



SNS COLLEGE OF TECHNOLOGY

An Autonomous Institution

Coimbatore-35



Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A++' Grade(3rd Cycle)

Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

19ECB301-ANALOG AND DIGITAL COMMUNICATION

III YEAR/ V SEMESTER

UNIT 1 – ANALOG COMMUNICATION

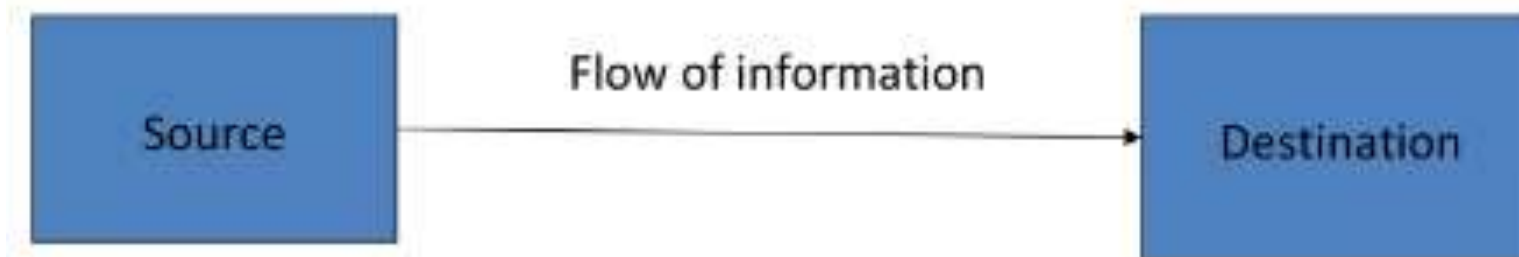
TOPIC – INTRODUCTION TO COMMUNICATION SYSTEMS



Introduction to Communication Systems

The basic process of exchanging information from one location (source) to destination (receiving end).

It refers to the process of sending, receiving and processing of information/signal/input from one point to another point. Source
Destination
Flow of information





Electronic Communication System



- It is defined as the whole mechanism of sending and receiving as well as processing of information electronically from source to destination.
- To produce an accurate replica of the transmitted information that is to transfer information between two or more points (destinations) through a communication channel, with minimum error.

Examples:

Radiotelephony, broadcasting, point-to-point, mobile communications, computer communications, radar and satellite systems.

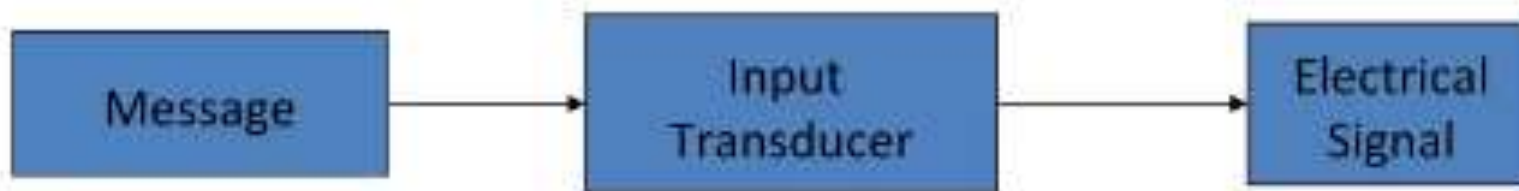


Message – physical manifestation produced by the information source and then converted to electrical signal before transmission by the transducer in the transmitter.

Transducer – Device that converts one form of energy into another form.

Input Transducer – placed at the transmitter which convert an input message into an electrical signal.

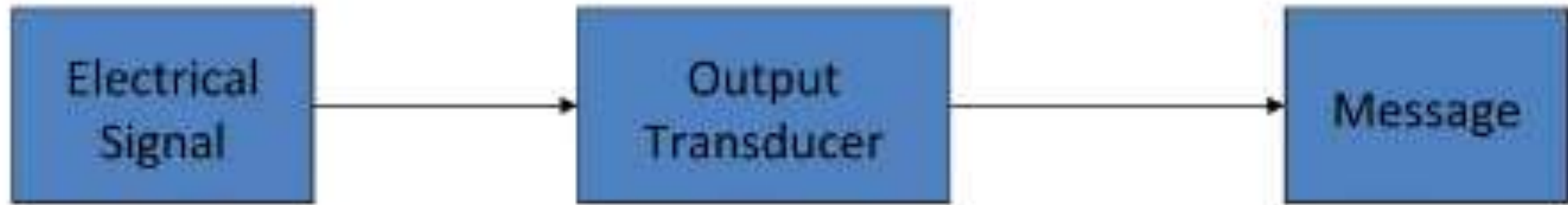
Example – Microphone which converts sound energy to electrical energy. Message Input Transducer Electrical Signal





