



How To Do a Localization on Topcon Pocket 3D

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Overview of Steps for Localization in Topcon Pocket 3D

1. **Set Measurement Duration:** Adjust the duration for each point measurement to 60–90 seconds for accurate data collection.
2. **Measure Control Points:** Identify and measure 4 to 5 control points, distributed evenly around the perimeter of the job site, ensuring both ends are measured.
3. **Perform Localization:** Use the collected data to localize your project for optimal accuracy.

Pre-Step Verification

Before starting, verify the following:

1. **Equipment Power**
 - Base Unit: Fully charged or connected to a 12V battery.
 - Rover: Fully charged.
 - Data Collector: Fully charged.
2. **Rod Height**
 - Set the rod height to the correct measurement—typically 6.562 feet (2 meters).
3. **Field Conditions**
 - Ensure the job site is accessible and control points are visible.
 - Confirm that site conditions won't interfere with measurements.
4. **Connections**
 - Make sure your base and rover are connected and initialized

Once these pre-steps are verified, you are ready to proceed with localization.

Changing The Duration (Seconds)

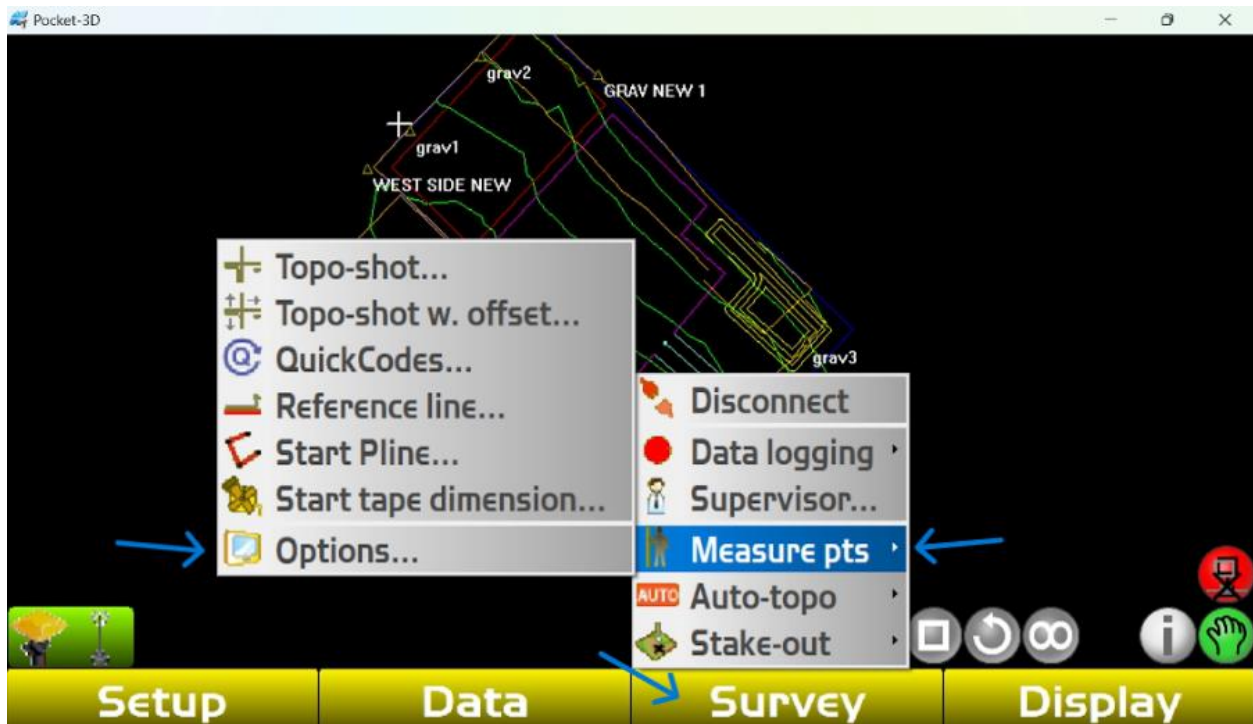
What is the Duration (Seconds)?

