

Transistors Amplifier Circuits



Component

École Nationale
Supérieure
d'Électrotechnique
d'Électronique
d'Informatique
d'Hydraulique
et des
Télécommunications



Semester

Printemps

In brief

- > **Amety's Code:** N6EE04C
- > **Open to exchange students:** Yes

Presentation

Objectives

Understand the basic concepts of analog electronics. This course focuses on amplification using bipolar transistors at medium frequencies.

Description

- Study in static conditions: bipolar transistor bias
 - Study and characterization of the four dynamic configurations of bipolar transistor amplifiers (common emitter, degenerate common emitter, common collector, common base): equivalent circuit, intrinsic and composite voltage gains, input and output impedances, static and dynamic load lines, harmonic distortion.
 - Two-stage amplification: compatibility between stages, impedance adapter, active load.
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Pre-requisites

Semiconductor physics and PN junction; circuit basics

Linear operation of the bipolar transistor