

ED3 US Army Lead Platform for M-Code Integration

Enhanced Defense Advanced Global Positioning System Receiver Distributed Device (Enhanced D3)



One device that replicates four independent AN/PSN-13A (DAGR) receivers, all operating as separate units with unique or different criteria

Supports rapid, LRU level interchangeability between SAASM capable D3 and M-Code capable D3

No Impact to Subscriber Application Software/Hardware

Commercial Off The Shelf (COTS), enabling ease of procurement

Internal, rechargeable supercapacitor, eliminates need for lithium battery

Optimized for SWaP, compatible with all DAGR accessories, including mount

All four COM2 ports are configurable to RS232 or RS422

Seamless Transition from SAASM to M-Code

The Enhanced D3 distributes centralized IS-GPS-153 and MSID messages to up to 8 independent, unique interfaces. It is designed and qualified for the mounted environment. Supported clients include tactical radios, FBCB2/BFT, Laptop/Falconview, MRT's and others. As the newest addition to the family of D3 Devices, the Enhanced D3 can provide SAASM or M-Code protected GPS data.

One Enhanced D3 can perform the function of eight independent Military GPS User Equipment (MGUE's). This eliminates requirements for multiple MGUE's and associated antennas, creating an affordable migration plan from SAASM to M-code receivers, while reducing Size, Weight and Power (SWaP) and system design complexity.

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Key Features

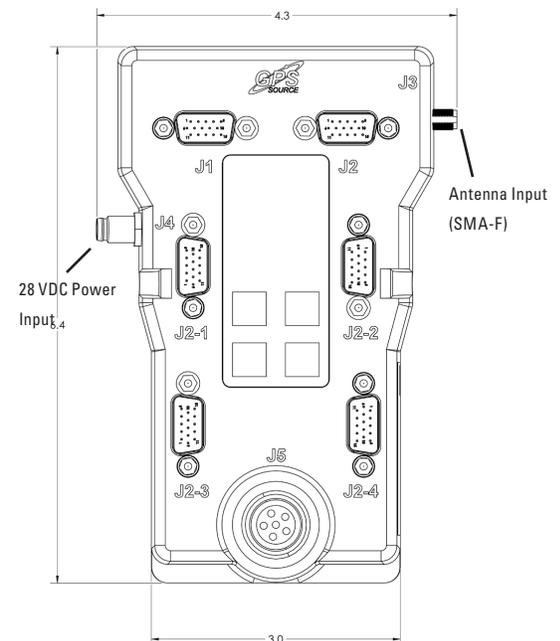
- Offers unique scalability and upgradeability path from SAASM to M-Code using existing vehicle architecture and components, saving time and money
- One SAASM or M-Code card for all vehicle clients
- Will support pseudolites
- Eliminates backup battery requirements
- LRU is depot level upgradeable from SAASM to M-Code
- Enhanced compatibility with anti-jam antennas operating in any mode

Technical Specifications

- **Electrical Input:**
 - 28VDC Operating Input Voltage
 - Range: 9V-32V (1.8W - 6.4W)
 - Antenna Load Current Range: 2-70 mA
- **Current: 200MA max (3W - 8W)**
 - Assumes 250mA Type II GB-GRAM
 - (Numbers may be different depending on configuration)
 - Supports MIL-STD-704G OR MIL-STD-1275D
- **Electrical Output:**
 - Antenna Output Voltage: 3.3V
- **Interfaces:**
 - J2-1, J2-2, J2-3, J2-4 ports support both standard
 - TIA/EIA-232 (COM1) serial data ports and standard
 - TIA/EIA-422 (COM2) serial data ports (COM2 ports can also be TIA/EIA-232)
- **8 Timing Interfaces Available:**
 - 1 PPS input
 - 1 PPS UTC, 1PPS T-Mark and 10 PPS output
 - HAVEQUICK output
 - One SINGARS mode 3 interface
 - DS-101/DS-102 key loading input (SAASM)
 - DS101 only key loading input (M-Code)
- **Dual Frequency:**
 - L1/L2 dual frequency tracking
 - L1 - C/A, P(Y), M*
 - L2 - P(Y), M*

Physical Specifications

- Total Weight: 1 lb.
- Overall Size: 3.74 in x 6.37 in x 1.64 in
- Fits within envelope of DAGR in DAGR Installation Mount
- **Compatibility:**
 - IS-GPS-153, IS-GPS-164, MSID-001
 - NMEA-0183 output
- **Environmental:**
 - Operating Temp: -40 C to +71 C
 - Humidity: 95% Per MIL-STD-810, Method 507.5 Proc. II
 - Vibration: Per MIL-STD-810, Method 514.6, Proc. I
 - Altitude: -400m to 3,048m MSL
- **Crash Safety Shock: 75 g's Per MIL-STD-810G,**
 - Method 516.6, Proc. V
- **Functional Shock: 40 g's Per MIL-STD-810G,**
 - Method 516.6, Proc. I
- **Sand and Dust: Per MIL-STD-810G, Method 510.5,**
 - Proc. I & II



*M-Code only available with an M-Code capable receiver card

Export of GPS Source products may be subject to U.S. Export Controls, U.S. Export license may be required. M-Code available upon GPS Directorate approval of M-Code Receiver cards.

GENERAL DYNAMICS Mission Systems

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