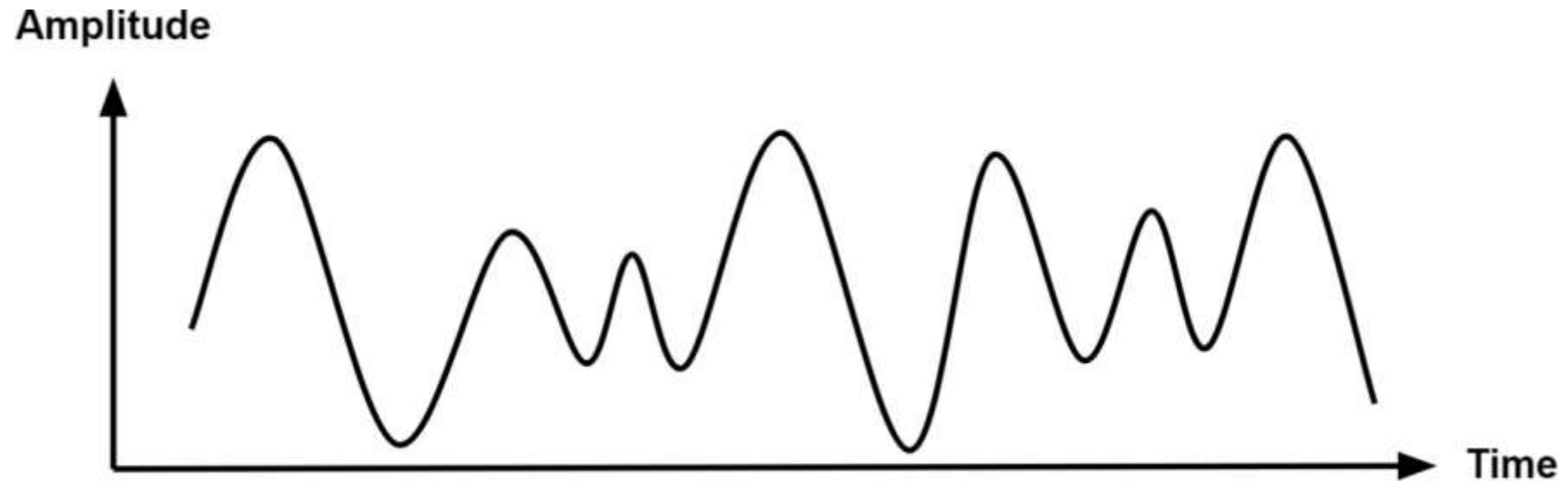
Output Transducer – placed at the receiver which converts the electrical signal into the original message.

Example – Loudspeaker which converts electrical energy into sound energy.

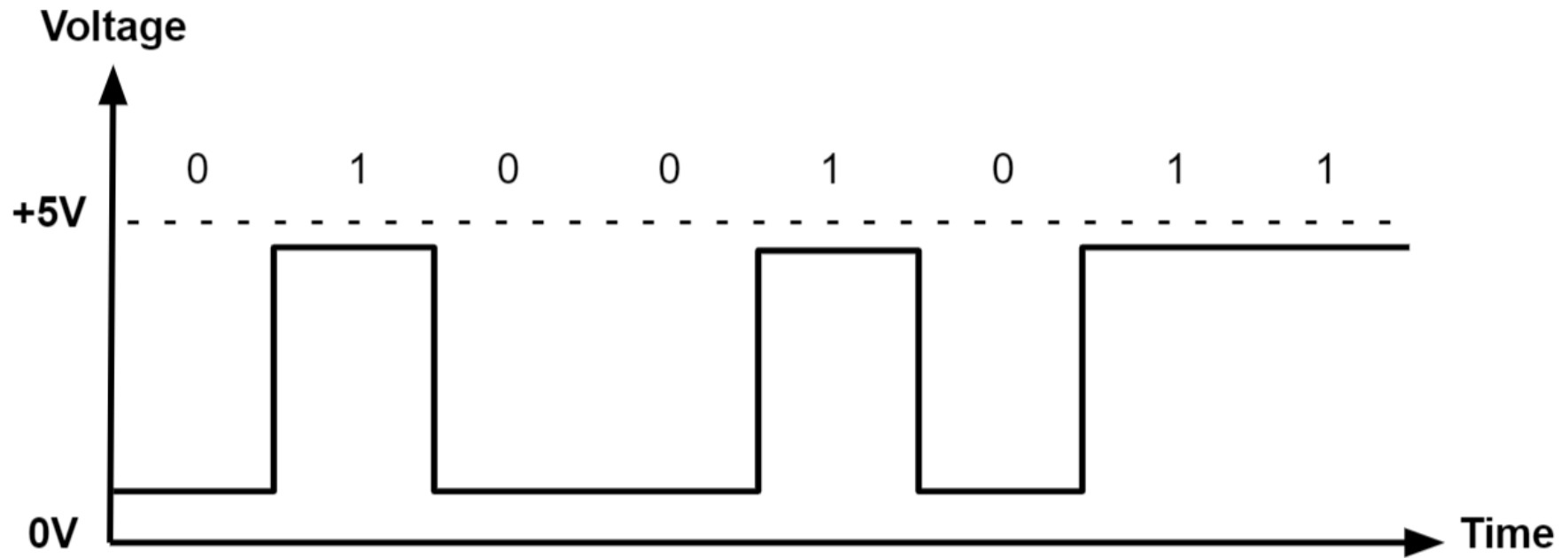


Signal – electrical voltage or current which varies with time and is used to carry message or information from one point to another. Electrical
Signal Output Transducer Message

