

## Multiple GNSS Constellation Antenna



- Rugged Design
- GPS and GLONASS
- Vibration Tested
- Optional Ground Plane

# G3-A1 Multiple GNSS Constellation Antenna



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The G3-A1 is a multiple constellation antenna, and based on the corresponding receiver can receive GPS and GLONASS satellite signals.

The G3-A1 is intended for high vibration uses, such as on the top of a machine control mast. The antennas have been tested to extreme vibration specifications and are recommended for the most rugged environments. Why risk placing an expensive electronic receiver at the top of a machine mast. This ruggedized antenna can be used with bulldozers, motor graders, scrapers, milling machines, and other systems.

An optional ground plane can be easily attached to supplement the reduction of multipath signal interference.

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## SPECIFICATIONS

### Operating Frequency Range

L1 GPS/GLONASS	1586.5 ± 25 MHz
L2 GPS/GLONASS	1236 ± 20 MHz
L5 GPS	1176 ± 12 MHz

### Out of Band Rejection

L1	± 100 MHz -30 dBc (typical)
L2	± 100 MHz -60 dBc (typical)

### Gain, Noise Figure and VSWR

LNA Gain	30 dB (typical)
Gain at Zenith (90°)	GPS L1 6 dBic (minimum) GPS L2 5.5 dBic (minimum) GPS L5 4 dBic (minimum) GLONASS L1 4.5 dBic (minimum) GLONASS L2 4 dBic (minimum)
Gain Roll-Off (from Zenith to Horizon)	GPS L1 -12 dB GPS L2 -13 dB GPS L5 -13 dB GLONASS L1 -12 dB GLONASS L2 -13 dB
Noise Figure	1.8 dB (typical)
VSWR	≤ 2.0 : 1
L1-L2 Differential Propagation Delay	6 ns (maximum)
Nominal Impedance	50 Ohms

### Connector and Mounting

Antenna Connector / Mount	TNC female (G3-A1), N female (G3-A1M) / 5/8-11 thread
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### Physical Characteristics

Size without Ground Plane	141.6 x 141.6mm
Diameter	179.4mm (circumference, without Ground Plane) 200mm (with Ground Plane) 205mm (with GP and Anti-snow Spherical Dome)
Height	53.7mm / 149.5mm (with Anti-snow Spherical Dome)
Weight	515g (Antenna without Ground Plane) 185g (Ground Plane) 700g (Antenna with Ground Plane) 195g (Anti-snow Dome) 895g (Antenna with GP and Anti-snow Dome)

### Power

Input Voltage Range / Power Consumption	+3 to +18 VDC / 30 mA (typical)
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### Environmental

Operating Temperature (Methods 501.4, 02.4)	-50°C to +70°C
Storage Temperature (Methods 501.4, 02.4)	-55°C to +85°C
Waterproof / Dust Rating	IEC 60529 IPX5 / IEC 60529 IP6X
Vibration	Category 20, Composite Wheeled/Tracked Machine Exposure, along each of 3 axes (Method 514.5, Table 514.5C-VII and Figure 514.5C-3)
Mechanical Shock	Along each of 3 axes (Method 516.4, Procedure I, Functional Shock, Table 516.5-II, Figures 516.5-10 - accelerative forces up to 40g)
Humidity	95% (Method 507.4)
Salt Fog	5% (Method 509.4)
Drop Test	Repeated drops of antenna with pole from the height of 2m (the pole height) on asphaltic concrete surface.
RoHS Compliant	Yes

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