How To Setup Your Base & Rover on Pocket 3D

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   - Select the correct receiver.
   - Set the units of measurement.
   - Enter the rod height.

2. **Set Up the Base Station**
   - Setup on an Unknown/ or Known Point
   - Configure the radio settings.
   - Start the base station to begin transmitting.

3. **Check Antenna**
   - Verify the rover rod is set up correctly before setting up the rover radio.

4. **Set Up the Rover Radio**
   - Adjust the rover radio settings to match the base station.

5. **Perform Final Checks**
   - Ensure all components are powered on and ready to use.

Pre-Setup Verification:

Before starting the base and rover setup, verify the following:

1. **Prepare the Base Station**

   Battery Check: Ensure the base station has a fully charged battery or is connected to a 12V battery.

   - Antenna Check: Confirm the antenna is securely tightened.
   - Placement: Place the base station on the base post or tripod for a stable setup.

2. **Prepare the Rover**
   - Battery Check: Ensure the rover has a fully charged battery installed.
   - Antenna Check: Confirm the antenna is securely tightened.
   - Mounting: Attach the rover to the rover rod and extend the rod to 2 meters (6.562 feet)
   -

3. **Power On Devices**
   - Base Station: Turn on the base station.
   - Rover: Turn on the rover.

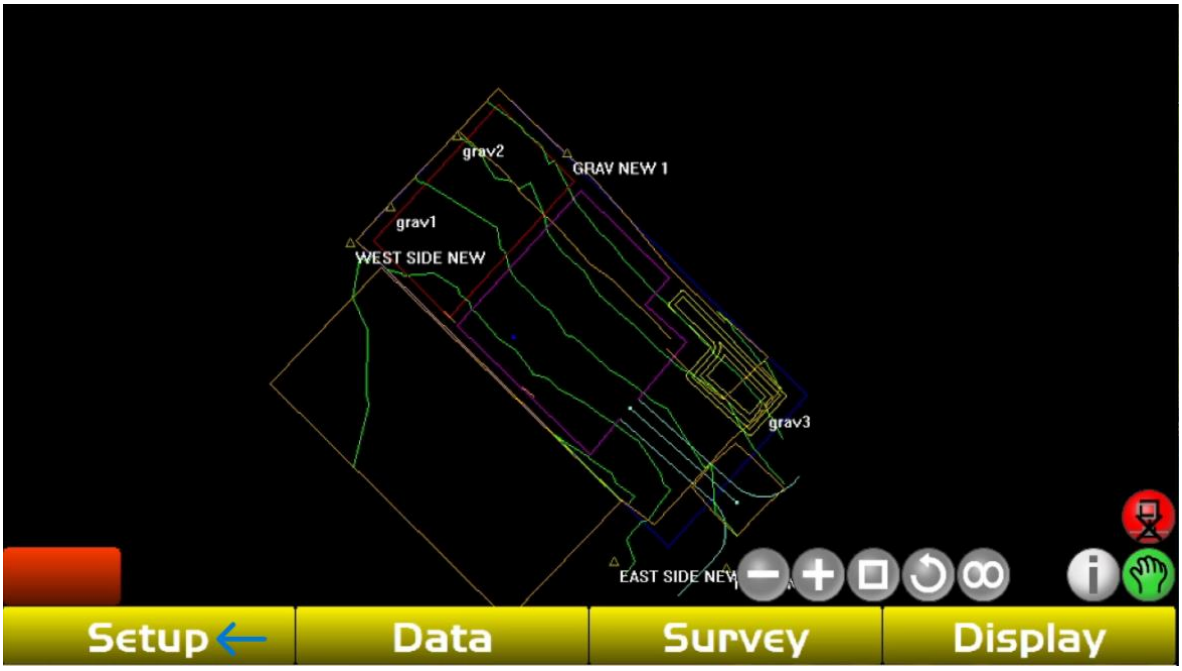
- Data Collector: Power on the data collector.

4. **Verify System Readiness**
    - Ensure all devices (base station, rover, and data collector) are powered on and functioning.

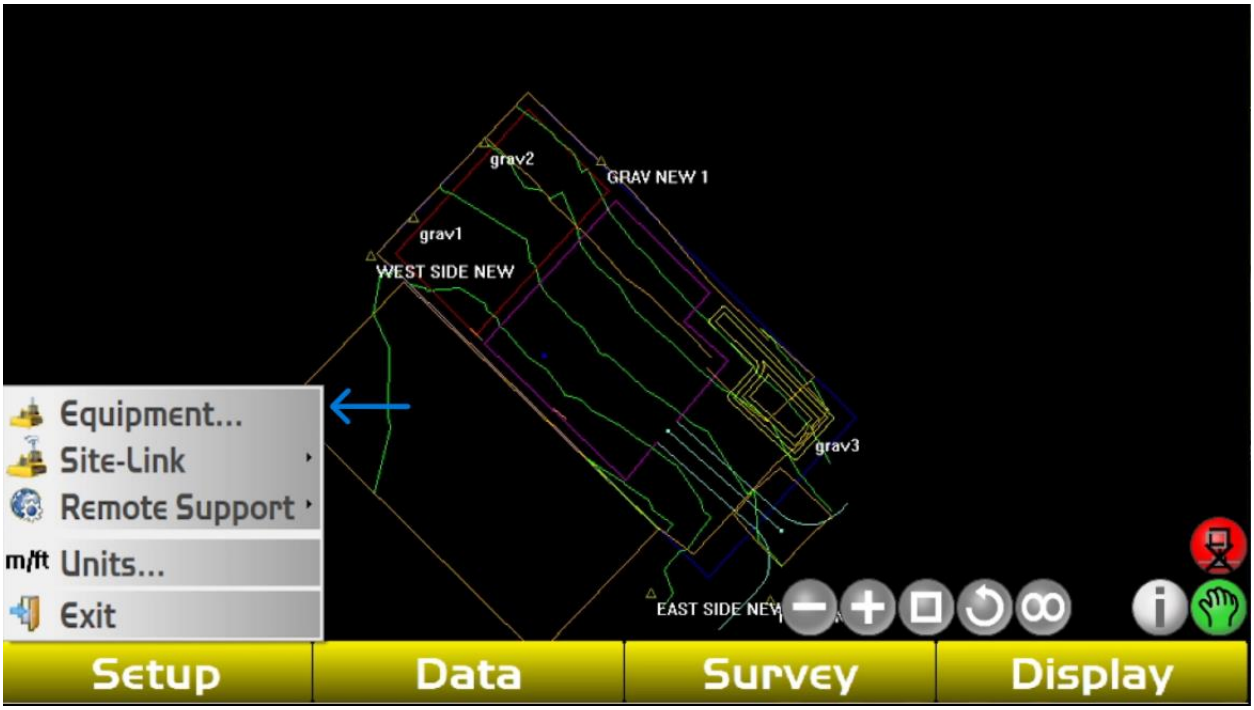
Rover Profile Setup

Step 1: Access the Setup Menu

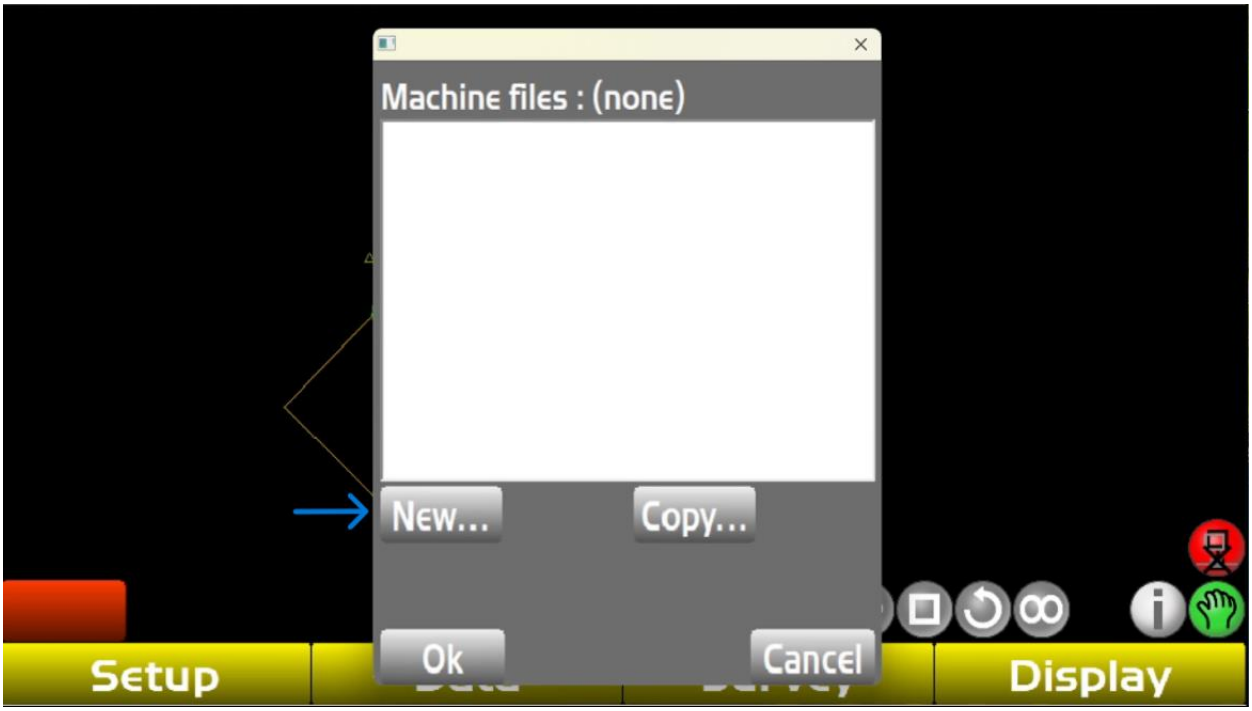
1. Tap on "**Setup**"



2. Tap on “**Equipment…**”

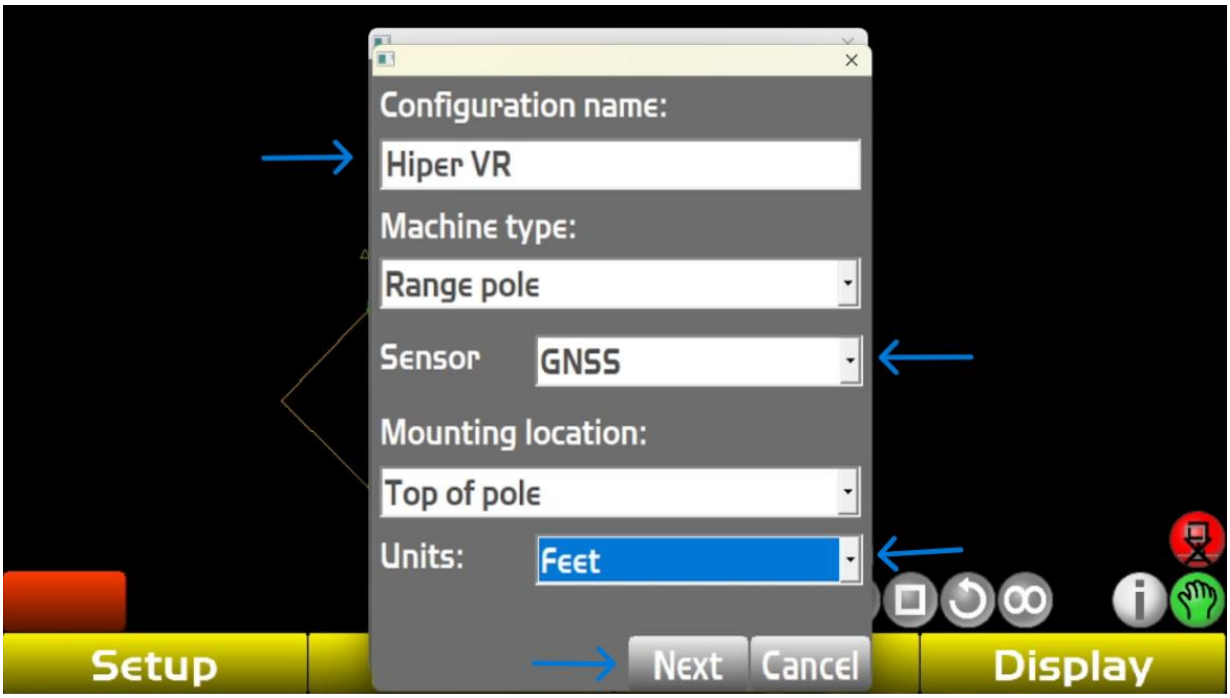


3. Tap on “**New…**”



Step 2: Configure the Rover Profile

1. **Enter the Model:** Type the model of your rover in the **"Configuration Name:"** field.
2. **Check the Sensor:** Ensure the **"Sensor"** field says **"GNSS."** If it doesn't, select **"GNSS"** from the dropdown menu.
3. **Set Units:** Select the appropriate units for your setup.
4. Tap **"Next."**

