

Transmission cabling and techniques

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Transmission cabling and techniques The original transmission cabling was built from copper wire and was mounted on telephone poles. It is from these wires that calls travelled in the form of analog signals. Two wires were needed by each call to complete the electrical circuit. However, the telephone signals became weaker as they traveled down the wires as a result of the resistance from the wires. It is for this reason that wires as thick as 1/6 inches were used as early as 1892 to counter the resistance because of their relatively low resistance in the transmission of voice calls (Lehpamer 128).

The advent of televisions and transmission of not only calls but also video or visual signals called for the introduction of broadband transmission medium in the form of broadband copper coaxial cables in the 1930s. This was followed by the development of coaxial cables into tandem that contained microwave radio relay systems in the 1970s. These were broadband systems in which television and conversation signals travelled through radio with the help of a number of towers. Microwave relay had the advantage of lower construction and maintenance costs as compared to coaxial cables (Migliavacca 143).

Fiber optic cables that used light to transmit signals came before more advanced techniques of LAN (local area networks) as forms of transmission media. It was after the introduction of fiber optic cables in the 1980s that more advanced techniques like OFDM, which is the acronym of orthogonal frequency-division multiplexing and MIMO which is multiple-input and multiple-output, were introduced as a modes of encoding digital data (Pejanovic-Djurisic, Enis, and Ramjee 94). The OFDM technology is a mode of

encoding digital data on a number of carrier frequencies while MIMO is the application of several antennas on both ends of the transmission and receiving to enhance communication performance. Wireless technology is expected to advance further with predictions such as the use of light bulbs that have the capacity to transmit data through illumination. Additionally, wireless technology is expected to advance further to the implantation of devices with the capacity to receive wireless transmissions on humans. This is expected to notify people of particular events wirelessly.

Works cited

Lehpamer, Harvey. *Transmission Systems Design Handbook for Wireless Networks*. Norwood: Artech House, 2002. Internet resource.

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