

Electronics project

Introducing

Description

- * LTspice training (OP, AC, DC, Step, Sweep)
- * study of differential stage
- * common emitter stage study, active load, current sources
- * output stage design
- * transistor heating, heat sink sizing
- * optional routing, PCB construction of the Hifi amplifier studied and designed.

Objectives

The aim of this project is to design and build an audio amplifier using discrete transistors, with a power of around 20W, on a test plate. The power stages are studied (push-pull Darlington, etc...) as well as all the classic architecture of an operational amplifier (differential, active load...). The problem of output dynamics is clearly defined (blocking/saturation limit). The technology used is the bipolar transistor.

Necessary prerequisites

- * essential: good understanding of basic electrical laws
- * strongly recommended prerequisites: bipolar transistor, polarization, dynamic small signal circuits

Évaluation

L'évaluation des acquis d'apprentissage est réalisée en continu tout le long du semestre. En fonction des enseignements, elle peut prendre différentes formes : examen écrit, oral, compte-rendu, rapport écrit, évaluation par les pairs...

Practical info

Location(s)

 Toulouse