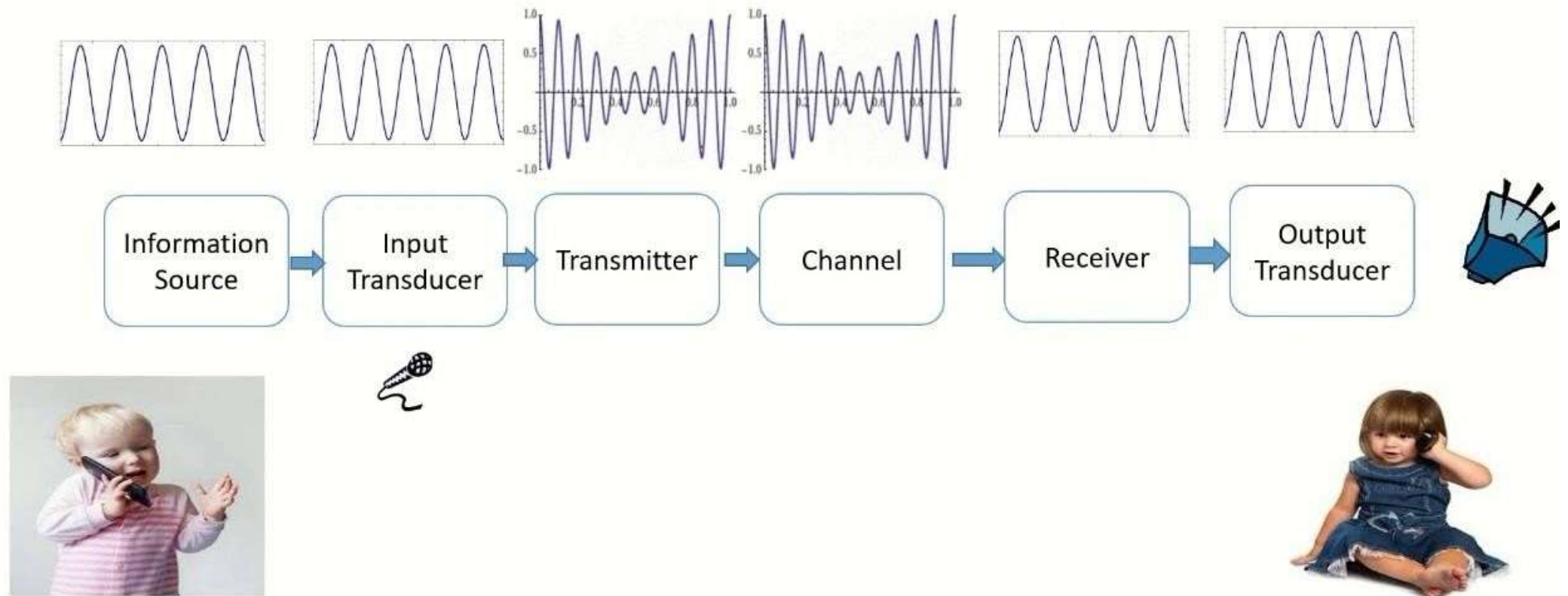
ANALOG SIGNAL



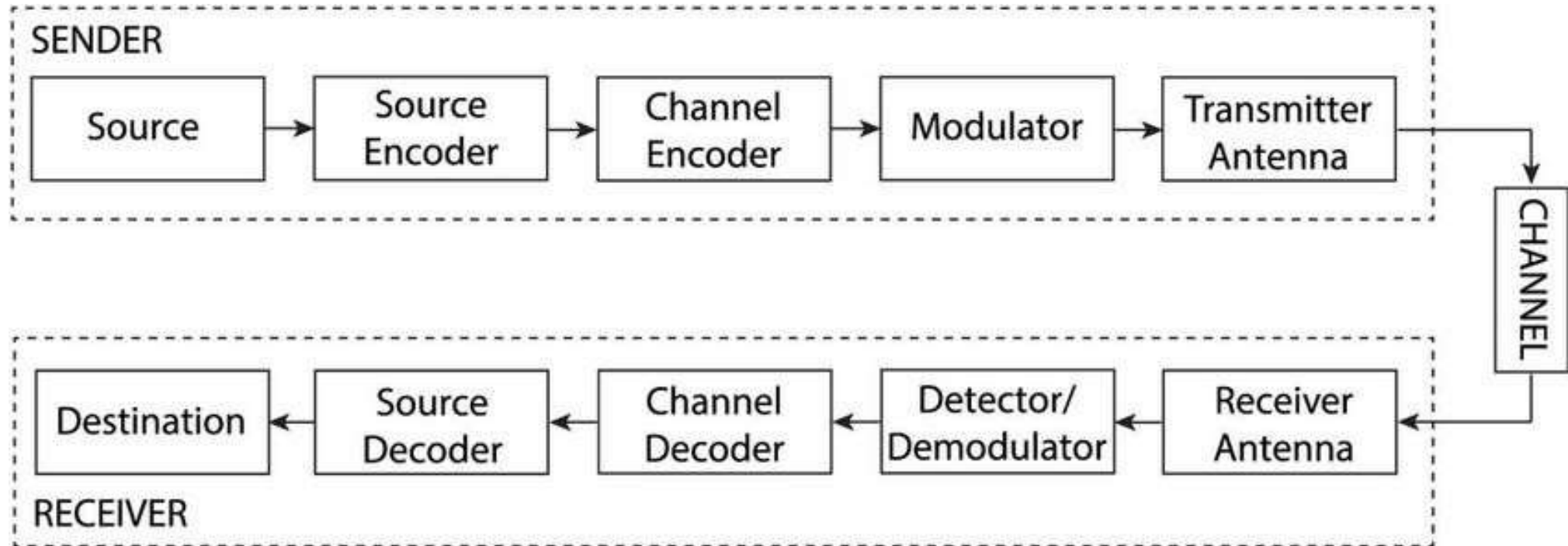
