



MUZZLE VELOCITY RADAR SYSTEM(MVRS)



Radar system for measuring projectile muzzle velocity (MVRS) is primarily intended for precise measuring of the velocity of 155 mm NORA B52 and 122 mm SOKO self-propelled weapon projectiles, but it can also be applied to other self-propelled or towed artillery weapons. The MVRS may be integrated into the weapon or placed on a tripod.

The velocity is calculated by applying the digital signal processing. The muzzle velocity of all types of calibers and ammunition is measured in the range from 40 to 1500 m/s.

Main technical characteristics:

- MVRS acquires, tracks, and measures the projectile velocities within the range from 40 to 1500 m/s which enables a precise identification (in accordance with the defined tolerances) of the projectile muzzle velocity.
- The stated range is applicable under the following conditions: one target observation, detection probability $P_d = 0.9$, false alarm probability $P_{fa} = 10E-6$, standard atmosphere, with appropriately adjusted triggering threshold, without precipitation and without signal interference. In case of precipitation of 4 mm/h, the said range is reduced by 25%.
- MVRS operates in automatic mode which means that

there is no additional load on the operators after the activation of the system.

- The possibility of measuring with a cadence of max 20 projectiles/min with on line display on the console. With off line processing one can accomplish fire in bursts with the speed of 1000 projectiles/min, noting that the maximum duration of data acquisition is 15 s.
- The possibility of memorizing data for up to 1000 different types of projectiles, charges, barrels, etc.
- The possibility of memorizing up to 1000 velocity measuring results,
- Complete autodiagnosics of the MVRS hardware during the system activation
- The possibility of operation in all meteorological conditions day and night
- Module principle and external mounting enable the integration in any weapon, tank, or combat vehicle, or its mounting onto a tripod.

