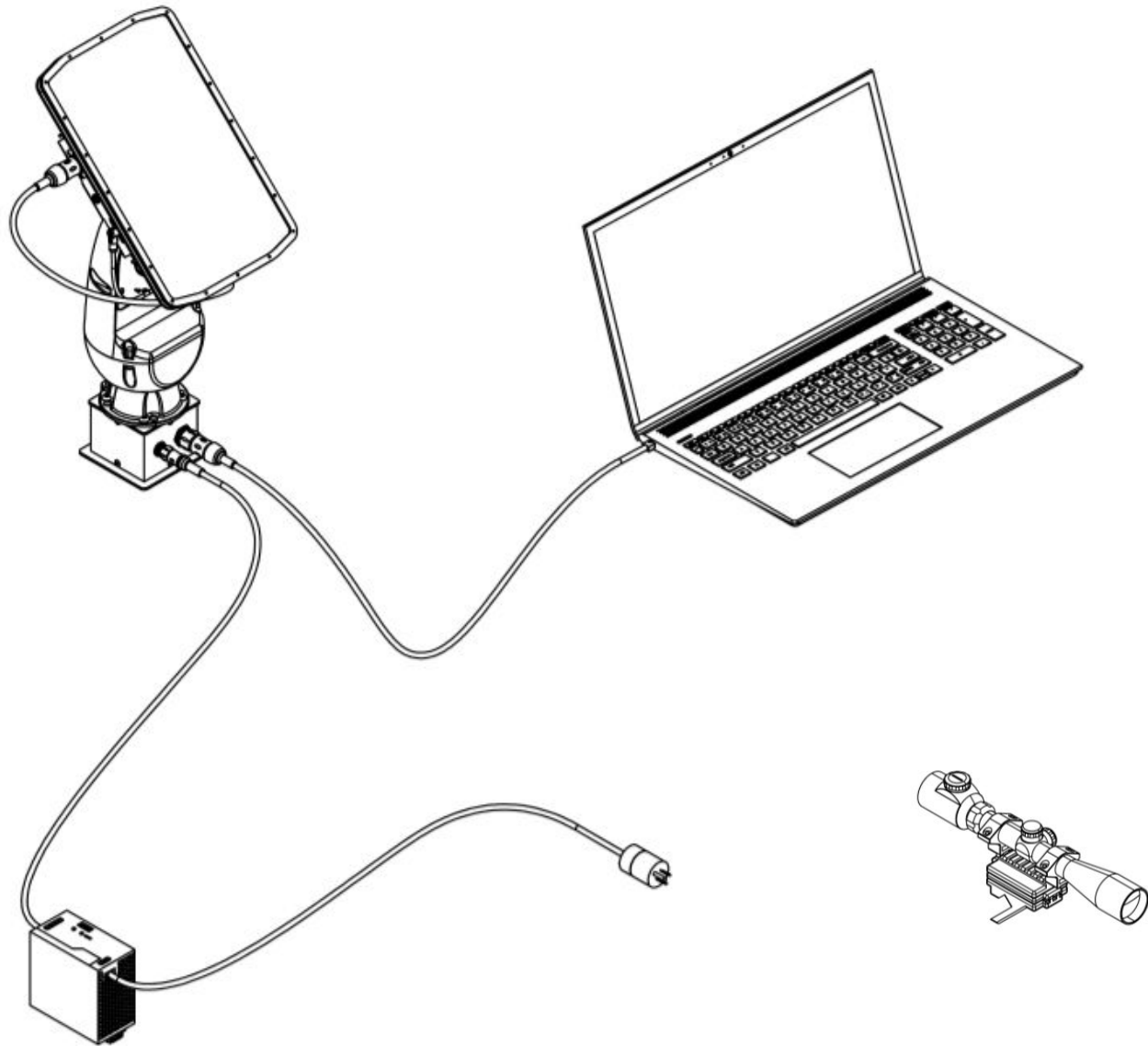
