MAGNA-F (NavGuard® 502) is the latest federated, affordable GPS Anti-Jam solution from Mayflower Communications - the technology leader in GPS Anti-Jam for over 30 years. The GPS Anti-Jam system is critical for military operations in GPS contested NAVWAR environments.

MAGNA-F is developed by Mayflower Communications and BAE Systems under sponsorship by the US Navy SPAWAR PEO C4I PMW/A-170 under ONR Rapid Innovation Funding (RIF) program to support GPS protection requirements of SWaP-constrained sea, air and ground platforms e.g., ships, fixed-wing and rotary aircraft, and UAVs as well as tactical vehicles. In addition, MAGNA-F supports transmission/reception of Iridium communications signals, which can be used for Beyond Line of Sight (BLoS) UAV C2 operations and alternate/contingency platform communications.

MAGNA-F leverages proven Small Antenna System (SAS) Anti-Jam solution from Mayflower which has been extensively tested by the Government on multiple ground and air platforms. MAGNA-F is the highest performance and smallest GPS anti-jam federated solution on the market in its class utilizing a 3.5” diameter FRPA footprint compatible antenna outperforming many larger solutions. MAGNA-F has been performance qualification tested and meets Government MAGNA Technical Requirement Document (TRD) performance specification requirements.

MAGNA-F AJ solution offers an affordable SWaP-C alternative over larger and more expensive existing anti-jam systems. It is C/A, SAASM and M-Code compatible.

MAGNA-F is available now to support platform integration and qualification. Please contact us for additional information and pricing.
Multi-Platform Anti-Jam GPS Navigation Antenna (MAGNA-F)
Affordable Low SWaP GPS Anti-Jam and Iridium Solution

High level Features and Benefits
• 5-channel AJ design mitigates large number of spatially located WB/NB jammers *(expandable to 8 channels with software upgrade)*
• Supports transmission/reception of Iridium communications signals
• Robust RF front-end handles high-power co-site signals
• Simultaneous (L1 and L2) GPS protection
• Compatible with any GPS receiver
• Ultra compact, low power, low cost
• Provides greater than 90 dB J/S anti-jam protection

Performance Metrics
• Dynamics: Suitable for very high dynamics applications
• Designed specifically to counter Rotor Blade modulation
• Simultaneous dual frequency (L1 and L2)
• Mitigates multiple CW, partial band, broadband and pulsed jammers even under high dynamics
• Uses multiple element spatial temporal adaptive filtering (STAP)
• Greater than 40 dB of jamming suppression against multiple jammers

Antenna Electronics External Interface:
• DC Power: Amphenol 2M805 Series 3-pin connector
• RS-422 Data I/O: Amphenol 51-Pin micro-DSUB EMI filtered connector
• Dual GPS RF Output Connectors: SMA (Female)

Antenna External Interface:
• Antenna Output Connectors: SMA (Male)
• Iridium Tx/Rx Connector: SMA (Female)
• Built-in-Test (BIT) auto fault detection and logging
• Operating Temperature: -40° C to +85° C
• GPS RF Gain: Adjustable
• Noise Figure: <3.5dB

SWAP Metrics
• Size: AE: 5.73” x 3.0” x 1.264”
  s-CRPA: 3.5” Diameter x 2.0” Height
• Weight: <1.5 lbs (AE)
  <0.5 lbs (s-CRPA)
• Power: 28VDC , <17 Watts

NavGuard® is a registered trademark of Mayflower Communications Company, Inc.
The material in this MAGNA-F Data Sheet has been approved for public release by SPAWAR (SR-2016-237)