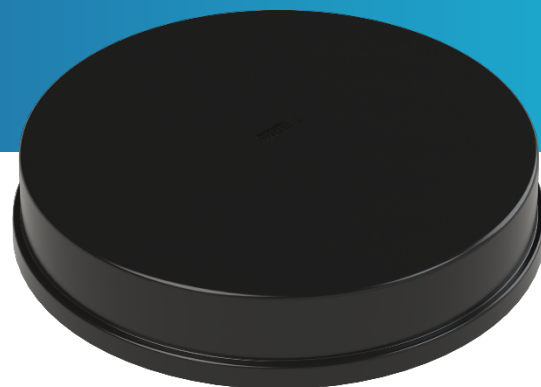


# GREAT PYRENEES

## Installation Instructions

The Great Pyrenees series antennas are the first to market with 8X8 MIMO LTE in a single, compact housing. This high-performance, IP67-rated, 5G antenna with double 4X4 MIMO LTE, 2X2 MIMO Wi-Fi, Bluetooth, and GPS is perfect for mobile and fixed wireless applications.

This rugged, omni-directional antenna supports two separate LTE modems ideal for first responders and transportation network solutions. The Great Pyrenees works on all common North American LTE bands, including band 17, and supports PLTE and LAA.



### Optional Accessories (sold separately)

- Magnetic Mount Boot (PTA0197)
- Pole Mounting Kit (PTA0149H): includes mounting bracket, clamp saddles (2 pcs), V-bolts (2 pcs), flat washers (4 pcs), lock washers (4 pcs), and nuts (4 pcs)
- Ground Plane with Adhesive Back (PTA0587)
- Star Washer (PTA0257)

### Required Tools

- 2.25" Wrench (Roof & Pole Mounting)
- Drill (Roof Mounting)
- 0.1" or Similar Diameter Drill Bit (Roof Mounting)
- 1.5" Sheet Metal Hole Saw (Roof Mounting)
- 7/16" Wrench (Pole Mounting)
- 5/16" or 8mm 5 in.-lb. Torque Wrench

### Mounting Options

Select one of the mounting options below:

- **Roof Mount (included)**  
Great Pyrenees antennas can be mounted on an automobile roof or any flat surface using the hardware provided with it.
- **Magnetic Mount (sold separately)**  
For temporary use, Great Pyrenees antennas can be mounted on a ferrous metal surface using a magnetic boot.
- **Pole Mount (sold separately)**  
Great Pyrenees antennas can be affixed to a 1" to 2.25" diameter pole with a pole mounting kit.

# Roof Mounting Instructions

## Preparing the Hole

### Step 1.

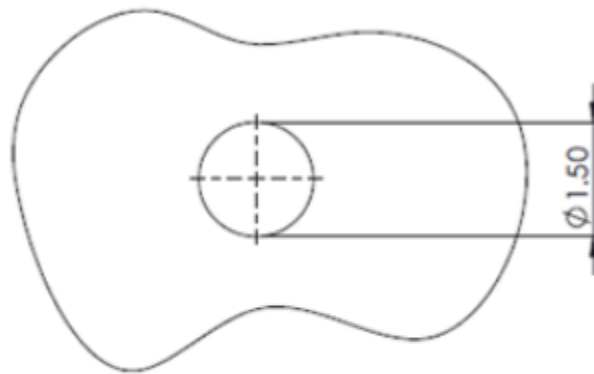
Select an easily accessible mounting location on vehicle roof with no obstructions within a 24" radius. The antenna should be as far away as possible (at least 18") from other roof-mounted devices such as light bars and other antennas to avoid de-tuning or interference issues.

### Step 2.

Mark the location of the hole. Mask the mounting location with tape to reduce the likelihood of paint damage.

### Step 3.

Use a center punch to make a dimple on the marked hole location to reduce the likelihood of the drill bit from walking. Drill a pilot hole with the 0.1" or similar diameter drill bit. Use a 1.5" diameter sheet metal hole saw to drill the hole for the antenna. (Figure 1)



*Figure 1*

### Step 4.

Clean up any metal shavings around the mounting location.

## Mounting the Antenna

### Step 1.

Clean any debris and dust off of the vehicle surface at the mounting location.

### Step 2.

Feed the coaxial cables from the antenna through the hole from the outside.