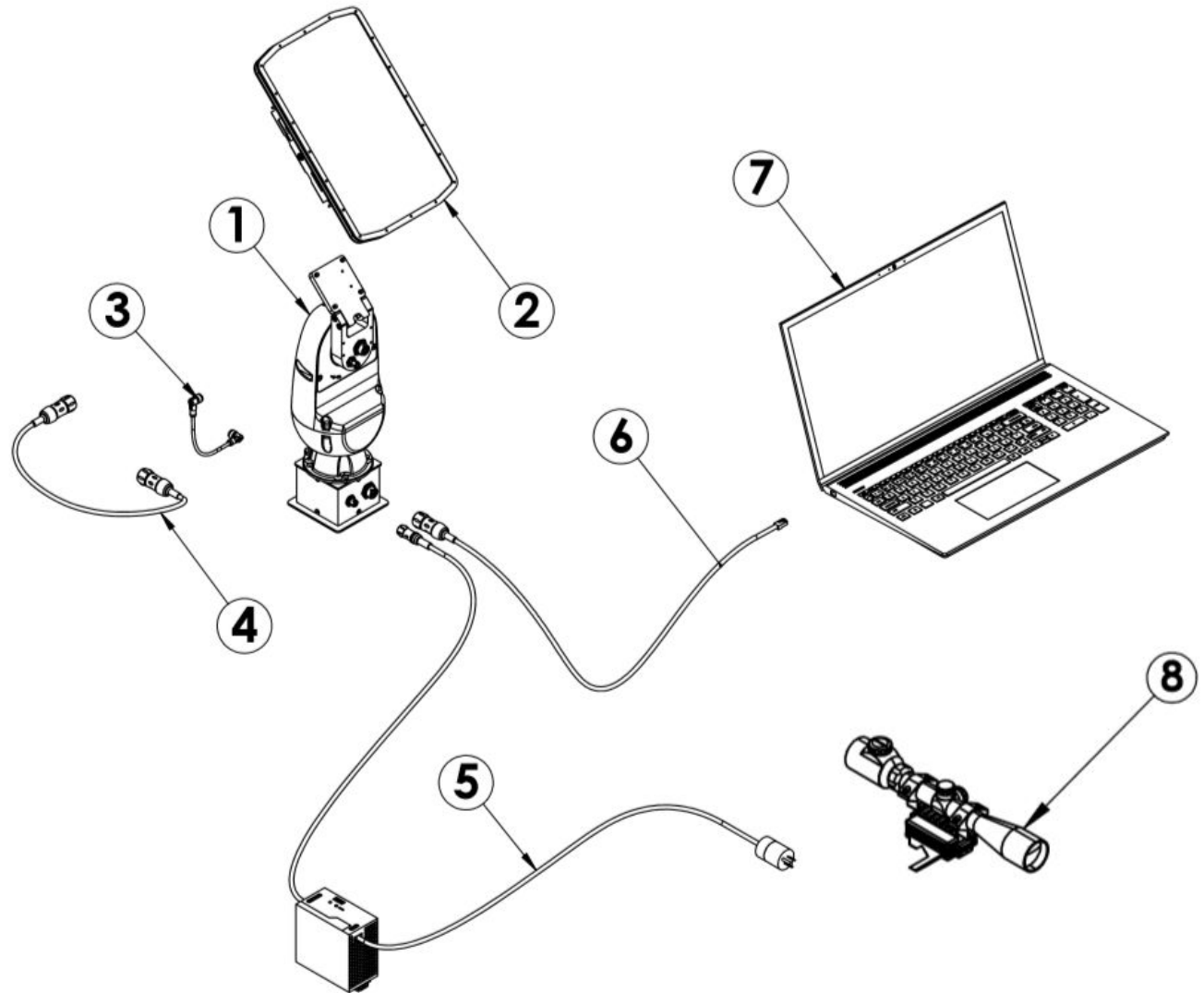


