts, and acronyms—from the world's most respected computer software company. With more than 7,600 entries—2,300 of which are new—this comprehensive standard has been completely updated and revised to cover the most recent trends in computing, including extensive coverage of Internet, Web, and intranet-related terms. The definitions are based on the ways the terms are used in the real world today. Extensively illustrated, the Third Edition now offers a more professional, traditional-dictionary format for maximum utility and ease of use.

U.S.A. \$29.99  
U.K. £27.99 [V.A.T. included]  
Canada \$39.99

[Recommended]



Key facts that make the new MICROSOFT PRESS COMPUTER DICTIONARY, THIRD EDITION, one of the finest references of its kind you can use:



- It's comprehensive. The dictionary covers software products from all manufacturers (PC, Macintosh<sup>®</sup>, and Unix terminology), plus words relating to mathematical, mainframe, network, and programming concepts.
- It's a real dictionary. You'll find pronunciation guides, parts of speech, and definitions.
- It's up to date. Plus, online updates are available every quarter on the Microsoft Press Web site.
- As a special bonus feature, the dictionary is fully searchable on the accompanying CD-ROM.

**"The must-have computer resource."**  
—Compute

[mypress.microsoft.com](http://mypress.microsoft.com)  
Computers/General Reference