## ADCL - 01  BPSK / DPSK AND DEPSK MODULATION / DEMODULATION KIT
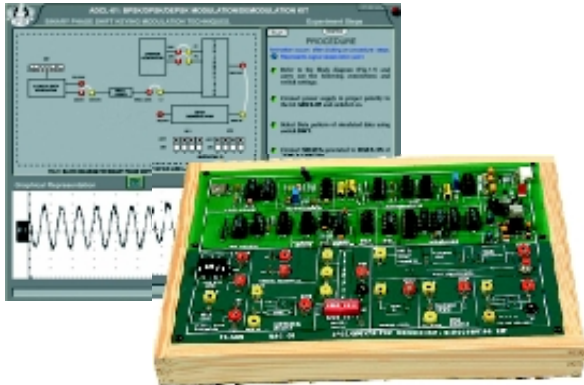


### ACCESSORIES:

| | | |
|---|---|---|
| Red Short Links | : | 12 Nos. |
| Crocodile Links | : | 02 Nos. |
| Experimental Manual | : | 01 No. |
| Circuit Description Manual | : | 01 No. |
| Power Supply Single Connector | : | 01 No. |

### OPTIONAL:

**ADCL-04** Baseband Digital Transmission Trainer kit

**e-Manual** Interactive Multimedia Software & Manual

This kit is designed to provide knowledge of advance digital modulation techniques like BPSK, DPSK & DEPSK .

### FEATURES:

- On-board synchronized Sine Wave Signal Generator with two different phases
- On-board Data Generator
- Differential encoding
- BPSK, DPSK, DEPSK modulation / demodulation
- Bandwidth efficiency
- Switch faults
- Provision for interfacing baseband modulation trainer kit (Optional) for noise effect in constellation diagram

### TECHNICAL SPECIFICATIONS:

**Data Simulator:** On board 8 bit variable NRZ-L pattern.

**Clock Frequency:** 250KHz

**Data Format (coding):** Differential Encoding

**On Board Carrier Sine Waves:** 500KHz(0 deg.), 500KHz(180 deg.).

**Carrier Modulation:** BPSK, DPSK, DEPSK.

**Switch Faults:** 8 Switch Faults are provided on board to study different effects on circuit.

**Interconnection:** 2 mm Banana Socket.

**Test Points:** 28 Test points are provided to observe various intermediate signals.

**Power Supply:** GND, +5V, +12V, -12V.

### LIST OF EXPERIMENTS:

- Principles of Advance Digital Modulation techniques.
- Differential Encoding of Data.
- Binary Phase Shift Keying Modulation / Demodulation technique.
- Differential Phase Shift Keying Modulation / Demodulation technique.
- Differentially Encoded Phase Shift Keying Modulation / Demodulation technique.
- Effect of Switch Faults.
- Observation of noise effect in constellation diagram (Optional)