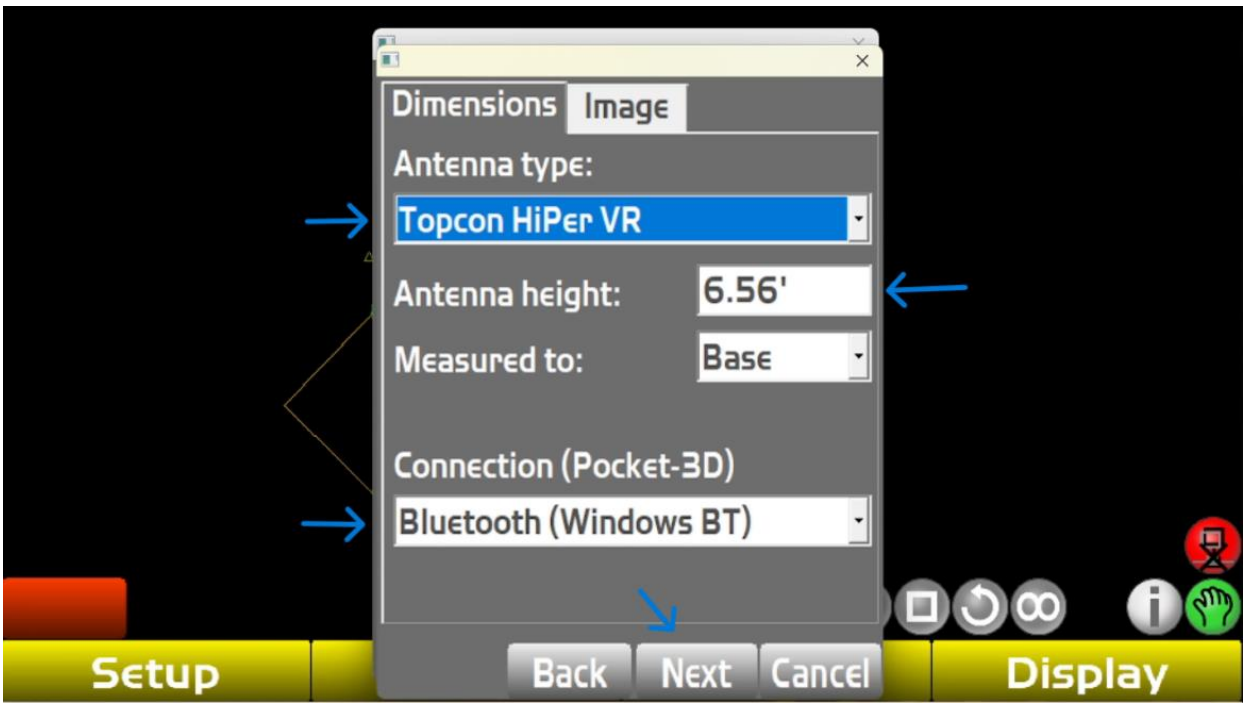


Tips:

- Double-check all fields to ensure accuracy before proceeding.

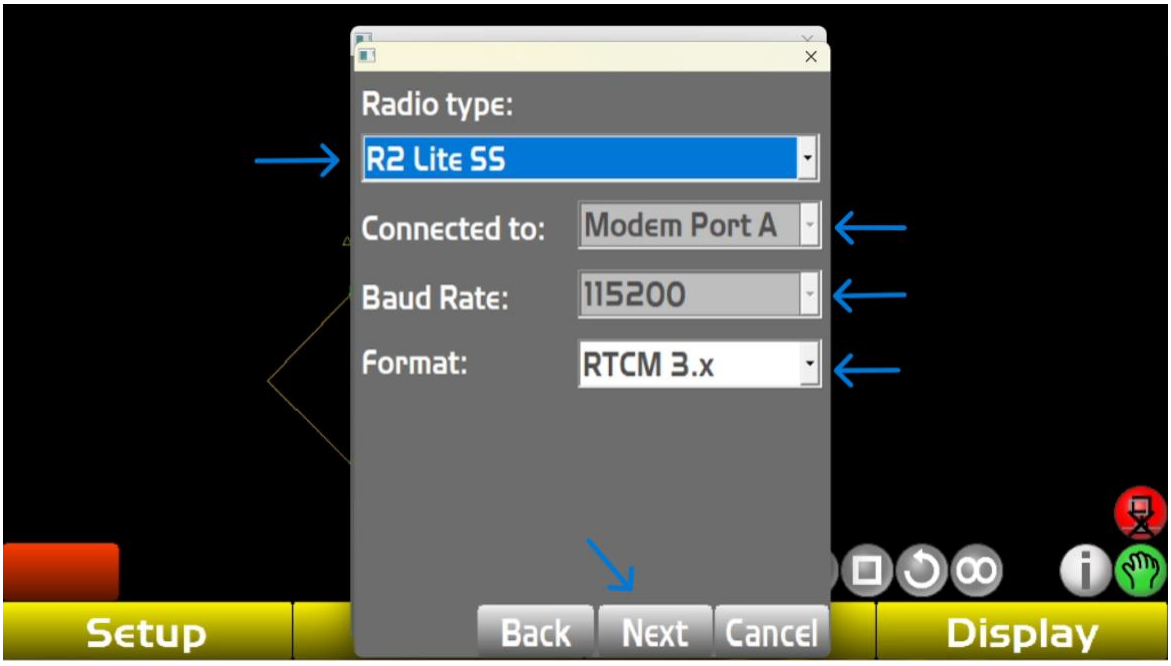
Step 3: Configure Antenna Settings

1. **Select Antenna Type:** Choose the model of your rover under **"Antenna Type."** If unsure, check the model printed on the bottom side of the rover.
2. **Set Antenna Height:** Enter **2 meters or 6.56 feet.** Unless you are adjusting the rover rod to a different height.
3. **Measured To:** Always select **“Base.”**
4. **Connection Settings:** For **Connection (Pocket-3D),** ensure it is set to **“Bluetooth (Windows BT).”**

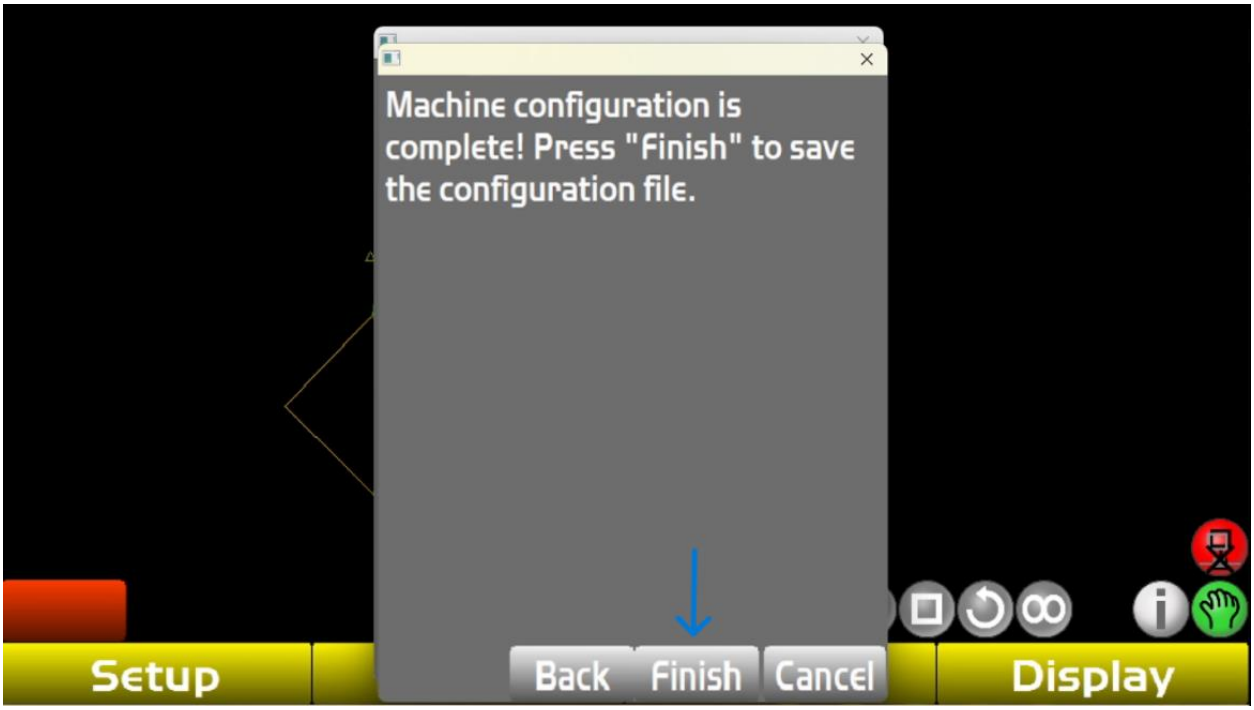


Step 4: Configure Radio Settings

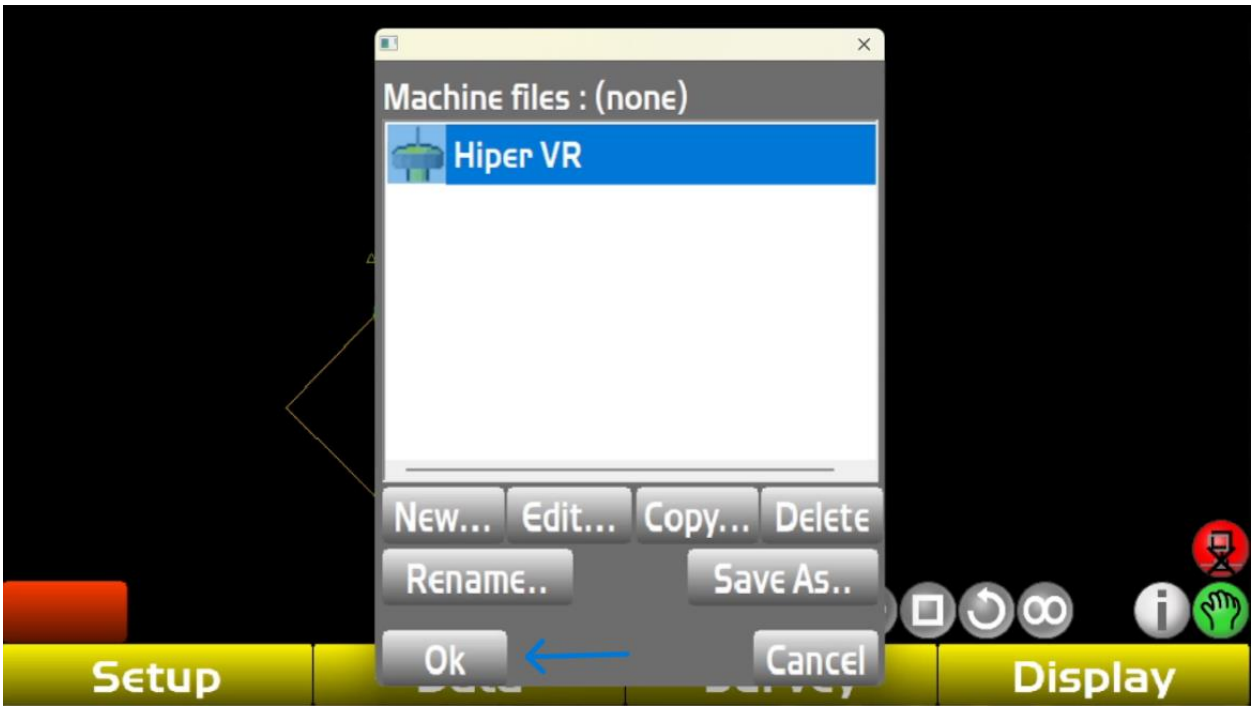
1. **Select the Radio Type:**
    - For **Hiper VR models:** Choose **“R2 Lite SS”** or **“R2 Lite UHF.”** Depending on what radio you have.
    - For **Hiper V, Hiper II, GR-3, or GR-5 models:** Choose **“Topcon Digital 2 UHF”** or **“Topcon FH915 SS.”**
2. **Adjust Settings for Hiper VRs:**
    - The **“Connect To”** and **“Baud Rate”** fields will be grayed out.
    - If using a **UHF Radio,** ensure it is set to **“R2 Lite UHF.”**
3. **Adjust Settings for Hiper V, Hiper II, GR-3 or GR-5:**
    - Set the radio type to **“Topcon Digital 2 (UHF)”** or **“Topcon FH915 (SS).”**
    - **Port:** Choose **Serial Port C.**
    - **Baud Rate:** Set to **38400** or **115200.**
    - **Format:** Always use **RTCM 3.X** for all Topcon equipment.
4. After verifying your radio settings tap on “**Next**”



