



Name : **Siddhartha Bose**

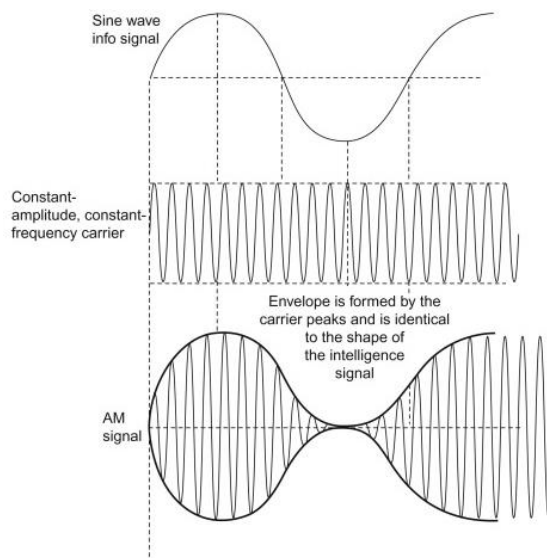
Reg. No. : **18BEC0535**

### Objective :-

Design a real-time AM system to transmit and receive your own voice.

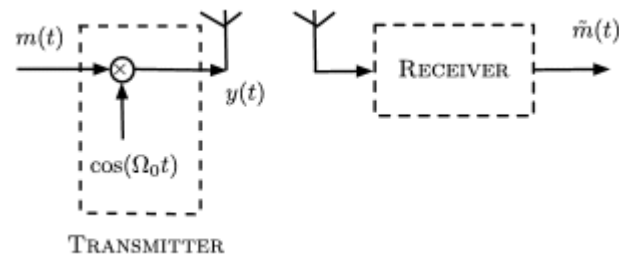
### Theory :-

In amplitude modulation, it is the voltage level of the signal to be transmitted that changes the amplitude of the carrier in proportion. With no modulation, the AM carrier is transmitted by itself. When the modulating information signal (a sine wave) is applied, the carrier amplitude rises and falls in accordance. The carrier frequency remains constant during amplitude modulation.

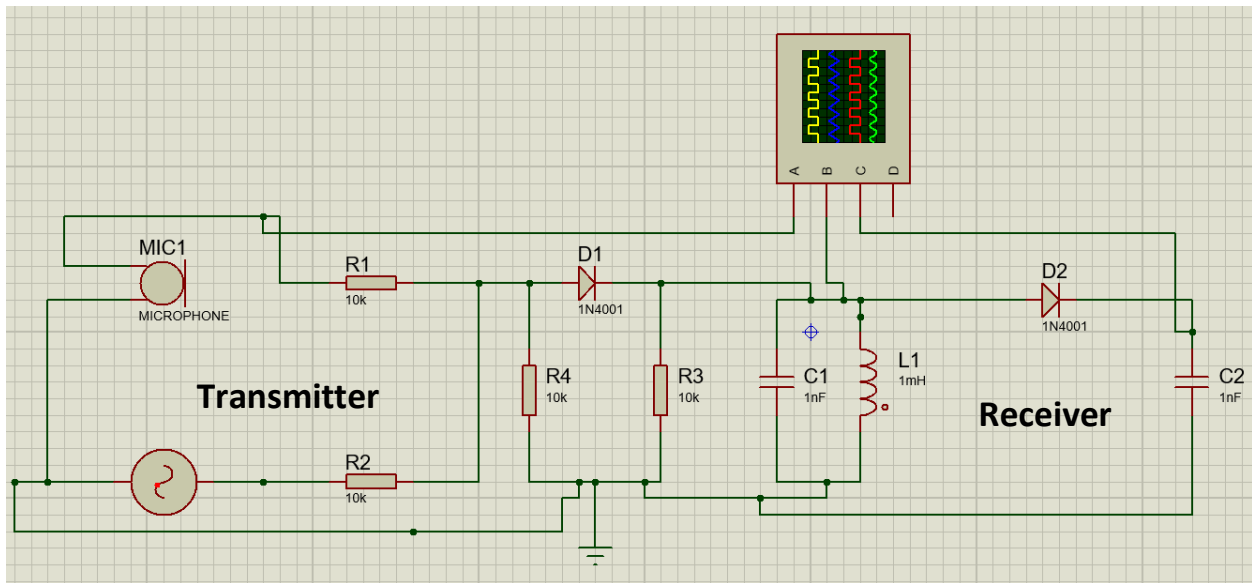


A voice signal typically has frequencies in the range of **100 Hz** to about **5 kHz** (the frequencies needed to make a telephone conversation intelligible) while music typically displays frequencies up to about **22 kHz**. The transmission of such signals with a practical antenna is impossible. To make the transmission possible, modulation was introduced, i.e., multiplying the message by a periodic signal such as a **cosine**, the carrier, with a **frequency much larger than those in the acoustic signal**.

