



BGS INSTITUTE OF TECHNOLOGY

Analog Communication

Presented by,

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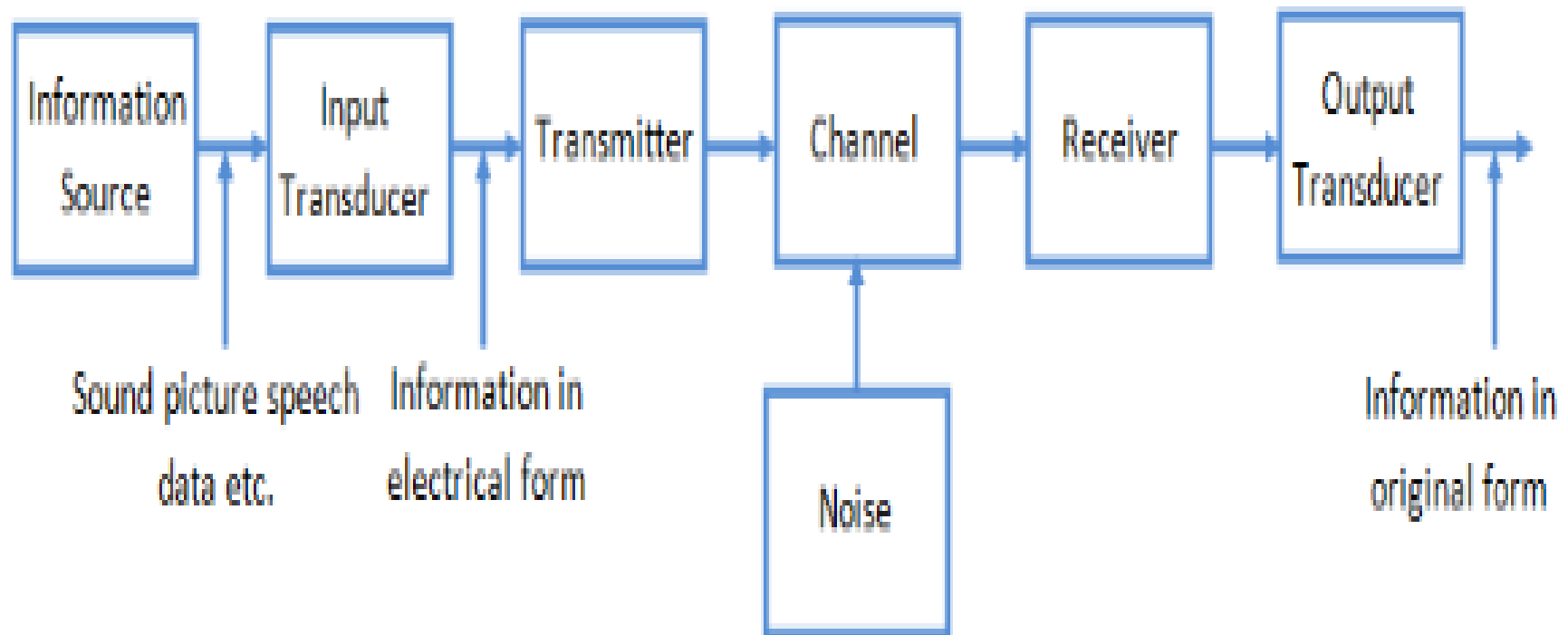
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Introduction

❖ Communication

Communication is a process where one sets out to convey a message to another person through the medium of words, gestures and / or pictures. The process of conveying the message is fulfilled only when the person receiving it has understood the message entirely.

❖ Block Diagram of Communication System



❖ Modulation

modulation is the process of varying one or more properties of a periodic waveform, called the carrier signal, with a separate signal that typically contains information to be transmitted.

