MODEMS

A MODEM stands for modulator - demodulator. As is evident from its name a modem is used for modulating the signals on the sender's end as well as de-modulating it on the receiver's end. A modem first takes digital signals and converts it into analog ones. Then it modulates it and sends it over the medium which in our case is the copper wire. On the receiving end it again takes the analog signals and converts it into digital signals for further processing.

Based on installation methods a modem is of three types :-

→ External Modem - It is used externally as a peripheral device and needed external power supply.

→ Internal Modem - It is installed internally on the PCB via expansion slots. It is less portable but no power supply needed.

→ Wireless Modem (Radio frequency modem) : It is mostly a plug-n-play device which works on the basis of radio-frequency transmission and used to send or receive data wirelessly.

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A modem apart from its core task of modulation - demodulation can also do the following task.

→ Error Control - It controls the error in signals via its checking mechanism.

→ Self-testing - Every time before sending signals a modem checks for the accuracy and workability of the networks.

→ Voice over Data - Modern modems provide the facility of using the Internet while talking over the network at the same time. In early days it was not possible due to lesser bandwidths.

The speed of a modem is determined in bps or "bits per second". It is called the Modem transmission rate. In other words, the transmission rate of a modem is the ~~rate~~ number of bits per second a modem can transmit or receive. Modern modems are quite capable and can have transmission rates in Mbps and Gbps.