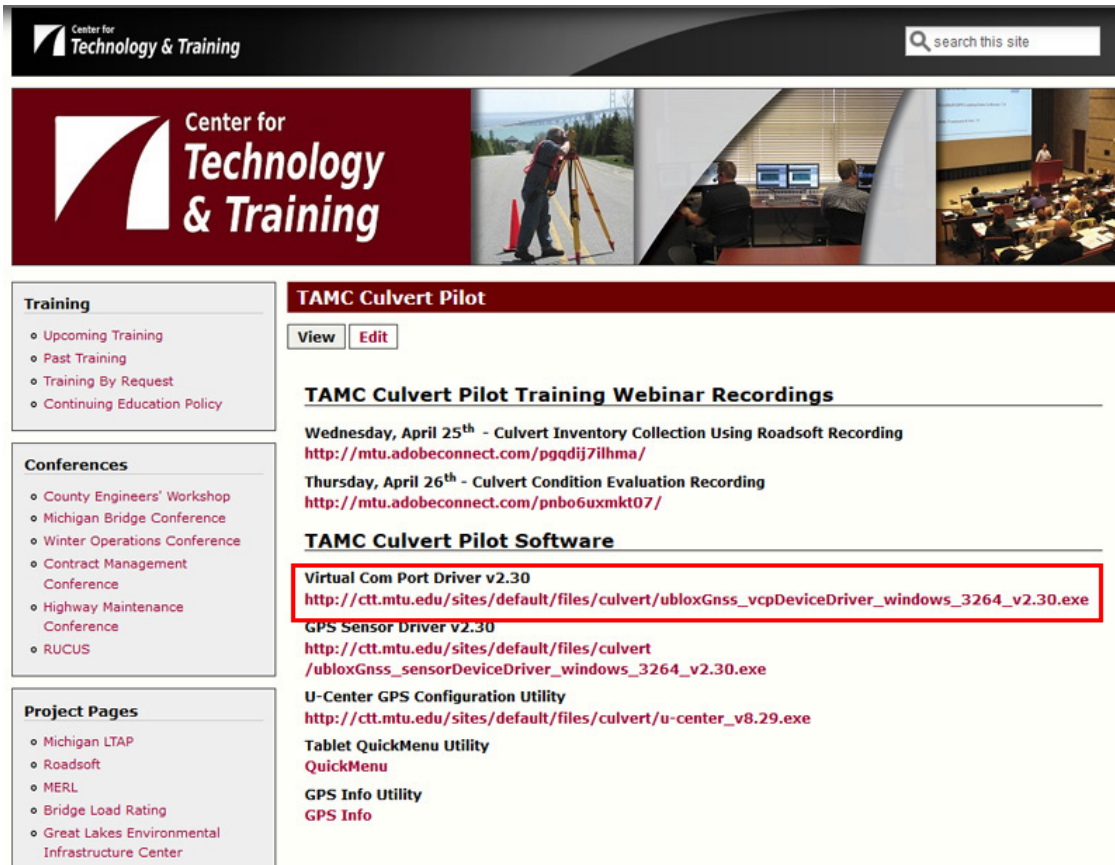# Roadsoft LDC Tablet GPS Setup

The MobileDemand T1600 tablet, as well as the Trimble T10 tablet, have an internal GPS chip manufactured by u-blox. The internal GPS on these tablets needs to be configured so that Roadsoft LDC will communicate with it.

The first thing to do is ensure the correct COM port driver is installed. Automatic Windows 10 updates often update the drivers to the latest version, which can cause problems. The correct driver is located on the CTT website at http://ctt.mtu.edu/tamc-culvert-pilot.

Download the Virtual COM Port Driver v2.30 file as highlighted below.