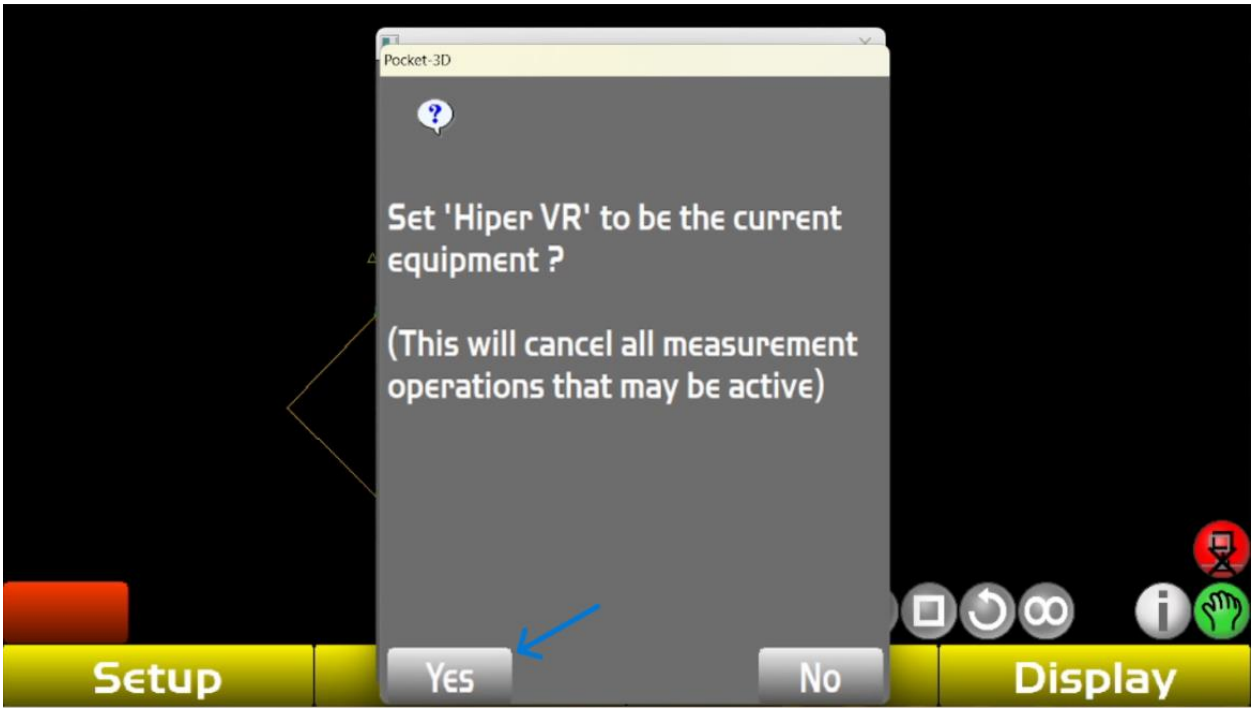
5. Tap “**Finish**”



