GAJT-710MS™

GPS Anti-Jam Technology (GAJT®) for Marine Applications

Jamming and Interference

Jamming and interference, whether intentional or unintentional, can seriously degrade GPS position, navigation and time availability—even to the point of total solution denial. Jammers create excessive noise, overpowering the low power GPS signals and saturating the electronics in a GPS receiver front end. Methods are needed to suppress this interference so your GPS receiver continues to operate and provide reliable positioning.

Low Cost, Small Form Factor

Until now, the high cost and large size of Controlled Reception Pattern Antennas (CRPAs) has had limited use in the marine market. The GAJT-710MS CRPA from VERIPOS combines an antenna array and null forming electronics into a marine hardened enclosure that is suitable for installation on a wide range of marine vessels, including DP drill rigs, construction, survey and seismic vessels.

Leading Edge Technology

The system uses NovAtel's Pinwheel® antenna array to receive GNSS signals in the L1 and L2 bands. Interference mitigation is achieved by applying proprietary digital beamforming algorithms to the signals, creating dynamic nulls to give protection against narrowband and broadband interference sources. Integration to your VERIPOS receiver is seamless.

How it Works

GAJT mitigates interference by creating nulls in the antenna gain pattern in the direction of jammers, providing significant anti-jam protection even in dynamic multi-jammer scenarios. The output of the GAJT-710MS is a standard Radio Frequency (RF) feed.

Built for the Future

GAJT protects L1 and L2 GPS signals. The wide bandwidth of the GAJT-710MS ensures future compatibility with M-Code GPS.

GAJT-710MS

Benefits:

- Low cost anti-jam protection for ships and boats
- Easy to integrate, ideal for retrofitting
- Anti-jam protection in dynamic multi-jammer scenarios
- Compatible with VERIPOS receivers

Features:

- Affordable protection for GPS position, velocity and time
- Up to 40 dB of additional anti-jamming protection
- Single enclosure system
- Simultaneous GPS L1 and L2 protection
- Adaptive digital nulling

Technical Specifications

Performance

GNSS (GPS) Signals

Center Frequency	
L1	1575.42 H
L2	1227.6 MHz

Controlled Reception Pattern Antenna (CPRA)

Number of elements	7
Bandwidth	±11 MHZ (centered on L1 and L2)
Noise figure	3 dB
LNA gain	30 dB
VSWR	≤2.0:1
RF output	50 Ω TNC

Interference Rejection

Simultaneous L1 and L2

Interference suppression	40 dB (typical)
Number of simultaneous nulling directions	6

Physical and Electrical

Dimensions	290 x 290 x 120 mm
Weight	7.5 kg
Power	
Power consumption	25 W
Input voltage	+10 to +28 VDC

Environmental

MIL-STD-810G

Temperature	
MIL-STD-810G 505.5	
Operating	-40°C to +71°C
Storage	-55°C to +85°C
Humidity	
MIL-STD-810G 507.5, Proc. II	
Altitude	
MIL-STD-810G 500.5	
Operating	3,600 m/12,000'
Storage	12,000 m/40,000'
Solar Radiation	
MIL-STD-810G 505.5	
Corrosion	
MIL-STD-810G, 509.5	
MIL-STD-810G	
Water	
MIL-STD-810G, 512.5	
IEC 60529 IPX6	
Sand and Dust	
MIL-STD-810, 510.5	
Salt Fog	
MIL-STD-810G, 509.6	
Submersion	
IP67	
Vibration	
MIL-STD-810G, 514.6	
Shock	
MIL-STD-810G, 516.6	
Connectors	
Power	MIL-C-26482, Series 2
RF	TNC (Female)
Service	MIL-DTL-38999, Series 3

Export Approvals

Canadian Controlled Goods

Contact Hexagon | VERIPOS

sales@veripos.com +44 1224 965800
For the most recent details of this product visit veripos.com

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