EE61 Laboratory Course

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Introduction:

Welcome to the new EE61 laboratory. It is a general practice in introductory circuits courses to require students to build a simple circuit, make some measurements to verify the theory, and finally to disassemble the circuit. We believe that it would be a much richer learning experience if the circuits built at each lab meeting were sub-circuits of a pertinent, real-world system. Rather than disassembling circuits at the end of each lab meeting, the sub-circuits could be mounted on a circuit board and interconnected as the semester progresses. This is what we are trying to implement in the new EE-61 lab.

Equipment

- Agilent E3611A DC power supply
- Agilent E3631A Triple Output, Programmable DC Power Supply
- Agilent 33120A Function Generator
- Agilent 34401A Digital Multimeter
- Agilent 54600B Oscilloscope or Agilent 54622A Deep Memory Oscilloscope
- Agilent VEE 6.0 (or 5.0)

Experiments

- Introduction
- Lab 1: Orientation
- Lab 2: Operation of the Digital Instruments & Basic Measurements
- Lab 3: Kirchhoff's Laws and Basic Instrumentation
- Lab 4: Thevenin Equivalent Circuits
- Lab 5: Operational Amplifiers
- Lab 6: Exploring the Servomotor Controller Circuit
- Lab 7: Assembly of the Transmitter and Receiver Circuits
- Lab 8: Testing the Transmitter-Receiver System
- Lab 9: System Integration and Testing
- Lab 10: Frequency Response of Filter Circuits plus VEE File