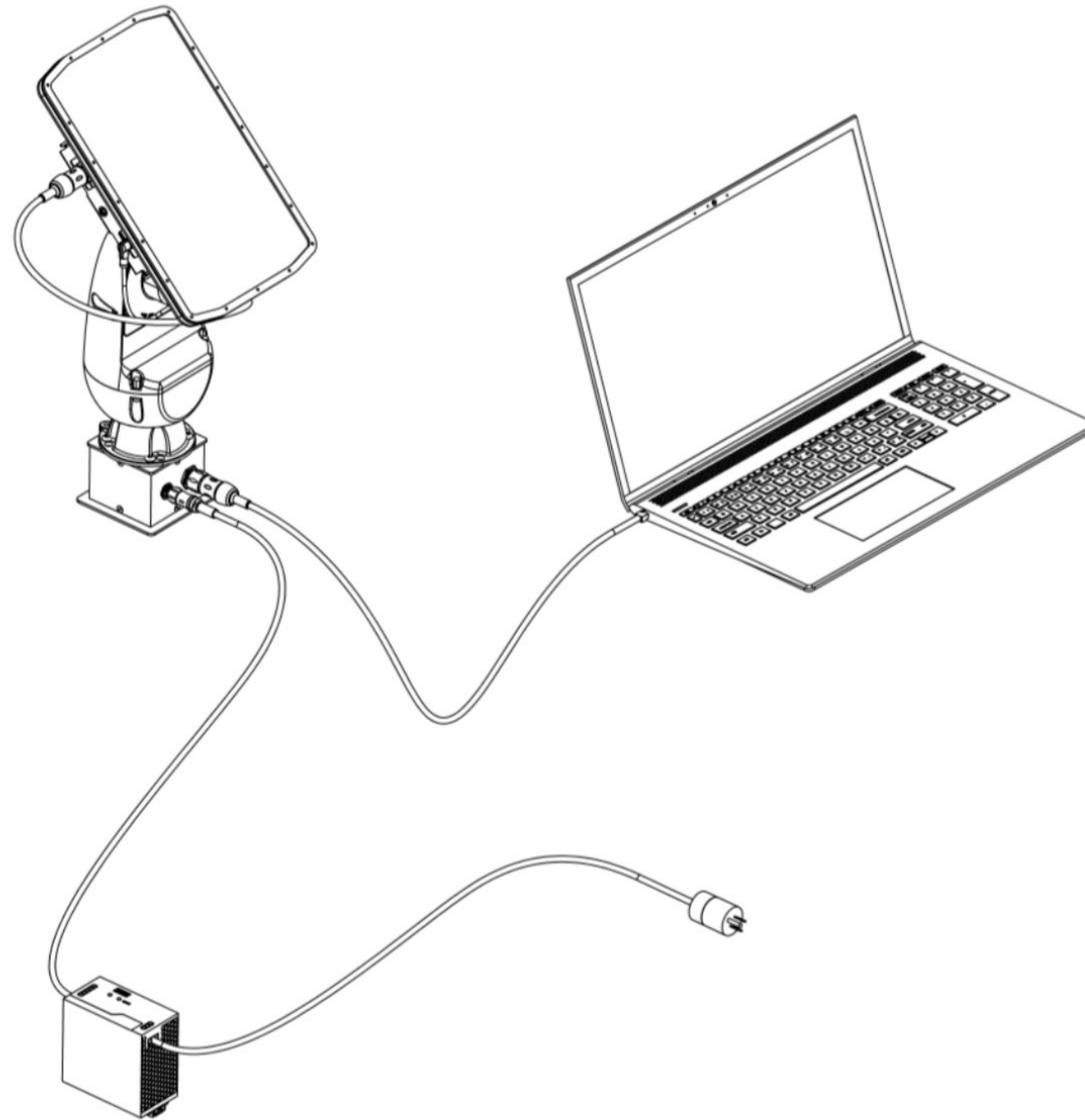