

NavGuard® 720 - Multi-Platform Anti-Jam GPS Navigation Antenna – Integrated (MAGNA-I) GPS Anti-Jam Solution

MAGNA - I (*NavGuard*™ 720)



Top View
4.45" Diameter



Bottom View
Fully Connectorized



Side View
1.95" Height

MAGNA-I (*NavGuard*® 720) is the latest fully integrated, 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-I AJ system is a TRL 8 and MRL 8 and is proven in successful NAVWAR mission operations. *NavGuard*® 720 (MAGNA-I) 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 and UAS platforms. The *NavGuard* 720 is well suited for small ships, UAS's, Rotary Wing, Fixed Wing, and Ground Combat Vehicles. *NavGuard*® 720 MAGNA-I leverages operationally proven MAGNA GPS Anti-Jam solutions which have been integrated by multiple US Military and Government Agency platforms.

The 7-Channel *NavGuard* 720® MAGNA-I is the smallest fully integrated GPS Anti-Jam System in the market. MAGNA-I is a fully connectorized 4.5" diameter CRPA with integrated AJ electronics that is FRPA footprint compatible. The MAGNA-I consistently outperforms many larger antenna solutions. *NavGuard*® 720 MAGNA-I has been performance qualification tested and Environmental Tested and meets Government MAGNA Technical Requirement Document (TRD) specification requirements. The MAGNA-I is a TRL 8 and has been integrated on multiple US Government Platforms and flown in a NAVWAR Environment.

MAGNA-I AJ solution offers an affordable SWaP-C alternative over larger and more expensive existing anti-jam systems. This Anti-Jam system is C/A, SAASM and M-Code compatible. The MAGNA-I in its current form factor has been proven in Military NAVWAR Environments.

Multi-Platform Anti-Jam GPS Navigation Antenna (MAGNA-F) Affordable Low SWaP GPS Anti-Jam and Iridium 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 Direction of Arrival (DoA)
- (Optional) Supports transmission and reception of Iridium communications signals

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:

- VDC Power & Data I/O : 10-Pin Glenair Power-Data I/O Pin-Out
- Single GPS RF Output Connectors: SMA (Male)

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 w/ CRPA: 4.45" Diameter
1.95" Height
- Weight: 14 oz (AE w/ CRPA)
- Power: 28VDC, 17 Watts

DoD Part Number	Part Description
190-900029	MAGNA-I Anti-Jam Antenna Solution

NavGuard® is a registered trademark of Mayflower Communications Company, Inc.

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