6. Make sure the new profile you made is highlighted blue then tap “**Ok**”



7. Tap “**Yes**”

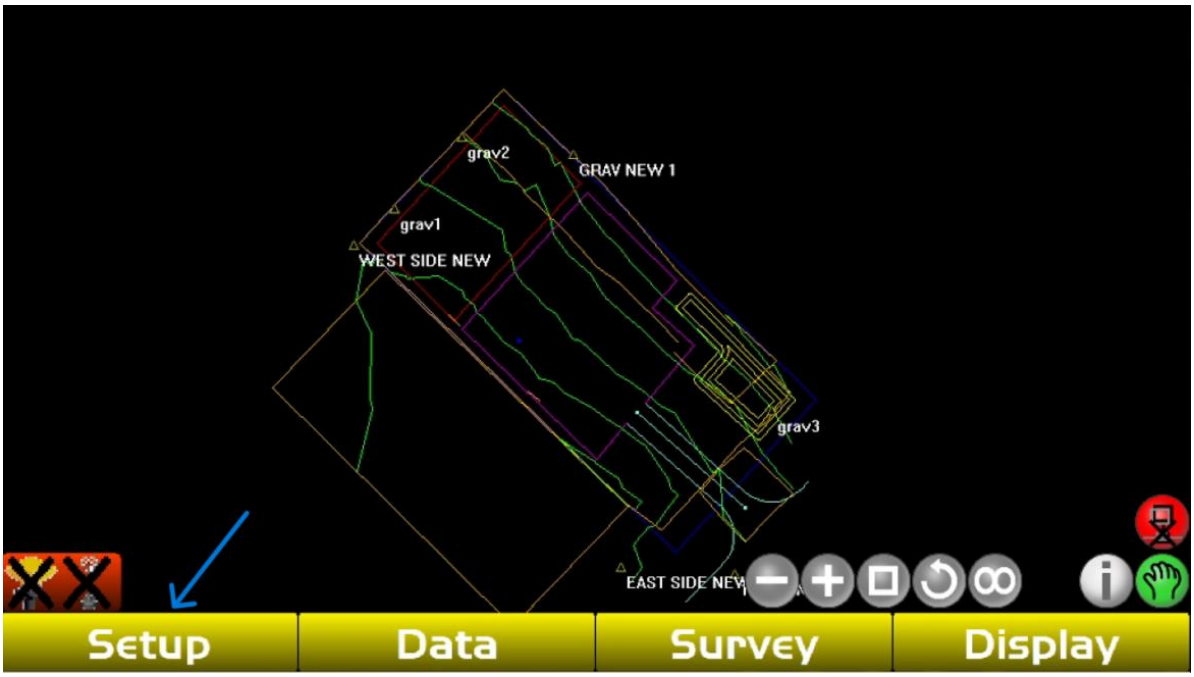


8. Now your profile should have loaded up, now we can move onto setting up the base station.

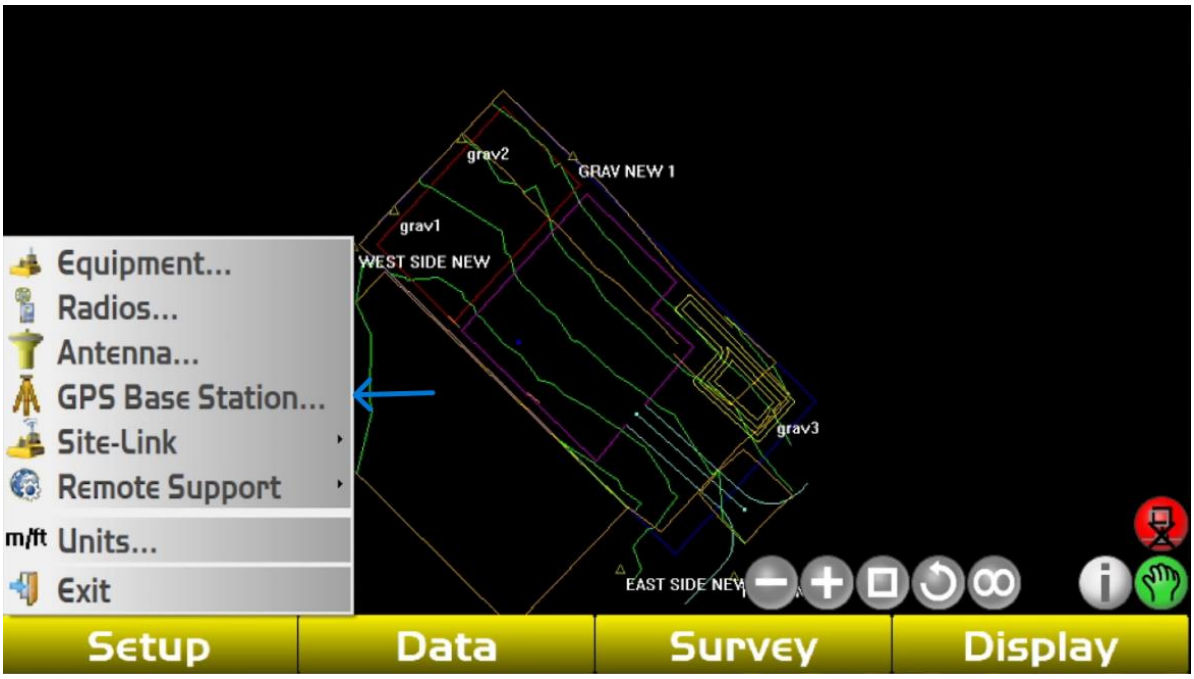
Topcon Base Station Setup

Step 1: Access the Setup Menu

1. Tap on "**Setup**"

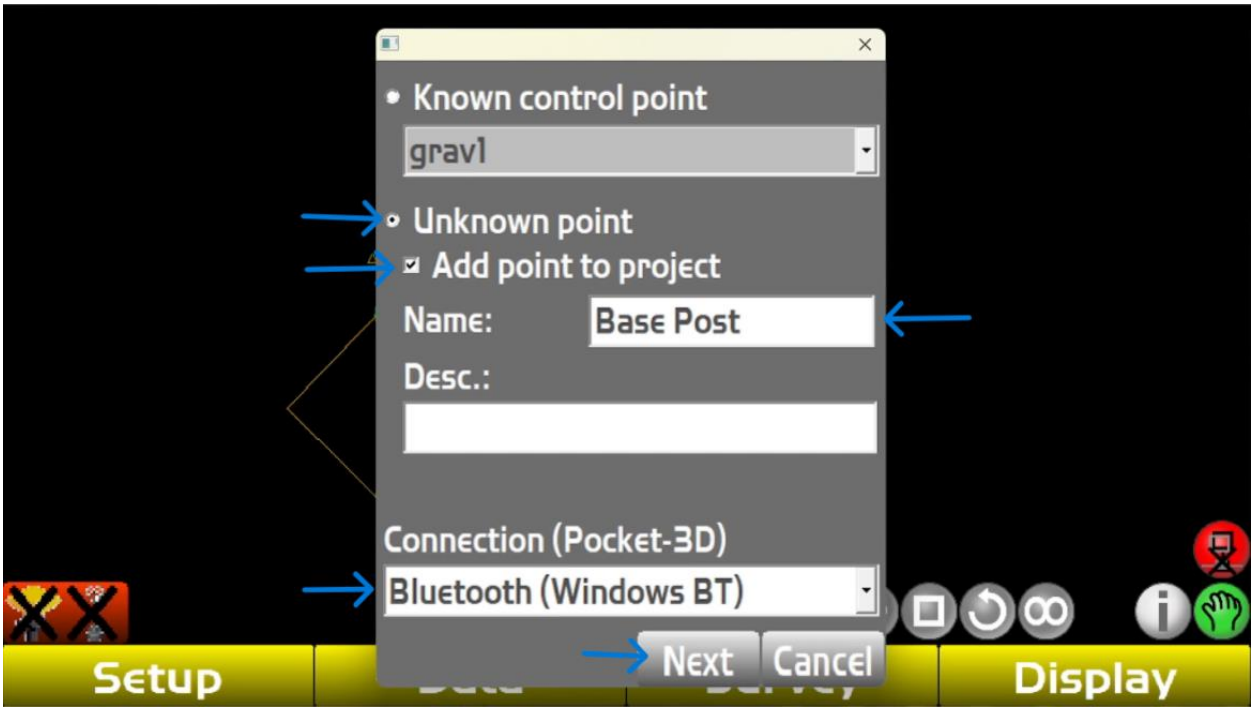


2. Tap on "**GPS Base Station…**"



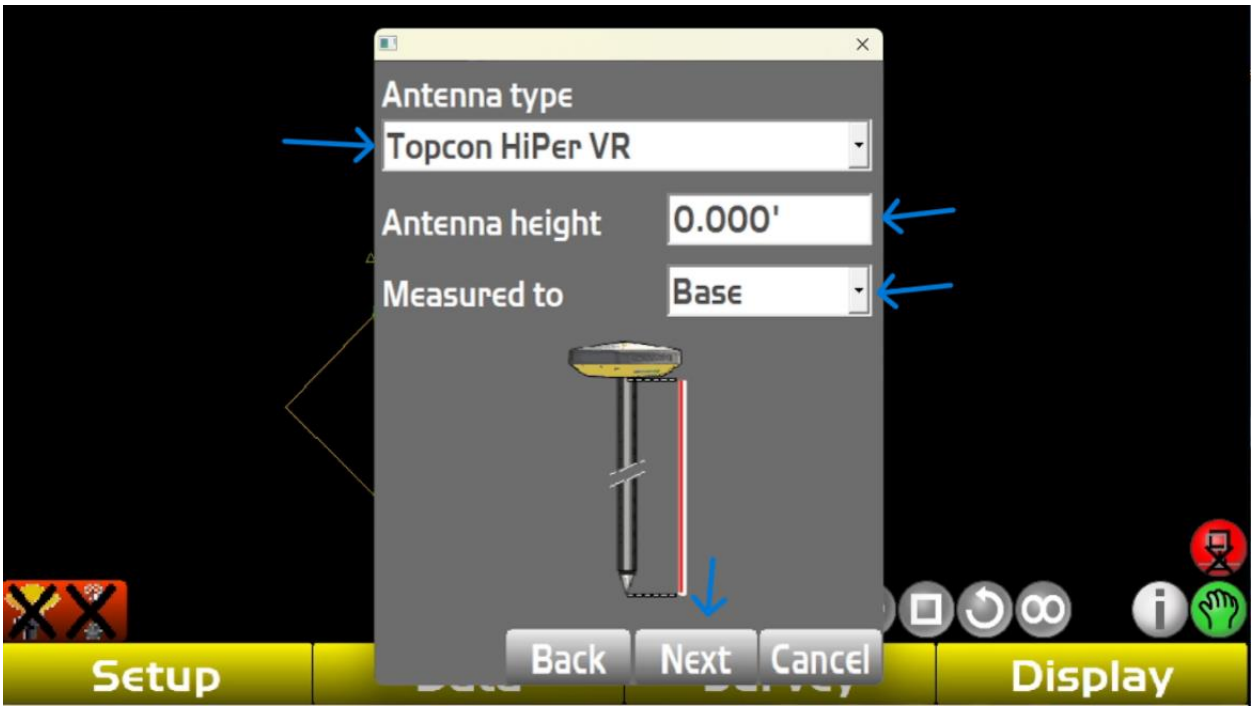
Step 2: Configure Base Setup

1. **If Setting Up on An Unknown Point:**
    - Select **"Unknown Point."**
    - If setting up on a base post that hasn't been measured into the job yet, checkmark the **"Add point to project"** box.
    - Enter a name in the **"Name"** box—this name will be what your base post is called.
2. **If Setting Up Over Known Control Point:**
    - Select **"Known Control Point."**
    - Choose the control point you are set over with the tripod.
3. **Connection Settings:**
    - Ensure the connection is set to **Bluetooth (Windows BT).**
4. Tap **"Next."** *This Example is setting up on an Unknown Control Point with a Base Post*



Step 3: Setup Antenna

1. **Select the Antenna Type:**
    - Choose the correct antenna type for your base model.
    - If unsure of the model, check the underside of the base unit for the model information.
2. **Set the Antenna Height:**
    - For an **unknown point setup**, set the height to **0**. This allows the system to automatically calculate the height once the job is localized.
    - For a **known control point setup** with a tripod, enter the actual antenna height.
3. **Measured To:**
    - Always ensure this is set to **"Base."**
4. Tap **"Next."**



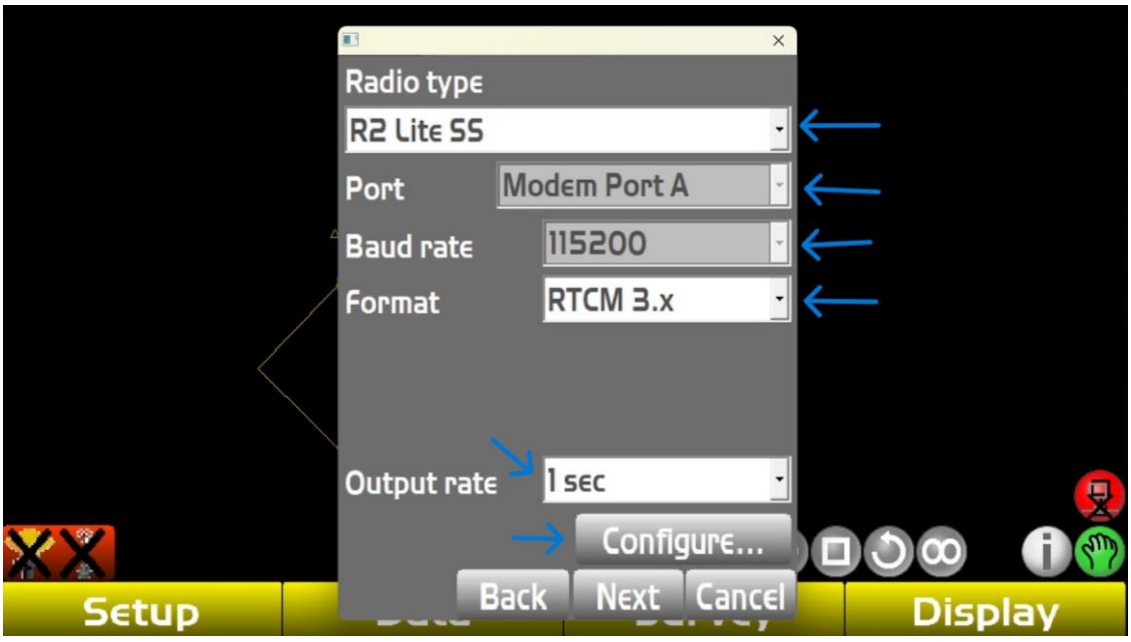
Step 4: Setting Base Radio Settings

Hiper VR

1. **Radio Types**:
    - **R2 Lite SS**: Uses 900 MHz frequency.
    - **R2 Lite UHF**: Uses 410-470 MHz or 450-470 MHz frequency.
2. **Special Notes**:
    - The **port** and **baud rate** settings will be grayed out by design and cannot be adjusted.

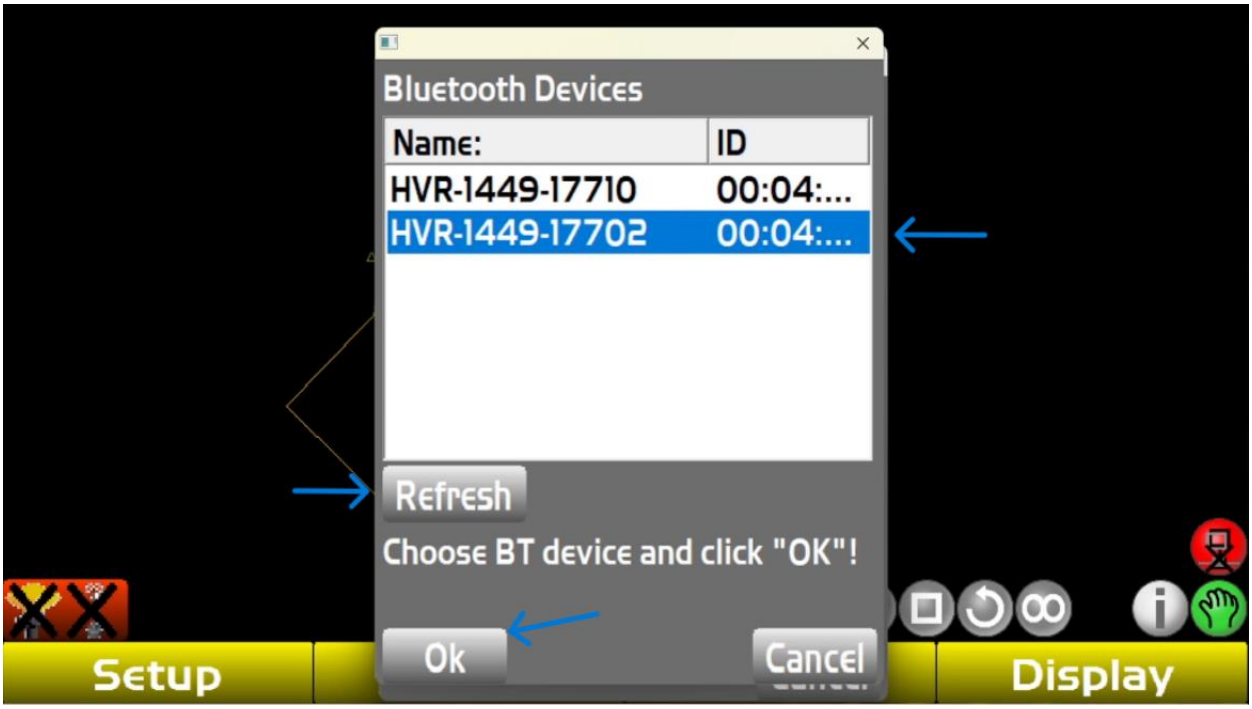
GR-3, GR-5, Hiper II, and Hiper V

3. **Radio Types**:
    - **Topcon Digital 2 (UHF)**: For UHF radios (410-470).
    - **Topcon FH915 (SS)**: For spread-spectrum radios (900 MHz).
4. **Port Settings**:
    - Port: Always set to **Serial Port C**.
    - Baud Rate: You can choose either **115200** or **38400**, depending on your system or environment.
5. Leave the "**Output rate**" on "**1 sec**" then tap "**Configure…**"



