

# Communication Systems

## Lecture - 2

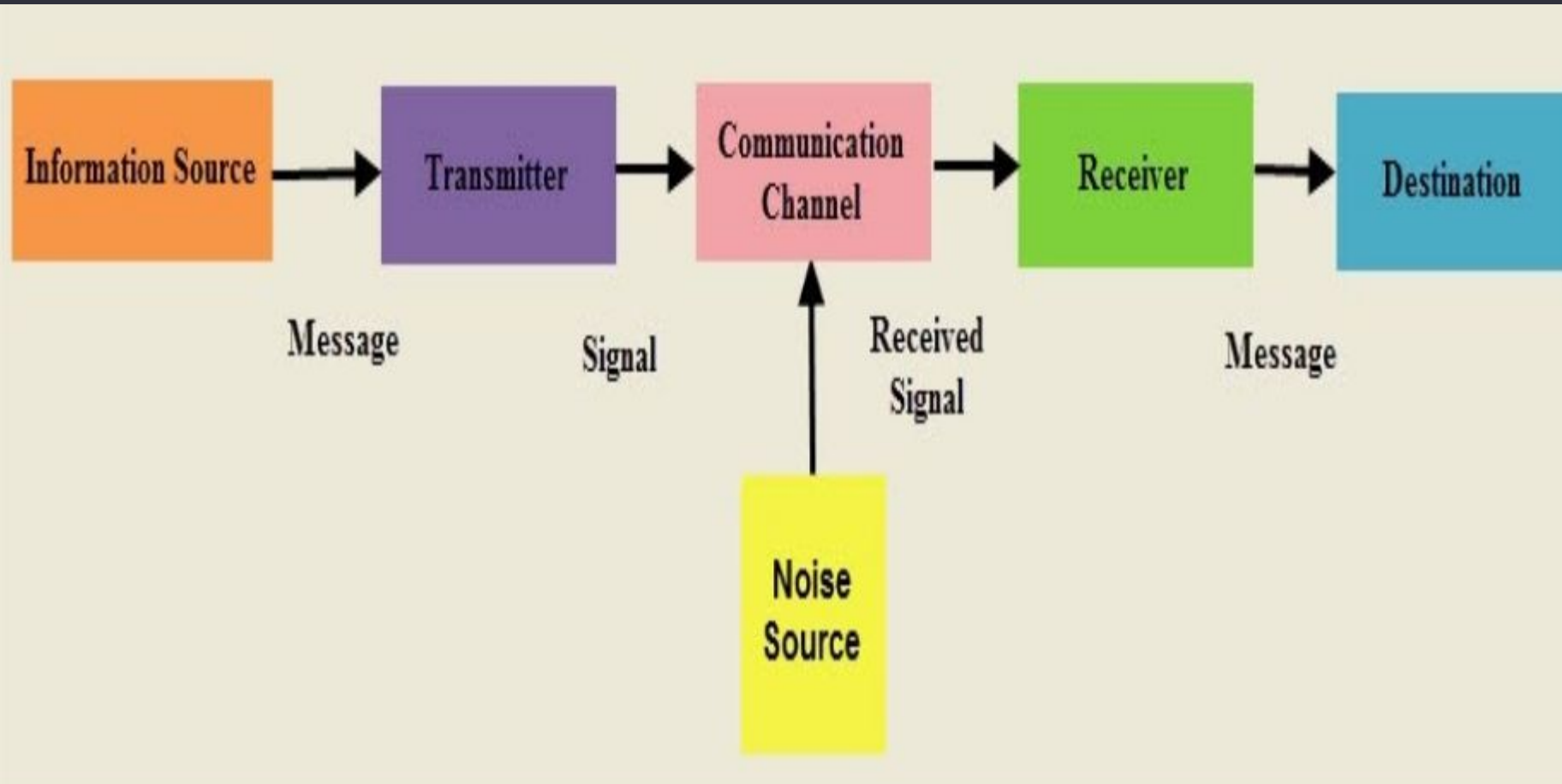
by:

**Dr. Tarun Kumar Dey,**  
**Associate professor**  
**Department of Physics**

**L.S College; BRA Bihar University, Muzaffarpur.**

**Youtube channel – [Tarun Kumar Dey](#)**

**Online Course Link - <https://learn.findmementor.com/course/magnetism/>**



**Signal:** Information converted into electrical form and suitable for transmission is called signal.

## **Types of signal or communication**

1. Analog signal
2. Digital Signal
3. Radio Signal

## Analog signal ( Analog communication)

- A signal in which information is changed to a voltage or current that varies continuously and smoothly over a range of values is called an Analog signal .
- In analog communication the out voltage varies in accordance with input voltage variation.
- In this communication ,the output voltage have an infinite number values .
- Due to many - valued output , the analog operation is less reliable .

## Example

- The loudness and pitch of a sound determine the amplitude and frequency , respectively of the waveform of the voltage produced by microphone on which the sound falls .
- Analog electronics deals with the processing of analog signals , e.g, in radio and television systems .

## Digital signal ( Digital communication )

- A signal that can have only two discrete values is called a digital signal .
- In digital signal , information is converted into pulse produced by switching action ON or OFF , e.g., logic gates .
- A digital circuit expresses the values in digits 1's or on 0's or off .  
Hence the name digital is justified .

- A digital circuit expresses the values in digits 1's or on 0's or off . Hence the name digital is justified .
- A square wave is a digital signal, because this signal has only two values .
- Digital operation is more reliable than many –valued analog operation .
- Modern communication systems involve digital electronics .

- A square wave is a digital signal, because this signal has only two values .
- Digital operation is more reliable than many –valued analog operation .
- Modern communication systems involve digital electronics.