



Principles of Communication (BEC-28) Unit-2 Angle Modulation

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Content of Unit-2

Introduction to Angle Modulation: Frequency modulation, Narrowband and Wideband FM, Generation of FM waves, direct FM and Indirect FM, FM modulators and demodulators, Phase locked loop, Angle Modulation by Arbitrary Message Signal, Phase Modulation, Pre-emphasis and De-emphasis, Linear and Nonlinear Modulation, Comparison between Angle Modulation and Amplitude Modulation, **Radio Receivers.**

INTRODUCTION

❖ What is radio receiver?

- *A radio receiver is an electronic device that*
 - *picks up the desired signal,*
 - *rejects the unwanted signal*
 - *amplifies the desired signal*
 - *demodulates the carrier signal to get back the original modulation frequency signal.*



➤ Selectivity

- *It refers to the ability of a receiver to select a signal of desired frequency while reject all others.*
- *The bandwidth of a tunned circuit is a measure of the selectivity .*



❖ *Sensitivity :*

- *The ability of receiver to detect the weakest possible signal is known as sensitivity*
- *It is expressed in microvolts or in decibels*
- *The sensitivity of receiver mostly depends on the gain of the IF amplifiers.*

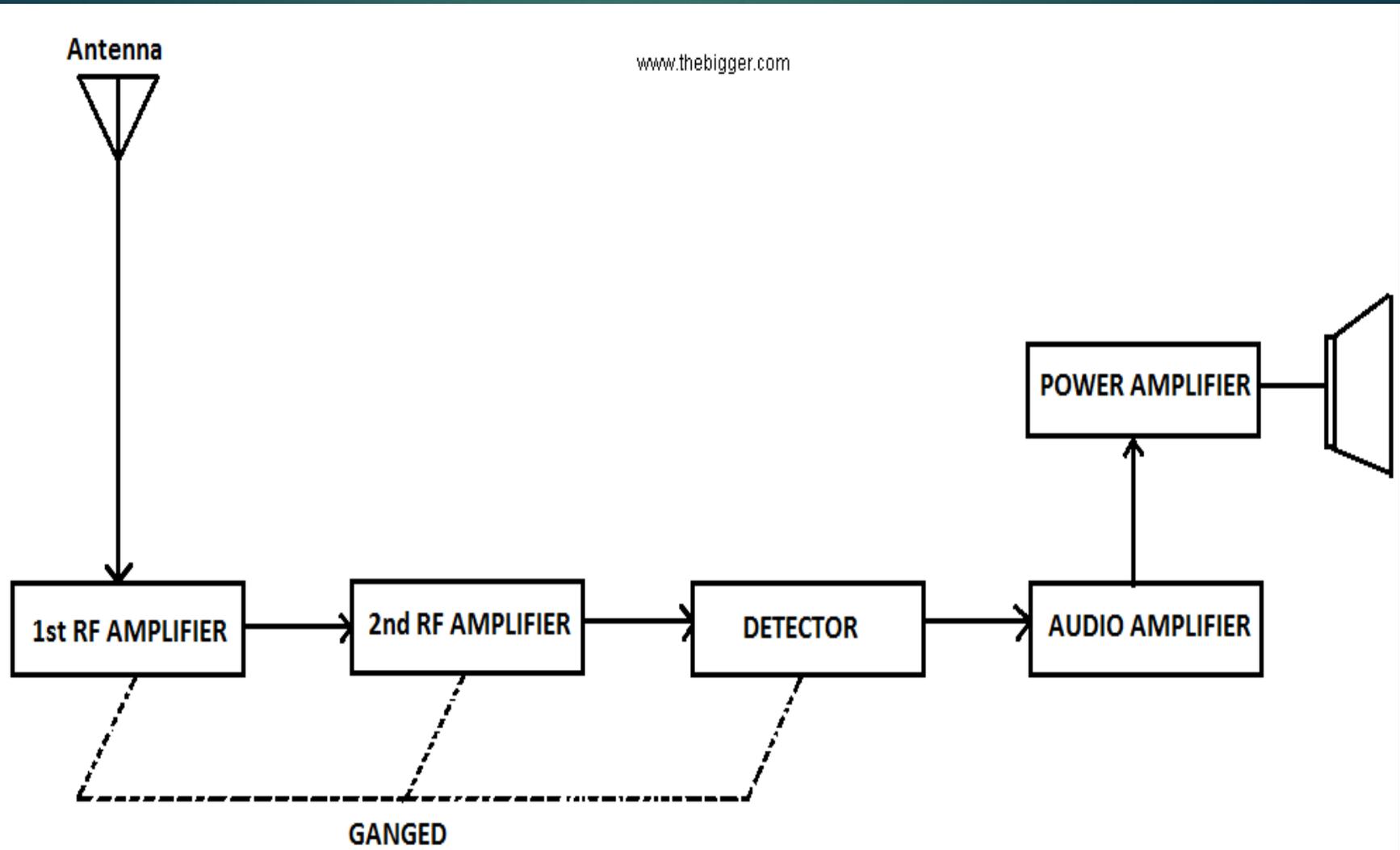
❖ *Fidelity :-*

- *The ability of receiver to reproduce faithfully all the frequency components in the baseband signal is called fidelity*
- *Fidelity is difficult to obtain in AM receiver because good fidelity requires more bandwidth*

Types of Radio receiver

- ❖ *Tuned Radio Frequency (T.R.F) Receiver*
- ❖ *Superheterodyne Receiver*

Tuned Radio Frequency (T.R.F) Receiver



(i) RF amplifier

➤ *It has following basic components-*

- (i) Detector
- (ii) Audio amplifier
- (iii) Power amplifier

Disadvantages:

- *Tracking of tuned circuit.*
- *Instability*
- *Variable bandwidth*



Thank You