The **Duration (seconds)** refers to the amount of time the system spends measuring each control point.

- Setting it to **60–90 seconds** allows the system to record a measurement every second, resulting in **60–90 individual readings** for each control point.
- This ensures high accuracy without needing longer measurements, as additional time beyond 90 seconds offers minimal improvement in precision.

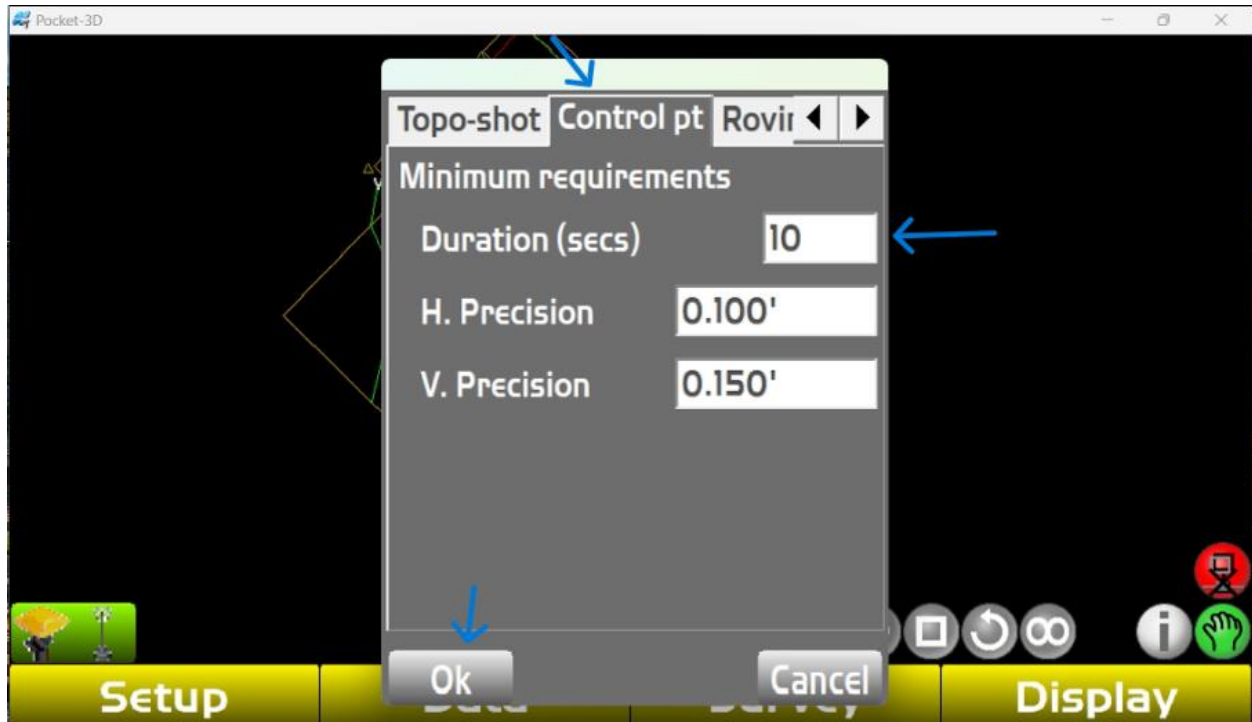
Step 1: Access the Survey Menu

- Tap on “Survey”,
- Select “Measure pts”
- Then tap on “Options...”



Step 2: Select Control Point and Adjust Duration

- Navigate to the top menu and select “Control Pt”.
- In the “Duration (secs)” field, change the value from 10 to 60 or 90 seconds.
- Tap “Ok” to confirm and save the changes.