# SP-FIXED 3D RADAR KIT



# Part List

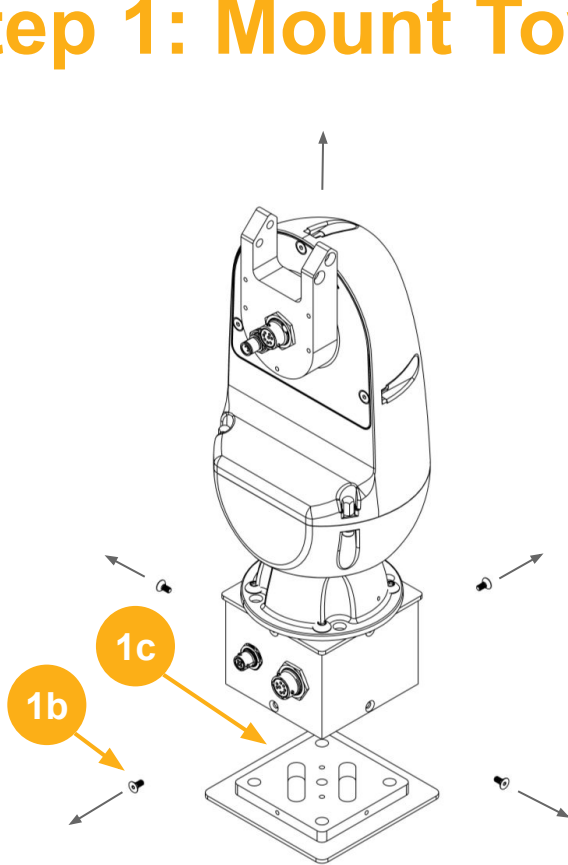
1. Turret Assembly
  - a. Turret
  - b. Base Screws X 4
  - c. Base Plate
  - d. Mounting Plate
  - e. Flat Head Screws X 4
  - f. Cap Head Screws X 4
2. Radar
3. Cable, Radar to Turret
4. Cable, Radar to Turret
5. Power Supply
6. Cable, Turret to Computer
7. Laptop (not provided)
8. Scope Assembly
  - a. Scope
  - b. Scope Mount



# Tool List

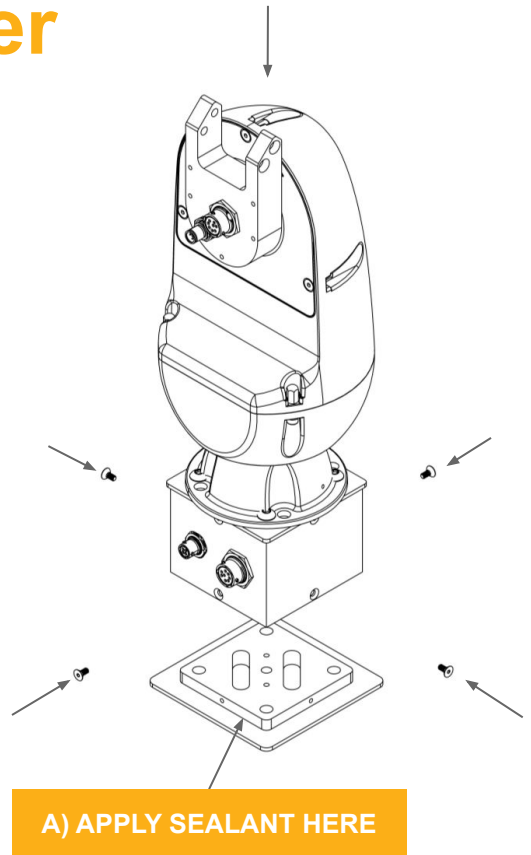
- Phillips Head Screwdriver
- 3/32" Hex Driver
- 5/32" Hex Driver
- 3/16" Hex Driver

# Step 1: Mount Tower



## 1. Fix Base Plate

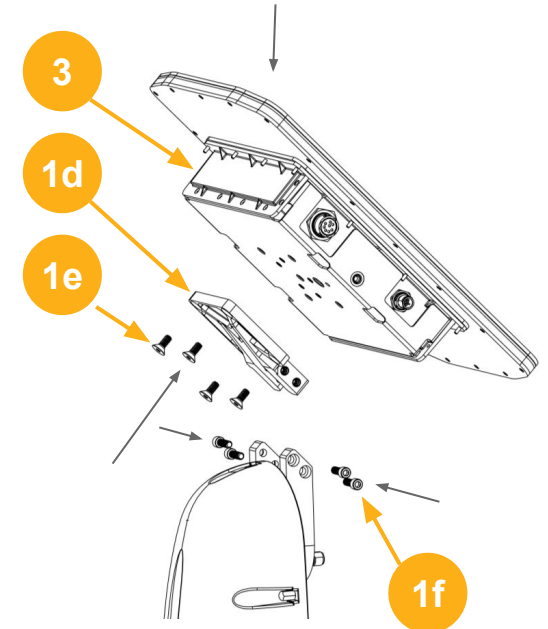
- a. Unscrew 4 Base Screws (1b).
- b. Bolt Base Plate (1c) to approved mounting surface.



