

Exercise 2:

Aim: Showing moving targets on the radar screen and estimating of antenna's beam width.

Procedure: Connect the parabolic antenna to the Didactical Primary Radar; be sure that the Power line and the USB-line are connected and then start the program Didactical Primary Radar. The antenna should be orientated through the window using a slightly decreased tilt.

<u>Settings:</u> (in Modulator Setup):	Pulse modulation:	On
	PRF:	≈25 Hz
	Pulse length:	390 ns
(in Processor Setup):	MTI:	On
	Doppler:	On
	Doppler Bins 0...7:	On (all)

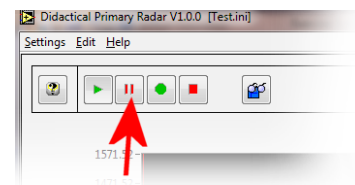
All other settings in the Synoptic panel may be in default position.

Switch the Transmitter Power ON.

Set the threshold level (black color) and the clipping level (white color) of the B-scope according the measured voltages in A-scope. Adjust the range scale from zero to 200 meters.

Observe the pedestrians, bicycles and cars on the street and on the place between the stairs and the street. Correct the direction of the radar antenna that must point directly on the street. Adjust the threshold and the clipping level of the B-scope so that there is a clear picture with significant echo signals from moving targets.

If you have received a significant scenery e.g. with a car and some pedestrians then you can stop the program with the Pause Button. Now you can change all parameters of the scope to show the different targets without being under time pressure.



Why you cannot change transmitter parameters like the pulse length in the paused time?

Please try to estimate the width of the antenna pattern by assign an echo signal to a significant pedestrian. How many meters of his path are represented by the radar?

Write down this value:m

This value will later used to compare the beamwidth of the parabolic antenna with the beamwidth of the patch antenna.