

# GAJT-AE2-R

## GPS Anti-Jam Technology (GAJT) antenna electronics 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.

### Small and light single card electronics

The small form factor GAJT-AE2-R provides the antenna electronics for a Controlled Reception Pattern Antenna (CRPA), providing flexibility for a rail mount or wedgelock installation.

### Who is it for?

GAJT-AE2-R is designed for size and weight constrained applications where it is preferable to mount the antenna electronics inside the vehicle. Supporting up to 8 RF inputs, users can deploy with a single 4-element antenna array or select between two connected 4-element arrays.

### How it works

GAJT-AE2-R mitigates interference by creating nulls in the antenna gain pattern in the direction of the jammers, providing significant anti-jam protection even in dynamic multi-jammer environments. The output is a protected standard Radio Frequency (RF) signal, free from jamming and suitable for input into modern and legacy GNSS receivers.

### 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. Integration to your GNSS receiver is seamless; DC power supply and data output are via separate connectors. We recommend CRPA antennas from Antcom Corporation for use with the GAJT-AE2-R.

### Protects GNSS navigation and precise timing receivers

GAJT-AE-R protects GPS L1/L5, Galileo E1/E5a, QZSS L1, SBAS L1/L5 and NavIC L5 signals.

### Benefits

- Low cost anti-jam protection for small platforms
- Easy to integrate
- Anti-jam protection in dynamic multi-jammer scenarios
- Compatible with legacy and modern GNSS receivers
- Works with Antcom antenna arrays (supplied separately)

### Features

- Affordable protection for GNSS position, velocity and timing
- Up to 60 dB of interference suppression
- Simultaneous GPS L1/L5, Galileo E1/E5a, QZSS L1, SBAS L1/L5 and NavIC L5 protection
- Adaptive digital nulling
- Built in test and jamming status included in RS-232 or RS-422 output (selectable)

## Performance

### GNSS Signals

**L1 Band** 1575.42 MHz  $\pm$ 12 MHz  
GPS L1, Galileo E1, QZSS L1, SBAS L1

**L5 Band** 1176.46 MHz  $\pm$ 12 MHz  
GPS L5, Galileo E5a, NAVIC L5, SBAS L5

### Interference Rejection

#### Simultaneous L1/E1 and L5/E5a

Interference suppression 45 dB (typical)  
60 dB (max)  
Number of simultaneous nulling directions 3

### Antenna Array Options

#### L1 and L5

- 4NF-5.5CG1115P-XX-X 4 element CRPA family
- For additional options, please contact Antcom

### RF Ports

RF Input, RF Output 1 6-way 50 ohm RF connector  
RF Input 2 4-way 50 ohm RF connector

### Power & Communication Ports

J30J/MIL-DTL-83513 21-pin

## Physical and Electrical

### Power

Power consumption 15 W  
Input voltage +10 to +42 VDC

**Dimensions** 140 x 180 x 19 mm

### Weight

GAJT-AE2-R 385 g  
Heat spreaders 315 g

## Environmental

MIL-STD-810G

### Temperature<sup>1</sup>

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

**Vibration<sup>1</sup>** MIL-STD-810G(CH1), 514.7

**Shock<sup>1</sup>** MIL-STD-810G(CH1), 516.7

**Humidity<sup>1</sup>** 100% relative humidity  
MIL-STD-810(CH1), 507.6

## Timing

Fixed timing delay

## Export Approvals

UK Export Control Joint Unit

## GAJT Products

### GAJT-710MS



- Single enclosure system for land and fixed applications
- 7-element antenna array
- Direction finding and jammer status
- Easy to integrate, ideal for retrofitting
- Warships and other marine vessels and coastal applications

### GAJT-410MS



- Compact enclosure system for land and fixed applications
- 4-element antenna array
- Direction finding and jammer status
- Warships and other marine vessels and coastal applications

### 4-Element Antenna Array

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



<sup>1</sup>. As measured in a GAJT-AE2-R test enclosure.

## Contact Hexagon | VERIPOS

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