

Analog to digital and digital to analog converter trainer

FEATURE

- IEEE Symbol of all components to be provided on the PCB.
- All Components must be visible clearly on the top of the PCB.
- It should consist of 8-bit binary weighted and 8-bit ladder type DAC are constructed using discrete components
- It should consist of 8-bit monolithic DAC having settling time in the range of ns, wide power supply range, and low power.
- It should consist of 8-bit monolithic DAC having settling time in the range of ns, wide power supply range, low power consumption, full scale error $\pm 1\text{LSB}$.
- 8 bit digital ramp ADC constructed using discrete components should be include.
- It should provide 12-bit monolithic ADC having conversion time in the range of μs , industry standard pin out, wide input range should be include 8 onboard switches to provide digital input to DAC.
- Should include 8-bit counter running on external clock frequency to study setting time of DAC.
- It should consist of built in low power frequency clock generator.
- Extensive experimental manual is to be provided with the kit

TECHNICAL SPECIFICATION

On board components

- **Sine wave generator**
 - Amplitude : 0V to 5V
 - Frequency : 1KHz
- **Variable DC generator**
 - Voltage Range : -12V to +12V
- **Digital to Analog converter**
 - 8-bit binary weighted DAC
 - 8-bit ladder type D to a converter
 - 8-bit D to A converter using monolithic IC
- **Analog to Digital converter**
 - 8-bit discrete ADC
 - 12-bit successive approximation monolithic IC
- **Binary counter** : 12-bit binary counter with external clock
- **Output** : 12 LED's to observed ADC output
- **Interconnection** : 2mm connectors.
- **Power Supply** : -12V, +12V, +5V, GND