There are 3 types of modulation:

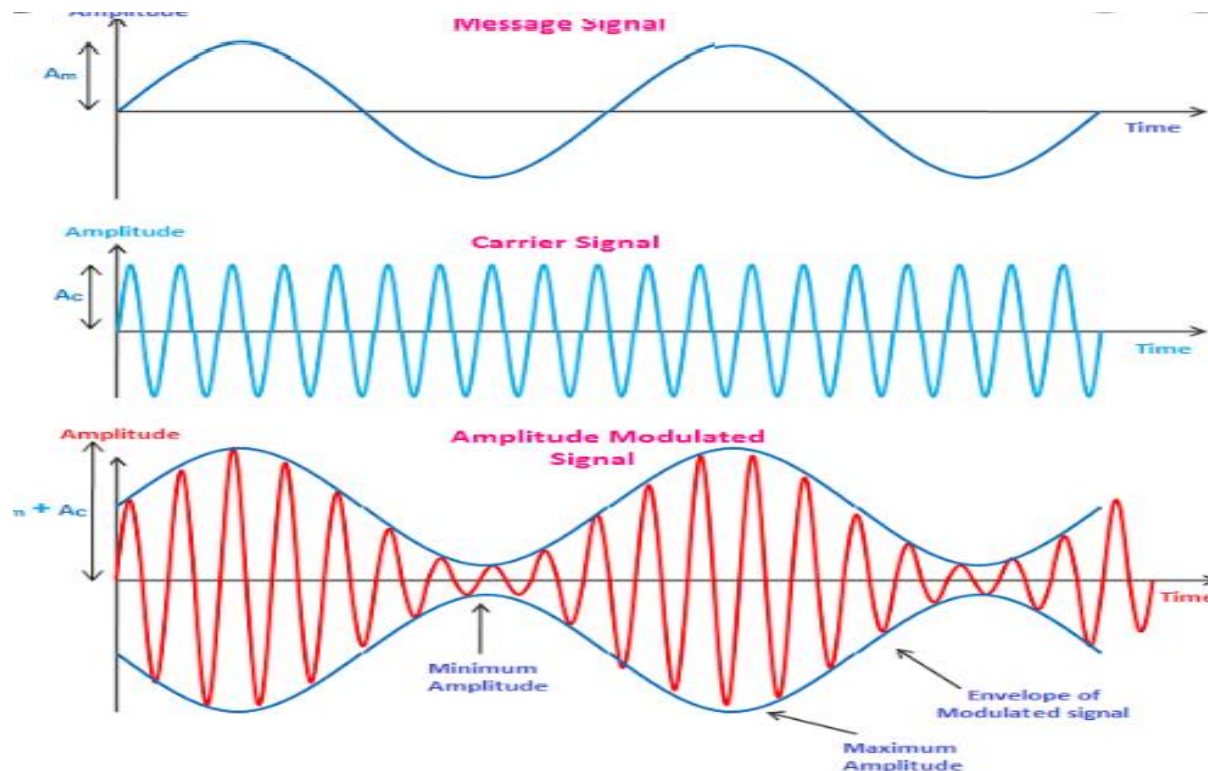
1. Amplitude modulation
2. Frequency modulation
3. Phase modulation

❖ Need for Modulation

1. Reduce the height of the antenna
2. Avoids mixing of signals
3. Allows multiplexing of signals
4. Increases range of communication
5. Allows bandwidth adjustment
6. Improves quality of reception