Check COM Port Driver

1. Right-click the Windows icon in the lower left of the screen, or if using the touch screen, press and hold the icon until a transparent square appears, then release. The Windows Start Menu will pop up, select Device Manager from the list.
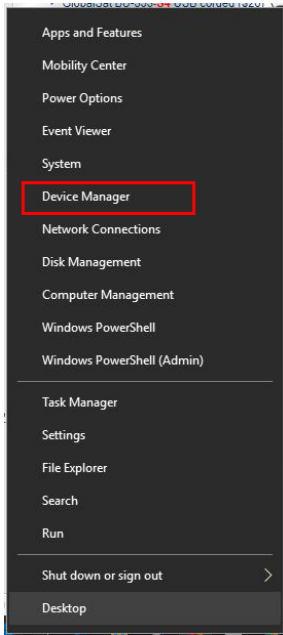

Figure 1 - Windows 10 Start Menu

2. Scroll down and click the arrow to expand Ports (COM & LPT).
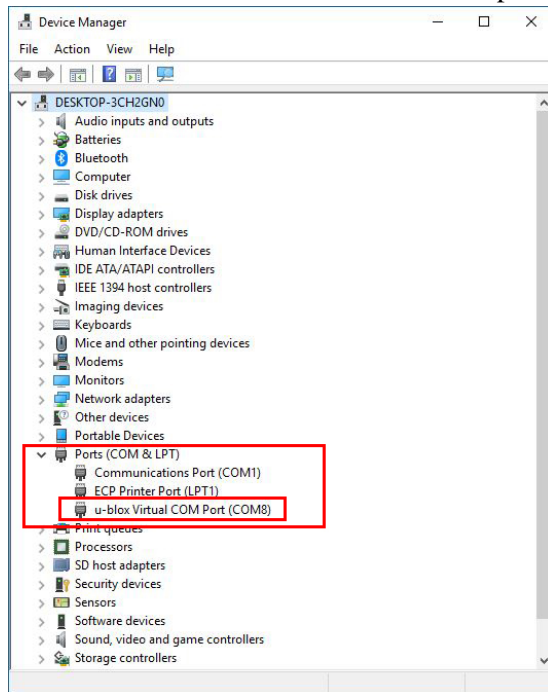

Figure 2 - Device Manager Ports

3. Double-click or right-click on u-blox Virtual COM Port (COM# - the number will vary based on the machine) and select Properties, then select the Driver tab on the window that

appears. Note the driver version that is installed. If the driver is newer (numerically higher) than 2.30.0.0, it will need to be replaced as newer versions of the driver cause issues.
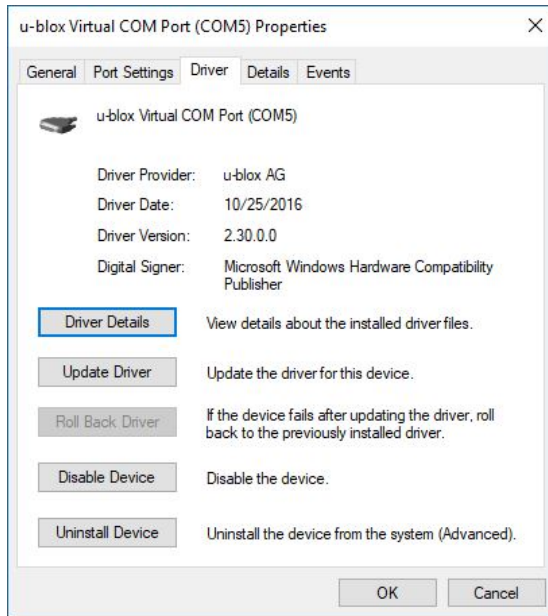