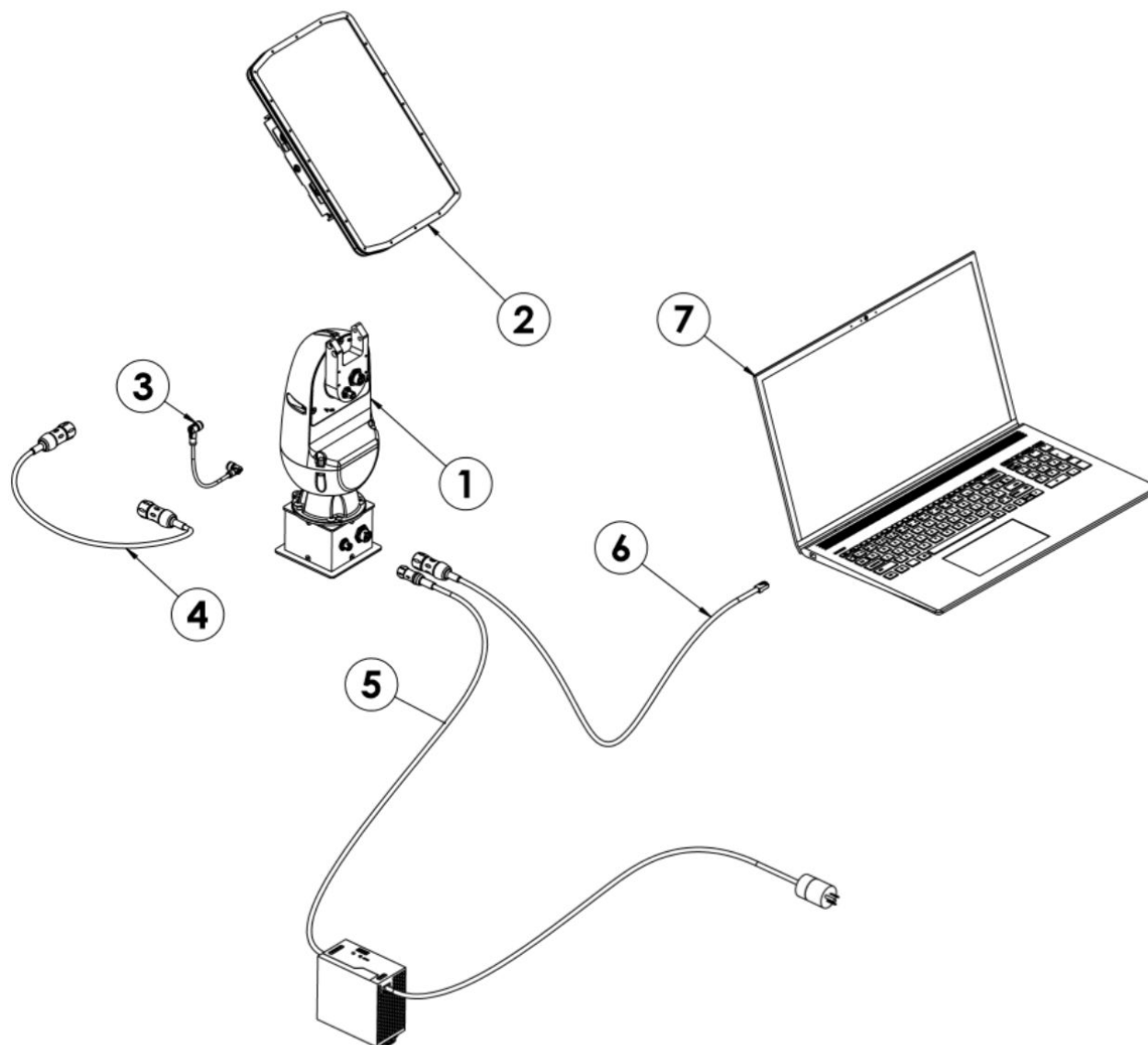# SP-FIXED 3D RADAR KIT