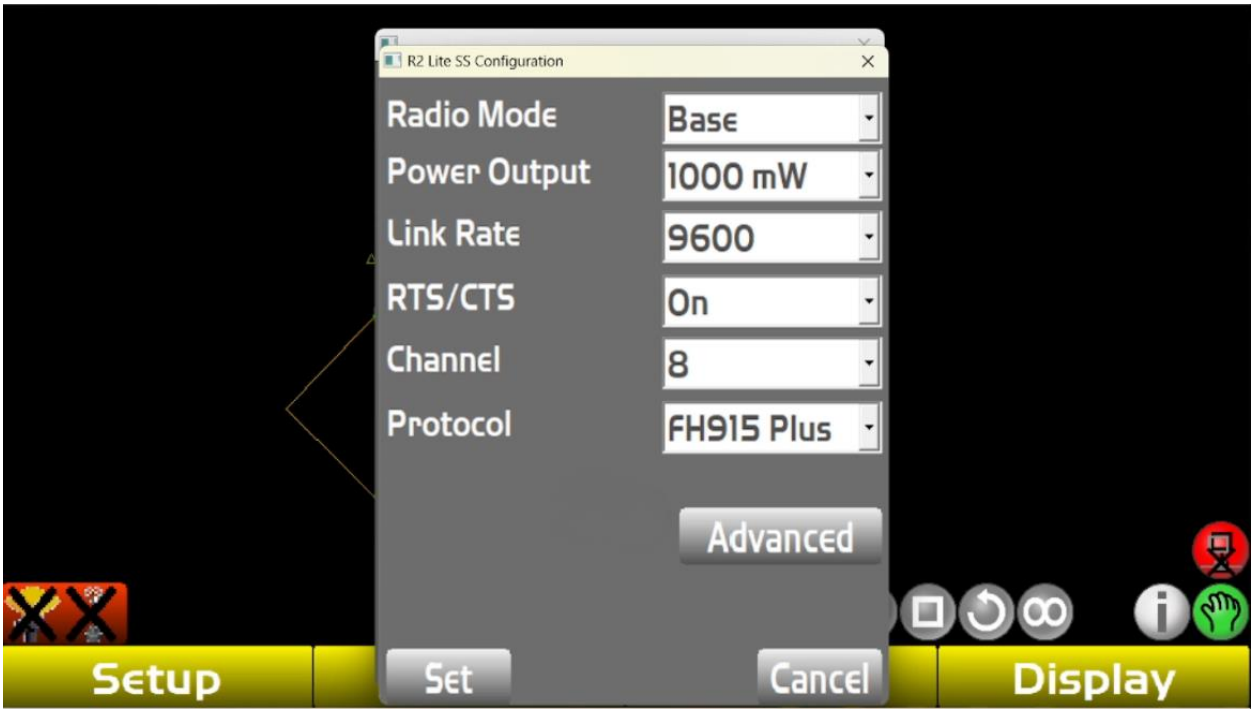
Step 5: Selecting Base Bluetooth/ Radio Channels

1. **Tap "Refresh"**:
    - Press the **Refresh** button on your device to scan for available Bluetooth connections.
    - You may need to refresh multiple times for your unit to appear in the Bluetooth menu.
2. **Ensure Proximity to the Base**:
    - Stay close to the base unit to ensure a strong Bluetooth connection.
3. **Identify the Base Unit**:
    - Look for the serial number (**S/N**) on the underside of the unit.
    - It will be labeled as **S/N:** followed by the serial number.
    - Use this to verify the correct base unit in the Bluetooth menu.
4. **Select the Base Unit**:
    - Highlight the base unit in the Bluetooth menu (it should turn blue when selected).
5. **Tap "OK"**:
    - Confirm your selection by tapping "**Ok"** to establish the Bluetooth connection.



Radio Channels for FH915/900Mhz Radios:

Radio channel list example:



Base Radio Setup

1. **Radio Mode**:
    - Always set to **Base** when configuring a base station.
2. **Power Output**:
    - Set the output power to **1000mW** for optimal performance.
3. **Link Rate**:
    - Select **9600** for the link rate.
4. **RTS/CTS**:
    - Ensure this is set to **On**.
5. **Channel**:
    - Choose the desired channel. Ensure you use the same channel for the rover.
6. **Protocol**:
    - Select **FH915 Plus** as the protocol.

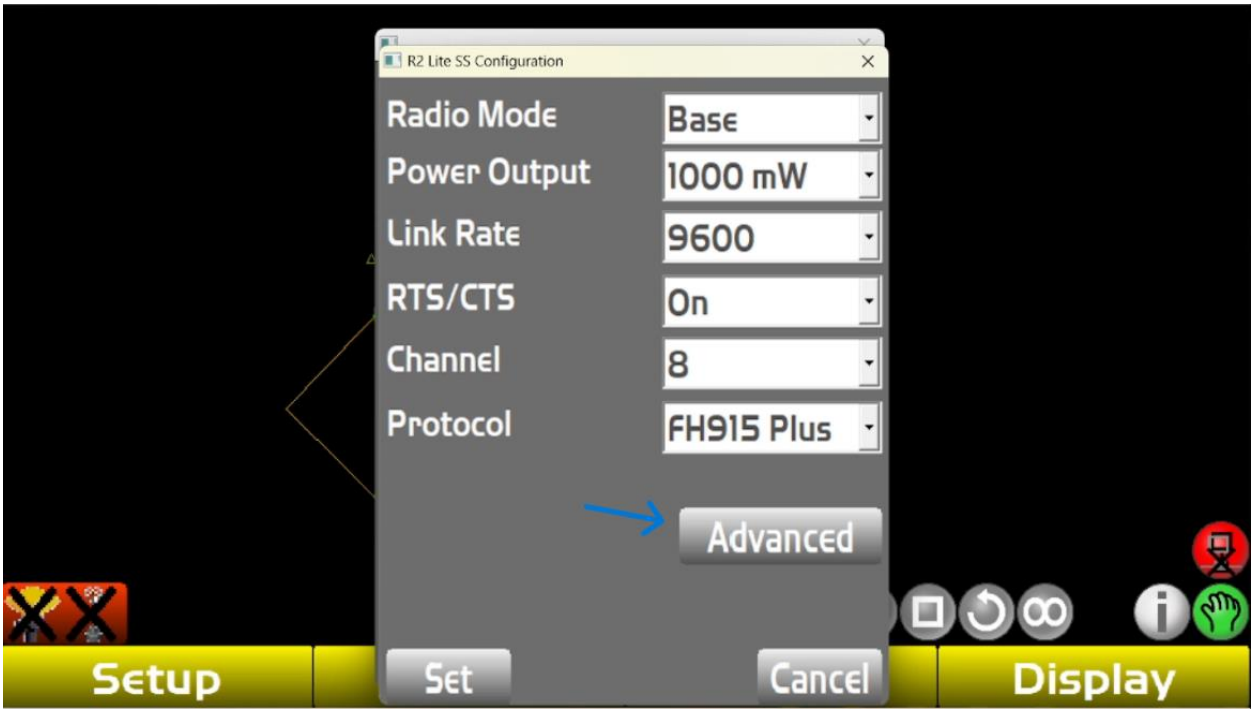
Pro Tip: Remember Your Settings

- **Take a Picture**:
  Use your phone to capture the setup for quick reference.
- **Write It Down**:
  Note these settings on paper, especially if you'll need to configure multiple devices.

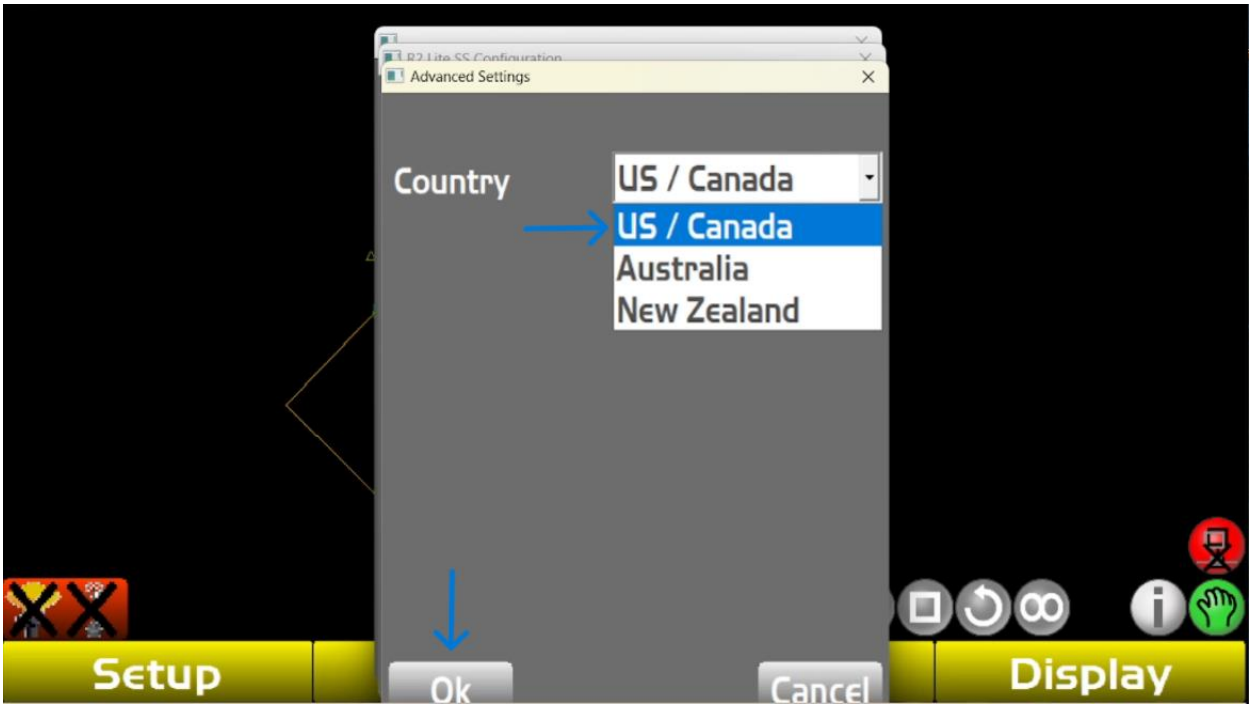
Matching Rover Settings

- Ensure the **rover's settings** (e.g., channel, link rate, protocol) exactly match the base station configuration for seamless communication.

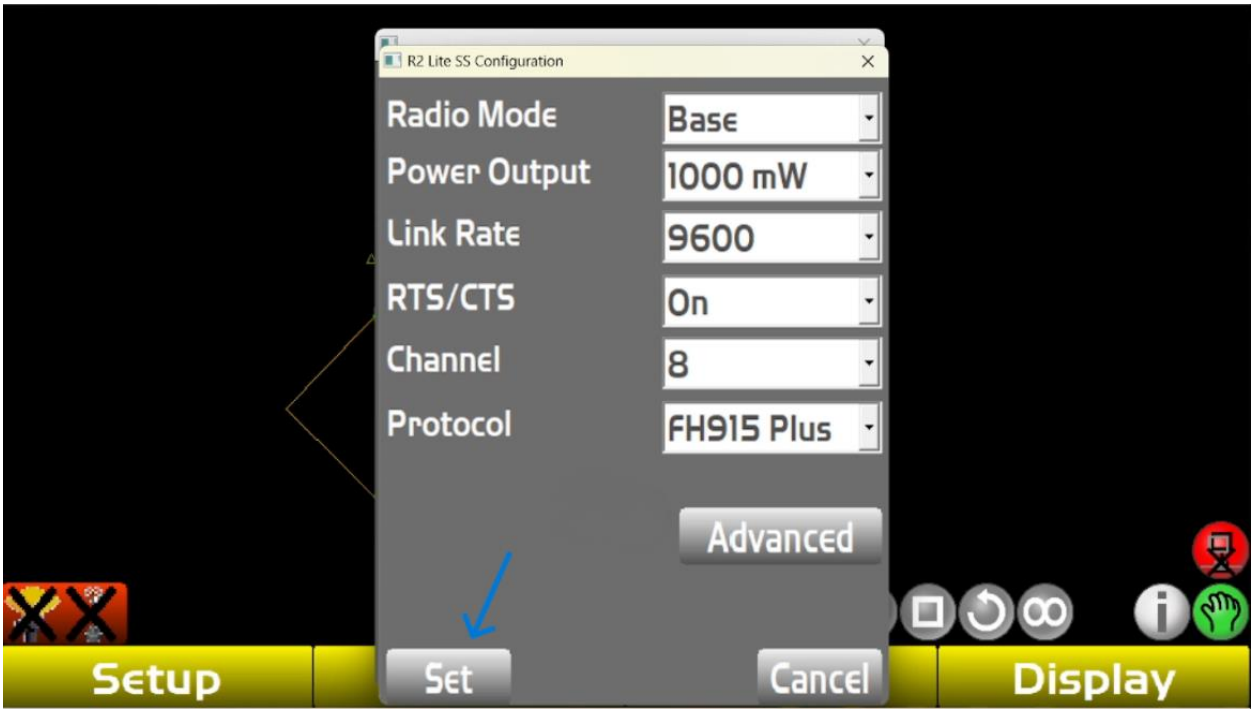
1. Tap "**Advanced**"