DIGITAL SIGNAL



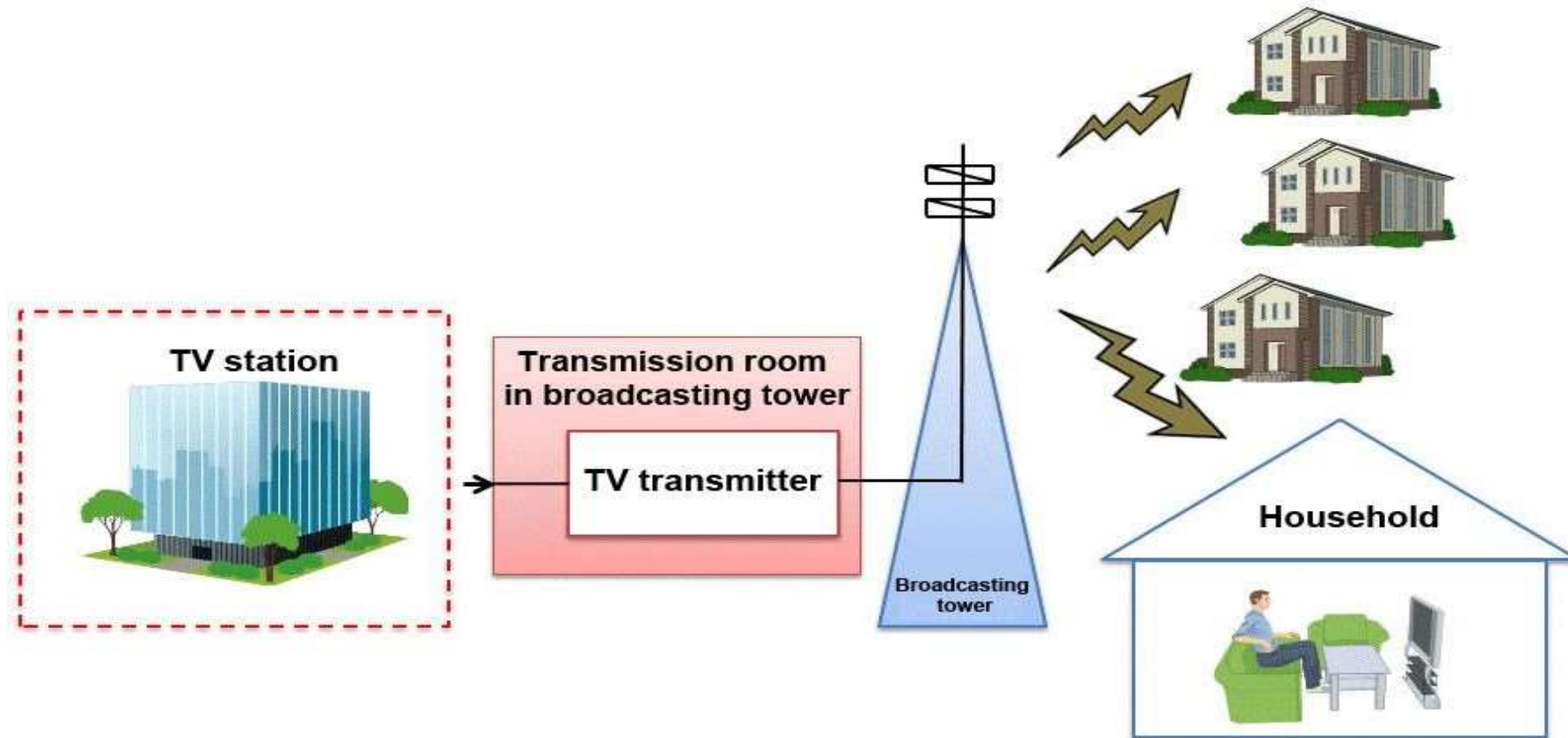
BLOCK DIAGRAM OF ANALOG COMMUNICATION SYSTEM