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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
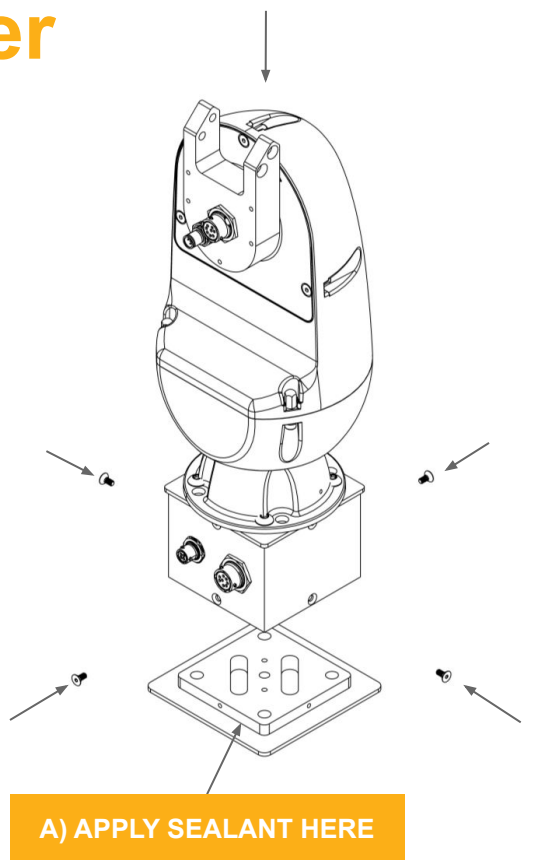6. Cable, Turret to Computer
7. Computer (not provided)

