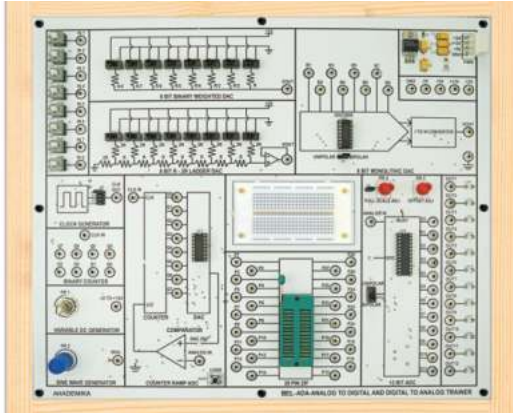


BEL- ADA

Analog To Digital And Digital To Analog Converter Trainer



FEATURES

Analog to digital converter

- 8-bit discrete ADC
- 12-bit monolithic ADC IC
- On-board signal generator with adjustable amplitude levels
- On-board LED bank to observe digital outputs
- Power supply : +5V, $\pm 12V$ GND
- Interconnection is provided by 2mm connectors
- Experimental manual

Digital to analog converter

- 8-bit binary weighted resistors DAC
- 8-bit ladder type D to A converter
- 8-bit D to A converter using monolithic IC
- Simple construction using Op-Amp and resistors
- Onboard switches are provided for digital pattern generation
- 4-bit digital inputs ranges from 0000 to 1111
- Variable reference for DAC
- Variable frequency counter to study the settling time

SPECIFICATIONS

- 8-bit binary weighted and 8-bit ladder type DAC are constructed using discrete components
- 8-bit monolithic DAC having settling time in the range of ns, wide power supply range, low power consumption, full scale error $\pm 1LSB$
- 8-bit digital ramp ADC constructed using discrete components
- 12-bit monolithic ADC having conversion time in the range of μs , industry standard pin out, wide input range
- 8 onboard switches to provide digital inputs to DAC
- 8-bit counter running on external clock frequency to study settling time of DAC
- 1 KHz sine wave with adjustable amplitude level
- Onboard variable DC voltage source for studying unipolar and bipolar modes of ADC
- Build low frequency clock generator

- 12 output LEDs to observe ADC outputs
- ADA operates on DC power supply (+12V, -12V, +5V and GND)
- Interconnection is provided by standard 2mm connector
- Extensive experimental manual is provided with the kit

EXPERIMENTS

Analog to digital converter

- To study and measure resolution of ADC
- To measure the conversion time of the ADC
- To study full scale adjustment for unipolar and bipolar signals
- To study the working of ADC

Digital to analog converter

- To study and measure the resolution of DAC
- To study and measure the settling time of DAC
- To study the effect of settling time on DAC
- To study the working of DAC for various digital data pattern
- To study the conversion by using R/2R Ladder network and measure its resolution.

