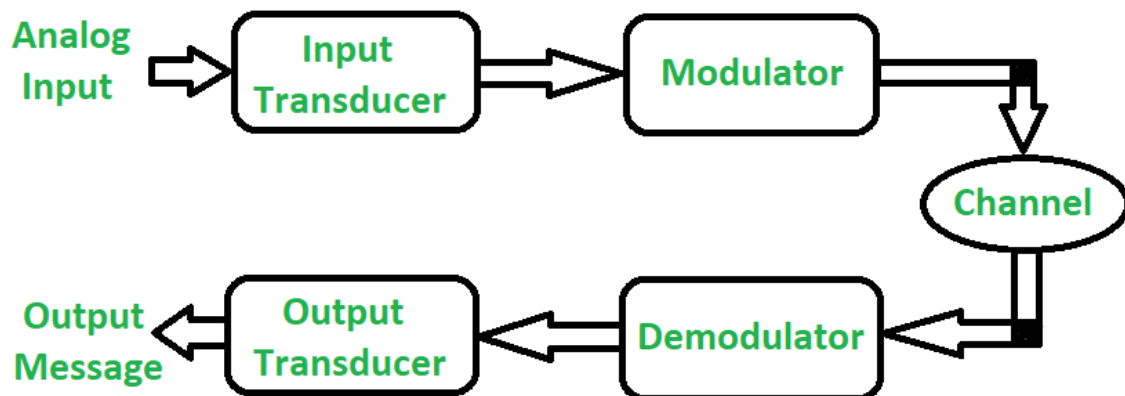


Analog Communication and Digital Communication

1. Analog Communication:

In analog communication the data is transferred with the help of analog signal in between transmitter and receiver. Any type of data is transferred in analog signal. Any data is converted into electric form first and after that it is passed through communication channel. Analog communication uses a continuous signal which varies in amplitude, phase, or some other property with time in proportion to that of a variable.

The below figure illustrates the **Analog Communication System**:

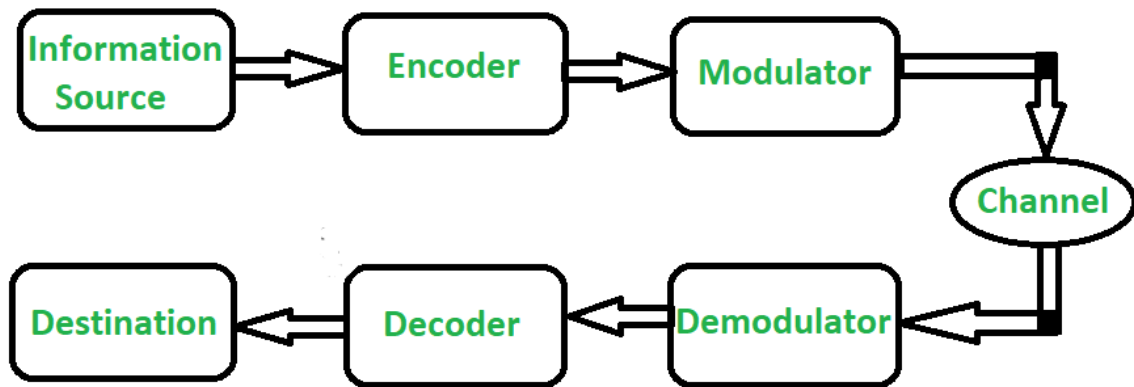


Analog Communication System

2. Digital Communication:

In digital communication digital signal is used rather than analog signal for communication in between the source and destination. The digital signal consists of discrete values rather than continuous values. In digital communication physical transfer of data occurs in the form of digital bit stream i.e 0 or 1 over a [point-to-point or point-to-multipoint transmission medium](#). In digital communication the digital transmission data can be broken into packets as discrete messages which is not allowed in analog communication.

The below figure illustrates the **Digital Communication System**:



Digital Communication System

Difference between Analog Communication and Digital Communication:

S.No.	ANALOG COMMUNICATION	DIGITAL COMMUNICATION
01.	In analog communication analog signal is used for information transmission.	In digital communication digital signal is used for information transmission.
02.	Analog communication uses analog signal whose amplitude varies continuously with time from 0 to 100.	Digital communication uses digital signal whose amplitude is of two levels either Low i.e., 0 or either High i.e., 1.
03.	It gets affected by noise highly during transmission through communication channel.	It gets affected by noise less during transmission through communication channel.
04.	In analog communication only limited number of channels can be broadcasted simultaneously.	It can broadcast large number of channels simultaneously.

S .No.	ANALOG COMMUNICATION	DIGITAL COMMUNICATION
05.	In analog communication error Probability is high.	In digital communication error Probability is low.
06.	In analog communication noise immunity is poor.	In digital communication noise immunity is good.
07.	In analog communication coding is not possible.	In digital communication coding is possible. Different coding techniques can be used to detect and correct errors.
08.	Separating out noise and signal in analog communication is not possible.	Separating out noise and signal in digital communication is possible.
09.	Analog communication system is having complex hardware and less flexible.	Digital communication system is having less complex hardware and more flexible.
10.	In analog communication for multiplexing Frequency Division Multiplexing (FDM) is used.	In Digital communication for multiplexing Time Division Multiplexing (TDM) is used.
11.	Analog communication system is low cost.	Digital communication system is high cost.
12.	It requires low bandwidth.	It requires high bandwidth.

S .No.	ANALOG COMMUNICATION	DIGITAL COMMUNICATION
13.	Power consumption is high.	Power consumption is low.
14.	It is less portable.	Portability is high.
15.	No privacy or privacy is low, so it is not highly secured.	Privacy is high, so it is highly secured.
16.	Not assures an accurate data transmission.	It assures a more accurate data transmission.
17.	Synchronization problem is hard.	Synchronization problem is easier.