

Tactical Muzzle Velocity Radars



WHY A MUZZLE VELOCITY RADAR?

Many parameters, such as temperature, humidity and barrel conditions influence a round's muzzle velocity. It is pivotal to compensate for these parameters and improve accuracy by adjusting individual gun settings according to precise measured muzzle velocity.

When added to your weapon system, the MVRS-700 offers:

- Mission completed with a minimum number of rounds.
- Corrected gun aim and succeeding rounds fired before the first round impacts.
- Minimum logistic requirements.
- Cost-effective operation.

There are more than 3,500 Weibel MVRS radars in service in more than 20 countries.

MEET THE MVRS-700 FAMILY

First introduced in 1988, the MVRS-700 family makes extensive use of state of the art electronic technologies. The radar systems consist of an antenna with an integrated processor and an optional display unit placed near the gunner or battery coordinator. The antenna unit contains all necessary electronics and an acoustic trigger. Its trigger and Doppler signals are digitized by the processor unit and stored for digital analysis immediately after recording. The result is visible on the display unit less than 2 seconds after fire, and the result can be submitted simultaneously to a fire control computer. MVRS-700 comes with an optional self-calibration feature.

The unique technology, invented by Weibel, has the following advantages:

- No need for calibration in entire system life cycle
- Reduced maintenance cost
- Reduced logistics cost
- No need to take the weapon system out of service for radar calibration

KEY FEATURES

- The robust and lightweight system consists of a single unit designed to be mounted on tanks, mortars, artillery and gun systems
- Calculates muzzle velocity using Fast Fourier Transform (FFT) and digital signal processing, applicable for all ammunition types and calibers
- Advanced trigger detection ensures correct operation even with several weapons fired simultaneously
- Velocity range from 30 to 3,000 m/s. Bursts up to 10,000 rounds/minute
- Self-calibration feature obviates calibration in the entire system life cycle (optional)
- Unique motion compensation feature enables the system to measure and compensate for the actual gun jump (optional)

UTILITY

The system can measure velocities on all types of ammunition and calibers, including:

- Conventional and base bleed artillery
- Mortar bombs
- Tracer
- Anti-tank and APFSDS
- Rockets and flechets
- Burst rounds
- High drag practice rounds

EXTENDED FEATURES

- Up to 12 transmitting frequencies (optional)
- Transmission only during measurement and advanced jamming protection (optional)
- Measuring accuracy for each round based on actual measured data (optional)
- Muzzle velocity estimator, enabling automatic identification and rejection of inaccurate measurements
- Variable transmitting frequencies (optional)
- Qualified according to NATO STANAG 4114
- Accuracy is better than $\pm 0.05\%$
- Precision is better than $\pm 0.1\%$
- Stores up to 1,000 muzzle velocity results in the non-volatile memory
- Advanced muzzle velocity management system for more than 500 different combinations
- Possible to update via external interface from a computer without opening the system box, allowing Weibel to update the system to your specific requirements.
- Can be supplemented with a separate D-700 ruggedized display for manual corrections if no FCS is present, or an existing FCS breaks down.



For naval guns



For heavy mortars



For towed and SP artillery