The Model 8230AJ is a high gain (40 dB) GNSS outdoor antenna covering GPS L1, GLONASS L1, BeiDou B1, Galileo E1, and QZSS L1. Similar to our proven Model 8230, it uses a three-stage low noise amplifier, a mid-section SAW, and a tight pre-filter to protect against saturation by high level sub-harmonics and L-band signals. The active antenna circuitry uses +5VDC (provided by the Orolia timing receiver over the antenna coax).

Similar to the standard Model 8230, this antenna is also terminated with a type “N” female connector and mounts to standard pipes via its own unique L bracket. Making it a drop-in replacement for existing installations. Its weather-proof housing is IP67 compliant offering a high degree of protection against dust and water. Its cylindrical radome is made of high impact UV stabilized polycarbonate to protect against rain, ice, snow and salt spray.

**Antenna Cable & Accessories**

Orolia recommends low loss coaxial cable such as Times Microwave LMR-400 for the antenna cable. The attenuation characteristics of the LMR-400, or equivalent, at the GPS L1 frequency (1575.42 MHz), along with the high gain of the antenna allows the cable length to a maximum of about 125 meters (400 feet). Orolia offers standard and plenum rated cable assemblies.

For installations where the antenna cable length exceeds 125 meters Orolia offers a variety of accessories to extend cable lengths including inline pre-amplifiers (Model 8227), fiber optic links and frequency down-up converters. The receiver powers the GPS antenna and most accessories. Orolia recommends installing a lightning protection device in the antenna line to protect the receiver and connected devices. Orolia offers a Surge Protector, Model 8226, to shunt potentially damaging voltages on the antenna coax to ground.
GPS Antenna Specifications

**Electrical**

- **Type:** Active
- **Frequency:** 1559 to 1606 MHz
- **Out-of-Band Rejection:**
  - < 1500 MHz: > 50 dB
  - > 1650 MHz: > 50 dB
- **Gain:** 40 dB from internal LNA
- **Antenna Pattern:** 0 dB at zenith
  - 15 dB or more rejection at < 30 degrees elevation
- **Connector:** N type, female
- **Recommended Cable:** Low Loss LMR-400 Equivalent
- **Maximum Cable Length:** 125 meters (400 ft.) maximum with most Orolia equipment and LMR-400 equivalent cable;
  - 250 meters (800 ft.) maximum with Inline Amplifier - Model 8227
- **Power:** 2.5 to 16 Volts, 19 milliamps (typical), powered by receiver

**Mechanical**

- **Size:**
  - 100 mm dia. (3.9”);
  - 101.5 mm H (4”) from base to top;
  - 127.2 mm H (5”) including “N” connector
- **Enclosure:**
  - Radome: High Temperature UV Resistant Polycarbonate;
  - Base: Zamak White Metal
- **Weight:** 370g (13.1oz)
- **Compliance:** IP67 and RoHS
- **Temperature Range:** -40º to +85º C (–40º to +185º F)
- **Mounting:** L-bracket (included) for vent pipe/pole mounting
  - via hose clamps (included), PVC pipe sold separately

**Warranty**

1-Year Limited1

1The warranty period may be dependent on country.

Flat Roof Mount Specifications (sold separately)

**Mechanical**

- **Material:** Aluminum Base
- **Height:** 6” (15.24 cm)
- **Diameter:** 15.625” (39.7 cm)
- **Weight:** 17 lbs. (7.7 kg) when filled with ballast (included) for stability

Ordering Information

**GPS Antenna System**

1. GPS Antenna - Model 8230AJ

**Additional Accessories**

2. Flat Roof Antenna Mount: Model 8213
3. GPS Antenna Splitter: Model 8224
4. Antenna Surge Suppressor: Model 8226
5. Surge Protector Grounding Kit: Part Number 8226-0002-0600
6. Inline Preamplifier: Model 8227
7. Low Loss Antenna Cable: Contact factory
8. Indoor Plenum-rated Antenna Cable, CMP equivalent: Contact factory
9. Connector Interface Weather-Proofing Kit: Part Number 1142-0000-5001
10. PVC Pipe with Hose Clamps: 33.4 mm dia. x 489 mm long
11. (1.32” dia. x 19.25” long): Model 8235
12. Rugged Post Mount: Model ANT-KT