Defense GAJT-710ML™

SINGLE-ENCLOSURE GPS ANTI-JAM TECHNOLOGY (GAJT®)

JAMMING AND INTERFERENCE ARE HERE TO STAY
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.

LOW COST, SMALL FORM FACTOR
Until now, the high cost and large size of Controlled Reception Pattern Antennas (CRPAs) has limited their use to capital ships and key aircraft. The GAJT-710ML CRPA from NovAtel combines an antenna array and null forming electronics into a marine hardened enclosure that is suitable for installation on a wide range of land vehicles.

LEADING EDGE TECHNOLOGY
The commercial off-the-shelf (COTS) system uses NovAtel’s seven element 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 sources. Integration to your GPS 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-710ML is a standard Radio Frequency (RF) feed, suitable for input to legacy GPS receivers.

BUILT FOR THE FUTURE
GAJT protects L1 and L2 GPS signals. The wide bandwidth of the GAJT-710ML ensures future compatibility with M-Code GPS.

BENEFITS
+ Low cost anti-jam protection for land vehicles
+ Easy to integrate, ideal for retrofitting
+ Anti-jam protection in dynamic multi-jammer scenarios
+ Compatible with legacy GPS 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

For more information about GAJT, visit www.novatel.com/GAJT or email GAJT@novatel.com
**PERFORMANCE**

**GNSS (GPS) Signals**
- Center frequency
  - L1: 1575.42 MHz
  - L2: 1227.6 MHz

**Controlled Reception Pattern Antenna (CRPA)**
- 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 × 290 × 120 mm
- Weight: 7.5 kg
- Power consumption: 25 W
- Input voltage: +10 to +28 VDC

**ENVIRONMENTAL**
- MIL-STD-810G
- Temperature
  - Operating: -40°C to +71°C
  - Storage: -55°C to +85°C
- Humidity
  - MIL-STD-810G 507.5, Proc. II
- Altitude
  - Operating: 3,600 m/12,000'
  - Storage: 12,000 m/40,000'
- Solar Radiation
  - MIL-STD-810G 505.5, NATO A-1
- Corrosion
  - MIL-STD-810G, 509.5
  - MIL-STD-810G
- Water
  - MIL-STD-810G, 512.5
  - IEC 60529 IPX6
- Sand and Dust
  - MIL-STD-810G, 510.5
- Vibration
  - MIL-STD-810G, 514.6 tracked and ground wheeled
- Shock
  - MIL-STD-810G, 516.6

**ACCESSORIES**
- 5 m unterminated GAJT vehicle power cable

**EXPORT APPROVALS**
- Canadian Controlled Goods

**GAJT PRODUCTS**
- **GAJT-710MS™**
  - Single enclosure system for warships and other marine vessels
  - 7-element antenna array
  - Easy to integrate, ideal for retrofitting
- **GAJT-AE-N™**
  - Suitable for smaller platforms including UAVs
  - Antenna electronics for 4-element antenna array
  - Works with most 4-element antenna arrays (supplied separately)

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