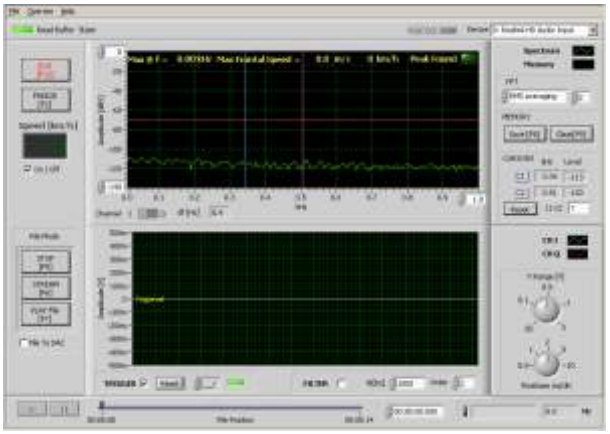

Features:

* Demonstrates the principle of Doppler shift of reflected electro magnetic wave from a moving object
* Speed, rotation, level control, contact less vibration measurement
* Observation and measurements with software
* Microwave 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 transciever with parabolic dish antenna
- Antenna Size : 25cm dia with f/d 0.25
- Frequency : Microwave 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
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	: Windows® 7 or 8 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

Note: Specifications are subject to change.

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

Radar Jammer cum Moving Target Emulator:

Range : 0 to 1000km/hr

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 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

Accessories

* Tuning Fork, Buzzer, Turbine Fan, Pendulum

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