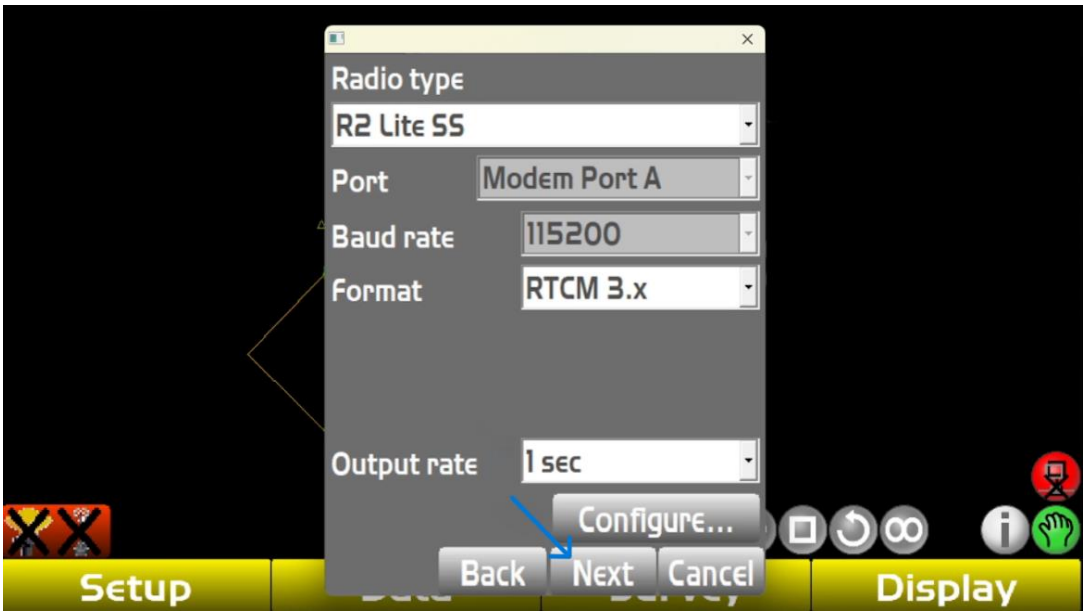
2. Select what country you are in. Then tap “**Ok**”



3. Tap “**Set**”



4. Tap “**Next**”

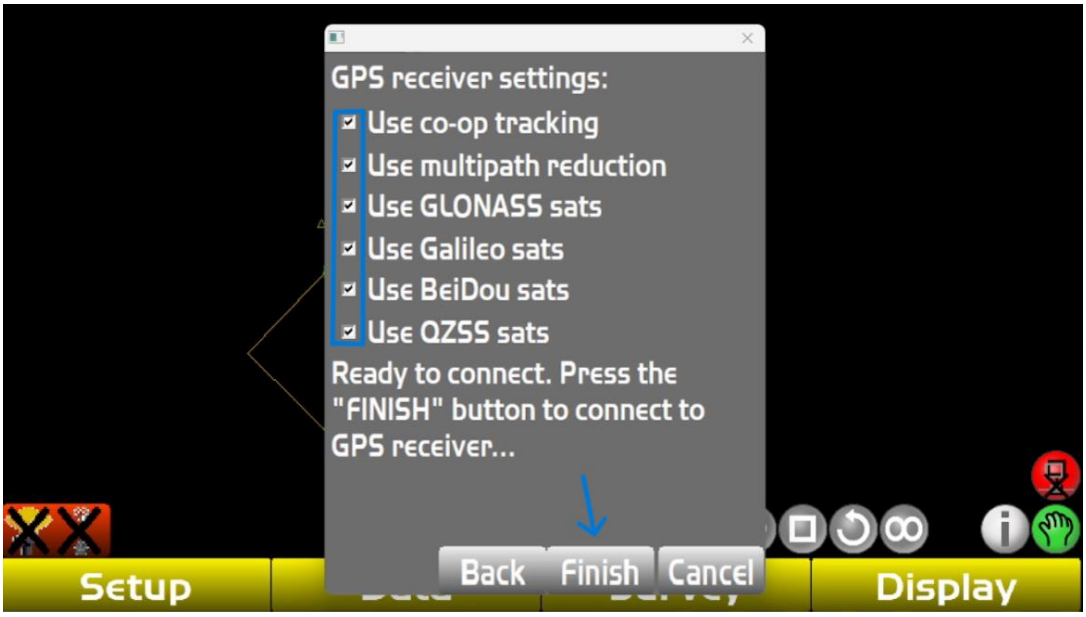


Step 6: Finishing Base Setup

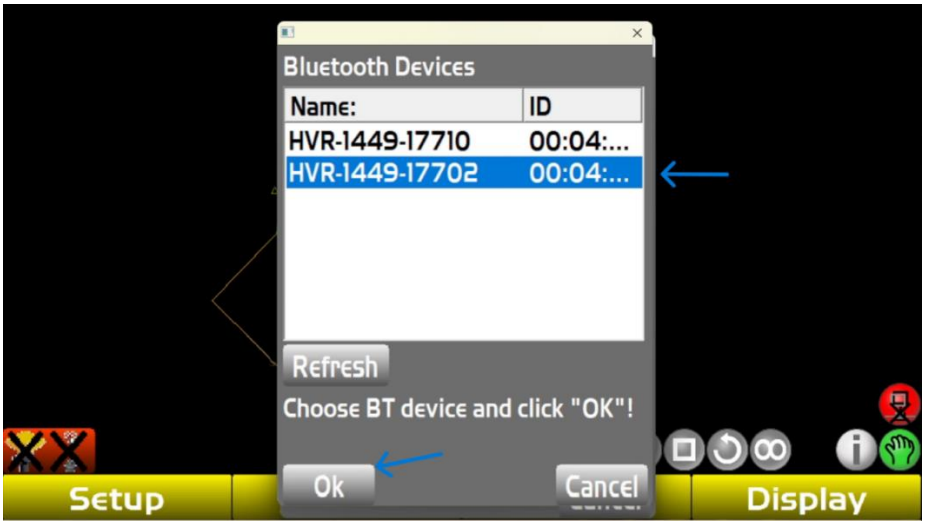
1. **Verify GPS Receiver Settings**:

    - Check that **all boxes are check-marked** in the GPS receiver settings.
    - This ensures the base station can use **all available satellites**, optimizing its performance and accuracy.

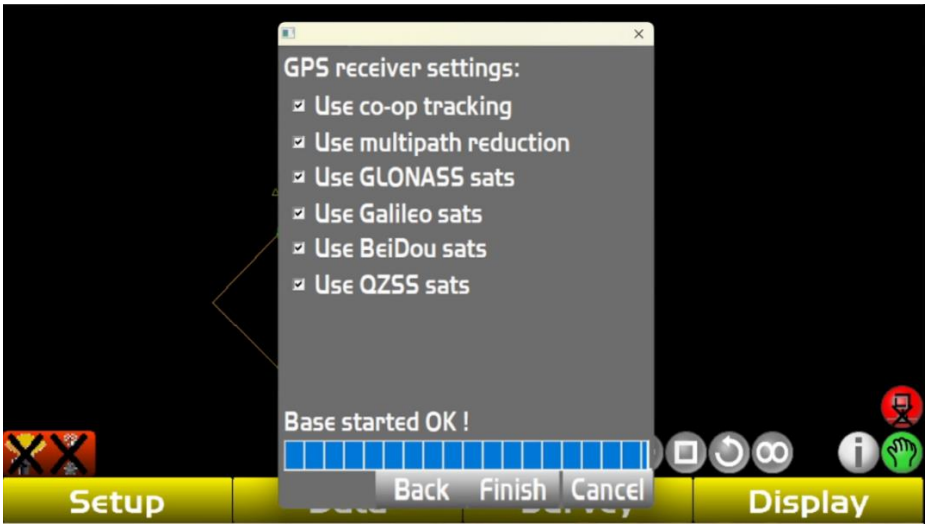
Once everything is verified, tap “**Finish”**



6. **Bluetooth Devices Pop-Up**:
    - After tapping **“Finish”**, a list of Bluetooth devices will appear.
7. **Select Your Base**:
    - Locate your base's Bluetooth device in the list.
    - Verify the serial number (**S/N**) on the unit to ensure you’re selecting the correct base.
8. **Tap "OK"**:
    - Highlight your base and tap **“Ok”** to establish the connection.



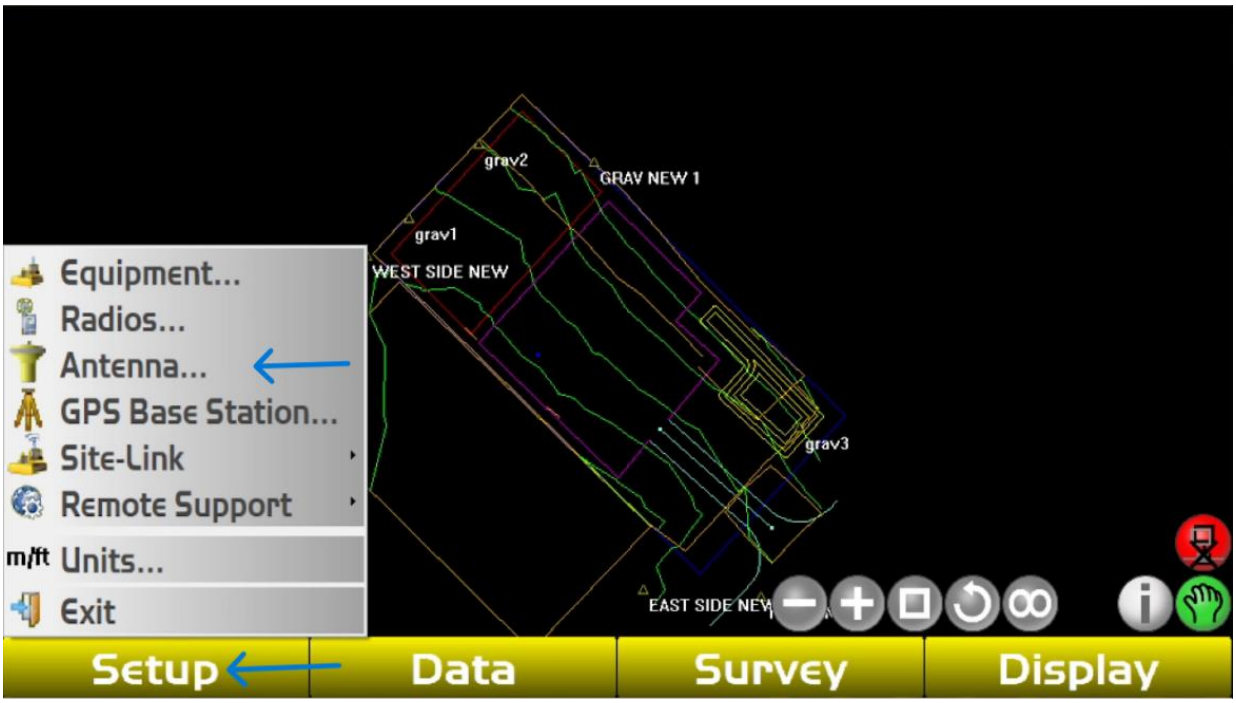
9. **Confirm Base Operation**:
    - Wait for the message **“Base Started OK !”** to appear.
    - Once you see this, your base is successfully set up and transmitting.



