

## NavGuard® 700 - Multi-Platform Anti-Jam GPS Navigation Antenna - Federated (MAGNA-F) GPS Anti-Jam Solution

### MAGNA – F (NavGuard™ 700)



**Antenna Electronics**



**Antenna Harness**



**CRPA Antenna**

**Available in multiple Lengths**

MAGNA-F (NavGuard® 700) is the latest federated, affordable GPS Anti-Jam solution from Mayflower Communications - the technology leader in small SWaP GPS Anti-Jam for over 30 years. GPS Anti-Jam systems are critical for military operations in today's GPS contested NAVWAR environments. MAGNA-F AJ system is a TRL 9 and MRL 9 and is proven in successful NAVWAR mission operations. NavGuard® 700 (MAGNA-F) was developed by Mayflower Communications under sponsorship by the US Army PEO Aviation PM Aviation Assured Airspace Access Systems (PM A3S) under the MAGNA Phase III program to support GPS protection requirements of the US Army severely SWaP-constrained Rotary Wing, Fixed Wing, UAS, Ground Tactical Vehicles, and small ships.

**The 7-Channel NavGuard 700® MAGNA-F is the smallest SWaP, Federated GPS Anti-Jam System in the market.** The MAGNA-F uses a connectorized 3.5" diameter CRPA with detachable RF Cable that is a FRPA footprint compatible antenna that outperforms many larger antenna solutions. NavGuard® 700 MAGNA-F has been performance qualification tested and Environmental Tested and meets Government MAGNA Technical Requirement Document (TRD) specification requirements. MAGNA-F leverages operationally proven MAGNA GPS Anti-Jam technologies which are currently integrated on multiple US Military and Government Agency platforms. The MAGNA-F (NavGuard® 700) is operationally proven in a NAVWAR Environment and is TRL 9 and is in full rate production.

*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. The MAGNA-F in its current form factor has been proven in real world Military NAVWAR Operational Environments.*

# Multi-Platform Anti-Jam GPS Navigation Antenna (MAGNA-F)

## Affordable Low SWaP GPS Anti-Jam Solution



### High level Features and Benefits

- 7-channel AJ design mitigates large number of spatially located WB/NB jammers
- Supports BFEA
- Robust RF front-end handles high-power co-site signals
- Simultaneous (L1 and L2) GPS protection
- Compatible with any GPS receiver
- Provides greater than 90 dB J/S anti-jam protection
- Upgradable with Situation Awareness Capabilities: Direction of Arrival (DoA)
- Can be used with any 4 to 8 Element CRPA

### Performance Metrics

- Dynamics: Suitable for very high dynamics applications
- Designed specifically to counter Rotor Blade modulation effects
- Simultaneous dual frequency (L1 and L2)
- Supports any GPS Receiver (C/A, P(Y), M-Code)
- 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: 4-pin Glenair 801-009-02NF6-4PA
- RS-422 Data I/O: 51-pin Glenair GMDE1-51S-RMI-6K7-4SU-MC130
- Dual GPS RF Output Connectors: SMA (Female)

### Antenna External Interface:

- Antenna Output Connectors: SMA (Male)
- (Optional) 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 1.26"  
CRPA: 3.5" Diameter x 1.75" Height
- Weight: 1.45 lbs (AE)  
0.7 lbs (s-CRPA)
- Power: 28VDC, <17 Watts

DoD Part Number	Part Description
190-900028	MAGNA-F EMD AE
190-500028	MAGNA-F EMD Antenna

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