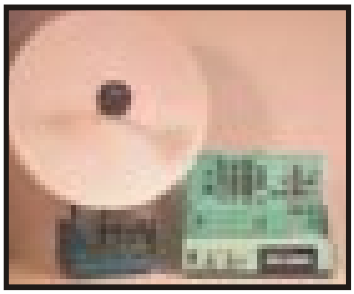
# ‘SIGMA’

## RADAR TRAINER

## MODEL - RADAR100

The Pulse Radar Trainer offers realistic training in radar techniques at low cost. The Trainer provides basic techniques in radar ranging, as well as in secondary IFF radar. The radar tracks three or more electronic targets whose range and speed of movement is simulated while its Azimuth is real. The computer screen provides both a sector scan and an A scan. The training equipment interfaces with a computer to provide computer-aided diagnostic training. The computer screen is Windows-based and the software contains an electronic system diagnostic section for troubleshooting. Approximately 100 hours of instructions.



## SPECIFICATIONS

1. The Radar Control Panel, size 11.25 x 14 inches, is painted on one side and has a green mask screen on the PCB side.
2. Stepper Motor Control Panel sets the speed of scanning.
3. Dish Antenna with 4 degrees of beamwidth.
4. Radiated infrared beam provides target range of approximately 8 to 10 feet (may vary).
5. Three electronic targets radiated on 10.5 GHz.
7. Target images identifiable as Targets 1, 2, and 3.Target Horn 8 dB flare design provides fan-shaped pattern.
8. Target radiated effective power: 50 mW.
   Target trigger at 14 KHz.
   Target identification by pulse beamwidth.
   Target serves as secondary IFF radar.
   Target range: 0.25 miles/Km up to 16 miles.
   Target speeds: 0-960 miles (1544 Km) per hour.
9. Switchable speeds of 120, 240, 480, and 960 miles per hour (194-1540 Km/hr).
10. Sector scan 0-8 or 0-16 miles (25.8 Km).
    A scan 0-16 miles (25.8 Km).
    90° scanning.
11. Three simulated targets on the Control Panel.
12. Controllable clutter.
13. Simulated altitude and landing approach to 33,000 feet/10,000 meters.
14. System enables troubleshooting of the control system down to the chip level.
15. Malfunction switches are provided for fault insertion.
16. Dish scan rate: 3-5 RPM.

**LABORATORY MANUAL**

The following list of topics indicates the scope of material and experimentation provided by this course.

PART 1: RADAR RANGE MEASUREMENTS

1. Radar: An Overview
2. Electromechanical Devices
3. Radar Antennas and Lines

PART 2: ELECTROMECHANICAL EQUIPMENT

4. Electric Generators
5. Electric Motors
6. Synchros and Synchro Controls
7. Servo Control Devices and Systems
8. Stepper Motors and Drive Circuits

PART 3: RADAR SYSTEMS

9. Introduction to the Experimental Radar System
10. Radar Display Circuits
11. Radar Transmitters and Receivers