

⇒ Distortion in amplifiers. ←

Any deviation present in the output wave form from the Input wave form is called the distortion.

It arises due to non-linearity of the transistor characteristics or due to the reactive components of the circuit.

There can be the following three types of distortion in an amplifier.

- (i) Amplitude distortion
- (ii) Frequency distortion
- (iii) Phase distortion.

(i) Amplitude distortion: The amplitude distortion arises because of non linearity in the current transfer characteristic of the transistor. It is therefore also called the non linear distortion. and due to the presence of harmonics in the output this distortion is also called the harmonic distortion.

Frequency distortion \Rightarrow

This distortion arises due to various reactive components such as Inductance, capacitance etc in the circuit on account of frequency distortion the speech of music when reproduced after amplification appears to be quite different from the original.

Phase distortion \Rightarrow

It arises due to various coupling reactive elements such as Inductance and capacitance which cause phase change in the output since the phase change produced is different for different frequencies. so the phase distortion takes place.

The phase distortion is not important in audio frequency region but it is very important at video ~~frequencies~~ frequencies where the operation is a function of wave shape.