



NMO Mount Combo 30 dB GPS Vehicular Antenna
NMO Mount/SMA Connectors RG58 cable

Antennas Technical Data Sheet

PE51GPS1000

Features

- Low-Profile aesthetics for reduced visibility
- RG58 NMO Mount
- UV Stabalized, High Impact Xenoy™ Housing
- Integrated GPS Antenna
- Rugged aluminum die cast base for high strenght mechanical mounting and reliability
- Silicone Rubber gasket and dual O-ring seals for waterproof, high pressure car wash (IP66) applications

Applications

- Service vehicles
- Public Safety
- Public Transportation
- Mining & Construction

Description

This NMO combination mount with an integrated GPS antenna is ideally suited for multipoint mobile applications including service vehicles, public transportation, public safety, mining and construction vehicles, as well numerous other commercial and industrial applications where mobility and wide coverage is desired. The mount allows the user to mount any NMO-moun antenna of choice.

Configuration

| | |
|------------------------------|--------------------|
| Design | GPS Vehicular |
| Band Type | Single |
| Cable Type | RG58 |
| Cable Length | 204 in [518.16 cm] |
| Connector Type | NMO Mount |
| Interface 2 | SMA Plug |
| Housing Material and Plating | Black |

Electrical Specifications

| Description | Minimum | Typical | Maximum | Units |
|----------------------------------|---------|------------|---------|-------|
| Operational Bandwidth (L1) | | 1575.42 ±3 | | MHz |
| Input VSWR | | | 2:1 | |
| Output VSWR | | | 2:1 | |
| Impedance | | 50 | | Ohms |
| Gain | | 30 | | dB |
| Input Power | | | 10 | Watts |
| Operating DC Voltage | 3 | | 5.5 | Volts |
| Current | 6 | | 20 | mA |
| Filter Type | | SAW | | |
| Attenuation wrt L1 (L1 +50 MHz) | 35 | | | dB |
| Attenuation wrt L1 (L1 ±100 MHz) | 45 | | | dB |

NMO Mount Electrical Specifications

| Description | Minimum | Typical | Maximum | Units |
|-------------|---------|---------|---------|-------|
| Cable Type | | RG58 | | |

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [NMO Mount Combo 30 dB GPS Vehicular Antenna NMO Mount/SMA Connectors RG58 cable PE51GPS1000](#)



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| | | |
|----------------|-----------|------|
| Frequency Band | 30 to 100 | MHz |
| Impedance | 50 | Ohms |
| VSWR | 1.5 | |
| Insertion Loss | 2.5 | dB |
| Power Rating | 150 | W |

Passive Element Specifications

| Description | Minimum | Typical | Maximum | Units |
|-----------------------|---------|---------|---------|-------|
| Center Frequency Band | | 1.5754 | | GHz |
| Impedance | | 50 | | Ohms |
| Antenna VSWR | | | 1.5 | |
| Polarization | | RHCP | | |

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Mechanical Specifications

| | |
|-----------------------|--------------------------|
| Housing Plating/Color | Black |
| Radiator Material | Ceramic |
| Radiator Finish | Silver |
| Mounting Application | Bulkhead ¼ in. Thru-Hole |

Size

| | |
|----------------|--------------------|
| Overall Length | 4.5 in [114.3 mm] |
| Width | 2.2 in [55.88 mm] |
| Height | 0.88 in [22.35 mm] |
| Color | Black |

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Installation Instructions

PE51GPS1000

NMO/GPS ANTENNA COMBINATION MOUNT

3/4" HOLE MOUNT

Congratulations on your selection of another quality antenna product from Pasternack.

Pasternack is committed to continually provide the greatest antenna VALUE for your wireless applications.

Parts (Figure 1): Verify all parts are included as shown in Figure 1.

- A. Antenna Base Mount with 17 ft. (5.1 m):
 - RG-174/U GPS Cable (Connector Attached)
 - RG-58/U or 195 Type NMO Cable (Connector Sold Separately)
- B. Rubber Gasket
- C. Multi-tooth Lock Washer-Nut (24 mm Hex)

Tools Required:

- Drill and Hole Punch, 3/4" (19.05mm) Diameter
- 24 mm Socket Wrench or Open/Adjustable Wrench
- Torque Wrench with 15 to 20 ft-lb capacity (Recommended)
- Cable Stripping Tools for RG-58/U or 195 type cable

Pre-Installation Checklist and Tips:

- GPS/NMO Base mount will install on any panel with thickness up to 3/4" (6.35 mm) maximum.
- NMO Mount will accommodate all NMO antennas with operational frequency bands up to 1000 MHz.
- **NMO Antenna: Sold separately.** Refer to manufacturer's antennas instructions to verify proper installation and tuning requirements.
- For best GPS Antennas performance, verify installation area has clear view of sky in all directions.
- Mounting locations that contain obstructions within low view angles (near horizon) may be permissible, however, to ensure performance is acceptable, the antenna may be tested in the desired mounting location by setting the base mount upright on the mounting surface and connecting the GPS receiver to determine performance.
- Choose mounting surface with minimal curvature to optimize the rubber gasket sealing against rain and weather.