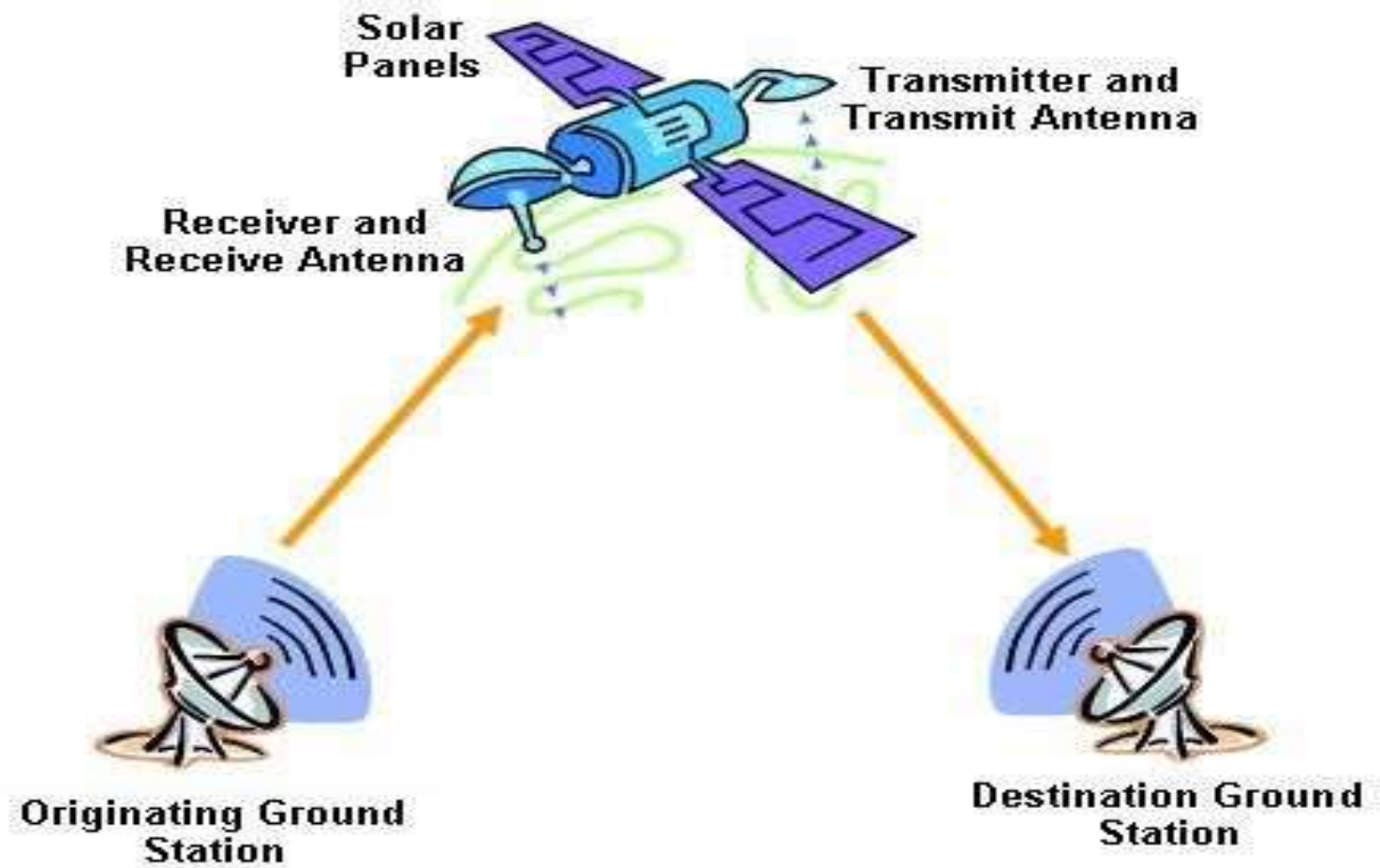
BLOCK DIAGRAM OF DIGITAL COMMUNICATION SYSTEM



