

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
- 40 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

Wideband suppression	40 dB (typical)
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 (typ)
Input Voltage	+10 to +32 VDC

GAJT-410ML CRPA

Dimensions 140 diameter × 95 mm

Weight 1.7 kg

GAJT-410ML Hardware Color Options

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

PIDC

Dimensions 85.5 W × 85 L × 31.5 H mm

Weight 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

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.



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