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 or cards
The GAJT-AE-N variant provides the antenna electronics for a Controlled Reception Pattern Antenna (CRPA). We can provide the system in a custom enclosure (GAJT-AE-N) or as a card level system (GAJT-AE) for custom integration.

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 CRPAs 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. Any 4-element CRPA can be used. We recommend antennas from Antcom Inc., either from their standard range or designed for custom form-factors. 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.

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
GAJT-AE-N comes in variants that protect either L1 and L2 or just L1 GPS signals in wide or narrow band. The wide bandwidth version 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 CRPAs (supplied separately)

Features
+ Affordable protection for GPS position, velocity and time
+ Up to 40 dB of additional anti-jamming protection
+ Enclosure or card level system
+ Simultaneous GPS L1 and L2 or single frequency L1 protection
+ Wideband and narrowband versions
+ Adaptive digital nulling

For more information about GAJT, visit www.novatел.com/GAJT or email GAJT@novatел.com

All specifications Subject to Change
PERFORMANCE

GNSS (GPS) Signals
Center frequency
L1  1575.42 MHz
L2  1227.6 MHz

INTERFERENCE REJECTION

Simultaneous L1 and L2 or single L1
Typical wideband suppression  40 dB
Typical narrowband suppression  40 dB
Number of simultaneous nulling directions  3

CRPA ANTENNA OPTIONS

L1 and L2
» 4 element Antcom 3.5 inch
» 4 element Antcom 4.25 inch
» 4 element Antcom 5 inch

RF PORTS
RF inputs  4 x 50 Ohm SMA
RF outputs  1 x 50 Ohm SMA

POWER & COMMUNICATION PORTS
1 LEMO connector for DC power and RS-232 for field loading

PHYSICAL AND ELECTRICAL

Power
Power consumption  <20 W
Input voltage  +10 to +28 VDC

GAJT-AE-N (Enclosure)
Dimensions  170 × 150 × 40 mm
Weight  1.2 kg

GAJT-AE (Card level)
Dimensions  150 x 120 x 30 mm
Weight  328 g

ENVIRONMENTAL

MIL-STD-810G
Temperature
Operating  -40°C to +71°C
Storage  -55°C to +85°C
Humidity  95% non-condensing

Vibration
Random  MIL-STD-202G
Sinusoidal  ASAE EP455
Shock  MIL-STD-810G, 516.6

GAJT-AE-N (Enclosure)
Immersion  MIL-STD-810G, 512.5
Blowing Rain  MIL-STD-810G, 506.5
Water Jets  IEC 60529 IPX6

ACCESSORIES

• Power and data cable

EXPORT APPROVALS

Canadian Controlled Goods

OTHER GAJTS

GAJT-700ML
• Single enclosure system for land and fixed applications
• 7-element CRPA
• Easy to integrate, ideal for retrofitting

GAJT-700MS
• Single enclosure system for warships and other marine vessels
• 7-element CRPA
• Easy to integrate, ideal for retrofitting

4-ELEMENT CRPA

A 4-element CRPA allows gain pattern shapes to be changed in response to interference. Provides 3 independent nulls.

For more information about GAJT, visit www.novatel.com/GAJT or email GAJT@novatel.com

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