



Principles of Communication (BEC-28)

Unit-2

Angle Modulation

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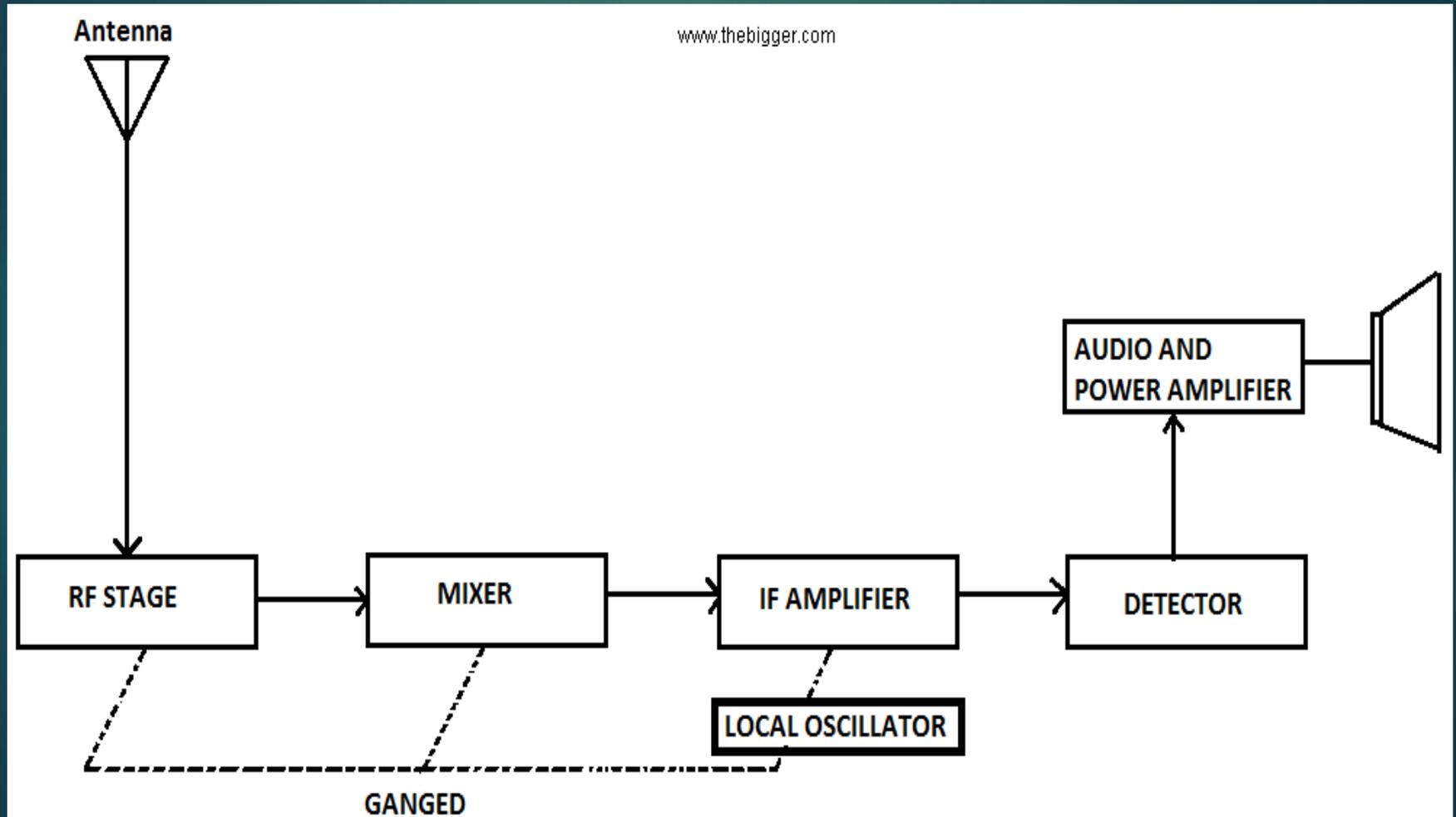
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Content of Unit-2