Tool List

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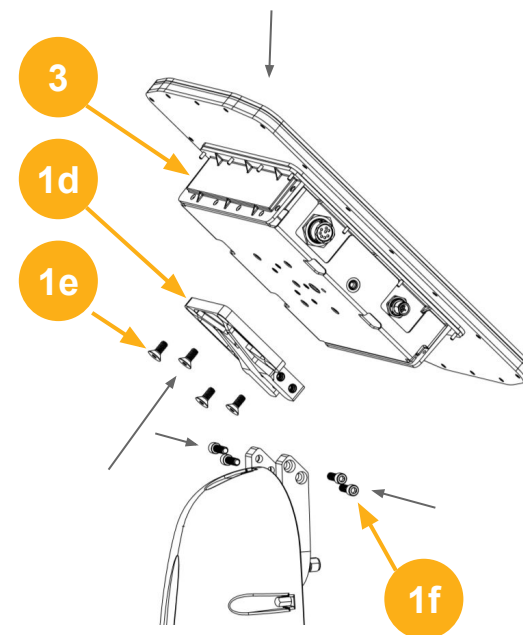3/16" Hex Driver

Step 1: Mount Tower

A) APPLY SEALANT HERE
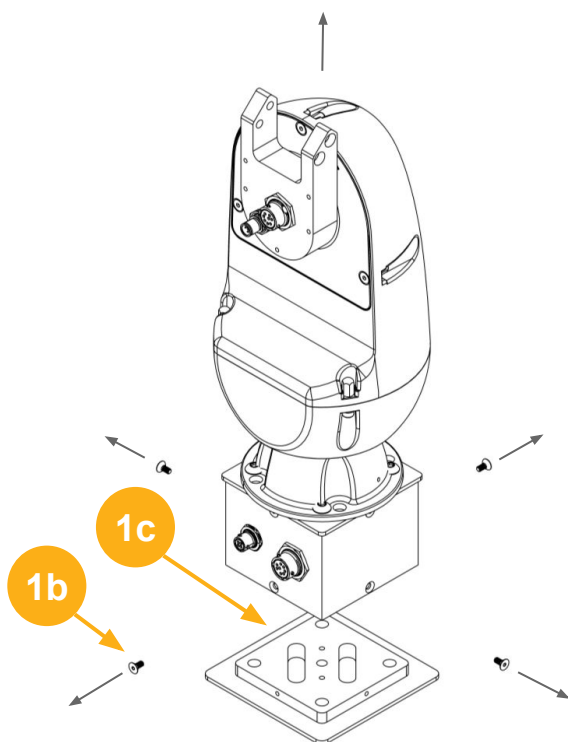
1. Fix Base Plate
a. Unscrew 4 Base Screws (1b).
b. Bolt Base Plate (1c) to approved mounting surface.