A) APPLY SEALANT HERE

## 3. Mount Turret

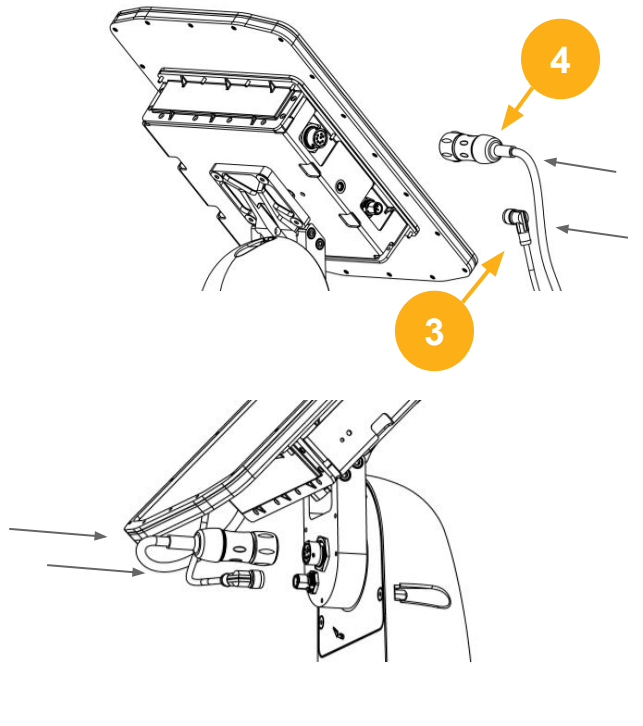
- a. Place Turret on top of Base Plate.
- b. Apply grease to tapped holes in Base Plate.
- c. Apply Sealant (A) around entire inside corner of Base Plate.
- d. Screw 4 Base Screws back into place.



## 4. Mount Radar

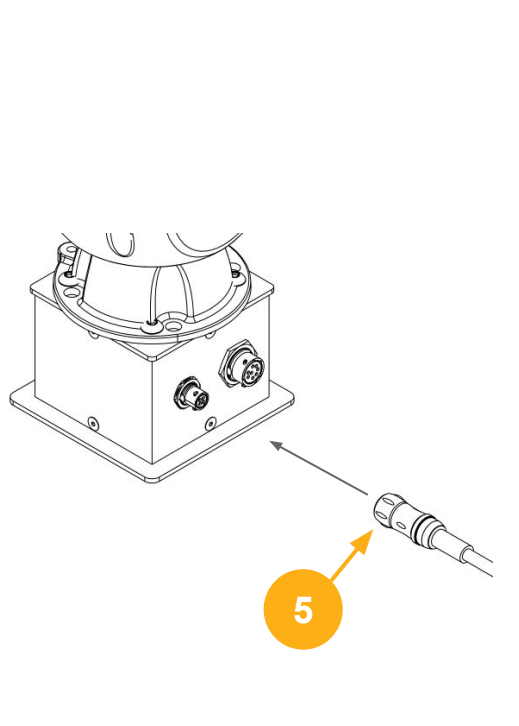
- a. Fasten Mounting Plate (1d) to Radar (2) using 4 Flat Head Screws (1e).
- b. Place Radar on top of Turret ensuring the Mounting Plate seats properly and holes align.
- c. Fasten Radar to Turret using 4 Cap Head Screws (1f)

