

## ACT-05 TDM Pulse Code Demodulation Trainer Kit



**ACT-XX** is a Digital Communication Trainer System to understand various digital Modulation and Demodulation Techniques. Various functional block diagrams are provided on-board for Teaching/Training. This Kit provides with various Test Points to visualize the signals on Oscilloscopes.

### Features

- Single Channel Serial Input
- Pulse Code Demodulation
- On-board 4th order Butter-worth Low pass filter with cut off frequency of 3.4khz
- On-board PLL Technique for regeneration.
- Error Check code option (None, Even, Odd, Hamming)
- None, Even, Odd, Hamming Parity selections
- Pseudo random sync. code generation
- In-Built Power Supply

### Specifications

- **Input Channels**
  - ✓ 2 Channel Time Division Multiplexed Pulse Code Modulation Receiver.
- **Mode of Operation**
  - ✓ Fast (240 KHz/Channel approx)
  - ✓ Slow (1Hz./Channel approx.)
- **On-board features**
  - ✓ Pseudo random sync. Code generator for FRAME Synchronization.

Note : Specifications can be altered without notice in our constant efforts for improvement.

### ● On-board features

- ✓ Pseudo random sync. Code generator for FRAME Synchronization.
- ✓ Receiver clock generation using PLL
- ✓ Error Detection of None, Even, Odd, Hamming
- ✓ Error Correction using Hamming Code technique
- ✓ None, Even, Odd, Hamming Parity selections
- ✓ Two Nos. of 4<sup>th</sup> order Butterworth Low pass filter with cut off frequency of 3.4 KHz.
- ✓ Four Switched Faults for Fault Selection
- ✓ Block Description Screen printed on glassy epoxy PCB

### ● Interconnections

- ✓ All interconnections are made using 2mm banana Patch cords.
- Test points are provided to analyze signals at various points.
- All ICs are mounted on IC Sockets.
- Bare board Tested Glass Epoxy SMOBC PCB is used.
- In-Built Power Supply of +5V/1.5A, ±12V/250mA with Power ON indication
- Attractive ABS Plastic enclosures
- Set of 2mm Patch cords for interconnections
- User's Manual with sample experimental programs

### LIST OF EXPERIMENTS

- ✓ Study of Pulse Code Demodulation.
- ✓ Study of Error Check Code Logic:
  - None Parity Coding.
  - Odd Parity Coding
  - Even Parity Coding
  - Hamming Coding
- ✓ Study of Synchronization techniques using PLL.
- ✓ Study of effect of faults in Modulation & Demodulation Techniques.