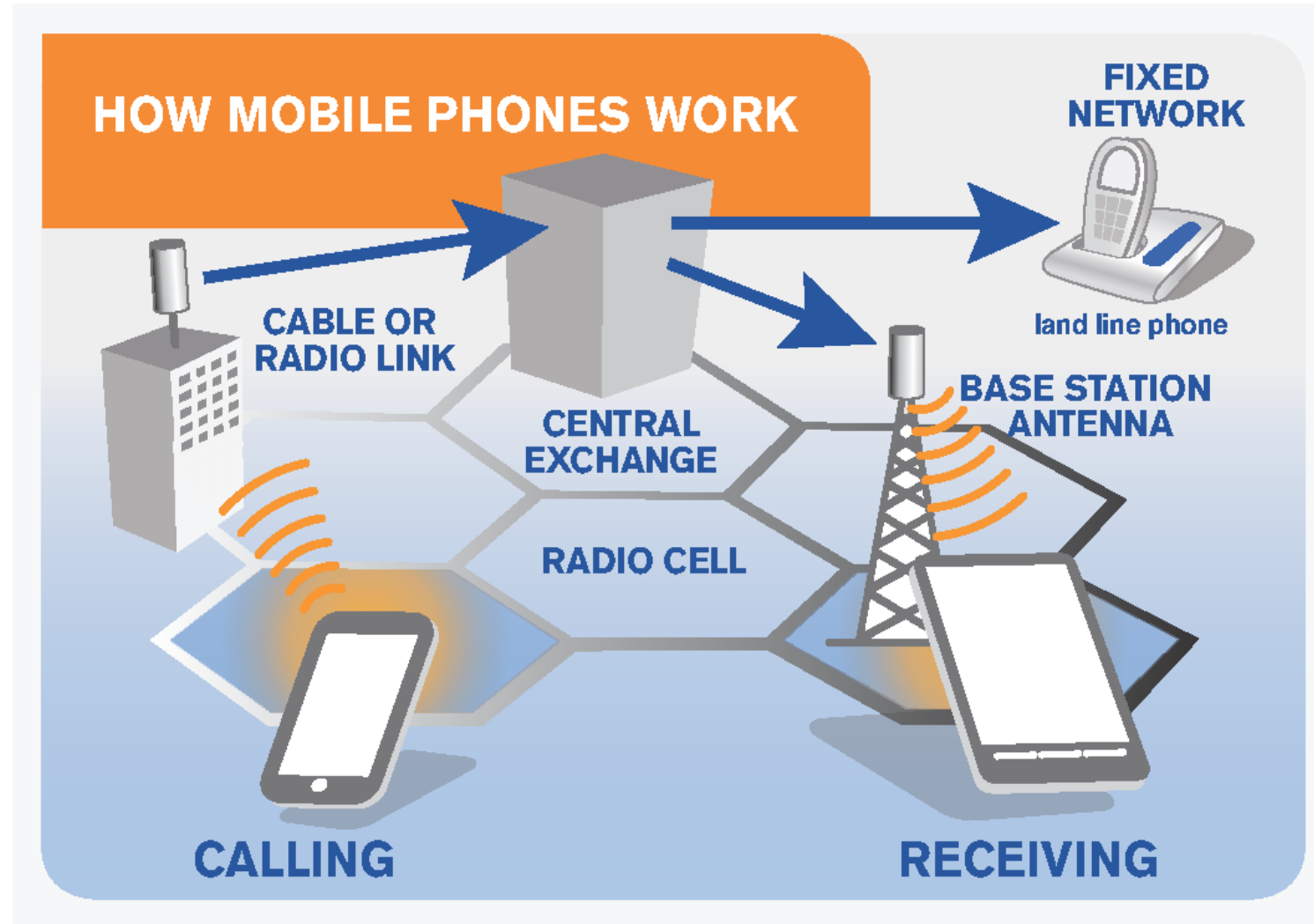
FAMILIAR COMMUNICATION SYSTEM



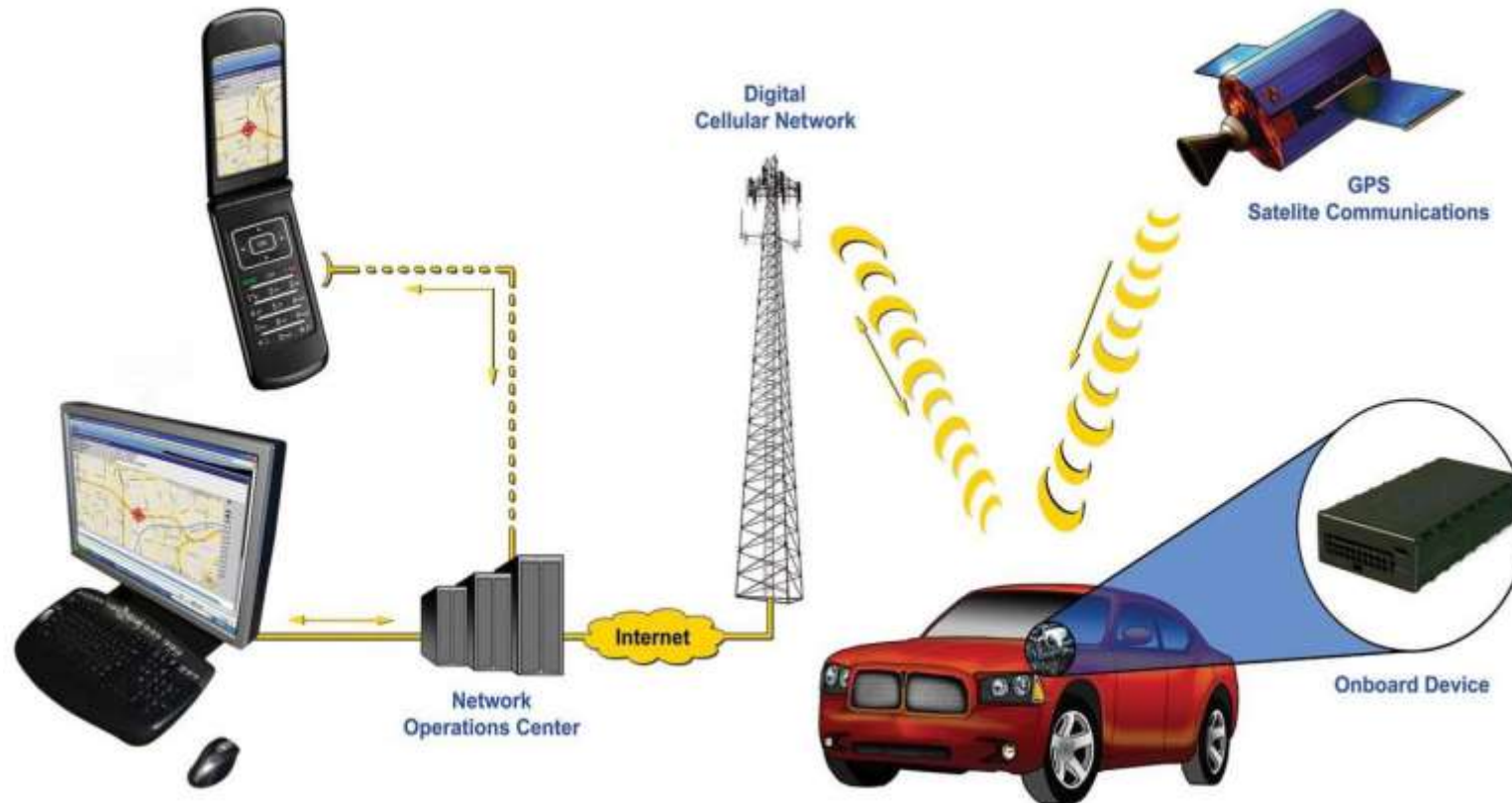