# Step 2: Connect Cables



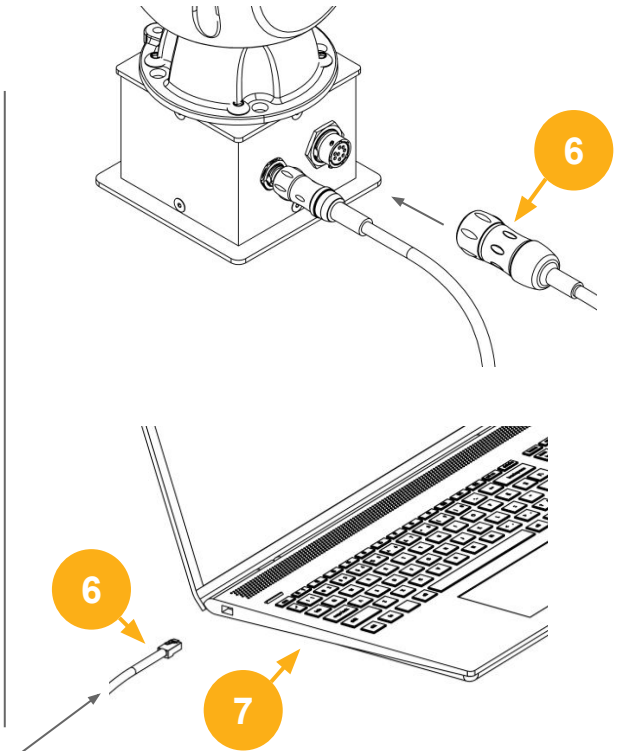
## 1. Connect Radar

- a. Connect Cable (3) to Radar by aligning connector slots, inserting, and twisting clockwise until you feel a click.
- b. Connect Cable (4) to Radar by aligning connector slots, inserting, and screwing connector tight.
- c. Connect Cables (3) and (4) to Turret using same twist to click motion as described in step (a).



## 2. Connect Power

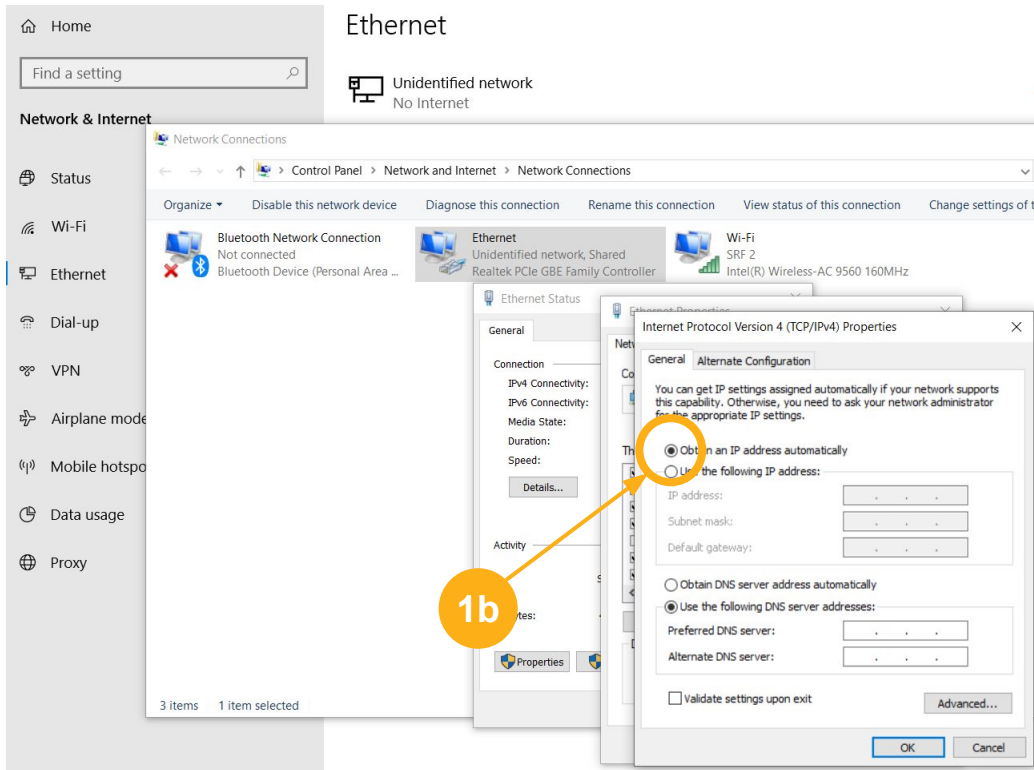
- a. Connect Cable (5) to Turret base using twist to click motion.
- b. **\*\*Caution: Radar will begin rotating after this step, stay clear.** Connect Power Supply to 120V Power Outlet. Radar will begin calibration sequence.