### Step 3.

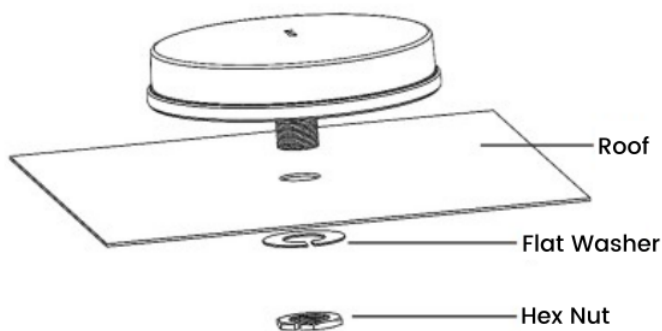
Remove the backing from the adhesive pad on the underside of the antenna and place the antenna on the mounting surface. Apply downward pressure on the antenna to ensure strong adhesion.

### Step 4.

It is recommended to use a neutral cure silicon sealant around the base of the antenna to remove any gaps between the antenna and the mounting surface.

### Step 5.

On the inside of the vehicle, guide the flat washer, star washer (optional), and hex nut onto the cables. Thread the washer(s) and nut onto the antenna shaft and fully tighten using a 2.25" wrench until the antenna is pulled flat onto the mounting surface. (Figures 2 & 3)



*Figure 2*



*Figure 3*

## Routing the Cables

### Step 1.

Route the cables from the antenna to the router, maintaining a minimum bend radius of 0.5". Avoid sharp bends and run the cables adjacent to existing wiring.

### Step 2.

Waterproof the RF connectors using electrical tape or heat shrink tubing, if required.

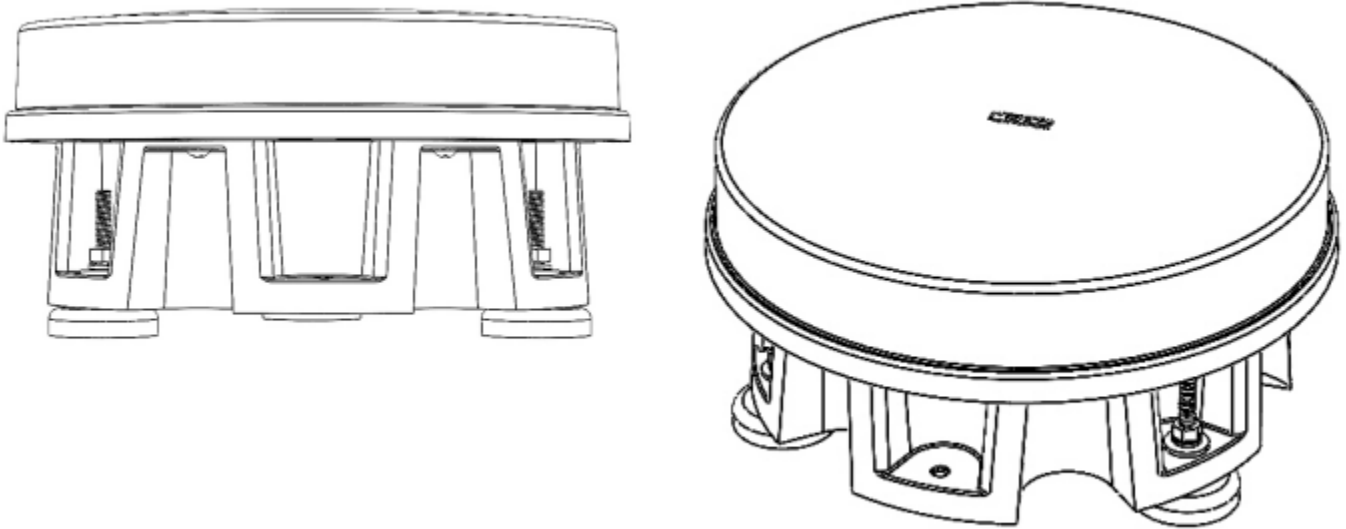
# Magnetic Mount Instructions

## Step 1.

Select a mounting location. The magnetic mount can be placed on ferromagnetic surfaces, such as iron, steel, and nickel. The antenna should be as far away as possible (at least 18") from other roof-mounted devices such as light bars and other antennas to avoid de-tuning or interference issues.

## Step 2.

Place the antenna on the mounting surface. Check that all magnetic feet are touching the surface. Adjust the height of the magnetic feet by rotating the feet.



