

# GAJT-410ML

## GPS Anti-Jam Technology (GAJT) for smaller platforms



### Jamming and interference are constant threats

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

### Battle-proven in smaller and lighter enclosure

The GAJT-410ML is a new design that builds on our achievements in battle-proven anti-jam technology in a smaller enclosure. It combines antenna array and null forming electronics into an enclosure that is suitable for installation on a wide range of land vehicles and other small platforms.

### Easy to integrate

GAJT-410ML is connected with a Radio Frequency (RF) cable which reduces the need for multiple cables to penetrate armor or the need for costly platform modifications. This is enabled by the Power Injector Data Converter (PIDC), inside the vehicle, which provides clean power and data, and delivers the protected GNSS signal back to the receiver. The PIDC can be supplied in an enclosure, and is available to license for installation into third-party equipment.

### Situation awareness

The PIDC also provides the jammer status and Direction Finding (DF) capabilities of GAJT-410ML across the single RF cable to provide situation awareness in addition to anti-jam protection.

### How it works

GAJT-410ML 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-410ML is a protected, standard RF feed, free from jamming and suitable for input to modern and legacy GNSS receivers.

### Protects GNSS navigation and precise timing receivers

GAJT-410ML protects GPS L1/L2, QZSS L1/L2, SBAS L1 and Galileo E1 signals. The wide bandwidth of GAJT ensures compatibility with M-Code GPS.

### Benefits

- Commercial off-the-shelf (COTS)
- Low cost anti-jam protection designed for smaller platforms
- Easy to integrate
- High performance anti-jam protection in dynamic multi-jammer scenarios
- Compatible with legacy and modern GNSS receivers, including M-Code
- Provides situation awareness

### Features

- Affordable protection for GNSS position, velocity and time
- Up to 50 dB of interference suppression
- Simultaneous GPS L1/L2, QZSS L1/L2, SBAS L1 and Galileo E1 protection
- Supports M-Code on GPS L1 & L2
- Adaptive digital nulling
- Jammer direction-finding

## Performance

### GNSS Signals

GPS L1, QZSS L1, SBAS L1	1575.42 MHz ±12 MHz
GPS L2, QZSS L2	1227.6 MHz ±12 MHz
Galileo E1	1575.42 MHz ±12 MHz

### Interference Rejection

#### Simultaneous L1/E1 and L2

Interference suppression	40 dB (typical) 50 dB (max)
Number of simultaneous nulling directions	3

### Antenna Array

Built in 4 Element CRPA

### GAJT-410 CRPA Ports

1 x SMA (50 Ω) female	RF/Data/Power
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### PIDC Ports

1 x ODU 12 pin female	Data/Power
1 x SMA (50 Ω) female	RF
1 x SMA (50 Ω) female	RF/Data/Power

## Physical and Electrical

### Power (system)

Power Consumption	18 W (typical)
Input Voltage	+10 to +32 VDC

### GAJT-410ML CRPA

<b>Dimensions</b>	140 diameter × 95 mm
<b>Weight</b>	1.7 kg

### GAJT-410ML Hardware Color Options

- Green Chemical Agent Resistant Coating (CARC)
- Tan Chemical Agent Resistant Coating (CARC)

### PIDC

<b>Dimensions</b>	85.5 W × 85 L × 31.5 H mm
<b>Weight</b>	450 g



## Environmental

### Temperature

Operating	-40°C to +71°C
Storage	-55°C to +85°C

**Humidity** MIL-STD-810G(CH1) 507.6, Proc. II

**Altitude** MIL-STD-810G(CH1), 500.6  
Operating 4570 m / 15,000'  
Storage 12,000 m / 40,000'

**Corrosion** MIL-STD-810G(CH1), 509.6  
MIL-STD-810G(CH1), 518.2  
MIL-STD-810G(CH1), 504.2

**Vibration** MIL-STD-810G(CH1), 514.7

**Shock** MIL-STD-810G(CH1), 516.7  
IEC 60068-2-27 Ea

**Water** MIL-STD-810G(CH1), 512.6  
IEC 60529 IPX9K  
IEC 60529 IPX7

**Sand & Dust** MIL-STD-810G(CH1), 510.6  
IEC 60529 IP6X

**Solar Radiation** MIL-STD-810G(CH1), 505.6

**Electromagnetic Compatibility**  
MIL-STD-461G

## Compliance

FCC, ISED, CE, UKCA

## Accessories

- Combined data and power cable
- NATO Mount Adapter
- Pole Mount Adapter

## Export Approvals

Canadian Controlled Goods

## GAJT Products

### GAJT-710 series



- Single enclosure system
- 7-element antenna array
- Easy to integrate, ideal for retrofitting
- **GAJT-710ML**  
Land vehicles and fixed installations
- **GAJT-710MS**  
Warships and other marine vessels and coastal applications

### 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)

### 4-Element Antenna Array

A 4-element antenna array allows gain pattern shapes to be changed in response to interference. Provides 3 independent nulls.



## Contact Hexagon | NovAtel

sales.nov.ap@hexagon.com 1-800-NOVATEL (U.S. and Canada) or 403-295-4900 | China: 0086-21-68882300 | Europe: 44-1993-848-736 | SE Asia and Australia: 61-400-883-601. For the most recent details of this product: novatel.com

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