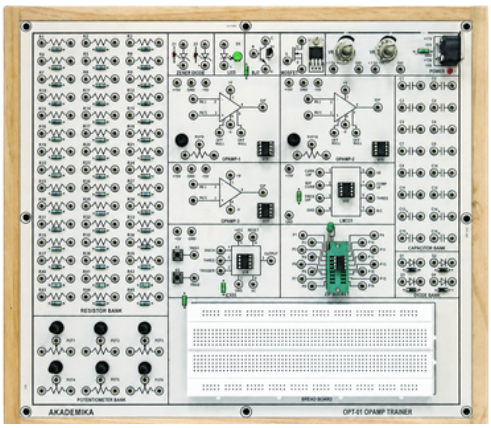
BEL-OPT
Op-Amp Trainer Kit



FEATURES

- Single board system, capable of covering over 20 Experiments
- Should cover Op-Amp (741) & its various applications.
- Allows study of timer using 555 IC
- IEEE symbol of all components provided on the PCB.
- All Components are visible clearly on the top of the PCB.
- Mobile based Interactive e-Manual

SPECIFICATIONS

- On-board fixed power supply: ±15V, ±12 and +5V
- Variable Regulated Power Supply:
  Positive DC : 1.5V to 10V with Helical pot
  Negative DC : -1.5V to -10V with Helical pot
- LM331 IC provided with all the respective pins out.

Semiconductor Device Range:

- Three IC 741 Op-Amp stage
- One 555 IC stage
- Diode Bank:
- Rectifier Diode (4 nos.) :1N4007
- Zener diode (2 nos) : 5.1V
- Green LED 5mm
- Transistor:
  BJT (BC547)
  MOSFET (IRF-Z44N)
- Resistors Bank: 45 nos.
  Range from 47Ω to 1M
- Capacitors Bank: 16 nos
  Range from 56 µF to 220PF
- Potentiometer: 6 nos.
  Range from 1kΩ to 10MΩ
- 16 pin ZIF socket with pin out to be provided on board.

EXPERIMENTS

Op-Amp IC-741 based

- Measurement of input offset voltage, input bias current, input offset current
- Measurement of differential input impedance, output resistance
- Measurement of common mode rejection ratio (CMRR), slew rate, unity gain bandwidth
- Inverting and non-inverting amplifier (AC / DC)
- Voltage follower (AC / DC)
- Integrator, differentiator, differential amplifier
- Inverting summing, scaling and averaging amplifier
- Non-inverting summing, scaling and averaging amplifier
- Differential summing and subtractor amplifier
- Log and anti-log amplifier
- Instrumentation amplifier
- Low pass, high pass, band pass, narrow band reject, all pass filters
- Phase shift oscillator, Wein bridge oscillator, quadrature (sine-cosine) oscillator
- Square, triangular, saw-tooth wave generator
- Current to voltage, voltage to current, digital to analog converter
- Positive and negative clipper/ clamper circuit
- Level shifter circuit
- Half wave, full wave rectifier
- Basic comparator
- Astable, bi-stable, mono-stable multi-vibrator
- Zero crossing detector
- Schmitt trigger
- Window detector
- Peak detector
- Sample and hold circuit
- Function generator
- Frequency to voltage, voltage to frequency converter using LM331

IC-555 based

- Astable, bi-stable, mono-stable multi-vibrator
- Frequency divider and frequency stretcher
- Schmitt trigger
- PWM modulator