GAJT-AE-N

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.

**Battle-proven small and light enclosure**
GAJT-AE-N is the antenna electronics for a Controlled Reception Pattern Antenna (CRPA) in a rugged enclosure which enables easy connectivity. GAJT-AE-N is designed for size and weight constrained applications such as small airborne and ground unmanned platforms, where it may be preferable to mount the antenna electronics inside the vehicle. Users can select from a variety of 4-element CRPA antenna arrays.

**How it works**
GAJT-AE-N 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 made via a dedicated LEMO® connector. We recommend CRPA antennas from Antcom Corporation for use with the GAJT-AE-N.

**Protects GNSS navigation and precise timing receivers**
GAJT-AE-N 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 for small platforms
- Easy to integrate
- Anti-jam protection in dynamic multi-jammer scenarios
- Compatible with legacy and modern GNSS receivers, including M-Code
- Works with most 4-element antenna arrays (supplied separately)

**Features**
- Affordable protection for GNSS position, velocity and timing
- 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
- Built in test and jamming status included in RS-232 output
**Performance**

**GNSS Signals**
- Center frequency:
  - 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
  - Typical wideband suppression: 40 dB
  - Number of simultaneous nulling directions: 3

**Antenna Array Options**
- L1 and L2
  - 4NF-5.5CG1215P 4 element CRPA family
  - For additional options, please contact NovAtel

**RF Ports**
- RF inputs: 4 x 50 ohm SMA
- RF outputs: 1 x 50 ohm SMA

**Power & Communication Port**
- 1 LEMO connector for both RS-232 field loading and DC power

**Physical and Electrical**

**Power**
- Power consumption: 15 W
- Input voltage: +10 to +32 VDC

**RF Performance**
- Active Gain: 40 dB

**GAJT-AE-N (Enclosure)**
- Dimensions: 179.5 x 155.5 x 39 mm
- Weight: 1200 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**
- MIL-STD-810G(CH1), 512.6

**Blowing Rain**
- MIL-STD-810G(CH1), 506.6

**Water Jets**
- IEC 60529 IPX6

**Timing**
- Fixed timing delay

**Accessories**
- Power and data cable, included

**Export Approvals**
- Canadian Controlled Goods

**GAJT Products**

**GAJT-710 series**
- Single enclosure system for land and fixed applications
- 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)

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