
Computer Circuits

A **network** is a collection of electrical signaling circuits, each carrying digital signals between pieces of equipment. There are power sources, conductors, and loads involved in the process. The **power source** is a network device that transmits an electrical signal. The **conductors** are the wires that the signal travels over to reach its destination (another network device). The receiver is **the load**. These items, connected together, make up a complete circuit.

In the computer world, the electric signal transmitted by an energy source is a digital signal known as a **pulse**. Pulses are simply the presence of voltage and a lack of the presence of voltage, generated in a sequence. These pulses are used to represent a series of ones and zeroes and ones (the presence of voltage being a 1, and the absence of voltage being a 0). These zeros or ones are called bits. Many years ago, computer engineers began using groupings of eight bits to represent digital "words," and to this day, a series of 8 bits is called a byte. These terms are used everywhere in the computer fields.

The key to successful signal transmission is that when a load receives an electrical signal, the signal must have a voltage level and configuration consistent with what had been originally transmitted by the energy source. If the signal has undergone too much corruption, the load won't be able to interpret it accurately.

A good cable will transfer a signal without too much distortion of the signal while a bad cable will render a signal useless.