## 3. Connect Computer

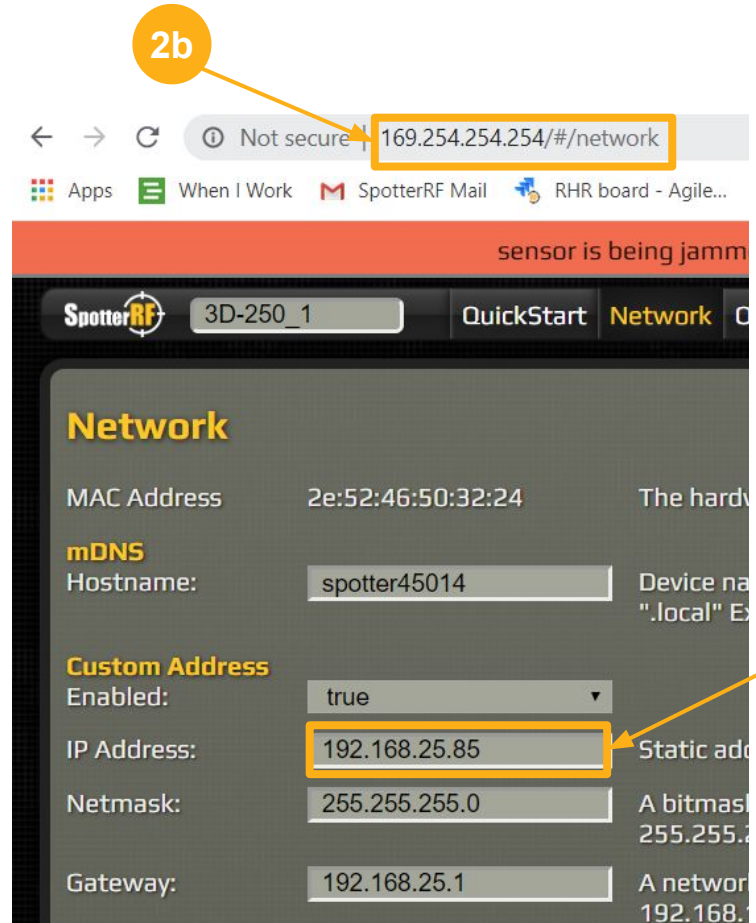
- a. Connect Cable (9) to Turret base using same twist to click motion as described in previous step.
- b. Connect Cable (9) to Computer (10) by inserting connector into ethernet port until you feel a click.

# Step 3: Configure System



## 1. Verify Network Settings

- a. Open Windows Settings, then
  - i. Network & Internet
  - ii. Ethernet
  - iii. Change adapter options
  - iv. Ethernet
  - v. Internet Protocol Version 4
- b. Verify the "Obtain an IP address automatically" box is checked.
- c. Select Ok, then Ok again.