*Figure 4*

## Routing the Cables

### Step 1.

Route the cables from the antenna to the router, maintaining a minimum bend radius of 0.5". Avoid sharp bends and run the cables adjacent to existing wiring.

### Step 2.

Waterproof the RF connectors using electrical tape or heat shrink tubing, if required.

# Pole Mounting Instructions

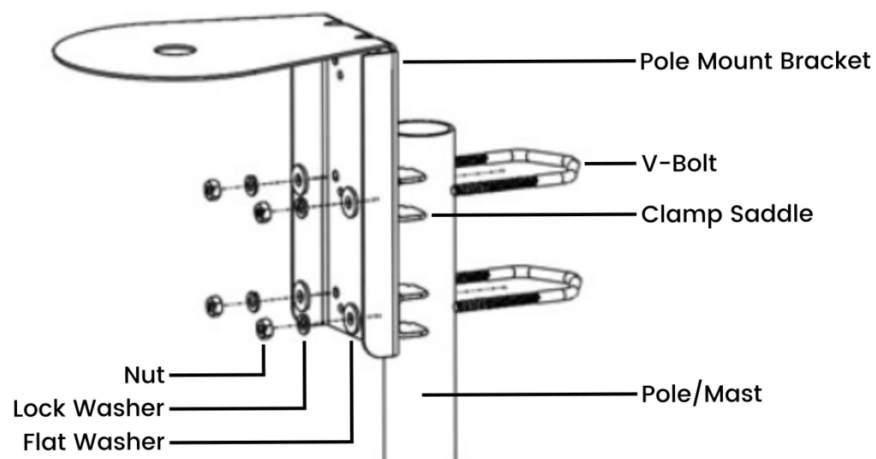
## Installing the Pole Mount Bracket

### Step 1.

Select a mounting location on a pole with a diameter between 1" and 2.25". Ensure that the pole is vertical, stable, and rigid.

### Step 2.

Install the pole mount bracket onto the pole with the provided hardware. Around the pole, insert the V-bolt through the clamp saddle then through the pole mount bracket. Fasten the V-bolts with the flat washers, lock washers, and nuts. Ensure that at least 1" of the pole extends above the upper clamp saddle. (Figure 5)



*Figure 5*

### Step 3

Tighten the four nuts until finger tight, making sure that the nuts are equally tightened. Using a 7/16" wrench, tighten the nuts one additional turn to compress the lock washers.

## Mounting the Antenna

### Step 1.

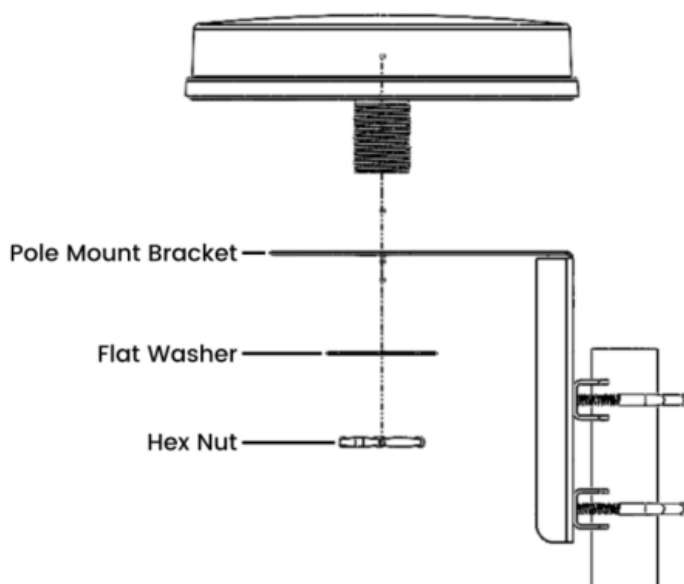
Feed the coaxial cables from the antenna through the hole in the bracket.