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
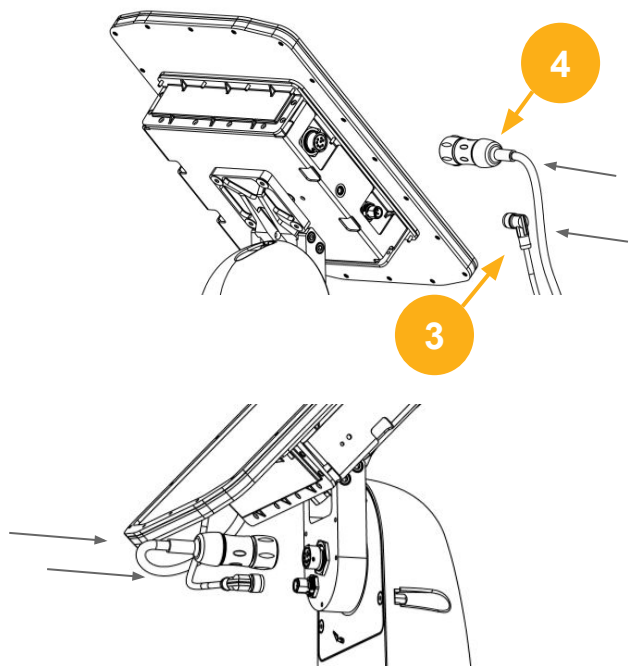
1. Connect Radar
a. Connect Cable (3) to Radar by aligning connector slots, inserting, and twisting clockwise until you feel a click.
b. Connect Cable (4) to Radar by aligning connector slots, inserting, and screwing connecter tight.
c. Connect Cables (3) and (4) to Turret using same twist to click motion as described in step (a).
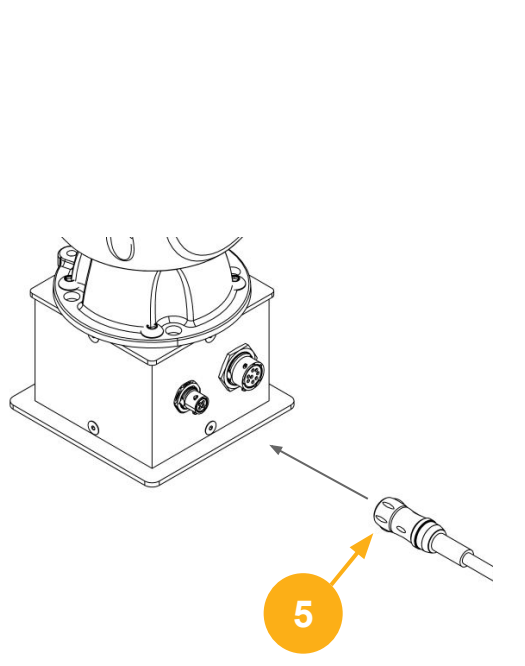
2. Connect Power
a. Connect Cable (5) to Turret base using twist to click motion.
b. ***Caution: Radar will begin rotating after this step, stay clear.* Connect Power Supply to 120V Power Outlet. Radar will begin calibration sequence.
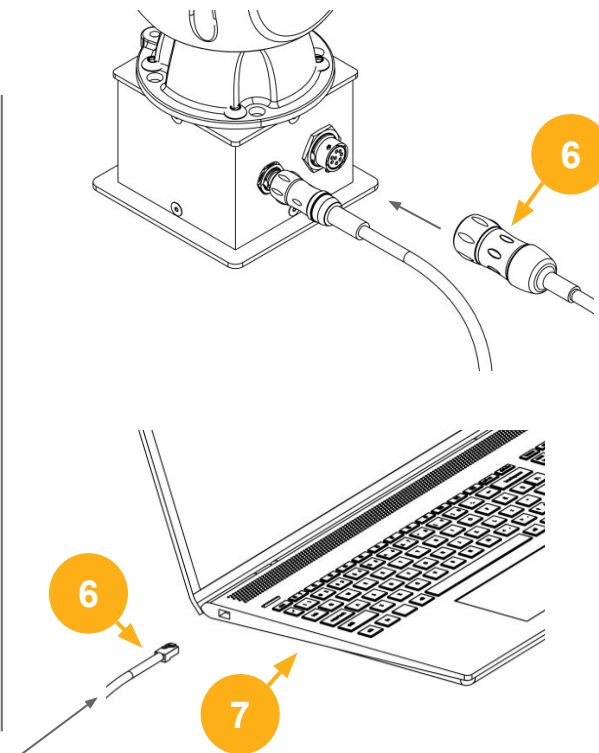
3. Connect Computer
a. Connect Cable (9) to Turret base using same twist to click motion as described in previous step.
b. Connect Cable (9) to Computer (10) by inserting connector into ethernet port until you feel a click.