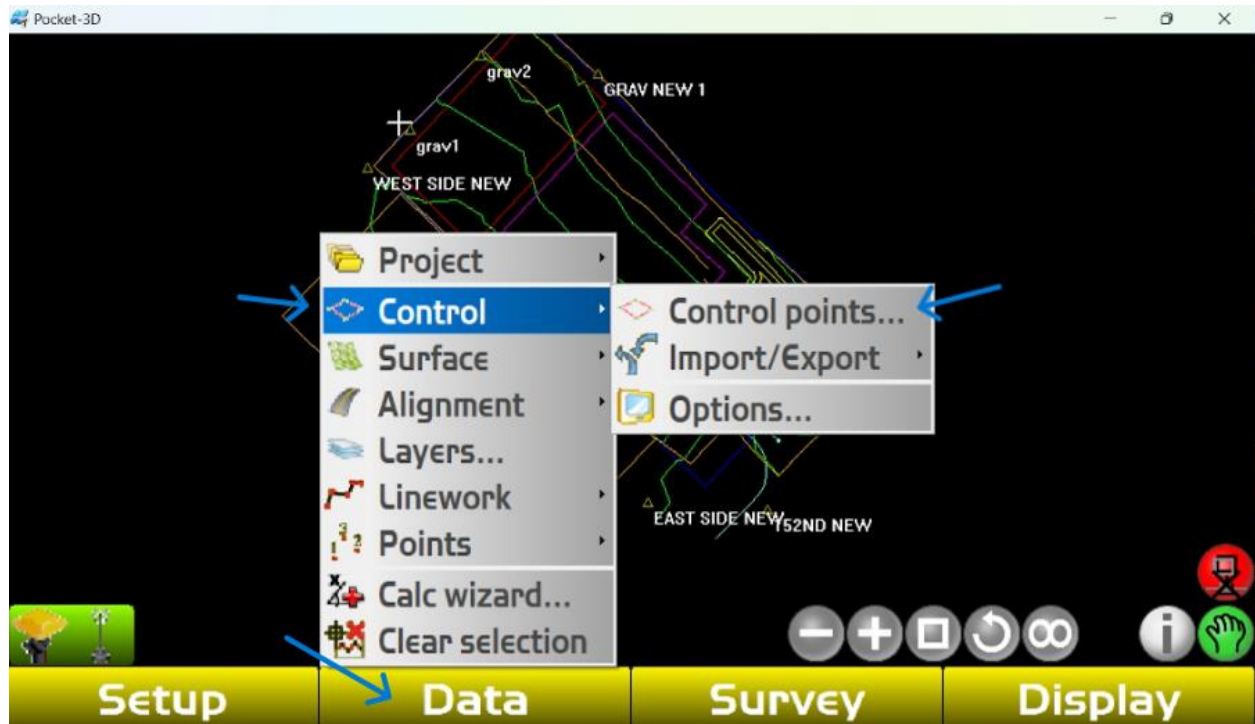
Starting the Localization

What is a Localization in Topcon Pocket 3D?

Localization in Topcon Pocket 3D is the process of aligning your GPS system's coordinate data with the project's design coordinates. It essentially "**calibrates**" your GPS equipment to match the specific layout and elevations of the job site, ensuring that all measurements and machine guidance are accurate and consistent with the project plans.

Step 1: Access The Data Menu

- Tap "**Data**"
- Select "**Control**"
- Tap on "**Control Points**"