### Step 2.

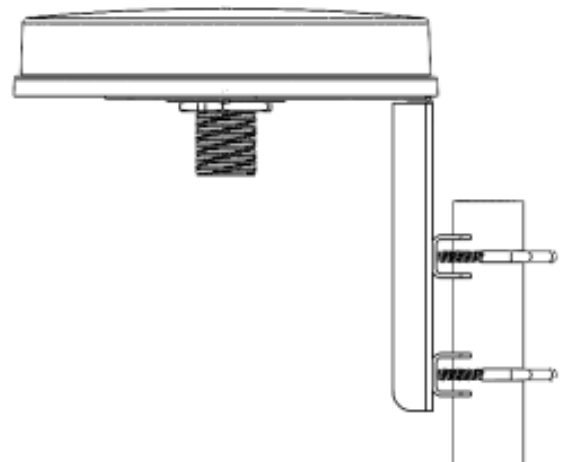
Remove the backing from the adhesive pad on the underside of the antenna and place the antenna on the bracket. Apply downward pressure on the antenna to ensure strong adhesion.

### Step 3.

Guide the flat washer, star washer (optional), and hex nut onto the cables. Thread the washer(s) and nut onto the antenna shaft and fully tighten using a 2.25" wrench until the antenna is pulled flat onto the bracket. (Figures 6 & 7)



*Figure 6*



*Figure 7*

## Routing the Cables

### Step 1.

Route the cables from the antenna to the router, maintaining a minimum bend radius of 0.5". Avoid sharp bends and run the cables adjacent to existing wiring.

### Step 2.

Waterproof the RF connectors using electrical tape or heat shrink tubing, if required.

## Installing Multiple Antennas on a Pole

When installing multiple antennas on a single pole, ensure that the antennas are mounted at least 24" apart on the pole.

# Cable Connection Instructions

## Step 1.

Use canned air and/or isopropyl alcohol to clean all the connectors to ensure that there is no dust in the terminals.

## Step 2.

Connect the antenna cables to the router. Use the table below for reference; different routers may have different terminal names. Use a 5/16" wrench to carefully tighten the connectors on the cables to the router terminals. It is recommended to use a 5 in.-lb. torque wrench to prevent over-tightening.

**NOTE: Do not apply more than 5 in.-lbs. of torque to SMA connectors.**

For best MIMO performance, use the antenna elements in pairs as follows:

- LTE 1 & LTE 2
- LTE 3 & LTE 4
- LTE 5 & LTE 6
- LTE 7 & LTE 8
- Wi-Fi 1 & Wi-Fi 2

Antenna Cable	Router Connection
LTE 1	MAIN 0
LTE 2	AUX 0
LTE 3	MAIN 1
LTE 4	AUX 1
LTE 5	MAIN 0 on 2 <sup>nd</sup> modem
LTE 6	AUX 0 on 2 <sup>nd</sup> modem
LTE 7	MAIN 1 on 2 <sup>nd</sup> modem
LTE 8	AUX 1 on 2 <sup>nd</sup> modem
GPS	GPS
Wi-Fi 1	2.4/5GHz, gold left
Wi-Fi 2	2.4/5GHz, gold right
Bluetooth	BT

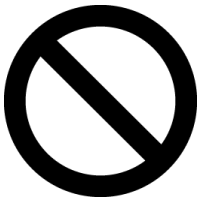
# Commission and Testing

Check each coaxial cable connector and confirm that it cannot be easily loosened. Visually inspect the coaxial cables to ensure that they are not sharply bent and are sufficiently secured and supported between the antenna and the router.

Use a cellular device's built-in diagnostics to confirm the RSSI is higher than -75dB. Confirm the cellular connection supports communications at required data rates.

Connect the GPS/GNNS cable to the GPS/GNNS receiver and check for satellite acquisition.

Connect the cellular/LTE & WLAN/Wi-Fi cables to the router and stow any unused coaxial cables to avoid damage.



## CAUTION

To comply with FCC RF Exposure requirements in section 1.1310 of the FCC Rules, antennas used with this device must be installed to provide a separation distance of at least 20 cm from all persons to satisfy RF exposure compliance.



## DO NOT

- Operate the transmitter when someone is within 20 cm of the antenna
- Install the antenna or mast assembly on a windy day
- Install the mast close to power lines as it can cause serious injuries or death



## WARNING

Watch out for overhead power lines. Check the distance to power lines before beginning installation.



## WARNING

This document gives the detailed instructions to install an antenna to the best of our knowledge. This document is for general information only. It cannot be used as a warranty. Parsec Technologies Inc. will not accept any liability for any damage caused by an antenna due to unknown variables.



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# Great Pyrenees Installation Instructions

**Rev: 1**

Completion Date: 10/7/2022

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Approval Date:

Engineering Manager: Rauhon Shaik

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