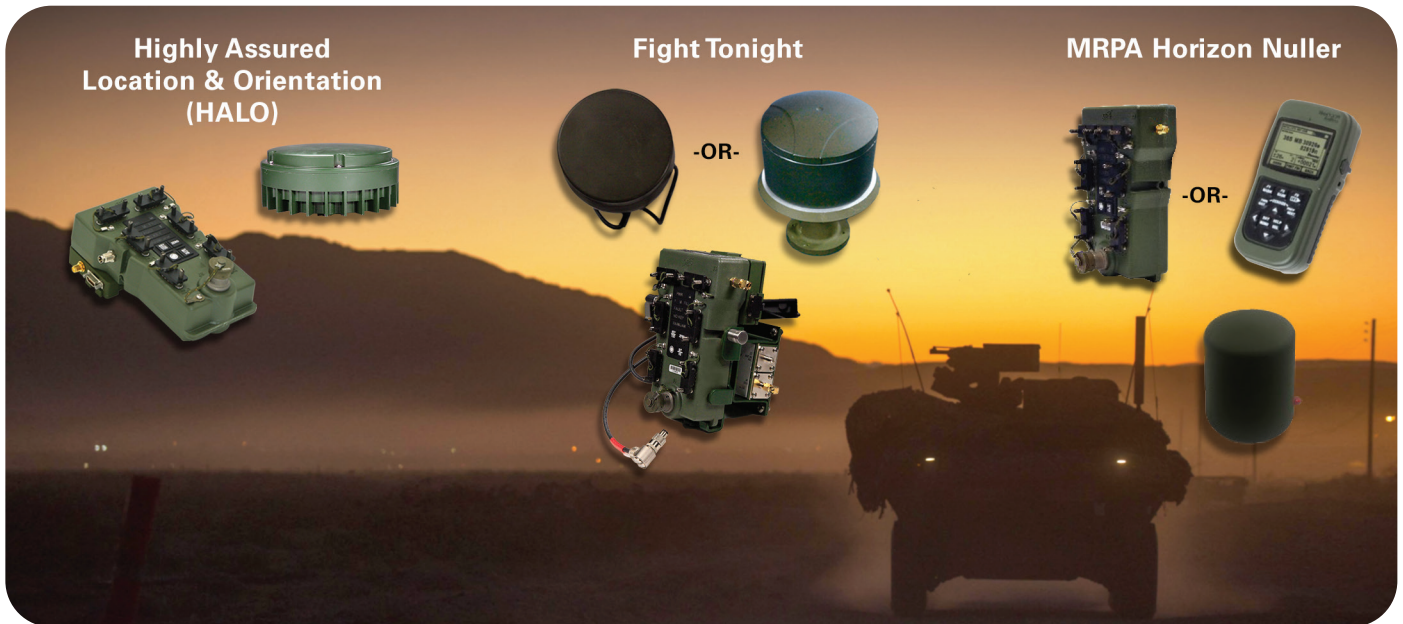


Family of Assured PNT Solutions for GPS Challenged & Denied Environments

Ensuring Mission Effectiveness Across the Ground Vehicle Fleet



Highly Assured Location & Orientation (HALO)

Fight Tonight

MRPA Horizon Nuller

Ensures Mission Effectiveness in GPS Challenged & Denied Environments

Scalable and affordable Assured PNT for bulk of ground vehicle fleet

Tiered product strategy addresses Army operational threat conditions for Assured PNT

All solutions are M-code capable

20-Minute Drop-in replacement of existing hardware using existing cabling & mounts

Production ready by end of 2023 or already fielded

Overview

The Army tactical ground vehicle fleet consists of approximately 150,000 total vehicles. Most of these vehicles and their associated missions are dependent on GPS-based positioning, navigation, and timing (PNT) data. Current threat documentation shows U.S. adversaries have a substantial ability to affect GPS reception and trusted service, even when the Army is using current technology (SAASM based GPS and RA-2 FRPA GPS Antenna). The Army has fielded or has plans to field Assured PNT capabilities to only 13 percent (20,000 vehicles) of its tactical ground vehicle fleet due to a variety of cost and technological factors.

GPS Source, the first to field a Mounted Assured PNT system for the Army, has developed a family of Assured PNT solutions for GPS challenged and denied environments for the entire tactical ground vehicle fleet. This family of products is based on DoD and Army defined threat conditions and are scalable, low-cost and easy to install solutions for the great majority of the Army tactical ground vehicle fleet. Both the Fight Tonight solution and the MRPA Horizon Nuller are available today and in use by either U.S. Army units or friendly forces. The HALO Assured PNT System, which provides Assured PNT capability in GPS-denied environments, will be production ready by the end of 2023. All three solutions are drop-in replacements for existing hardware and can be installed at the unit level.

Family of Assured PNT Solutions for GPS Challenged & Denied Environments

Scalable, Low-Cost, Easy to Install Solutions for 90% of the Army Tactical Ground Vehicle Fleet

Degraded by Adversarial Jamming and Spoofing

Condition 3

Tier 1: Jamming and ET/CET increase to eventually deny GPS. Access to trusted non-GPS PNT to platform and clients in useable format enables continued military operations.

AJAS and non-GPS PNT (AltNav, GNSS, Inertial Sensors, CSAC, and others as tech evolves). PNT logic with open standards architecture to maintain access and trust. (IS-GPS-153/MSID/VICTORY)

Condition 2

Tier 2: Jamming increases and ET is active. A secure GPS Receiver with an AJAS enables continued military operations.

AJ antenna with AS from MGUE card. Open architecture allows adding options. (IS-GPS-153/MSID/VICTORY)

Condition 1

Tier 3: Some jamming. Any secure GPS Receiver will provide Assured PNT in this moderate threat environment.

Ease of integration of any M-code Receiver card. Horizon nulling capability. Distribution to client systems. (IS-GPS-153/MSID)

GPS Source Solutions

HALO

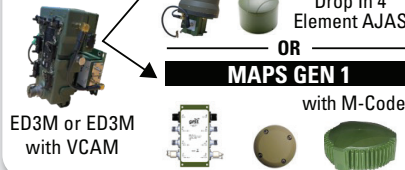


ED3M/VCAM

HALO LRU

HALO
Performance data available from government-run test events using real-world operational threat data. Production ready 2023.

FIGHT TONIGHT



ED3M or ED3M with VCAM

MAPS GEN 1

with M-Code

Availability

FIGHT TONIGHT
Available now. In use in INDOPACOM.
MAPS GEN 1
Available now. 2,000 vehicles in CONUS, INDOPACOM and USAREUR

MRPA HORIZON NULLER



ED3M With M-code card

DAGR

MRPA Antenna

MRPA
Available now. In use in Eastern Europe.

Scalable, Cost Effective Solutions to Meet Threat

Our solutions provide capability in threat conditions derived from DoDI 4650.08 and U.S. Army APNT ICD and MAPS CDD. Each solution is a "drop-in" for DAGR/RA2 systems and available in 2023.

GENERAL DYNAMICS

Mission Systems

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D-GPSS-AssuredPNTFam-01-0323
PRI-2303-0008