

MAPS GEN-1

Assured Positioning, Navigation & Timing (APNT) System



Continuously distributes assured
PNT data to vehicle end-point devices

Uses Ethernet and serial protocols

Acts independent of GPS signal availability

Designed to accept additional input from
an anti-jam antenna for increased PNT
assurance capability and redundancy

Available with E-FLO-G for developers and international solutions

Currently available for purchase via CHS
(Common Hardware Systems)

Based on the COTS SENTRYSCOUT™ system

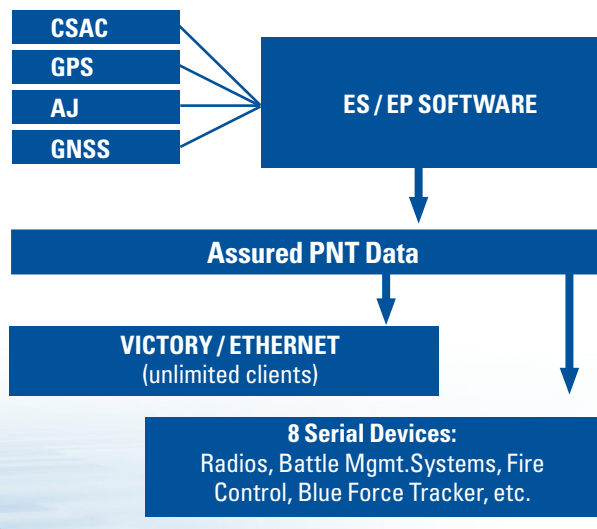
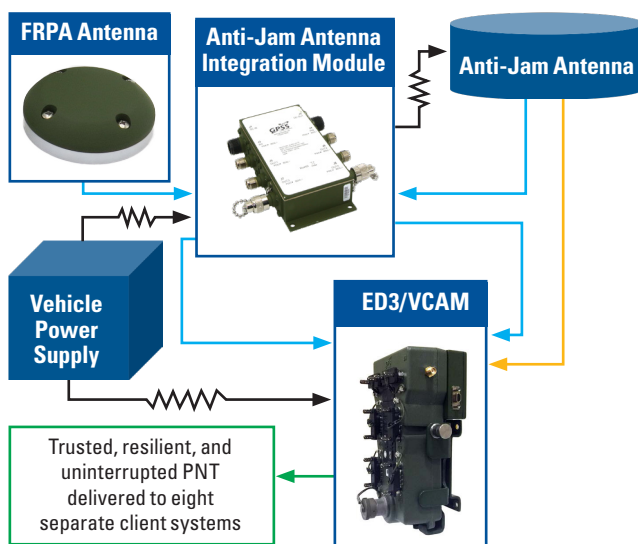
Contact GPS Source for product availability and recommendations

Description

The MAPS GEN-1 Assured Positioning, Navigation & Timing (APNT) System provides trusted and validated positioning, navigation and timing data, independent of the availability or integrity of GPS signals.

MAPS-GEN-1 creates and disseminates IS-GPS-153 messages, including when GPS is denied or unreliable, conveying data via Ethernet and serial clients. MAPS GEN-1 continuously distributes valid PNT data to all vehicle clients using Ethernet (VICTORY) and serial protocols.

MAPS GEN-1 Install Diagram



MAPS-GEN 1

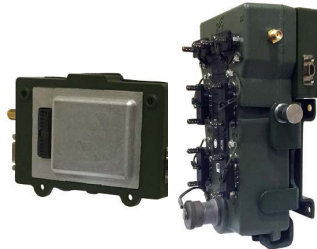
ED3 - Enhanced D3



ED3 is a COTS PNT hub providing **SAASM or M-Code** protected GPS data that is depot level upgradeable from SAASM to M-Code. ED3 with VCAM installed retains 100% compatibility with all standard DAGR mount accessories and occupies the same footprint as the DAGR.

- **J1**
 - Key fill/COM3 port (replicates DAGR J1)
- **J2**
 - Configuration Utility/Diagnostics Port
- **J2 - X**
 - Each of the 4 ports independently replicate DAGR J2 (supports up to 8 individual clients).
 - Each port distributes independent IS-GPS-153 and MSID messages via COM1 (RS232) and COM2 (configurable RS232 or RS422); PPS (1PPS UTC, 10PPS UTC & T-Mark); HAVEQUICK.
 - Supports clients such as Tactical radios, FBCB2/BFT, Laptop/Falconview, MRT's, etc.
- **J3**
 - AJ or FRPA Antenna - Enhanced compatibility with AJ antennas operating in any mode
- **J4**
 - 28VDC Switched Vehicle Power (required)
 - 28VDC Auxiliary Backup Power (optional)

Victory CSAC Accessory Module (VCAM)



- **Internal CSAC (Chip Scale Atomic Clock)** for resilient time capability, provides precise time to within 100 ns of UTC when GPS available, and within 1 μ s of UTC for up to 8 hours 8 hours in a GPS denied environment
- **Elec. Surveillance / Elec. Protection** capability with Talen-X, Inc. Broadshield™ ES/EP application for detection of threats and validation of GPS data signals
- Designed to operate with FRPA antenna that feeds signal data to dual GNSS receivers, confirming integrity and validity of military GPS signals
- **Ethernet** interface to host platform
 - VICTORY Compliant 10/100/100 Base-T per IEEE 802.3
 - VICTORY Generic End Node -- multiple services provided

FRPA Active Antenna



The FRPA-3EW is a military grade, high performance, wider band GNSS active antenna designed for the demanding high signal levels of the electronic warfare environment. It is small and lightweight, with exceptional protection against the elements.

- **Military and Civilian Applications**
- **Frequency Bands:**
 - GPS Wide Band L1(1559 - 1626.5 MHz), L2
- **Waterproof Mil Spec 810**
- **Small Form Factor**
- **Integrated Resistor for Antenna/Coaxial Cable BIT**
- **Shock/Vibe Mil Spec 810**
- **EMI/EMC Mil Spec 461**

AJAIM (Anti-Jam Antenna Integration Module)



The **AJAIM (Anti-Jam Antenna Integration Module)** is a military qualified, two-input four-output Anti-Jam Antenna System (AJAS) and Fixed Radiation Pattern Antenna (FRPA) integration module. This module enables the RF input to an Assured Position, Navigation & Timing (APNT) system to be switched between an AJ and FRPA. The AJAIM also switches the vehicle battery power to the AJAS depending on the needs of the connected APNT system, thereby creating a low power mode based on using only the FRPA input.

- **Integrates AJAS & FRPA to APNT System**
- **4 GPS/GNSS Output Ports**
- **Classified and Unclassified Enclave Support**
- **Low Power FRPA Mode**
- **Automatic Internal Antenna Port Switch**
- **Supports Antenna BIT via connected APNT**

GENERAL DYNAMICS

Mission Systems

2121 Executive Cir., Ste 100, Colorado Springs, CO 80906
GPSS-Sales@gd-ms.com • www.gpssource.com • Phone: +1-719-421-7300

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