Step 2: Selecting a Control Point

1. Level the Rover Rod

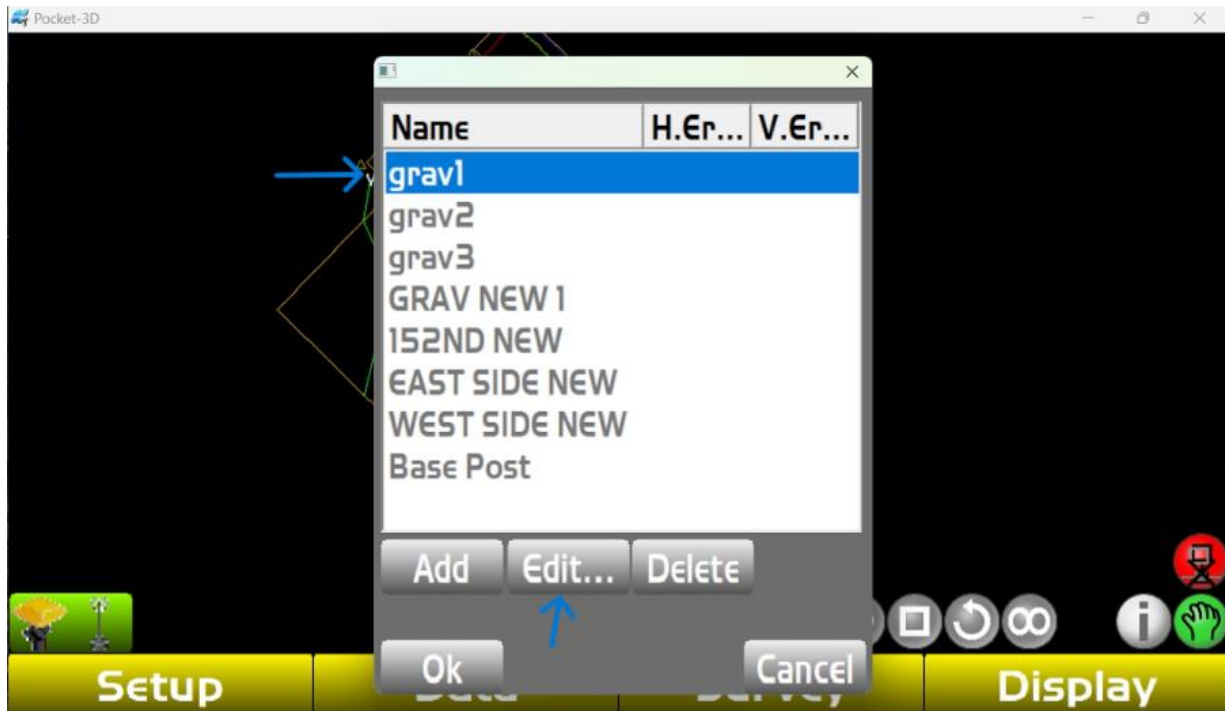
- When you arrive at your first control point, make sure the **rover rod is perfectly level** to ensure an accurate measurement.

2. Select the Control Point

- On the map, **highlight** the control point you are positioned over.

3. Edit the Control Point

- Tap **"Edit..."** to open the control point settings for adjustments if needed.



Step 3: Measuring Your Control Point

1. Description

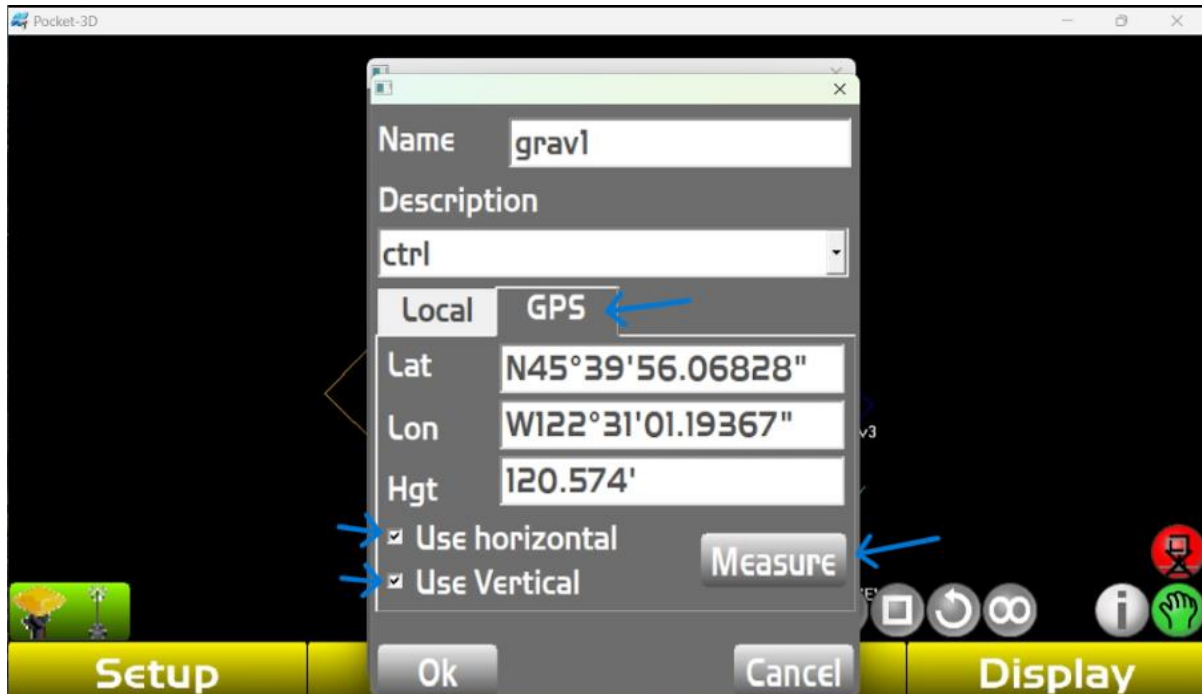
- Adding a “**Description**” to the control point is optional. It’s only useful if you want a visual reference to confirm that it’s a control point. It does not affect the measurement accuracy.

