



# NAVIGATION AND POINTING SYSTEM NAPOS

## General

Based on years of accumulated experience in designing and supplying battlefield-proven military applications, Astronautics presents its high-quality and cost-effective solutions for Land forces.

- ❖ Accurate Navigation Systems for all kinds of Transport and Armored vehicles
- ❖ State-of-the-art Navigation and Aiming Systems for Mortars, MLRS, Self-Propelled guns, and towed guns
- ❖ Modern Digital Fire Control Systems for Artillery
- ❖ Superior Navigation and Target Acquisition Systems for Artillery



## Astronautics' NAPOS

Recognizing the severe operational restrictions placed on modern artillery by traditional survey and deployment methods, Astronautics has developed the Navigation And Pointing System.

(NAPOS) to provide a highly adaptive solution for Mortars, Multiple-Launch Rocket Systems (MLRS), Self-Propelled, and Towed guns.

The NAPOS enables autonomous gun Navigation and Pointing and provides ballistic computation capabilities to enhance weapon operation.

The system's ability to perform rapid changes of position and its high responsiveness enables the crew to **Shoot-and-Scoot** and thus gain the force-multiplier advantage that is essential to the modern battlefield.

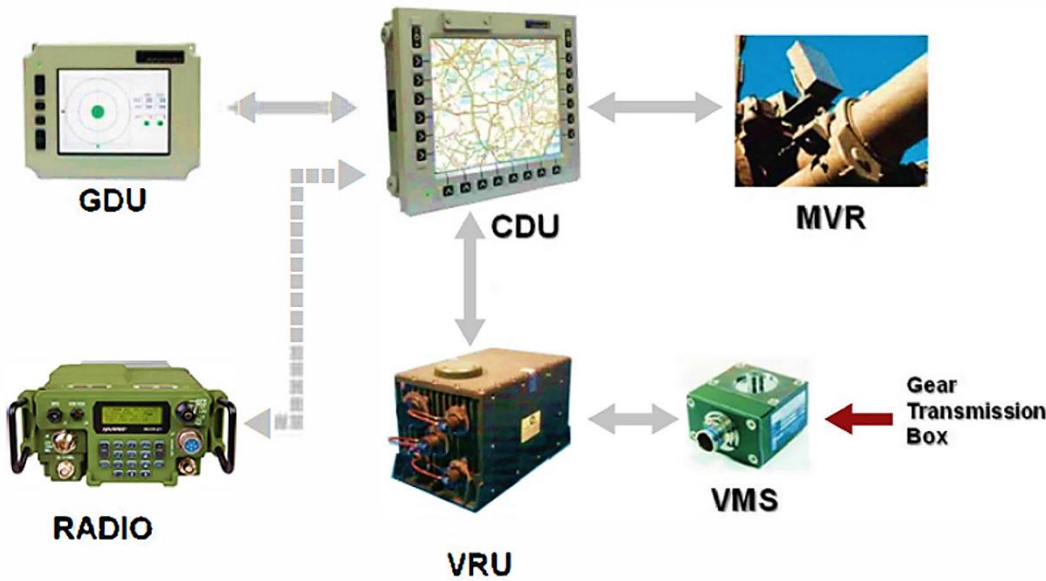
## The NAPOS consists of the following main elements:

- ❖ Vehicle Reference Unit (VRU)- INS, based on three-axis Monolithic Ring Laser Gyro (MRLG) (embedded GPS - optional)
- ❖ Commander's Control and Display Unit (CDU)
- ❖ Gunner's Display Unit (GDU)
- ❖ Driver Display Unit (DDU) - Optional
- ❖ Muzzle Velocity Radar (MVR)- Optional
- ❖ Vehicle Motion Sensor (VMS)

FOR MORE INFORMATION ON THIS OR ANY OF OUR OTHER PRODUCTS/SYSTEMS PLEASE CONTACT:  
ASTRONAUTICS C.A LTD., 16<sup>TH</sup> MARTIN GHIEL ST., PETAH-TIKVA 4951207, ISRAEL

Phone: +972-3-9251555, Fax: +972-3-9251550, email: [astro@astro.co.il](mailto:astro@astro.co.il) or visit our website: [www.astronautics.co.il](http://www.astronautics.co.il)

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**M109 Howitzer**



**GDSBS 155/52**



**L118/L119 105mm  
Light Gun**



**GHN - 45A1**



**LG1 - 105mm**



**120mm Mortar**

## MAIN COMPONENTS DESCRIPTION

- **Inertial Navigation Sensor (INS)**

The INS is a fully integrated inertial navigation unit with an embedded GPS receiver. The INS is installed on the elevating mass of the Gun/Mortar/MLRS and provides a continuous high-precision output of the position and attitude of the weapon.

- **Commander's Control and Display Unit (CDU)**

The CDU is provided for use by the Gun's Commander or the Gunner if the system doesn't include GDU.

The CDU includes a powerful processor that provides overall control, management, and fire control computation within the system.

The CDU includes a sunlight-readable display and performs all system-level management and processing tasks within the NAPOS.

The various functions can be defined as Commander MMI, overall system mode control and management (INS, Gunner Display, Driver Display, Radio, and other optional units), graphic display generation, and onboard technical fire control.

Per customer request, 2D/3D map layers can be incorporated for navigation and control purposes.

- **Gunner's Display Unit (GDU)**

The GDU is provided to the Gunner to accurately point the gun/mortar/MLRS in a very short time to the required attitude.

- **Vehicle Motion Sensor (VMS)**

The VMS provides a continuous independent measurement of wheel or track speed to the INS during vehicle movement for optimal system performance.

- **Power Control Unit (PCU)**

The PCU filters the vehicle power per MIL-STD 1275 and provides the filtered or backup battery power to the NAPOS equipment.

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