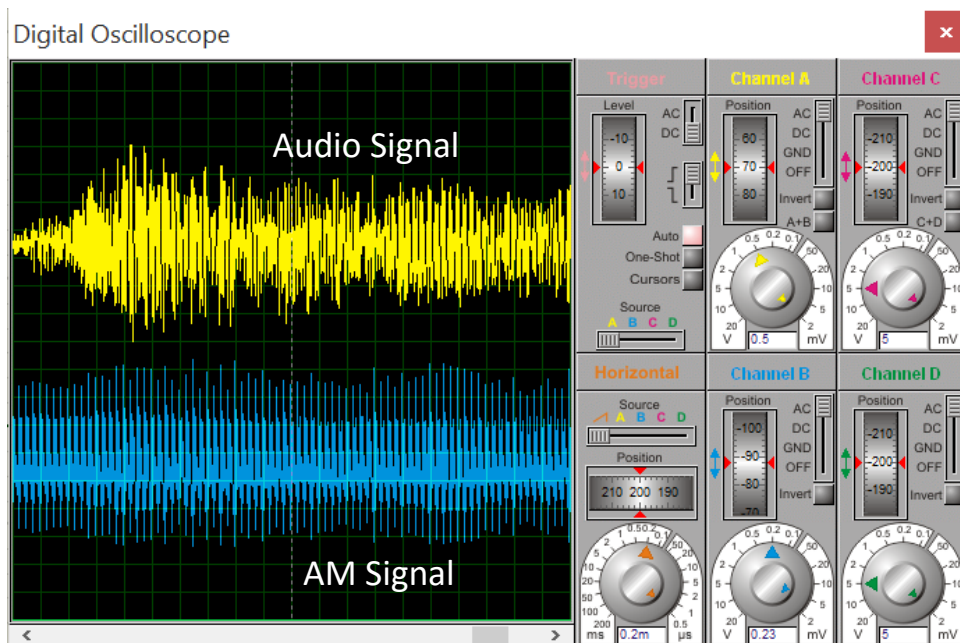
Amplitude modulation provided the larger frequencies needed to reduce the size of the antenna. Thus is the signal to be transmitted, and the effect of this multiplication is to change the frequency content of the input.



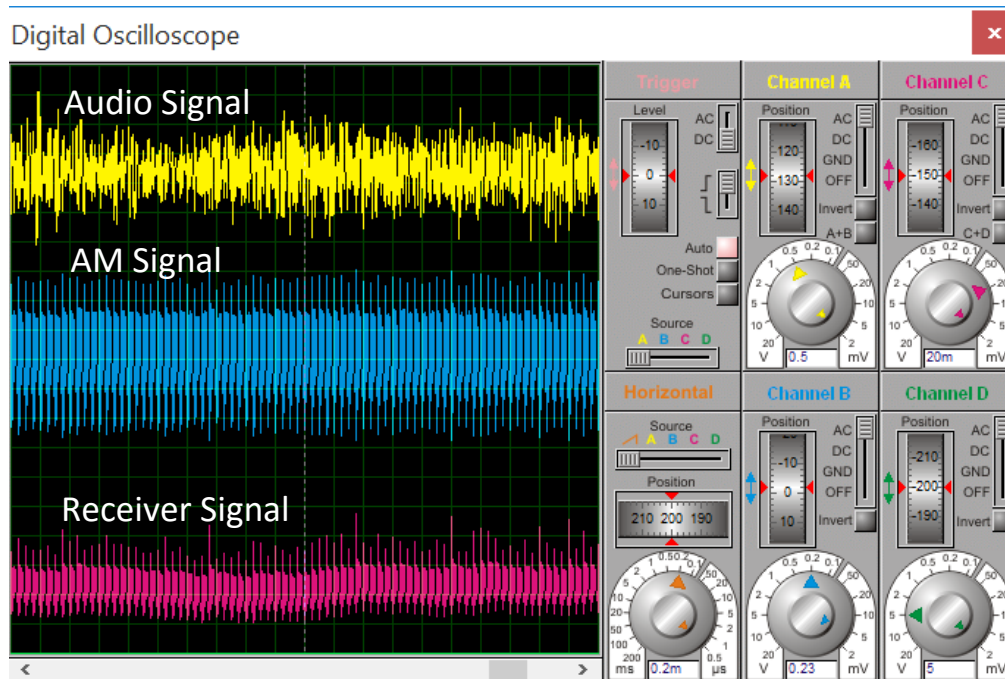
## Circuit Diagram :-



## Observations :-



AM MODULATION of Voice Signal



### AM MODULATION & DEMODULATION of Voice Signal

#### Result :-

We were successful in achieving the Amplitude modulation of our voice signal using the **Proteus software**. Below we have attached the link to the stimulation and the video recording of the working of the software.

#### Attachments :-

- **Task GIT HUB folder :**  
<https://github.com/SIDDHARTHA2301/ACS/tree/master/TASK%201>
- **Task Stimulation :**  
<https://github.com/SIDDHARTHA2301/ACS/blob/master/TASK%201/AM.pdsprj?raw=true>
- **Task Recording :**  
<https://github.com/SIDDHARTHA2301/ACS/blob/master/TASK%201/AM%20REC.mp4?raw=true>