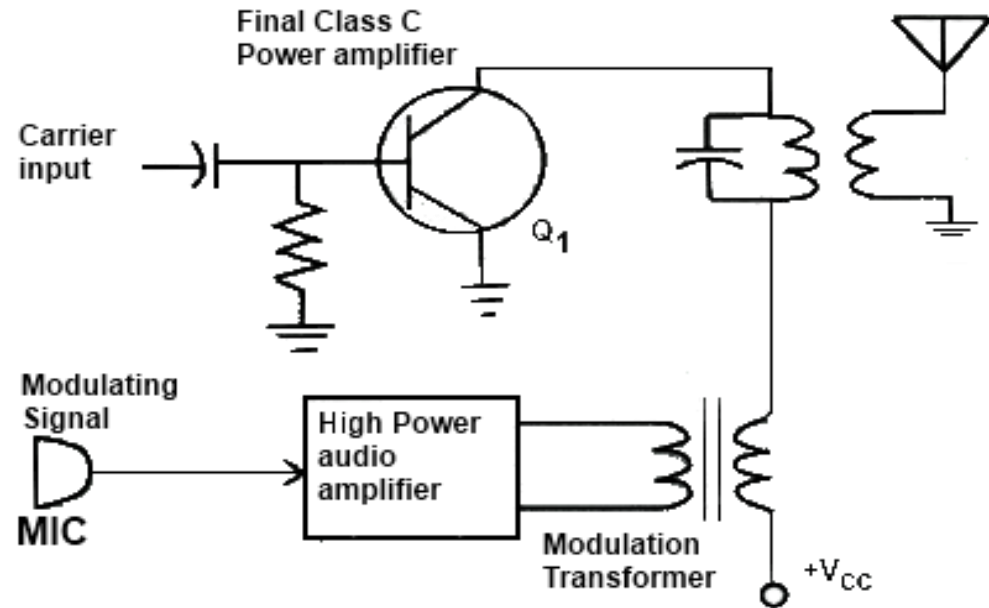


# Chapter-4

## *(Modulator & Demodulator)*

# Collector Modulator:-



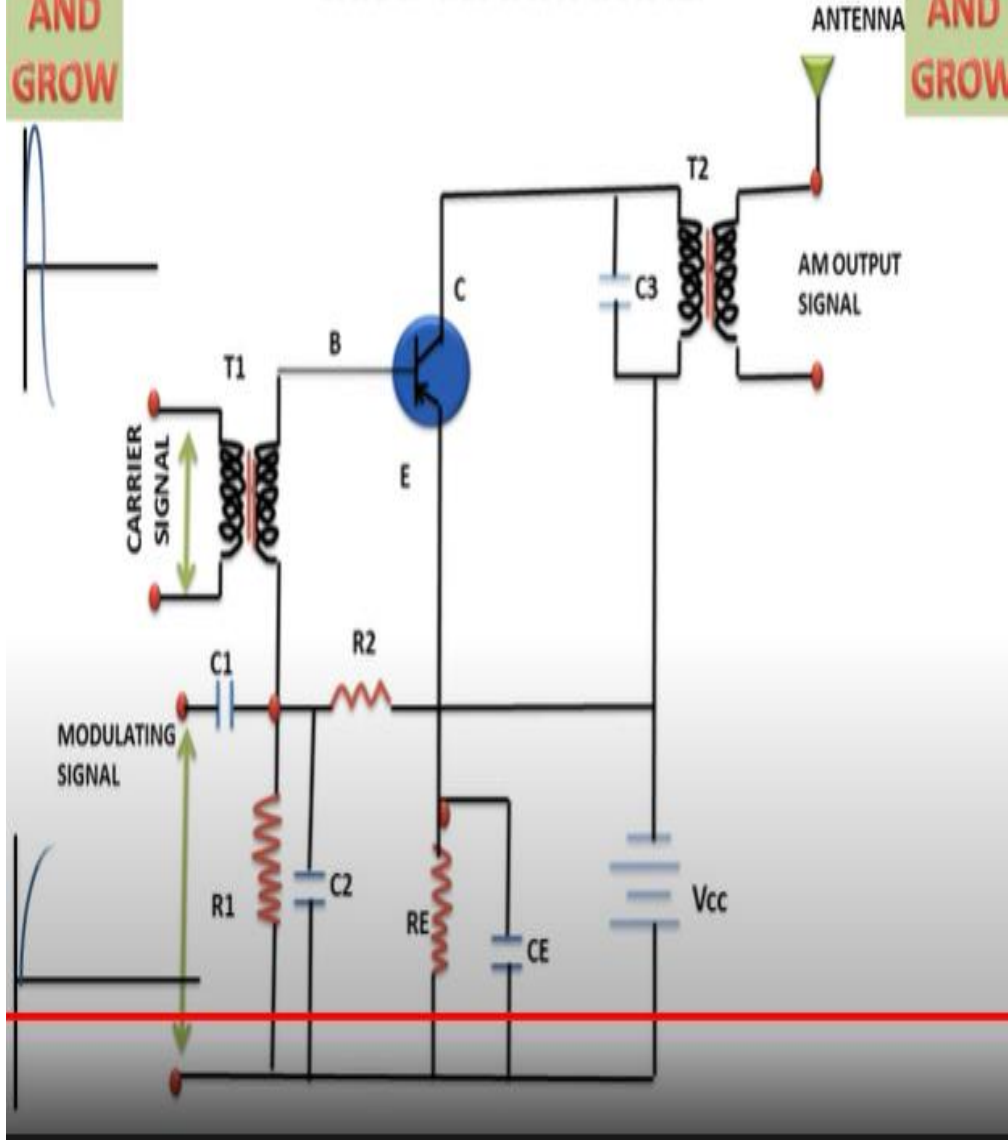
## High-Level AM: Collector Modulator

- The **collector modulator** is a linear power amplifier that takes the low-level modulating signals and amplifies them to a high-power level.
- A modulating output signal is coupled through a modulation transformer to a class C amplifier.
- The secondary winding of the modulation transformer is connected in series with the collector supply voltage of the class C amplifier.

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## BASE MODULATION

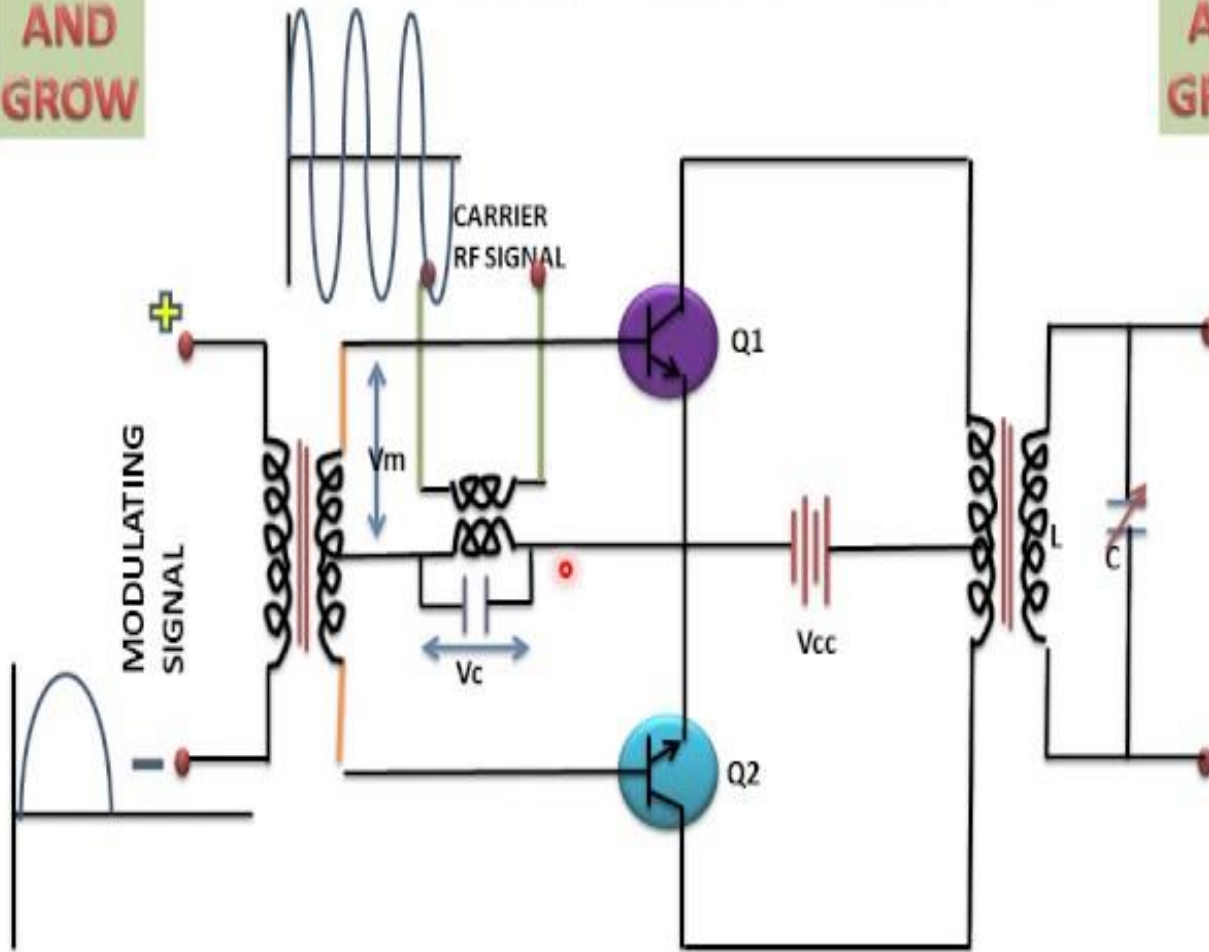
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The circuit above uses capacitive coupling to inject the audio frequency signal [AF Input] into the Base of the transistor. The transistor circuit to the right represents another alternative. That circuit uses transformer couplings to inject the AF signal. Other than the method of coupling, the two circuits are basically identical

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## BALANCED MODULATOR USING TRANSISTOR



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These devices were designed for use where the output voltage is a product of an input voltage (signal) and a switching function (carrier). Typical applications include suppressed carrier and amplitude modulation, synchronous detection, FM detection, phase detection, and chopper applications.