Modem Encyclopedia Article

Modem

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The modem allows for the transfer of computerized information via channels such as cables, radio aerial arrays or satellites. The information is modulated into amplitude, frequency or phase, which allows for the transmission. The modem contains both a modulator for transmitting information and a demodulator for receiving information. The term "modem" is short for modulator-demodulator.

One of the first known modems was produced for IBM in 1954 and called the Data Transciever. A similar device was developed around the same time at the MIT Lincoln Laboratory and Bell Telephone Laboratories for the Department of Defense.

Early modems operated at a speed of 1200 baud (bits-per-second). By the 1970s that number had been increased by 700%, to 9600 baud, although the standard through the 1980s was only 2400 baud. By 1991, the standard had been increased to 14.4 kilobits (14,400 baud). By the mid-1990s, modems were operating at speeds of 28.8 kilobits and higher. By this time, internal modems were standard equipment on most full-sized computers. Modems for laptop, notebook and handheld computers were available in a credit-card sized unit; some of these units could operate using a cellular phone.

Also by this time, modems had been developed that allowed for voice as well as data transmission, although not at the same time. Simultaneous voice and data (SVD) and digital SVD (DSVD) units, which allow transmission of both voice and data at the same time, also were under development, as were integrated services digital network (ISDN) units that could transmit video.