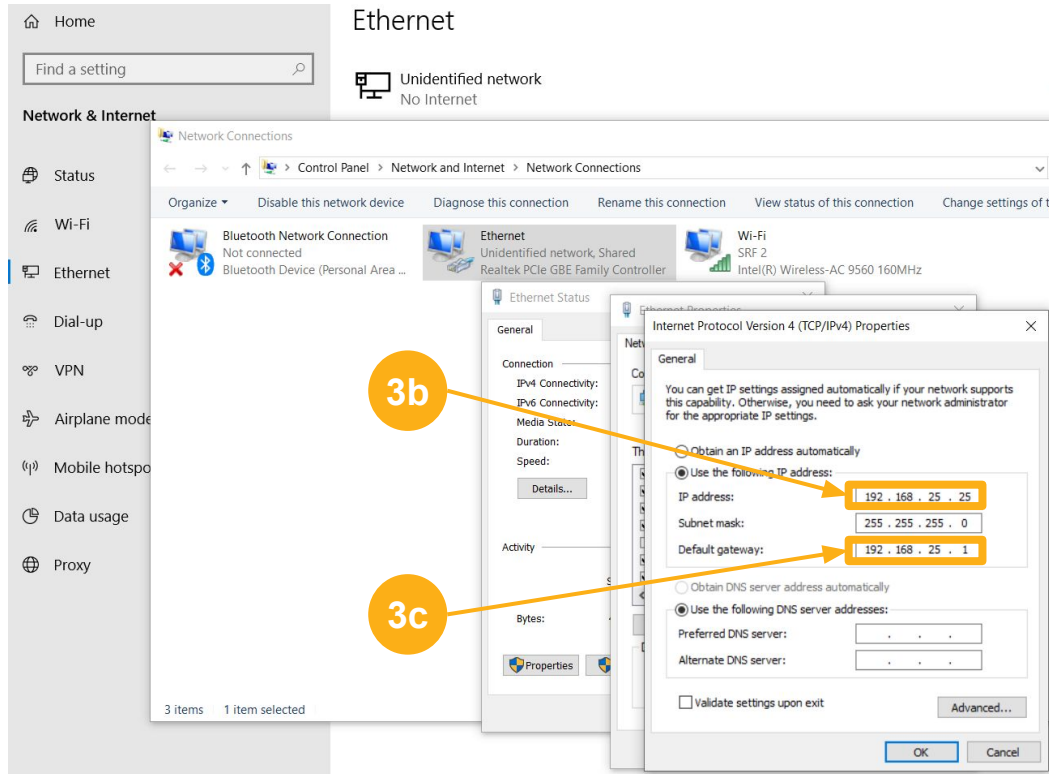


## 2. Configure Radar

- a. Open a web browser
- b. Enter **169.254.254.254** into the address bar and press enter.
- c. Quickstart page will appear. Select Network Tab.
- d. Create a custom IP address that fits within your network parameters, with a minimum of 4 sections (e.g. XXX.XXX.XXX.XXX)
- e. Record this number with its Radar Unit.
- f. If using multiple Radar units in your array:
  - i. Turn off current radar.
  - ii. Turn on next radar.
  - iii. Repeat all of Steps 2a-2e with next radar.
  - iv. Repeat until all radar units have been assigned a custom IP address.

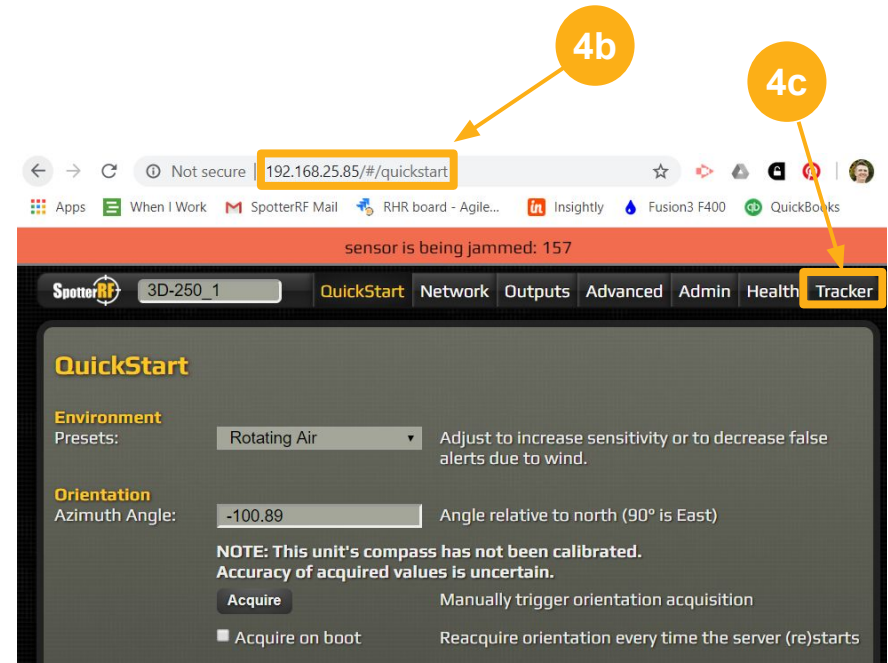


# Step 3: Configure System (continued)



## 3. Update Network Settings

- a. Access Internet Protocol Version 4 (follow Step 1a.)
- b. Create a custom IP address for the Computer that matches all but the last set of digits in the Radar IP address created in Step 2d (e.g. 192.168.25.XXX)
- c. Enter Default gateway address identical to the computer IP address (Step 3b), but replace the last number set with "1".
- d. Select Ok, then Ok again.



