

GAJT-310 Integrated

Low SWaP GPS/GNSS Anti-Jam Technology (GAJT)



Jamming and interference are constant threats

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

Small and light solution

The small form factor GAJT-310 contains a 3-element antenna array to receive GNSS signals, and employs advanced anti-jam technology to protect against all types of radio frequency (RF) interference.

Situational awareness

The direction finding feature of the GAJT-310 provides your light-weight platform with superior situational awareness. Identifying jamming sources in protected bands with up to 10 degrees of accuracy.

Applications

GAJT-310 is designed for size and weight constrained platforms where users want seamless integration with their GNSS receiver to protect PNT information. This includes land and air vehicles, marine vessels, dismounted, positioning networks and timing infrastructure.

How it works

GAJT-310 mitigates interference by dynamically creating nulls in the antenna gain pattern in the direction of the jammers, providing anti-jam protection. The output is a protected standard RF signal, free from jamming and suitable for input into modern and legacy GNSS receivers.

Protects GNSS navigation and precise timing receivers

GAJT-310 protects GPS L1/L2, Galileo E1, QZSS L1/L2, BeiDou B1C, and SBAS L1 signals, while permitting pass-through for other GNSS bands and Alt-Nav signals.

Higher positioning availability

In addition to the protected bands, GAJT-310 also allows other GNSS bands and Alt-Nav signals to pass-through the antenna to be utilized by the receiver in the positioning solution. This increases the availability of a PNT solution in benign (non-jammed) conditions.

Benefits

- Low size, weight and power (SWaP)
- Enhanced situational awareness
- Easy integration with a legacy footprint
- Commercial export status
- Anti-jam protection in dynamic multi-jammer scenarios
- Compatible with modern and legacy GNSS receivers, including M-Code
- Pairs with multi-constellation, multi-frequency receivers for additional resiliency against jamming

Features

- Affordable protection for GNSS position, navigation and timing (PNT)
- Nulling protection for L1/L2 bands, with pass-through for other GNSS bands and Alt-Nav signals
- Simultaneously protects against 2 jammers per band (2x L1/E1/B1 and 2x L2)
- Single enclosure system
- 30 dB interference suppression
- Jammer direction-finding capabilities

Performance

Protected bands

GPS	L1, L2
Galileo	E1
BeiDou	B1C
QZSS	L1, L2
SBAS	L1

Pass-through bands

GPS	L5
Galileo	E5b
GLONASS	L1, L2, L3
BeiDou	B1, B2
Iridium	Iridium

Interference rejection

Interference suppression	30 dB (typical)
Number of simultaneous nulling directions	
L1	2
L2	2

Connectors

RF	SMA
Power & Data	micro-miniature circular receptacle (10 pin)

Physical and electrical

Dimensions	132 x 102 x 51 mm
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Weight	545 grams
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Power

Power consumption	<3 W (typical)
Input voltage	10 to 33 VDC
Compliance	MIL-STD-1275F

Environmental

Temperature

MIL-STD-810G(CH1) 501.6	
Operating	-40°C to +71°C
Storage	-55°C to +85°C

Humidity	MIL-STD-810G(CH1), 507.6, Proc. II
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Altitude	MIL-STD-810G(CH1), 500.6
Operating	3,600 m/12,000'
Storage	12,000 m/40,000'

Solar Radiation	MIL-STD-810G(CH1), 505.6
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Corrosion	MIL-STD-810G(CH1), 509.6
	MIL-STD-810G(CH1), 518.2
	MIL-STD-810G(CH1), 504.2

Water	MIL-STD-810G(CH1), 512.6
	MIL-STD-810G(CH1), 506.6
	IEC 60529 IPX6
	IEC 60529 IPX7

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

Vibration	MIL-STD-810G(CH1), 514.7
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Shock	MIL-STD-810G(CH1), 516.7
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Emissions	MIL-STD-461G
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Accessories

Power/Data cable

Export approvals

Dual-Use Export Controls for Civil/Military Applications

Other 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-410ML



- Compact enclosure system for land and fixed applications
- 4-element antenna array
- Direction-finding and jammer status
- Available in Olive Drab or Desert Tan
- Also available in white (GAJT-410MS)

GAJT-310 Federated



- Small form factor anti-jam electronics card paired with a 3-element controlled reception pattern antenna (CRPA) which can be installed separately
- Ideal for space-constrained platforms with low SWaP requirements

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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