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Step 3: Configure System

2b

2d

1b
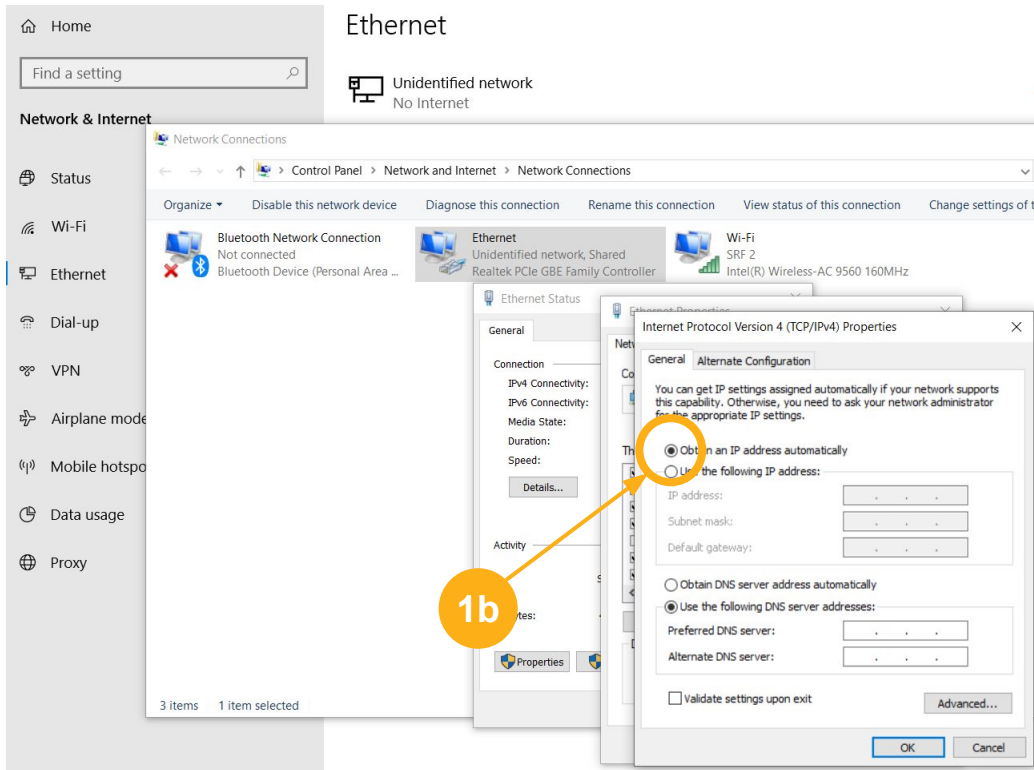
1. Verify Network Settings

- 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.
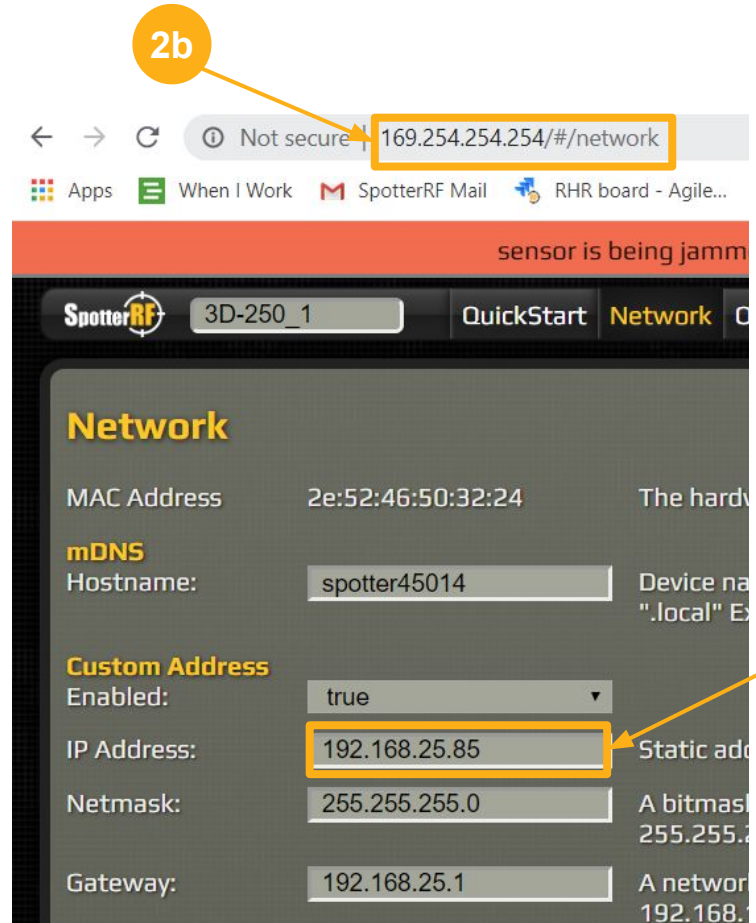
2. Configure Radar

- 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.