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.**

Superheterodyne Receiver



➤ *It has following components:-*

(i) Antenna :- *it picks up the weak signal feed into RF amplifier*

(ii) RF Amplifier :- *it provides initial gain and selectivity*

(iii) Local Oscillator :- *it provides operating limits for receiver*

(iv) Mixer :- it receives the output of RF amplifier and input of local oscillator

(v) IF Amplifier :- most of the receiver gain obtained here

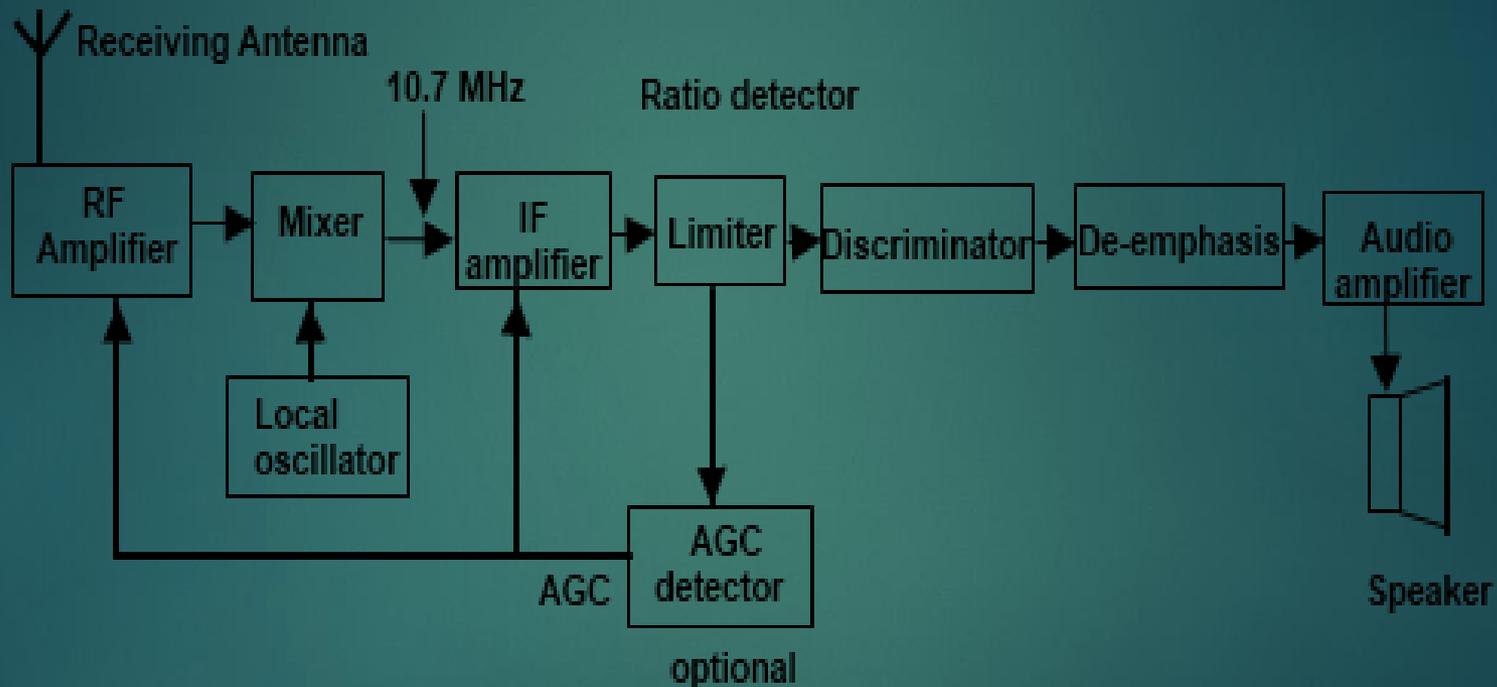


Another important circuit in
superheterodyne *receiver* are :-

(i) Automatic gain control (A.G.C):- it is use
to maintain a constant output voltage level over
a wide range of RF input signal level

(ii) Automatic frequency control (A.F.C):- it is
used to maintain frequency stability

FM Receiver



- The **FM receiver** is very similar to an AM receiver up to the IF Amplifier.
- Instead of a Detector however, the FM receiver uses two different stages:
 - *Limiters*
 - *Frequency Discriminator*



Thank You