Analog Electronics Project

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

Semester
Printemps

In brief

- **Ametys Code:** N8AE01C
- **Open to exchange students:** No

Presentation

Objectives

To design and build an FM receiver capable of receiving an audio signal via an infrared optical wireless link.

- Sizing of analog electronic functions (amplification, demodulation, filtering)

- Simulation and validation of circuits

- Implementation on a printed circuit board (PCB)

- Experimental testing and oral presentation of the final product

Description

The project consists of designing, simulating, building, and testing an analog FM receiver integrating the following functions:

- High-gain selective amplification

- FM demodulation: using a phase-locked loop (PLL)

- Filtering of the audio signal from the demodulator

- Power amplification and speaker connection

Pre-requisites

Electrical circuit analysis methods

Signal transistors and operational amplifiers

Transistor amplifier circuits and operational amplifier circuits

Phase-locked loop