FAMILIAR COMMUNICATION SYSTEM



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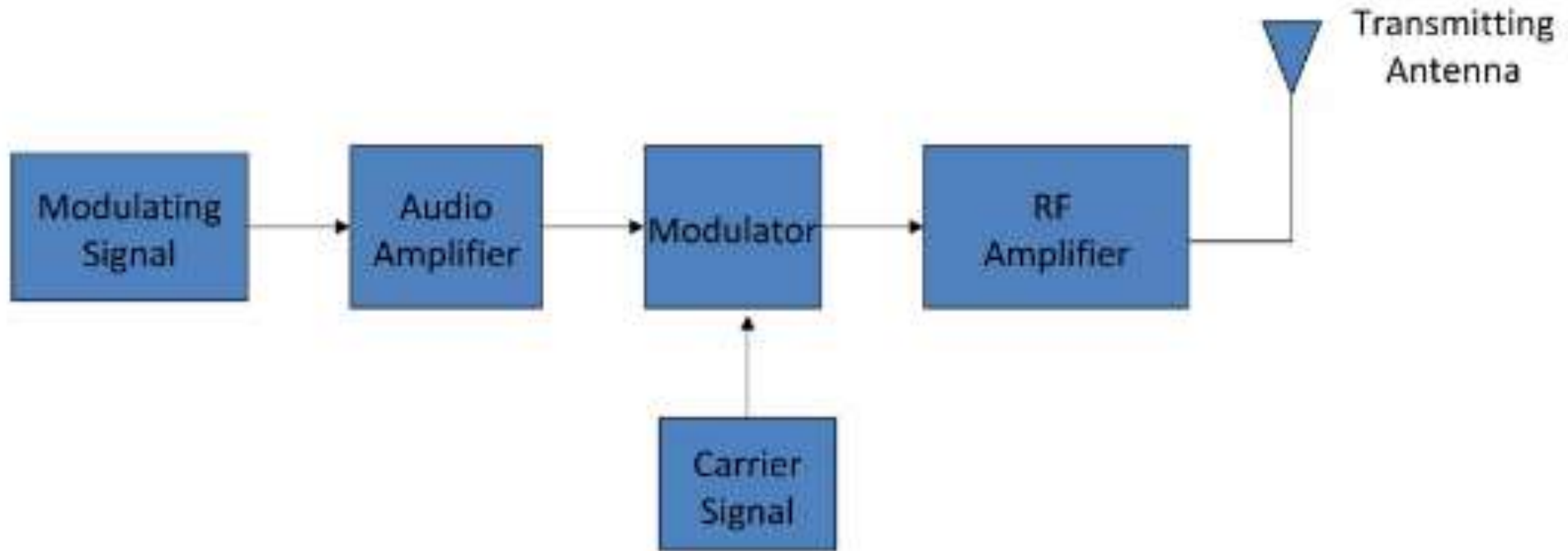


