

SUBJECT: BASIC ELECTRONICS

Wired and Wireless Communication System

Elementrix Classes

Wired and Wireless Communication System

Wired and wireless communication systems are two fundamental types of communication systems used to transmit information over short or long distances. Here's a brief overview of each:

❑ **Wired Communication System:**

In a wired communication system, communication occurs through physical transmission media such as cables or wires.

Wired network



Common examples of wired communication systems include:

Twisted Pair Cable: Used in telephone networks and local area networks (LANs).

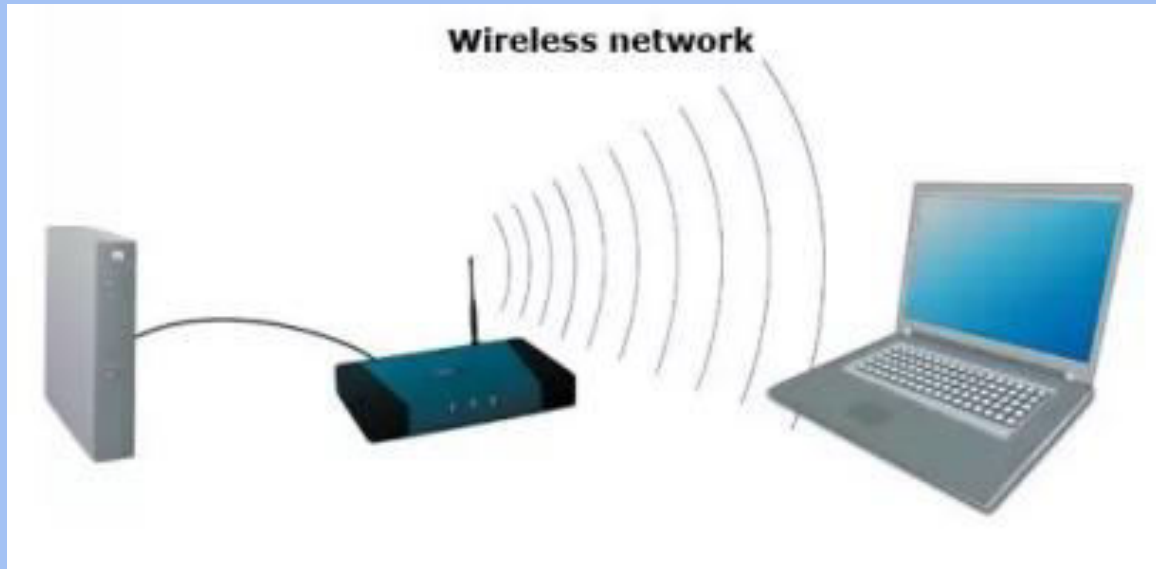
Coaxial Cable: Used in cable television (CATV) systems and high-speed internet connections.

Fiber Optic Cable: Utilizes light signals transmitted through optical fibers for high-speed data transmission in telecommunications networks.

Wired communication systems typically offer high reliability, consistent signal quality, and security. They are suitable for applications where data transfer rates and security are critical.

❑ **Wireless Communication System:**

In a wireless communication system, communication occurs without the need for physical wires, using electromagnetic waves to transmit signals through the air.



Common examples of wireless communication systems include:

Radio Communication: Utilizes radio waves for transmitting signals over long distances, such as in broadcast radio, two-way radios, and cellular networks.

Wi-Fi: Wireless networking technology that enables devices to connect to local area networks (LANs) and the internet without physical cables.

Bluetooth: Short-range wireless technology used for connecting devices such as smartphones, laptops, and peripherals.

Satellite Communication: Involves the use of communication satellites to relay signals between distant locations on Earth.

Wireless communication systems offer flexibility, mobility, and scalability. They are suitable for applications where mobility, accessibility, and ease of deployment are essential, such as mobile communication, IoT devices, and remote sensing.

- ❑ Both wired and wireless communication systems have their advantages and limitations, and the choice between them depends on factors such as the application requirements, environmental conditions, cost considerations, and scalability. In many cases, a combination of both wired and wireless technologies is used to create integrated communication networks that provide reliable and efficient connectivity.

पढ़िए और पढ़ाइये

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