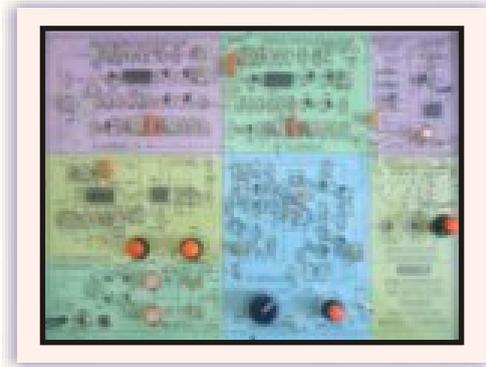# SIGMA

DSB-SC AMPLITUDE MODULATION/ DEMODULATION SYSTEM TRAINER

MODEL - COM102

This trainer has been designed with a view to provide practical & experimental knowledge of Double sideband suppressed carrier Amplitude Modulation/ Demodulation technique on a SINGLE P.C.B of size 14 "x 11".

SPECIFICATIONS

1. Power supply requirement   :   230V AC, 50 Hz.
2. Built in IC based power supply.
3. On Board AF Modulating signal generator - Sine wave
    Frequency Range   :   300Hz to 3.4 KHz
    Amplitude   :   0 to 5 Vpp.
4. On Board RF carrier signal generator.
    Frequency Range   :   150 KHz to 1 MHz.
    Amplitude   :   0 to 10 Vpp.
5. On Board variable DC power supply to see the effect of DC on the
    Output waveform   :   5 to + 5 VDC
6. On Board Input Audio amplifier with Volume control for modulating external signal from Mike or Tape recorder.
7. On Board Output Audio amplifier with speaker & Volume Control.
8. On Board Band Pass Filter (452-458 KHz).
9. Modulator Type   :   Balanced modulator.
10. Demodulator Type   :   Product detector with Low pass filter.
11. All parts are soldered on single PCB of size 14" x11"with complete circuit diagram screen printed.
12. Standard Accessories   :   1. A Training Manual.
                                            2. Connecting Patch cords.

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

EXPERIMENTS

1. To generate AM signal using Double Balanced Modulator.
2. To measure modulation index of AM signal.
3. To see the effect of DC signal on modulation.
4. To generate Voice signal AM modulation and demodulation using mike.
5. To demodulate AM signal using Diode detector (Envelope detector) and to see the effect of different RC time constant on demodulated output i.e. Diagonal clipping and negative clipping.
6. To demodulate AM signal using Square law demodulation.
7. To generate DSB-SC AM signal.
8. To demodulate DSB-SC signal using Product detector.
9. To generate Single side band suppressed carrier AM modulation.
10. To demodulate SSB-SC signal using Product detector (i.e. coherent detection).
11. To see the effect on AM modulated output by varying the amplitude and frequency of modulating signal.