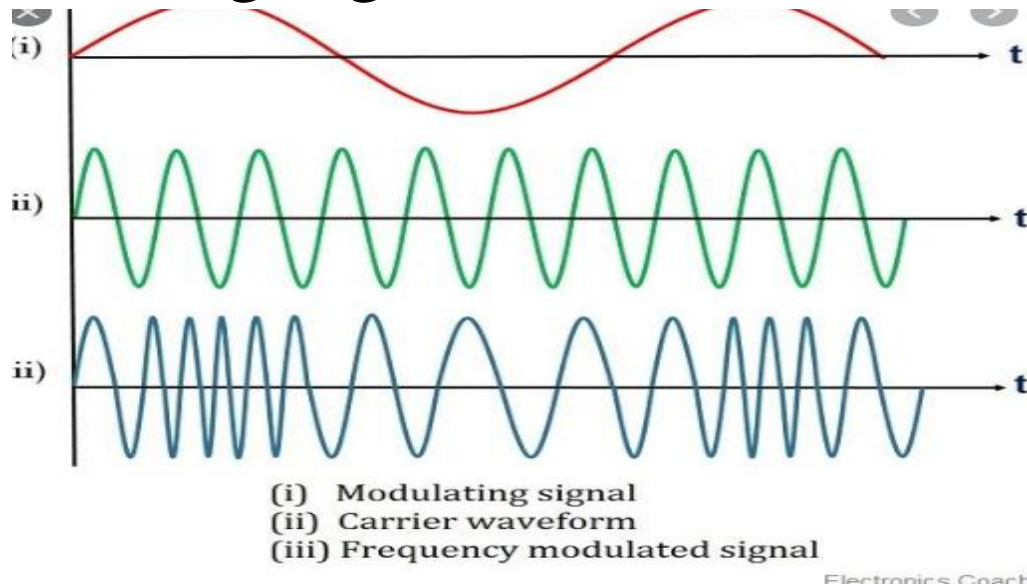
❖ Amplitude modulation

“The amplitude of the carrier signal varies in accordance with the instantaneous amplitude of the modulating signal.”



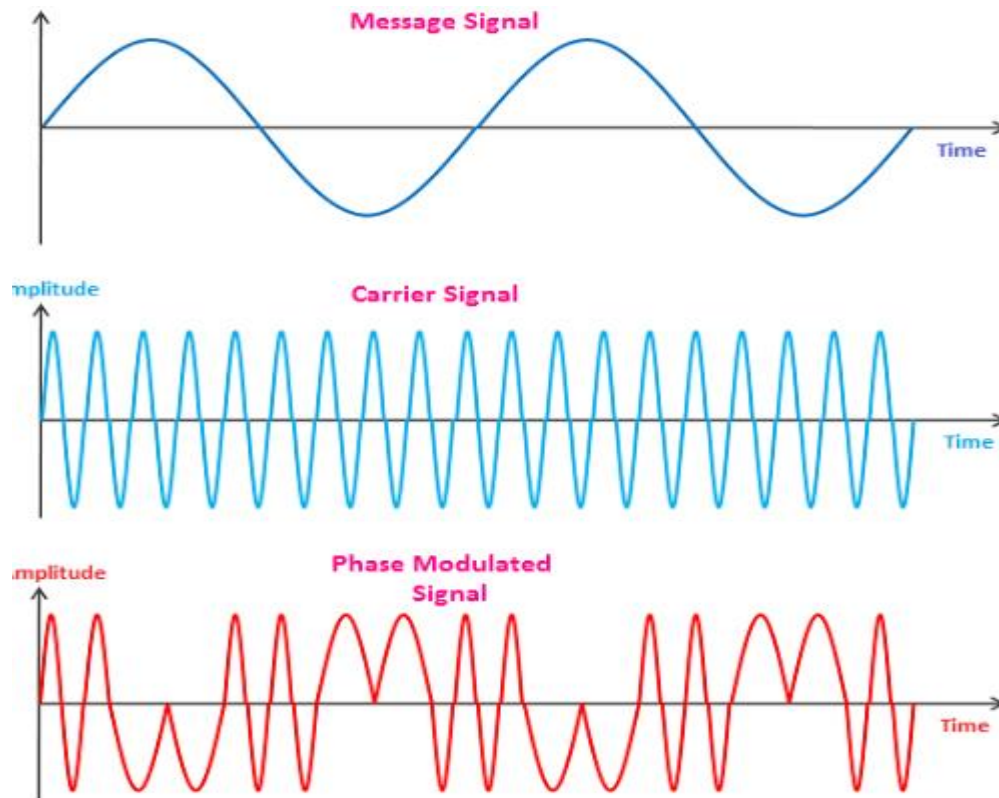
❖ Frequency modulation

Frequency modulation is a technique or a process of encoding information on a particular signal (analogue or digital) by varying the carrier wave frequency in accordance with the frequency of the modulating signal.



❖ Phase modulation

Phase modulation is similar to frequency modulation and is an important technique in digital communication systems.



❖ Advantages & Disadvantages

Advantages

1. AM transmitter are less complex
2. AM receivers are simple, detection is easy
3. AM waves can travels over a longer distance

Disadvantages

1. Power wastage
2. Insufficient bandwidth
3. Effect of noise

❖ Applications

1. Radio broadcasting
2. Picture transmission in a TV system