

Lab No.0
INTRODUCTION TO COMMUNICATION SYSTEM

OBJECTIVE:

COMMUNICATION:

COMMUNICATION SYSTEM MODES:

Components or subsystems act together to accomplish information transfer. Communication system majorly has two modes;

- Point to point communication
- Broadcasting

POINT TO POINT COMMUNICATION:

In telecommunications, a point-to-point connection refers to a communications connection between two nodes or endpoints. An example is a telephone call, in which one telephone is connected with one other, and what is said by one caller can only be heard by the other.

BROADCASTING:

In telecommunications, point-to-multipoint communication is accomplished via a distinct type of one-to-many connection, providing multiple paths from a single location to multiple locations. Point-to-multipoint telecommunications is most typically used in wireless Internet. Devices which can use Wi-Fi technology include personal computers, video-game consoles, smart phones, digital cameras, tablet computers and digital audio players.

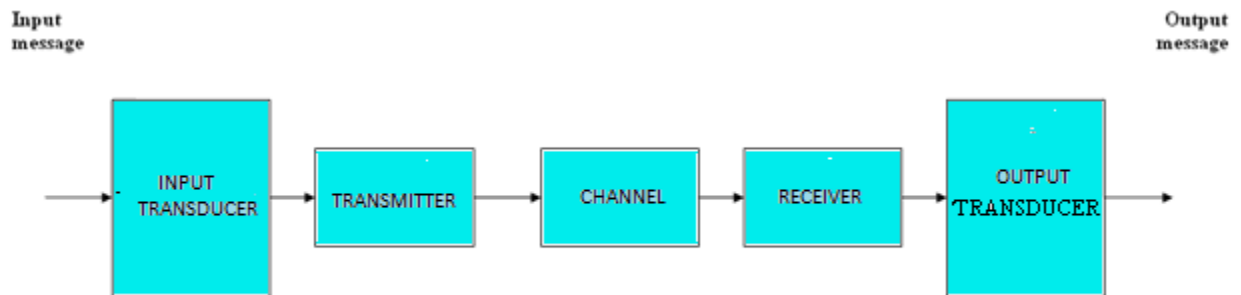
TYPES OF COMMUNICATION SYSTEM:

Communication system can be classified as;

- Analog Communication system
- Digital Communication system

1. ANALOG COMMUNICATION SYSTEM:

BLOCK DIAGRAM:



Basic Elements of Analog Communication System

INPUT TRANSDUCER:

TRANSMITTER:

CHANNEL:

RECEIVER:

OUTPUT TRANSDUCER:

DISADVANTAGES:

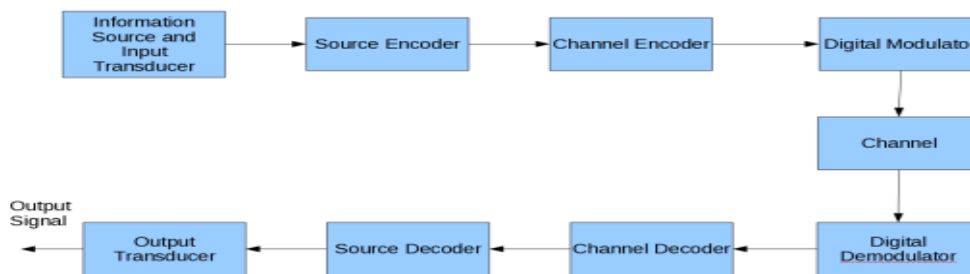
- Expensive analog components.
- No privacy
- Cannot merge data from different sources
- No error correction capability
- Cannot be detected easily

ADVANTAGES:

- Smaller bandwidth
- Synchronization relatively easier

2. DIGITAL COMMUNICATION SYSTEM:

BLOCK DIAGRAM:



Basic elements of Digital Communication System

INPUT SOURCE AND TRANSDUCER:

SOURCE ENCODER:

CHANNEL ENCODER:

DIGITAL MODULATOR:

CHANNEL:

DIGITAL DEMODULATOR:

CHANNEL DECODER:

SOURCE DECODER:

OUTPUT TRANSDUCER:

ADVANTAGES:

- Inexpensive digital circuit
- Privacy preserved
- Can merge data from different sources and transmit of common digital channel
- Error correction by encoding data
- Digital signal can be detected easily

DISADVANTAGES

- Larger bandwidth
- Synchronization problem relatively difficult

CONCLUSION:

Post Lab Questions

a) What are modes of communication?

b) What is channel decoder used for?

c) What are advantages of digital communication system?

d) What are basic elements of analog communication system? Draw block diagram as well.