Installation:

1. Drill or punch a 3/4" (19.05 mm) hole through the mounting surface.
2. Clean surface area near mounting hole, removing grit, moisture and oil residue to ensure proper gasket seal.
3. Remove Lock Washer-Nut from the threaded stanchion.
4. Feed antenna cables through the top of the hole.
5. Verify gasket is properly aligned and seated to mount base and perimeter. **Note:** Gasket is not symmetrical.
6. Insert threaded stanchion through the hole.
7. Before attaching Lock Washer-Nut, verify gasket is seated firmly against the mount base.
8. Apply firm downward pressure to mount base, ensuring gasket is fully seated against mounting surface.
9. Gently pull cables downward, then horizontally into the cable relief slot as shown in FIGURE 2. **NOTE:** It may help to temporarily tape the cables to the bottom side of the mounting surface in order to hold them in the slot location until the nut is completely fastened with proper torque.



FIGURE 1: PARTS

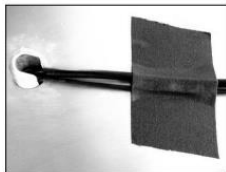


FIGURE 2: BOTTOM SIDE INSTALLATION SURFACE



FIGURE 3: CABLE ROUTING

10. Attach and thread the Lock Washer-Nut to the threaded stanchion using hand torque only until toothed lock washer stops against the bottom side of the mounting surface. See FIGURE 3.
11. Determine the final rotational position of the base mount and begin to apply light torque with wrench.
12. Verify final position of base mount. Firmly secure the assembly by using a torque wrench. Torque the Lock Washer-Nut to a minimum of 15 ft-lbs./maximum 20 ft-lbs.
13. Route cables to radio/receiver locations.
14. Cut and Strip NMO cable (RG-58/U or 195 type). Attach connector (sold separately).

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Environmental Specifications

Temperature

Operating Range

-40 to +85 deg C

Humidity

95%

Vibration

AAR & MIL-STD-810E

Corrosion

Salt Fog

ESD Protection

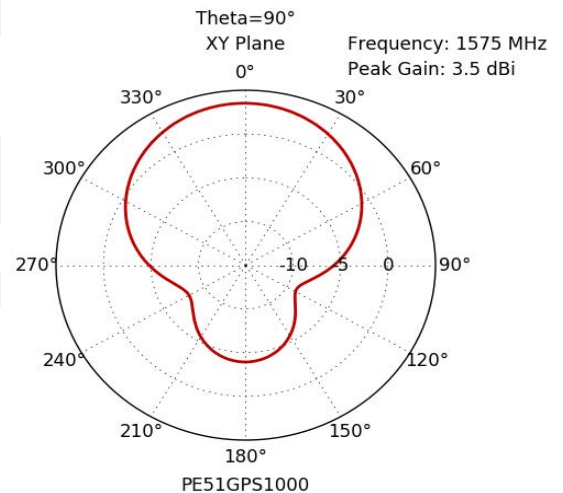
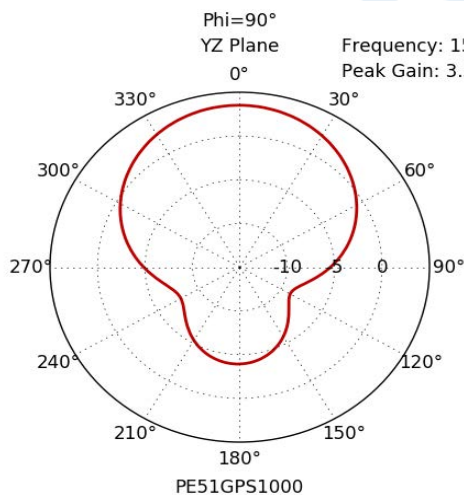
IP66

Compliance Certifications (see [product page](#) for current document)

Plotted and Other Data

Notes:

Typical Radiation Pattern



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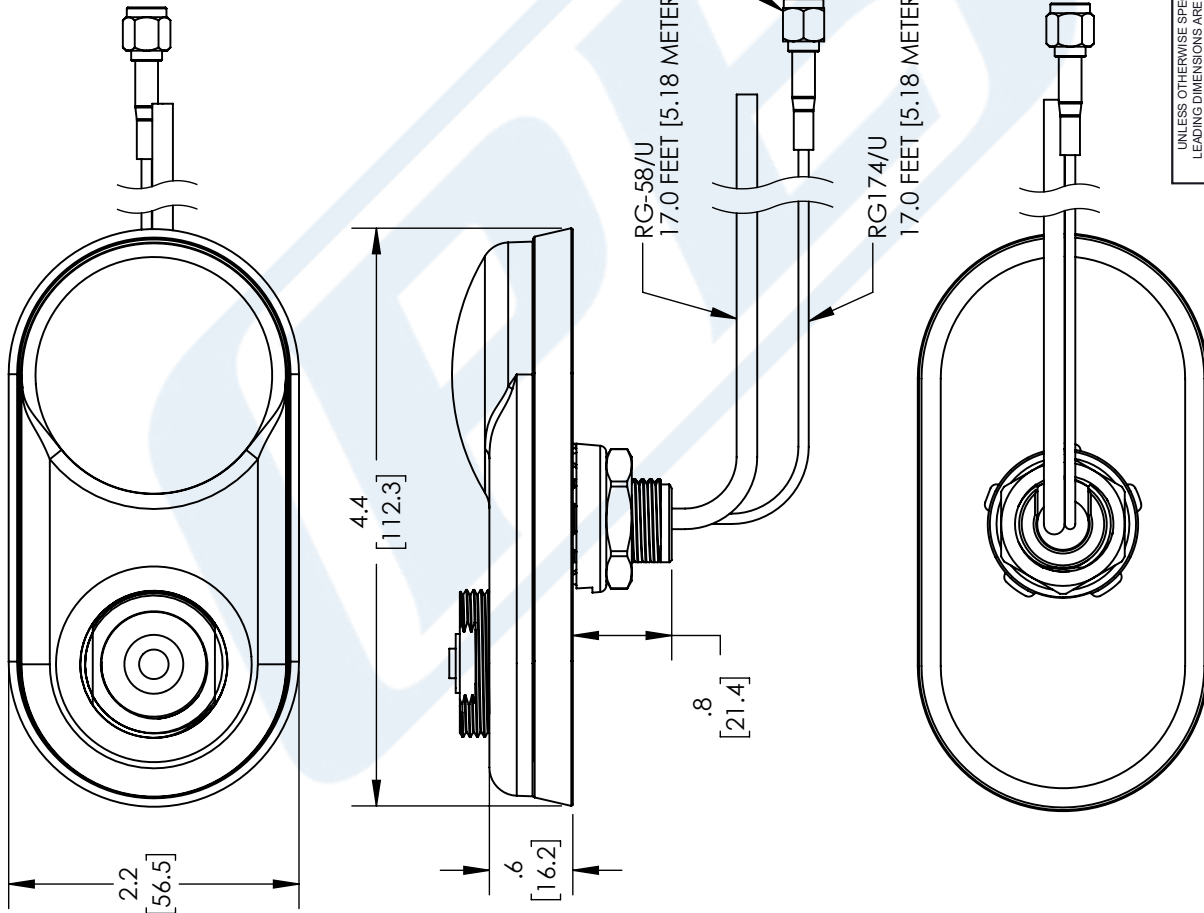
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PE51GPS1000 CAD Drawing

NMO Mount Combo 30 dB GPS Vehicular Antenna

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| REVISIONS | | | |
|-----------|-----------------|------------|----------|
| REV. | DESCRIPTION | DATE | APPROVED |
| A | INITIAL RELEASE | 08/06/2019 | MMILLER |



| | |
|--|-----------------|
| UNLESS OTHERWISE SPECIFIED LEADING DIMENSIONS ARE INCHES DIMENSIONS IN [] ARE MILLIMETERS | |
| TOLERANCES: | FRACTIONS |
| X \pm .2 [5.08] | +1/32 |
| XX \pm .01 [.25] | ANGLES \pm 1° |
| XXX \pm .005 [.13] | |
| ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY. | |
| THIRD-ANGLE PROJECTION | |

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SHEET 1 OF 1
SCALE N/A

| | | | |
|------|-------|-----------|-------------|
| SIZE | CAGE | DRAWN BY | PART NUMBER |
| A | 53919 | BPUCHASKI | PE51GPS1000 |
| | | | REV A |

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