

EXHIBIT 30

**DICTIONARY
OF
COMPUTER
WORDS**



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mode An operating state for a program or device, especially one that can be selected by the user. In many word processing programs, you can choose between the *insert mode*, which inserts whatever you are typing without deleting text, and the *overwrite mode*, which replaces existing text with whatever you are typing. In some programs the actions carried out by the *function keys* change if you change modes.

modem [MOE-dem] Acronym for **modulator/demodulator**. A device that converts data from *digital* signals to *analog* signals and vice versa, so that computers can communicate over telephone lines. Telephone lines are designed to carry the human voice, and thus they transmit analog waves. A modem must encode digital information as electromagnetic waves in order to transmit it. At the other end, a modem must change analog waves back into digital code so that they can be understood by the receiving computer.

Modems are *serial* devices; that is, they transmit data one bit at a time rather than sending several bits simultaneously. The speed at which modems transmit data is measured in *bps* (bits per second), although the *baud rate* is also used. The format for the exchange of data between modems is called the *communications protocol*, and the process of setting this protocol is called *handshaking*. There are several widely used communications protocols, including *Kermit*, *Xmodem*, *Ymodem*, and *Zmodem*. *Communications software* controls handshaking, automates log-on procedures, allows access to on-line services, and performs other functions to make data transmission via modem easy and efficient. Internal modems are on an *expansion board* that is plugged into a computer; external modems are connected by cable to a computer's *serial port*. See table at *communications protocol*.

modular architecture A hardware or software system in which each component, or *module*, can be replaced independently of all the other modules. The opposite of modular is integrated; in a system with integrated architecture, no clear distinction exists between components. See also *integrated circuit*.

module 1. In software, a portion of a program that carries out a specific function and may be used alone or combined with

other modules to compose a program. Modules can be copied and used in many programs, and new programs can be created by combining existing modules in different ways with a *linker*. **2.** In hardware, a self-contained component that is installed as a unit.

monitor The *display screen* of a computer and the case in which it is contained. Monitors come in a variety of screen sizes. A typical monitor has a screen that measures 14 inches diagonally, but larger screens that can display full pages at their actual size are also available.

Monochrome monitors are able to display only one color against a background, while color monitors are capable of displaying many colors. The more *bits* a monitor uses to represent each pixel, the greater the number of colors the monitor can display. *Analog monitors* accept a continuous, or *analog*, signal that allows them to display an infinite variety of colors, while *digital monitors* can display only a fixed number of colors. Some monitors can accept either analog or digital signals.

The *video adapter* sends signals to the monitor and determines, within the limits imposed by the monitor's structure, what the display will look like. The *video standard* supported by a video adapter determines the *resolution* and colors that a monitor can display. Also called *video display terminal*. See also *fixed-frequency monitor*, *multifrequency monitor*, *multiscanning monitor*.

monochrome Of, relating to, or being a computer screen capable of displaying only one color on a dark or light background.

monospace font A font in which each character is given the same *pitch*, or width. See also *fixed pitch*, *proportional font*.

motherboard The main *printed circuit board* in a personal computer. It contains the *CPU*, main system *memory*, *controllers* for disk drives and other devices, *serial* and *parallel ports*, and sometimes *expansion slots*. The motherboard is easy to recognize because it is typically the largest printed circuit card inside the computer's case, and the large CPU chip is usually clearly labeled. An effective way to *upgrade* the performance of an older computer is to replace the motherboard.