

PCB Project Report

Project Title:

Condenser Microphone with Pre-Amplifier Circuit

Name:

Gian Carlo D. Trilles

Instructor:

Borman B. Bobis

Description:

This project is a simple condenser microphone circuit with a fixed bias preamplifier, designed on a PCB using EasyEDA. It uses basic components like a capacitor, resistor, and NPN transistor to amplify weak audio signals captured by a microphone. The amplified output is suitable for connection to a power amplifier.

The circuit works by converting acoustic sound signals into small electrical signals using the microphone. A capacitor is used to couple the signal to the transistor's base, blocking DC and allowing AC. The transistor, configured as a common-emitter amplifier, boosts the signal using a fixed bias resistor setup.

Project Link:

 <https://drive.google.com/file/d/1I4oEq66PocDw1fhBkTvvitOfX-ETrH3E/view?usp=sharing>

Learnings / Summary:

- i learned how a **preamplifier** works by boosting low audio signals from a micc
- I applied basic **analog electronics** concepts such as biasing and AC coupling
- i practiced **schematic design and PCB layout** using EasyEDA
- i understood how components like **resistors, capacitors, and transistors** work together to build an actual audio circuit
- this project helped me connect theory with practical PCB design