2. Activate GPS Settings

- Tap on “**GPS**” to highlight it in **dark grey** (this confirms it’s active).
- Checkmark both “**Use Horizontal**” and “**Use Vertical**” to ensure the system records both horizontal and vertical data.

3. Start Measuring

- Tap “**Measure**” to begin recording the control point.

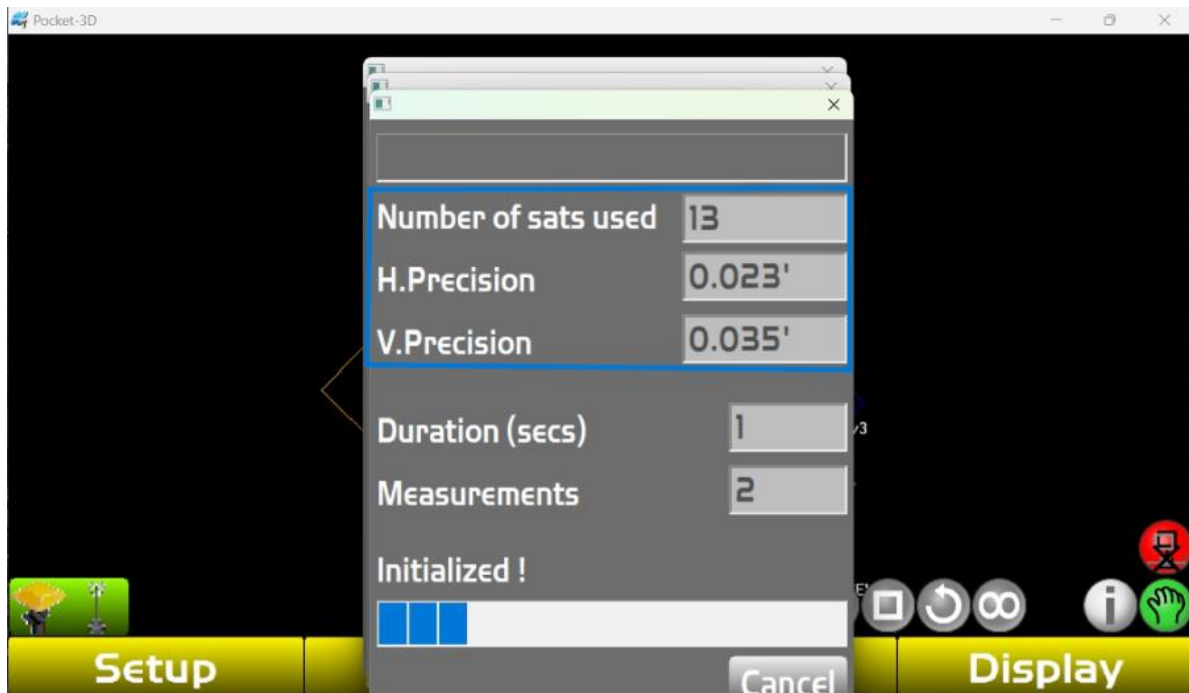


Monitoring the Measurement

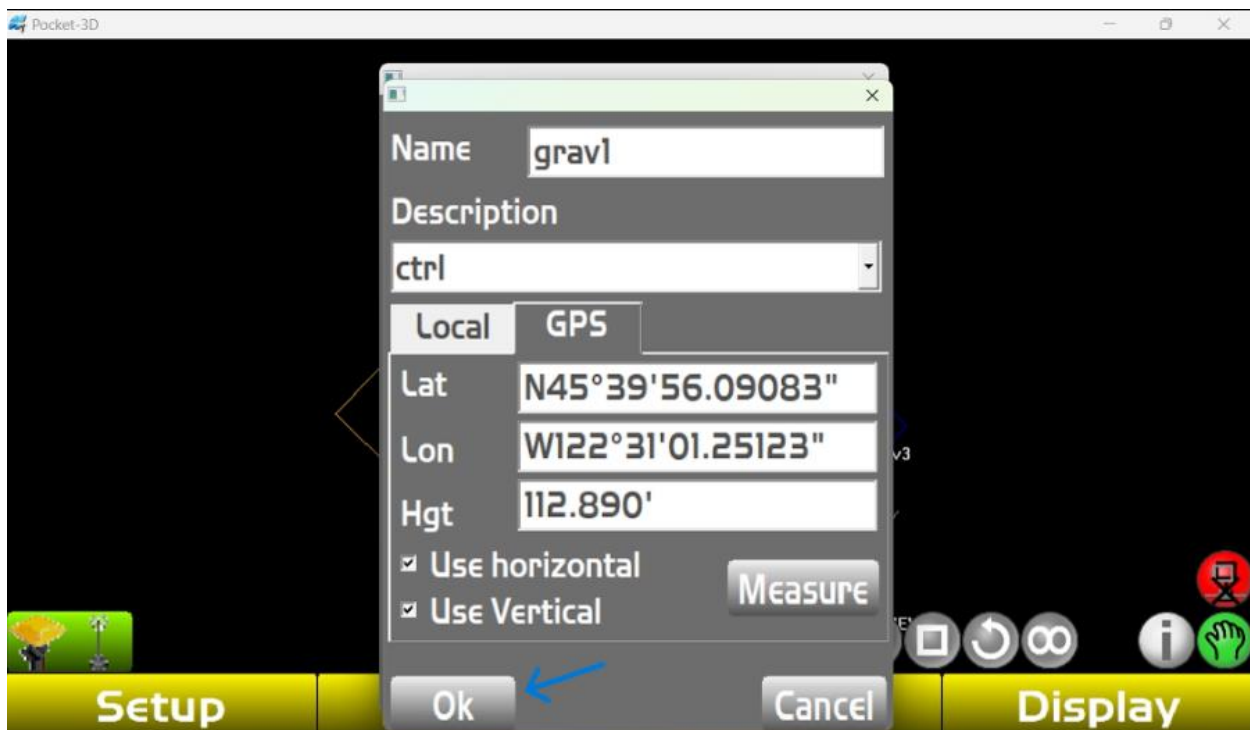
1. **Let the Measurement Complete:** Do not interrupt the process. Allow it to run for the set duration (60–90 seconds).
2. **Satellite Count:** Check the number of satellites. If the count drops below 11, the measurement may be inaccurate.
3. **Precision Values:**
 - **H.Precision (Horizontal Precision):** Should be **0.082** or lower.
 - **V.Precision (Vertical Precision):** Should be **0.082** or lower.
 - If either value is too high, it may result in inaccurate data.

Troubleshooting High Precision Values

- High precision values may be caused by **poor satellite signal** or **weak radio connection**.
- If the signal is bad, try moving to another control point for better reception.

