

ADCT-07

DPCM/ADPCM MODULATION & DEMODULATION TRAINER



ADCT-XX is an Advance Digital Communication Trainer System that helps one understand various Digital Modulation and Demodulation Techniques. Various functional block diagrams are provided on-board as an aid for Teaching/Training. These Kits are provided with various Test Points to visualize the signals on Oscilloscopes.

Features

- ❖ Receiver Clock generated by PLL method
- ❖ Demodulation is done using PLL and Envelop Detector Method
- ❖ Switch faults are provided to study its effects on circuits
- ❖ Block Description screen printed on PCB
- ❖ In-Built Power Supply

Specifications

● Sine Wave Generator

- Provides Sine waveform output using IC 74164.
- Frequency of Sine wave is 500 Hz with variable Amplitude of max.0-4Vp-p

● Data Clock Generator

- Jumper selectable clock with amplitude of 5V.
- Clock of frequencies 64 KHz, 128 KHz, 256 KHz and 512KHz.

● Sampling Clock

- Sampling Clock is generated using IC 4016.
- Sampling Clock Frequency of 16 KHz and Amplitude of 5V.

● On-board Block features

- DPCM modulation using sampler, quantizer and linear predictor.
- Onboard Buffer is provided using Lf353.
- DPCM demodulation using linear predictor, Integrator and Low pass Filter.
- On-board Low pass filter using TI084.
- 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/150mA, ±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

- To study DPCM modulation and Demodulation.
- To study ADPCM modulation and Demodulation.
- To study Quantization Error.
- To study voice communication for DPCM/ADPCM (Optional).
- To study Effect of Switch faults.

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