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Product Name :	**Product Code :**
Doppler Radar Training System for Vocational Training and Didactic Labs	RADAR-002-B

Description :

Doppler Radar Training System Equipment for Education, Engineering and Vocational Training - - Doppler Radar Training System, Radar Training System - Digital Radar
Training System has been designed with simulated experiments on hardware interfaced with software on PC. Experimenting with the trainer include different types of fixed and moving objects, object counters, analysis of signals on CRO or Windows based software, test points etc.

Doppler Radar Training System Features:

Features:

Demonstrates the principle of Doppler shift of reflected electro magnetic wave from a moving object

Speed, rotation, event counting, level control, contact less vibration measurement

Observation and measurements with software

Microwave X band operation

High gain Parabolic antenna provided for narrow beamwidth and clutter reduction.

PC based oscilloscope provided

FFT with cursor measurement

Technical Specifications

Microwave Transceiver:

Type : MMIC tranciever with parabolic dish antenna.

Antenna Size : 25cm dia with f/d 0.25

Frequency : 10.3 GHz DRO stabilized

Output Level : 0 dBm typical

Sensitivity : -70dBm typical

Output : PC Compatible

Power Supply : 100-240V, 47-63 Hz

Software:

Display : Responsive real-time up to 50 fps refresh

Mode : Single trace, dual trace, and XY (Lissajous)

Bandwidth : 10 Hz - 20 kHz, AC coupling

Timebase : 10 us - 5 s

ADC : 8-bit and 16-bit acquisition

Sampling : 11 kHz to 44 kHz rate

FFT : amplitude and/or phase System

PC required : 300 MHz or faster PC, 64MB RAM, 1MB of disk space, Windows® XP, sound card,(Not supplied)

Data export : Raw data export as WAV file

Screenshot : Saved in BMP and EMF formats

Visible trace : can be saved as text file

Function : Copy-paste for screenshots or data Files - Printing,

Triggering : Adjustable trigger level, slope, and delay

Pretrigger : View - Single shot triggering mode

Measure : On screen - Two cursors set by left and right click -
Voltage and time difference readout - Direct frequency readout

Accessories : Tuning Fork, Buzzer, Turbine Fan, Pendulum

Moving Target Emulator & Radar jammer:

Range : 0 to 1000km/hr

Random Noise Jammer

E-Manual: Installation Video for ease of Learning

Dimensions: 56X41X18 cms. Weight: 6 kg.

List of experiments:

To investigate the fundamental concepts of Doppler radar.

To setup radar and tune it for best performance.

To measure speed of a fan.

To detect the presence of a hidden Time Bomb with the help of a Doppler radar.

To find out the Time period and frequency of a moving Pendulum for different lengths.

To actuate the opening of a door, Traffic signal, Intrusion alarm etc. with the help of a radar.

To measure the units of items being produced in an assembly line production unit.

To determine the presence of moving plasma from one electrode to other in a Tube light.

To detect the presence of transformer hum and find its frequency.

To measure the variable speeds of moving objects using Velocity simulator.

Calibration of Doppler radar using tuning fork.

To study the reflective, absorptive and transmissive properties of materials using radar and velocity simulator.

To find the speed of a moving object with Doppler radar from different angles.

To find the speed of a moving object approaching or receding away from radar from different-different angles

To estimate the size of a moving objects using Radar

To measure the distance traveled using Radar.

To find out the presence of a Pedestrian and manage Traffic till he walks away.

To find out the presence of an aero plane with the rotation of the turbine of its engine as used by Air Force.

To study the use of radar in detecting respiration and heart beating.

Study of climatic conditions of atmosphere cyclones, Clouds, tornado using a Doppler radar.

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