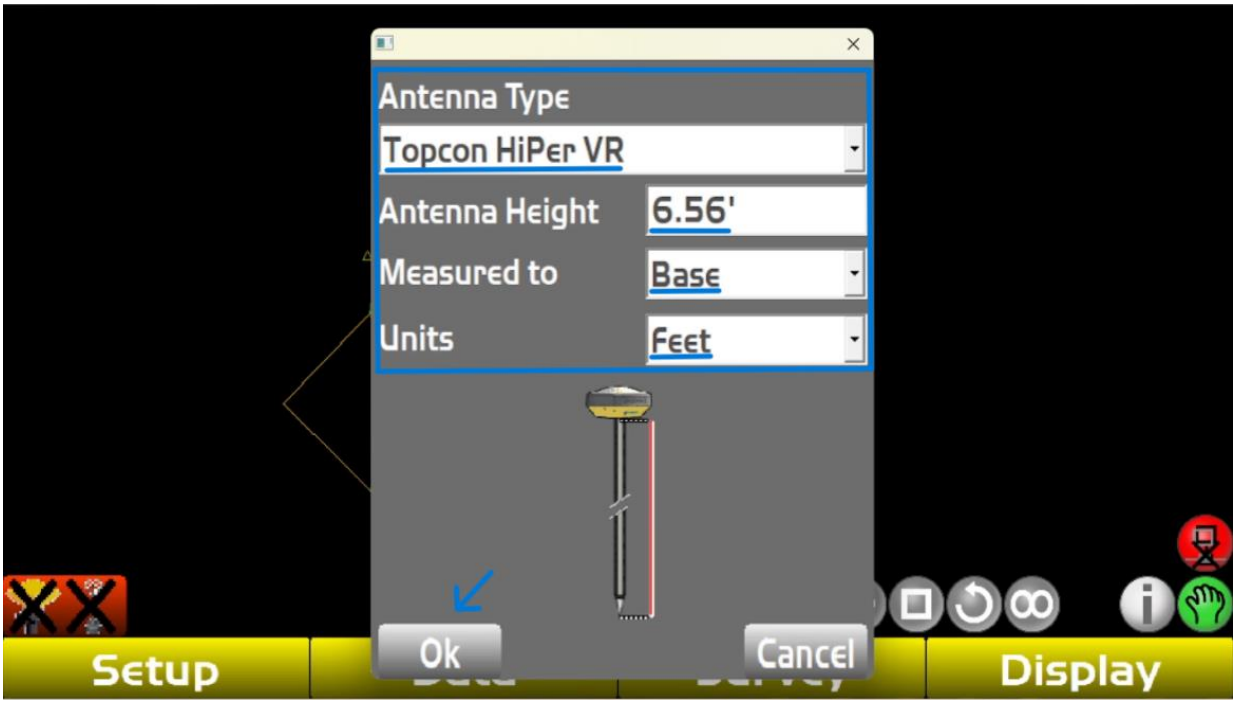
Rover Check/ Radio Setup

Step 1: Check Antenna…

1. Tap "**Setup**" then "**Antenna**"



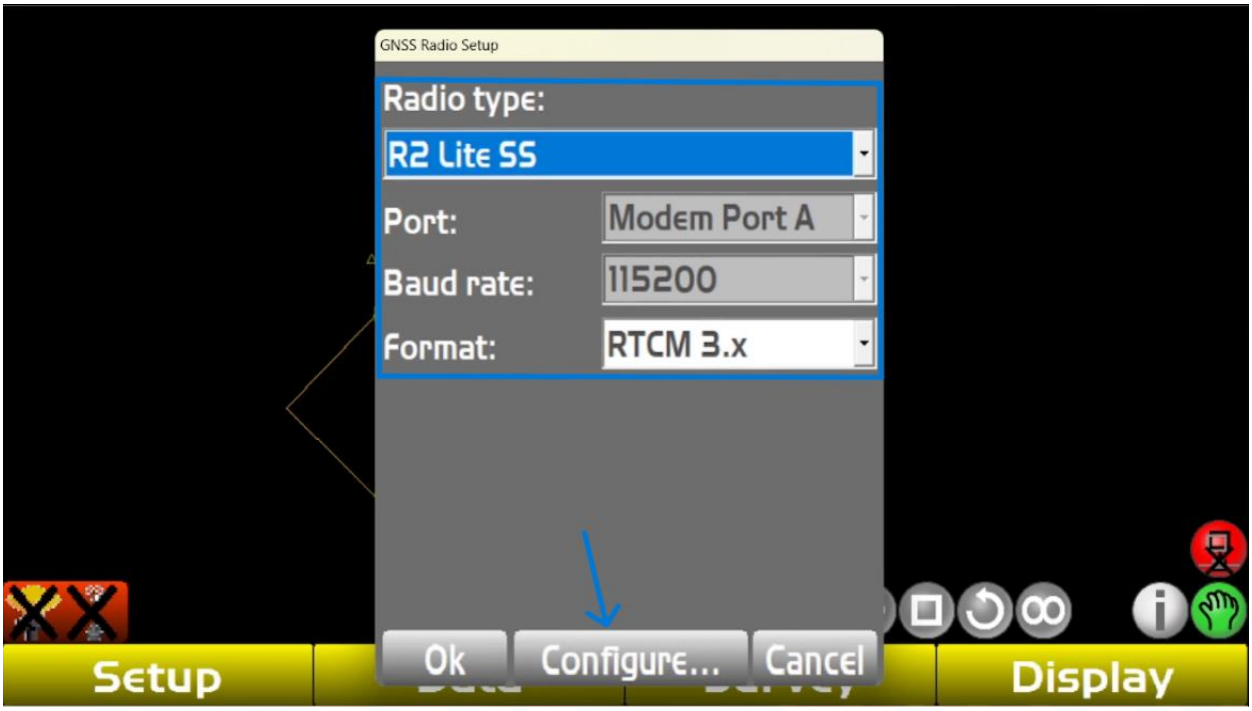
2. Confirm rover antenna settings, then tap "**Ok**"



Step 2: Configure Radio:

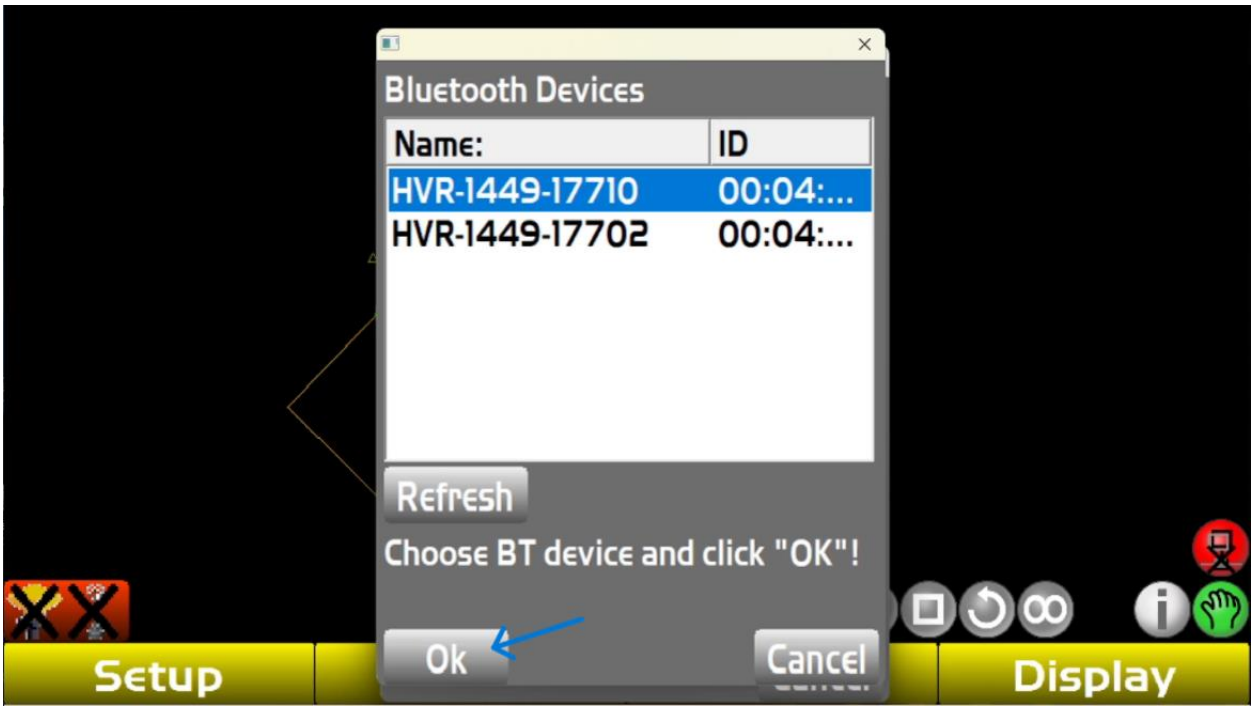
6. Now tap “**Setup”** then select “**Radios…**”

7. Verify radio type, port, baud rate, and format. Tap “**Configure…**”.



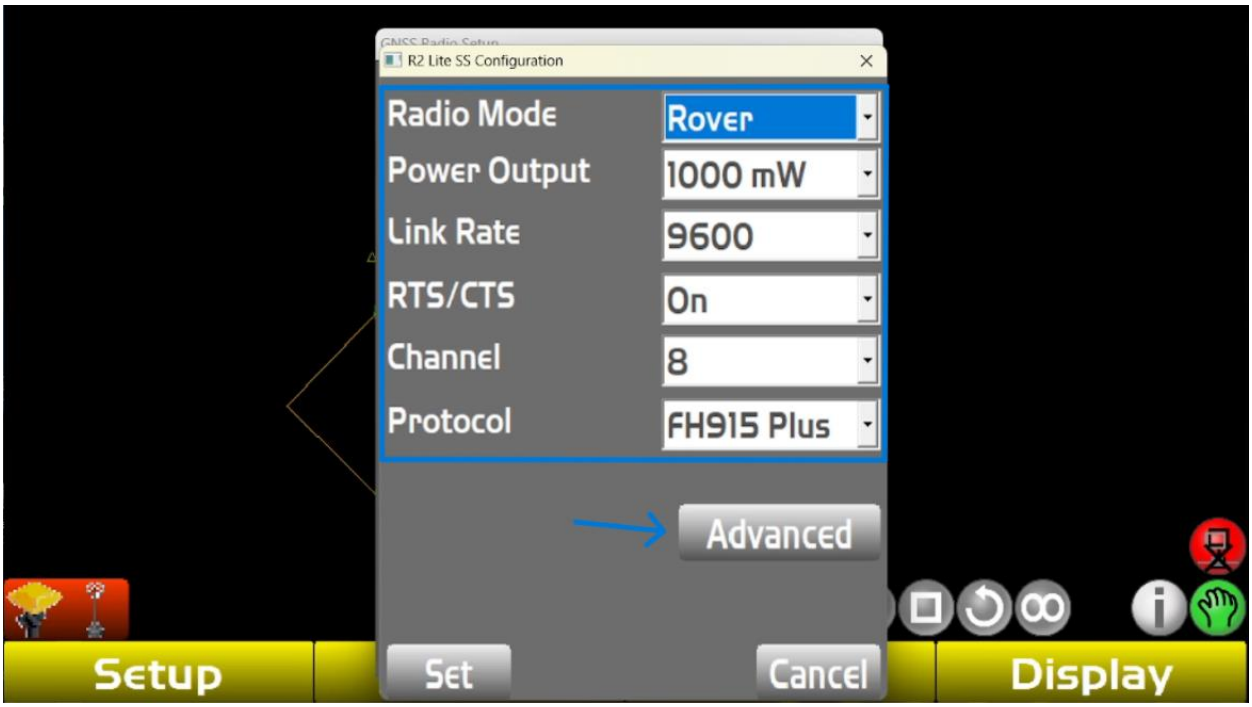
Step 3: Connect to Rover Bluetooth

1. Highlight the rover's Bluetooth from the list.
2. Verify the Serial Number (S/N) on the rover make sure it matches the Bluetooth device.
3. Tap "**Ok**" to establish a connection.

