



Analog Electronics Lab

Introduction

- Analog electronics is a field of study where various electronic circuits are studied which helps in bridging the gap between the real world and analog world.
- The important objective is to design and develop analog circuits which will be useful for amplification, filtering, signal generation, voltage regulation, and data conversion (analog to digital and vice versa)

Scope of the Lab

- This lab deals with various electronic techniques and building blocks used in analog signal processing. Experiments and projects using discrete IC modules will be carried out in the laboratory.
- The experiment topics range from study of basic circuits like Common emitter amplifier, Op-amp (IC 741) configurations etc. to advanced topics like Precision circuits, Filters, Oscillators, and applications of Integrated Circuits such as Timers (IC 555), PLL (IC 565) & Regulators (IC 7805, IC LM 723 & IC LM 317).

Simulation Software

- LTspice
- PSpice
- NI Multisim

Application Areas

- Signal Processing
- Communications Engineering
- Instrumentation
- Speech Processing
- Robotics

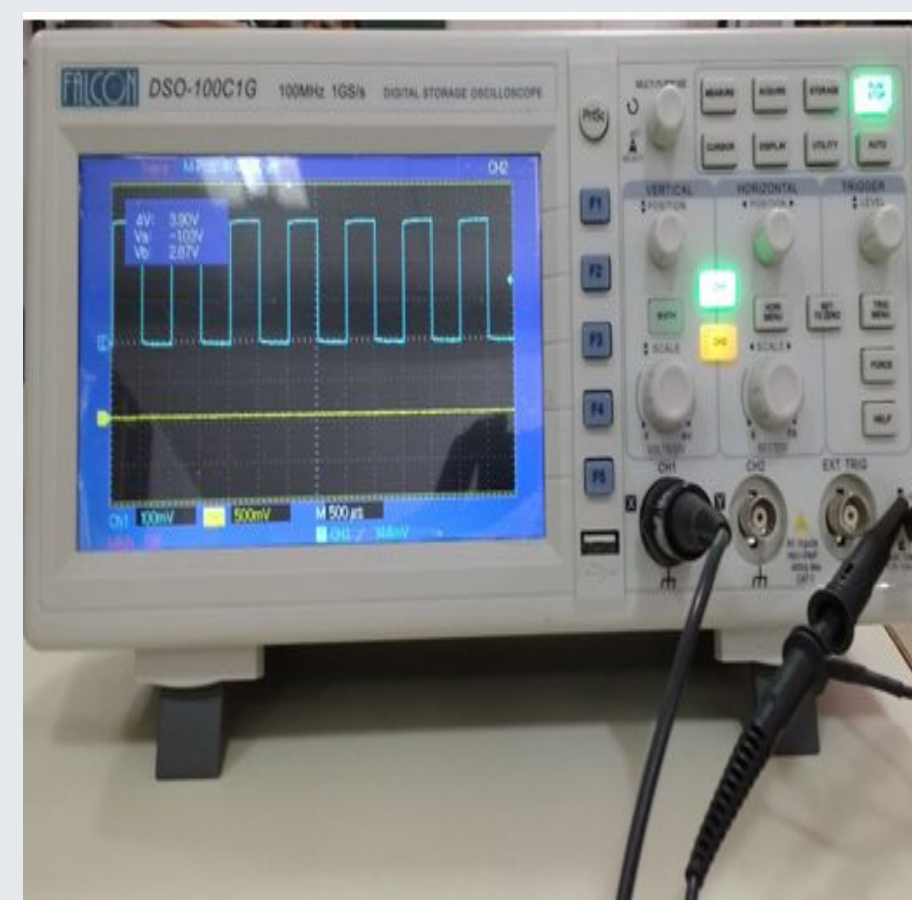
Lab Equipment



Analog Electronics Lab Trainer kit



Analog Discovery Kit



Digital Storage Oscilloscope (2 Channel, 100MHz)



Function / Arbitrary Generator (20MHz)



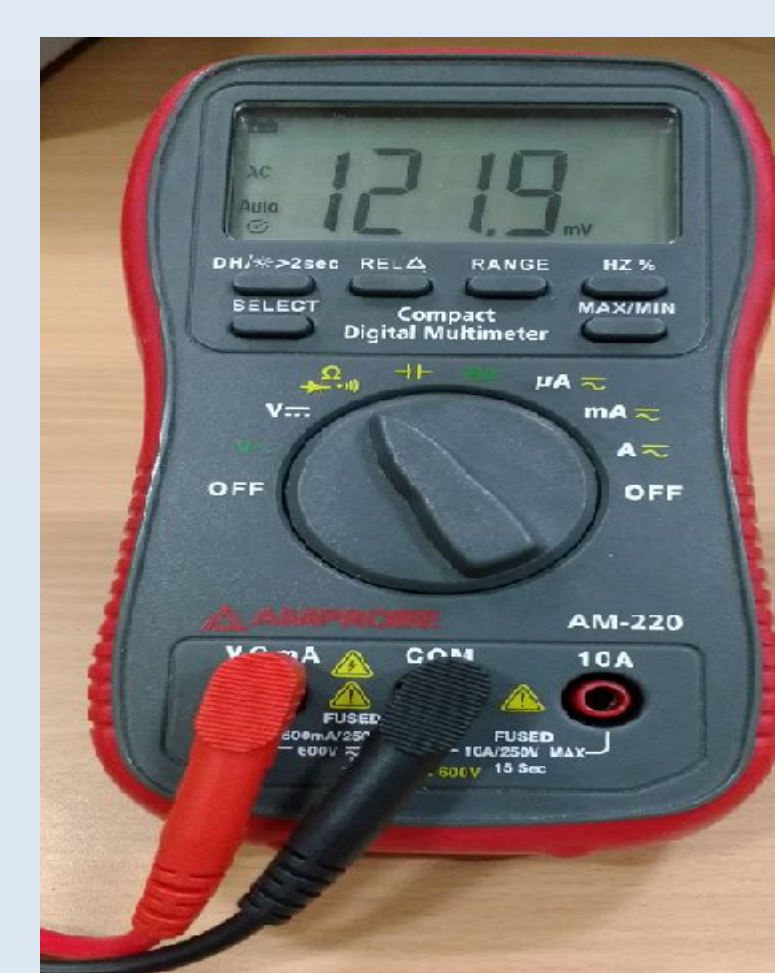
DC Power Supply Triple Output



Digital Multimeter, 5 1/2 digit



Linear IC Tester (MME LICT 20)



Digital Multimeter (3 1/2 digit, AM-220)

List of experiments

- Common-Emitter Amplifier
- Basic Configurations of Op-amp
- Characterization of Op-amp
- Study of Feedback Amplifiers
- Instrumentation and Programmable Gain Amplifiers
- Precision Circuits using Op-amps
- Study of Active Filters using Op-amps (LPF, HPF & BPF)
- Sinusoidal and Non-Sinusoidal Oscillators
- Integrated Circuit Timer and Phase Locked Loop
- IC Fixed and Adjustable Voltage Regulators
- Data Converters (DAC and ADC)

Faculty Coordinator

- Prof. Prasant Kumar Pattnaik

Other Faculty Users

- Dr. Rajesh Kumar Tripathy
- Dr. Joyjit Mukherjee

Lab Technician

- Mr. Samuel P
- Mr. Bhasker Reddy S

Research Scholars

- Mr. Chaluvadi V Naga Bhaskar
- Mrs. Renuka.H