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Step 3: Configure System (continued)
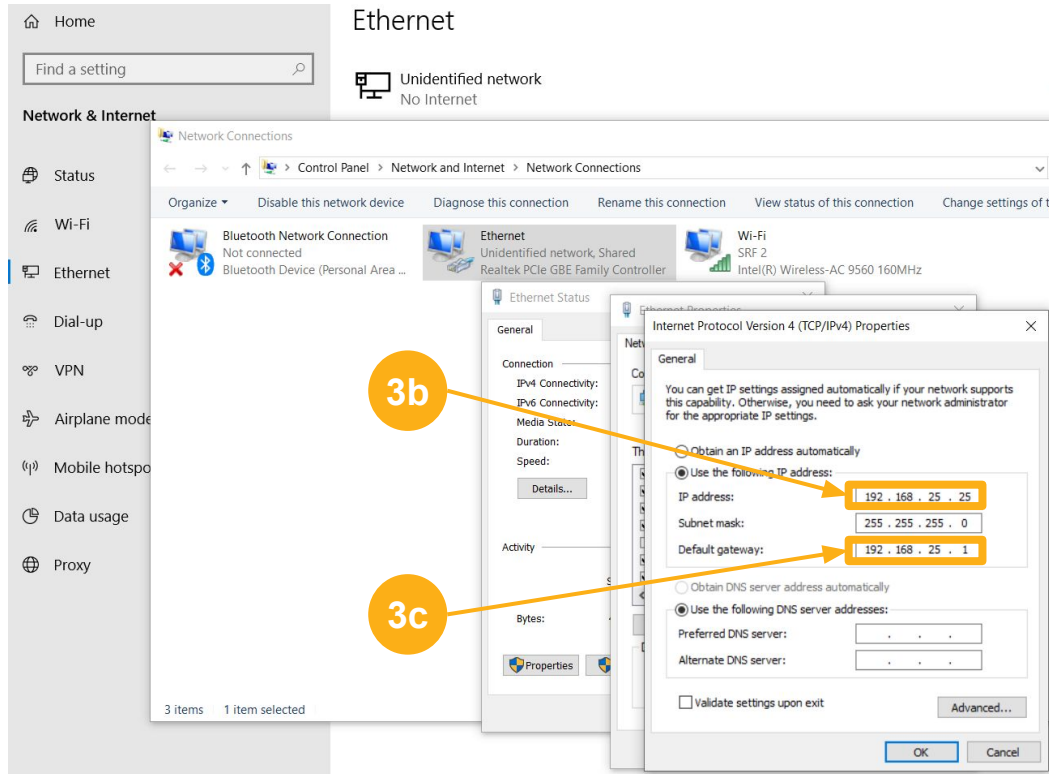
3. Update Network Settings
a. Access Internet Protocol Version 4 (follow Step 1a.)
b. Create a custom IP address for the Computer that matches all but the last set of digits in the Radar IP address created in Step 2d (e.g. 192.168.25.XXX)
c. Enter Default gateway address identical to the computer IP address (Step 3b), but replace the last number set with "1".
d. Select Ok, then Ok again.
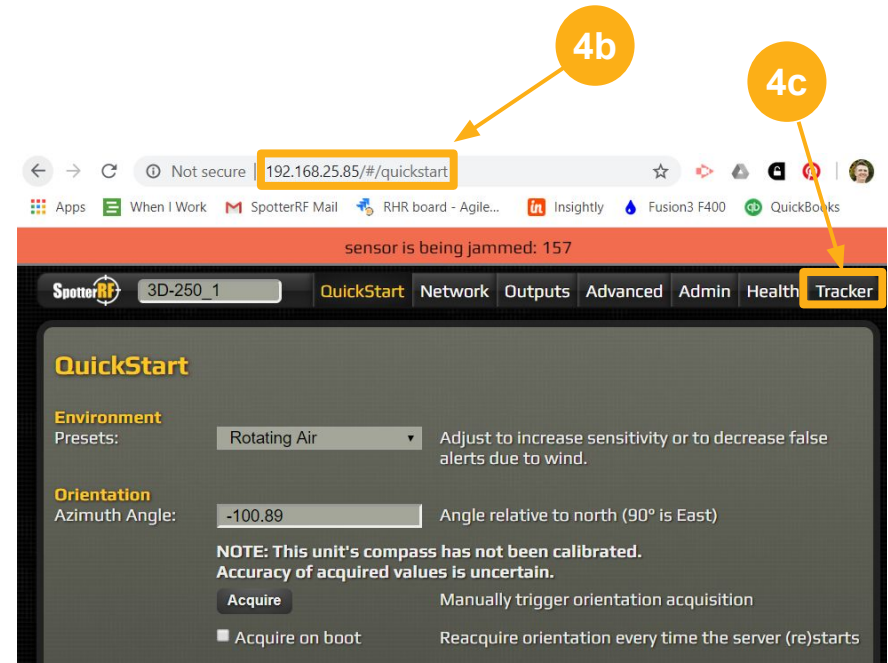
4. Access Radar
a. Open a web browser
b. Enter the custom IP address created in Step 2d.
c. The Radar is online. Select Tracker tab to view field.

Refer to the NetworkedIO and Spotter Quickstart Guides to continue with system configuration.

Reference documents, technotes and tutorials can be accessed at spotterrf.com/support

Technical Support

+1 813-200-7227   Support@SpotterRF.com

Step 4: Calibration

Warning: When calibrating the radar or approaching the radar closer than 20 cm (8 in.) the radar transmitter must be switched off. This can be done via the radar advanced page at the custom IP address created above or at 169.254.254.254/#/sensor. Under the System section select Data Source: Blank, or set Transmit Duty Cycling to 0% and click save. Either will power down the Tx amplifier hardware for safe approach

Refer to AX250 1.8 and MIC camera physical Installation Guide and User Guide for Dual GPS Calibration 1.0.1.1 for calibration instructions

Step 5: Performance check

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