

# Defense GAJT-AE-N™



## GPS ANTI-JAM TECHNOLOGY (GAJT®) ANTENNA ELECTRONICS FOR SMALLER PLATFORMS



### 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.

### SMALL AND LIGHT ENCLOSURE

The GAJT-AE-N provides the antenna electronics for a Controlled Reception Pattern Antenna (CRPA) in a rugged enclosure.

### WHO IS IT FOR?

GAJT-AE-N is designed for size and weight constrained applications such as small airborne and ground unmanned platforms, where it is preferable to mount the antenna electronics inside the vehicle. Users can select from a variety of 4-element antenna arrays and cabling lengths to best meet the form factor requirements of their installation.

### LEADING EDGE TECHNOLOGY

Interference mitigation is achieved by applying proprietary digital null forming algorithms to the signals, creating dynamic nulls to give protection against narrowband and broadband interference sources. The unit comprises Radio Frequency (RF) front ends and null forming electronics. DC power is supplied via a dedicated LEMO® connector. Integration to your GPS receiver is seamless. Any 4-element CRPA can be used. We recommend antennas from Antcom Inc., either from their standard range or designed for custom form factors.

### 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-AE-N is a standard Radio Frequency (RF) feed, suitable for input to legacy GPS receivers.

### BUILT FOR THE FUTURE

The wide bandwidth ensures future compatibility with M-Code GPS.

### BENEFITS

- + Low cost anti-jam protection for small platforms
- + Easy to integrate
- + Anti-jam protection in dynamic multi-jammer scenarios
- + Compatible with legacy GPS receivers
- + Works with most 4-element antenna arrays (supplied separately)

### FEATURES

- + Affordable protection for GPS position, velocity and time
- + Up to 40 dB of additional anti-jamming protection
- + Simultaneous L1 and L2
- + Adaptive digital nulling
- + Built in test and jamming status included in RS-232 output

For more information about GAJT, visit [www.novatel.com/GAJT](http://www.novatel.com/GAJT) or email [GAJT@novatel.com](mailto:GAJT@novatel.com)

## PERFORMANCE

### GNSS (GPS) Signals

Center frequency	
L1	1575.42 MHz
L2	1227.6 MHz

### INTERFERENCE REJECTION

#### Simultaneous L1 and L2

Typical wideband suppression	40 dB
Number of simultaneous nulling directions	3

### ANTENNA ARRAY OPTIONS

L1 and L2

- » 4 element Antcom 4.2 inch
- » 4 element Antcom 5.2 inch

### RF PORTS

RF inputs	4 x 50 ohm SMA
RF outputs	1 x 50 ohm SMA

### POWER & COMMUNICATION PORTS

1 LEMO connector for both RS-232 field loading and DC power

### PHYSICAL AND ELECTRICAL

#### Power

Power consumption	15 W
Input voltage	+10 to +28 VDC

#### GAJT-AE-N (Enclosure)

Dimensions	179.5 x 155.5 x 39 mm
Weight	1200 g

#### GAJT-AE-R (Rail-mounted cards)

Dimensions	150 x 120 x 35 mm
Weight	585 g

### ENVIRONMENTAL

MIL-STD-810G

#### Temperature

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

**Humidity** 95% non-condensing

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

**Shock** MIL-STD-810G(CH1), 516.7

#### Enclosure

Immersion	MIL-STD-810G(CH1), 512.6
Blowing Rain	MIL-STD-810G(CH1), 506.6
Water Jets	IEC 60529 IPX6

### TIMING

Fixed timing delay

### CRPA ANTENNA

LNA Gain 26 dB to 35 dB

### ACCESSORIES

- Power and data cable, included

### EXPORT APPROVALS

Canadian Controlled Goods

### OTHER GAJTS

#### GAJT-710ML



- Single enclosure system for land and fixed applications
- 7-element antenna array
- Easy to integrate, ideal for retrofitting

#### GAJT-710MS



- Single enclosure system for warships and other marine vessels
- 7-element antenna array
- Easy to integrate, ideal for retrofitting

### 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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#### Version OR

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