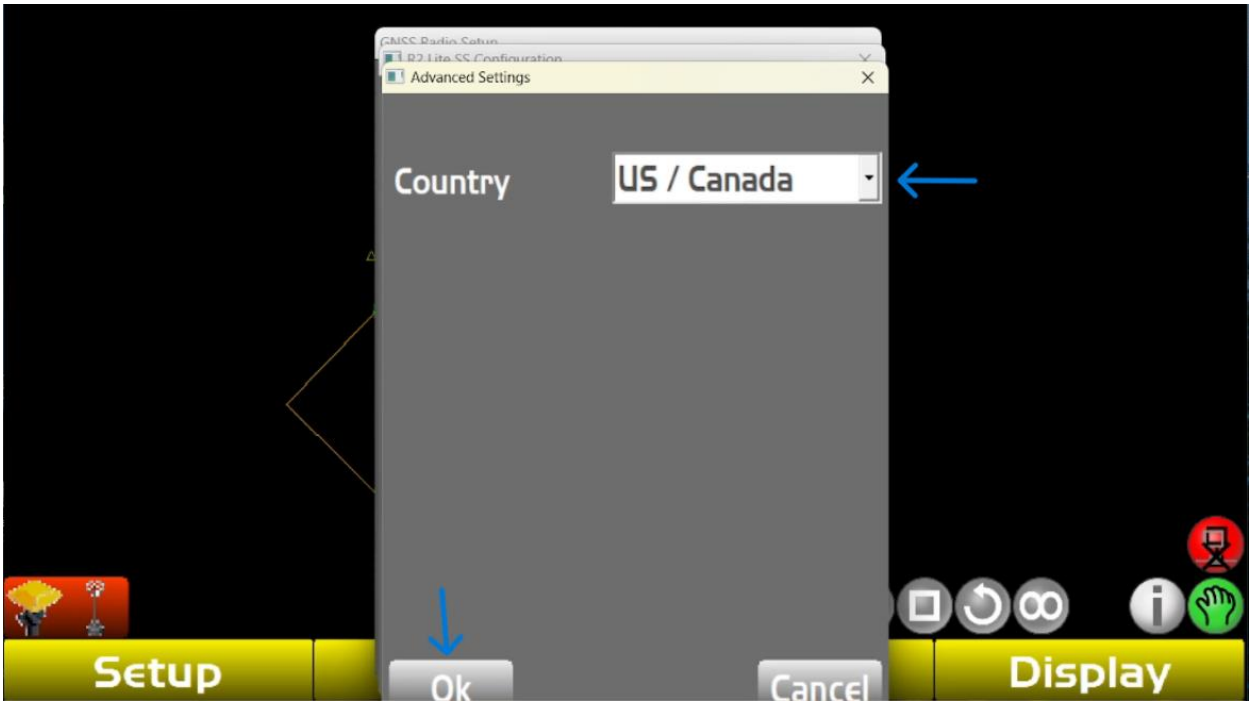


Step 4: Finalize Rover Radio Setup

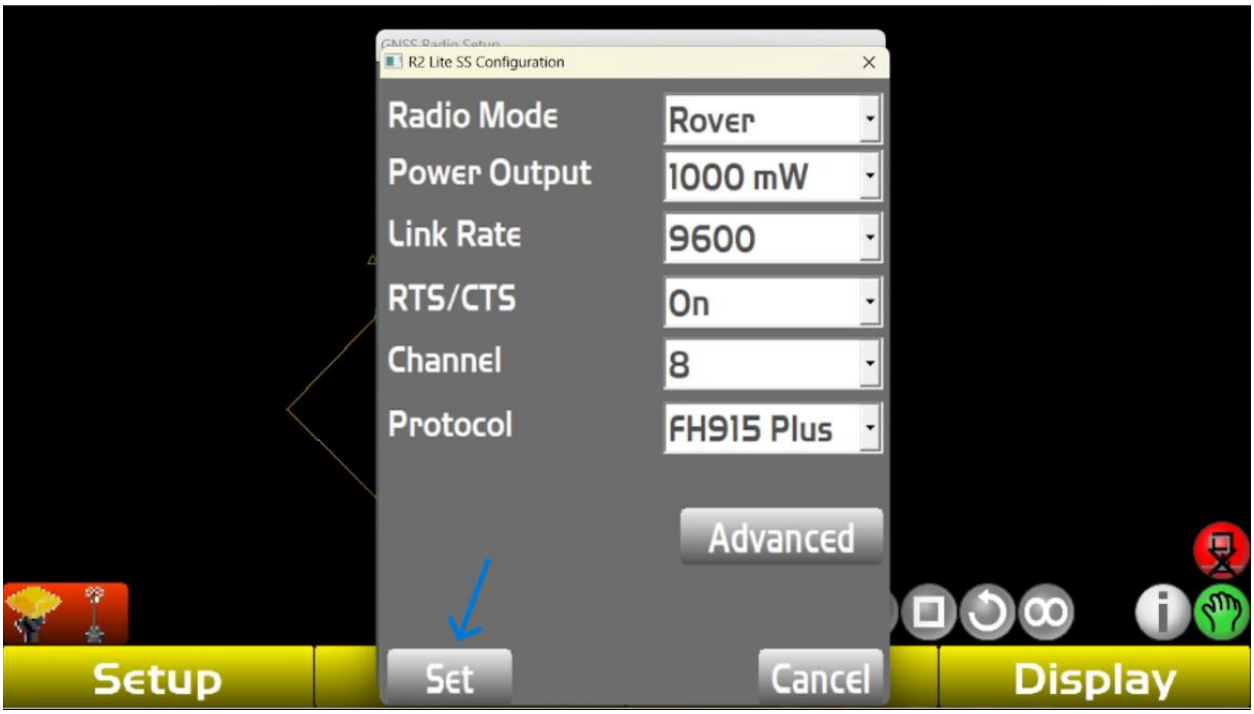
1. **Wait for the Radio Settings**
    - Be patient as the radio settings load; it may take a moment for the radio list to appear.
2. **Select "Rover" Mode**
    - Once the radio list is visible, ensure the "**Radio Mode**" is set to "**Rover**".
3. **Verify Settings**
    - Double-check that all other settings match the base station's configuration.
4. **Access Advanced Options**
    - After confirming the settings, click on "**Advanced**" to proceed.



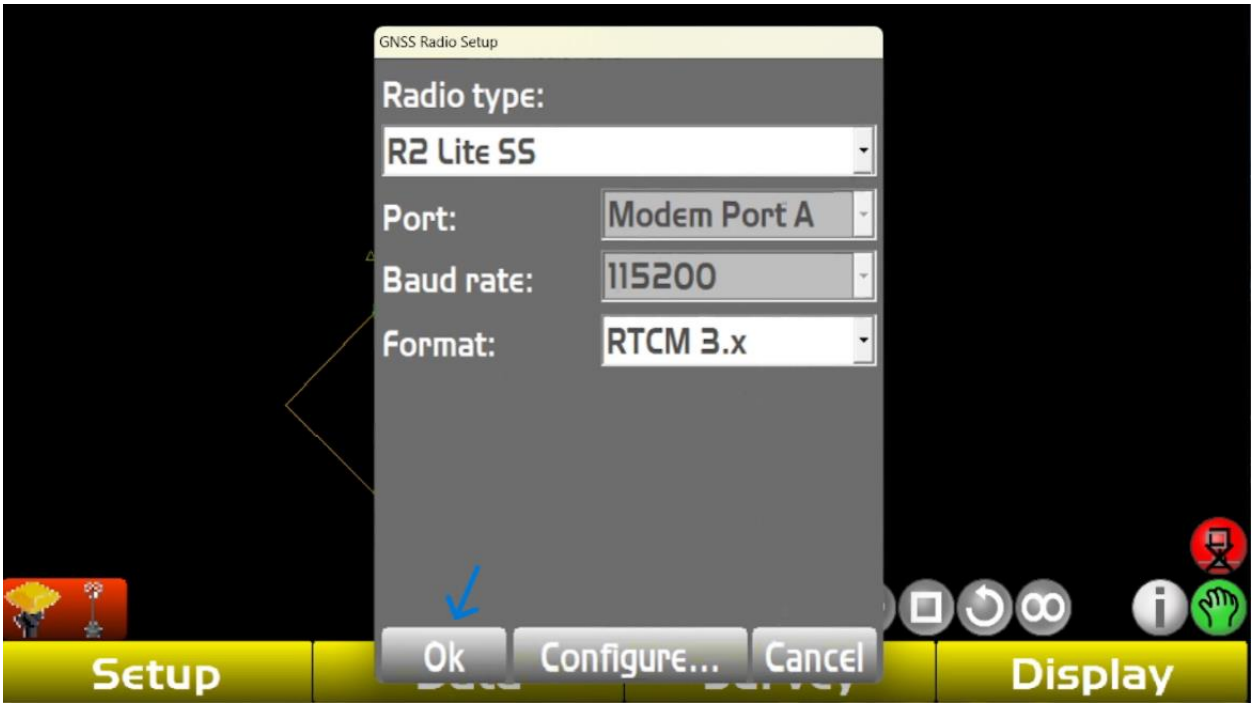
5. Select what country you are in with the drop down then tap "**Ok**"



6. Tap “**Set**”

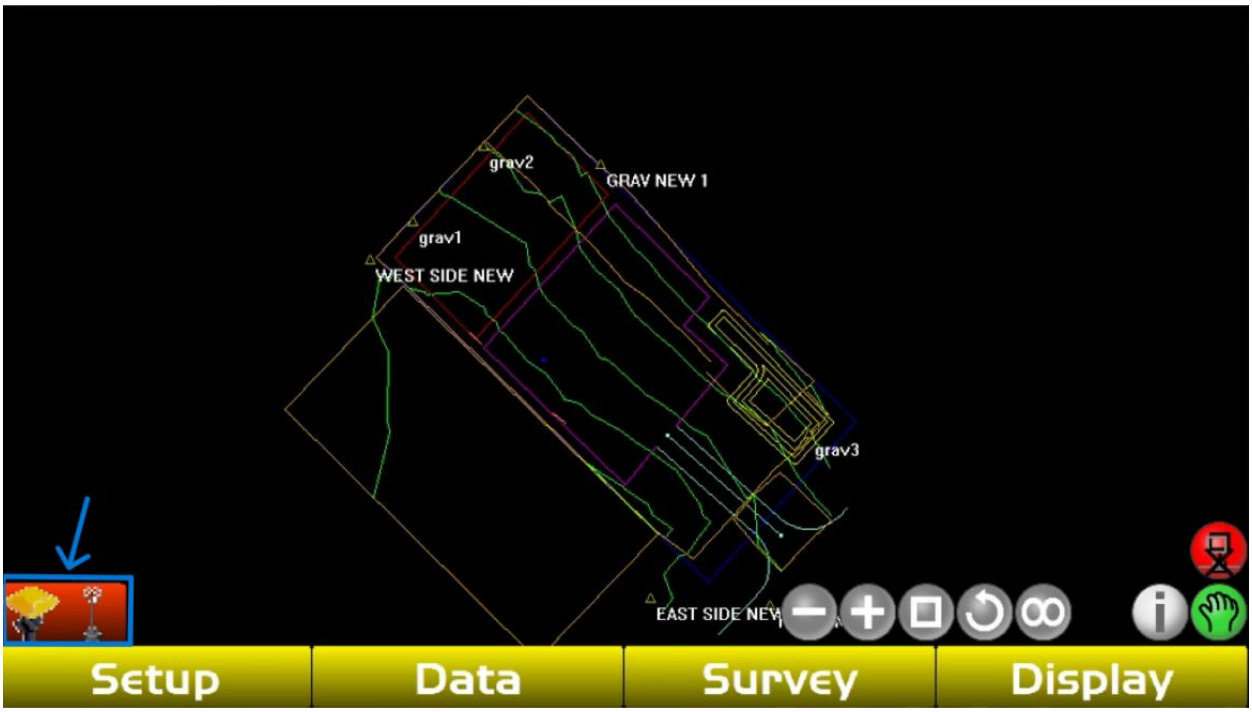


7. Tap “**Ok**”



Step 5: Verify Initialization

Your base and rover should be connecting. Now tap on the box in the bottom left



Final Initialization and Troubleshooting Steps

1. **Satellite Count:**
    - Ensure you are receiving at least 11 satellites or more.
    - It may take a few minutes for the base and rover to fully initialize.
2. **Initialization Confirmation:**
    - Wait for the system to display "**Initialized!**".
    - Check that the "**Horz. RMS**" and "**Vert. RMS**" values are under **0.082'**.
3. **Troubleshooting Tips:**
    - Obstructions: Ensure there are no objects like trees, power lines, or roofs blocking the signal.
    - Antenna Check: Confirm that the antennas on both the base and rover are securely attached and tightly screwed on.
    - Radio Settings: Double-check that the base and rover radio settings match exactly, including channel, baud rate, and protocol.
4. **Finalize:**
    - Once all conditions are met, tap "**Ok**" to proceed.

- Your system is now ready for surveying or localization tasks.