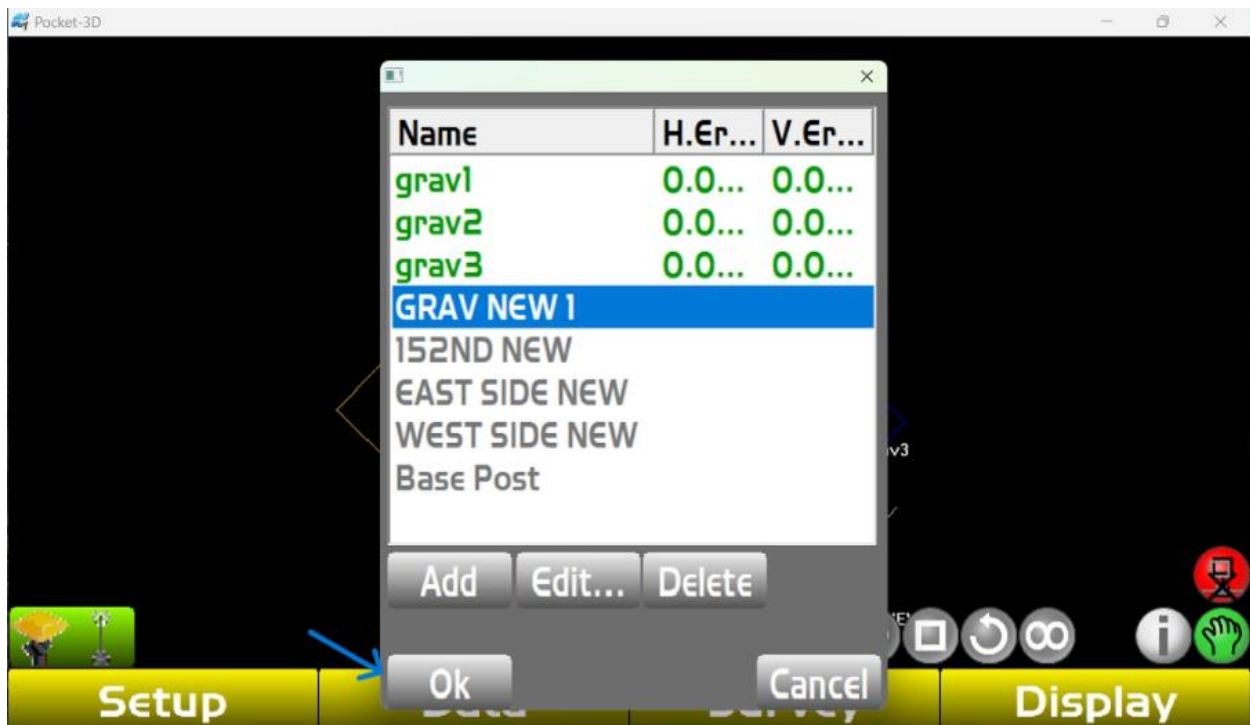


4. Tap "Ok"



Step 4: Verifying the Control Point Measurement

1. If your control point turns green, it means the measurement was **successful** and the data is accurate.
2. If the point turns **red**, it indicates a **failed measurement** due to one of the following issues:
 - **Bad radio signal**
 - **Poor satellite reception**
 - **Incorrect control point selection**
 - **Standing in the wrong location**
3. If the point is red, check your equipment, confirm your location, and try measuring again.
4. Repeat **Step 2** and **Step 3** for each control point you measure.
5. Once you have all of your control points measured then tap "**Ok**".



Step 5: Confirming Rover Connection

- After tapping “OK”, a small **white cross** should appear on your map. This cross represents your rover's position.
- As you move the rover, the white cross should move in real-time on the map.

Troubleshooting if the White Cross Doesn't Appear

1. Tap “**Survey**” from the main menu.
2. At the top, select “**Disconnect**” to disconnect your equipment.
3. Once disconnected, tap “**Survey**” again and select “**Connect**”.
4. Choose your **rover** from the Bluetooth list to reconnect.

After reconnecting, the white cross should appear, and you’re ready to start working!



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