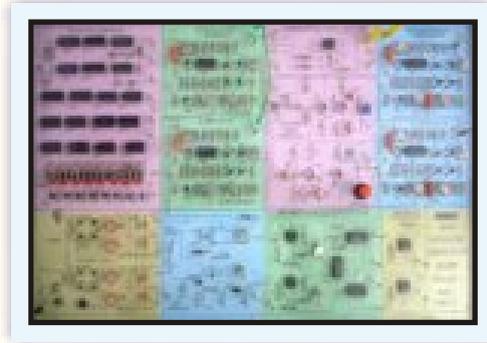




# QUADRATURE PHASE SHIFT KEYING MODULATION/DEMODULATION TRAINER

MODEL - COM117K

This trainer has been designed with a view to provide practical/experimental knowledge of Quadrature shift keying (QPSK) Modulation / Demodulation on Single PCB.



## SPECIFICATIONS

1. Power supply requirement : 230V AC, 50 Hz.
2. On Board Modulating Digital Data signal generator to generate any binary input word with Bit clock & Word clock.  
Word Length : 8 Bits.  
Word Clock Frequency : 10 KHz  
Data Format : NRZ, Even Bits I and Odd bits Q signals.
3. On Board synchronized RF Carrier : 1.28 MHz - Sine & Cosine.
4. Modulator Type : Using two Balanced Modulators with two PSK and adder
5. Demodulator Type : Balanced Modulator detectors.
6. Carrier and Bit Clock Recovery : By PLL
7. Decision Threshold : Comparator
8. All parts are soldered on single PCB of Size 15" x 123" with complete circuit diagram Screen-printed in Multicolor.
9. Standard Accessories : 1. A Training Manual

## EXPERIMENTS

1. To study theory of QPSK Modulation & Demodulation.
2. To generate QPSK signal and demodulate it in physical channel.
3. To observe QPSK waveform on CRO.
4. To observe spectrum of QPSK on spectrum analyser.
5. To determine essential bandwidth
6. To analyse reception quality by cross co-relation characteristics and measure bit error rate in presence of channel noise by Matlab Simulation.

In keeping view of SIGMA policy of continuous development and improvement, the Specifications may be changed without prior notice or obligation.

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