FAMILIAR COMMUNICATION SYSTEM





Block Diagram of a Transmitter





Transmitter:

The link or path over which information flows from the source to destination. Many links combined will establish a communication networks.

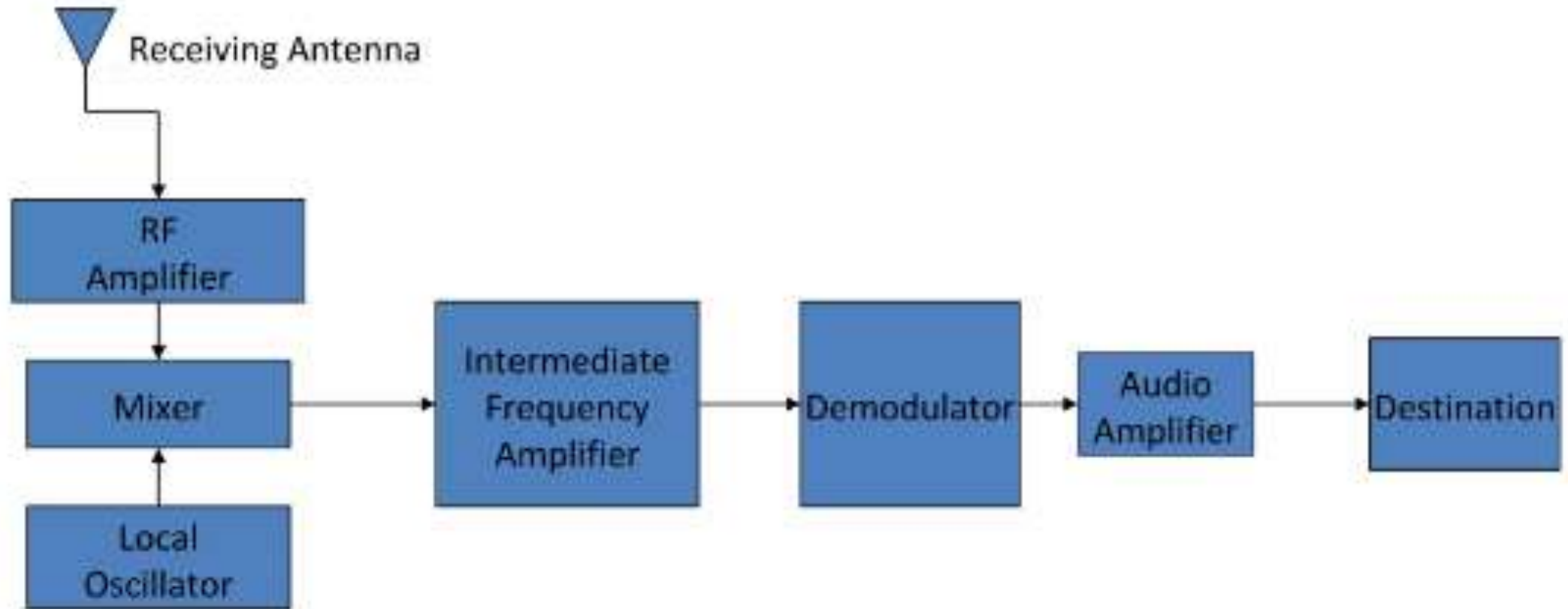
There are 5 criteria of a transmission system;

- 1.Capacity,
- 2.Performance,
- 3.Distance,
- 4.Security and
- 5.Cost which includes the installation, operation and maintenance.

The two main categories of channel that commonly used are; line (guided media) and free space (unguided media).



Block Diagram of a Receiver





Receiver:

- Receives the electrical signals or electromagnetic waves that are sent by the transmitter through the channel. It is also separate the information from the received signal and sent the information to the destination.
- Basically, a receiver consists of several stages of amplification, frequency conversion and filtering.
- Destination is where the user receives the information, such as loud speaker, visual display, computer monitor, plotter and printer.
- RF Amplifier Mixer Local Oscillator Intermediate Frequency Amplifier Demodulator Audio Amplifier Destination Receiving Antenna



ASSESSMENT

1. What is meant by Communication?
2. Give an brief about the examples of Modulation.
3. What is the use of Transdcer?



THANK YOU