## 4. Access Radar

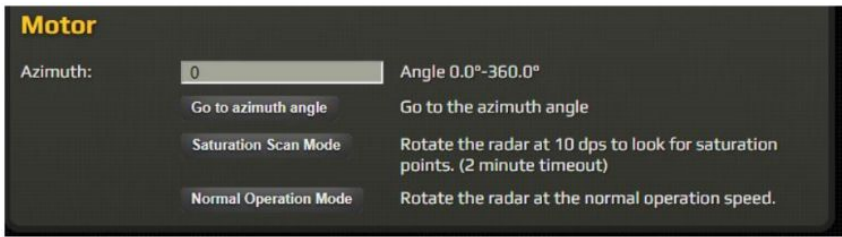
- a. Open a web browser
- b. Enter the custom IP address created in Step 2d.
- c. The Radar is online. Select Tracker tab to view field.

Any additional configurations needed can be found within the **NetworkedIO** and **Spotter Quickstart Guides**, or [SpotterRF Reference Guides](#). These resources are found on the [SpotterRF Partner Portal Reseller Materials](#).



# Step 4: Calibration

**Step 1:** Access the radar’s interface, navigate to the Advanced tab, and scroll down to Motor settings.



Select “Go to azimuth angle” and the radar head will stop spinning and rotate to the **azimuth angle of the motor**.

**Step 2:** Attach the calibration scope to the radar as shown:

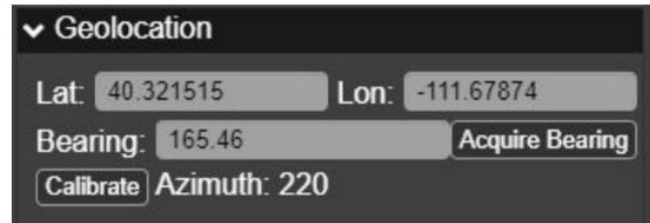


**Note:** Scope should be centered over the radar face plate and screw.  
**WARNING: DO NOT ATTEMPT TO PHYSICALLY ROTATE THE MOTOR HEAD.**

**Step 3:** Use the Azimuth input field within Motor settings to adjust the radar’s orientation to align the scope’s reticle at a reference point in the 360° field of view.



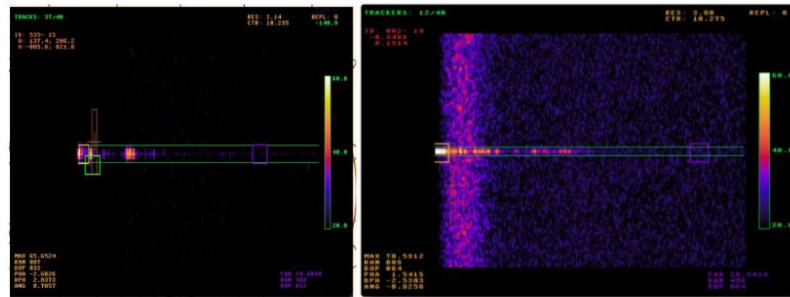
**Step 4:** Once reticle is aligned, navigate to the NIO interface and select the radar within the Devices icon. Select Geolocation, select Calibrate, click on the reference point found on the map image in the NIO interface, then select Save. The Bearing line will have adjusted to that reference point.



**Step 5:** Remove scope from radar. Navigate back to the Motor settings and select “Normal Operation Mode”.

**Step 6:** Once calibrated, ensure there is minimal to no saturation within the radar’s 360° field of view. Select the “Saturation Scan Mode” within the Motor settings and the rate of rotation will noticeably slow down.

**Step 7:** Navigate to the Tracker tab and select “Show RDM”. This allows you to see how much saturation is present at the angle the radar is facing during its rotation. Repositioning radar or radar fencing (SP-RDR-FENCE) may be needed to reduce saturation that is affecting performance of drone detections.



Clean RDM vs Saturation