Figure 3- COM Port Settings

4. If there is a newer version of the driver installed, click the Uninstall button to uninstall the device. A confirmation window will appear - **select the check box next to the Delete the driver software for this device. Click Uninstall.**
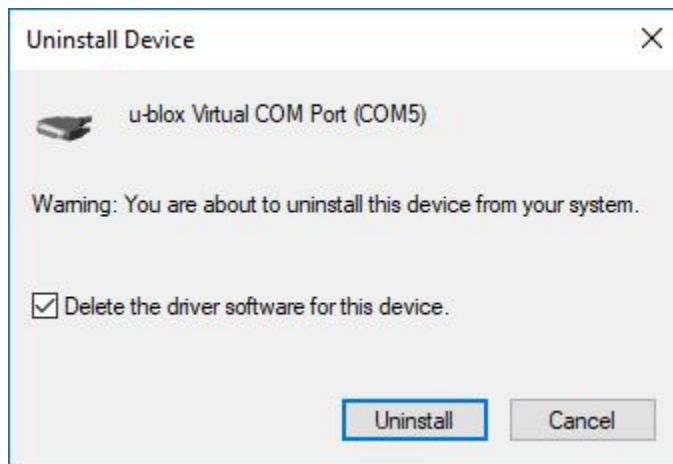

Figure 4- Uninstall Device Confirmation Screen
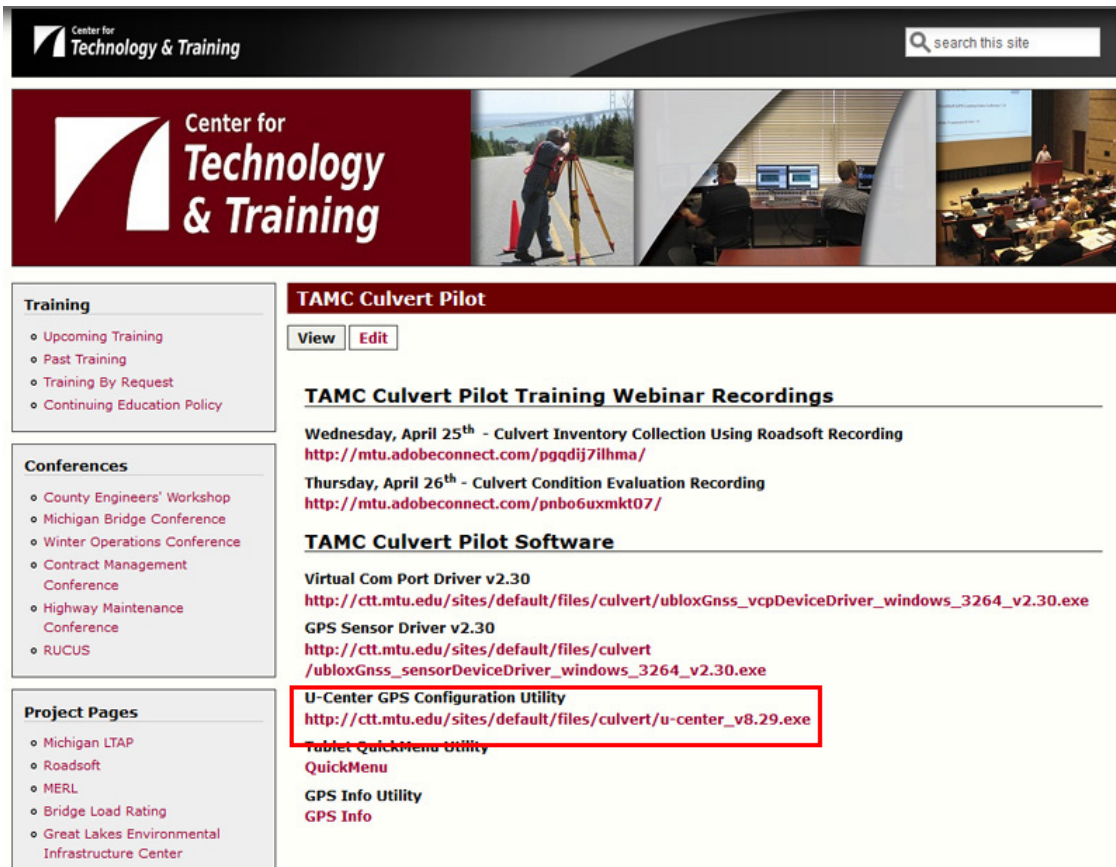
5. Browse to the file location for the previously downloaded u-blox Virtual COM port driver.
6. Double-click on the ubloxGnss_vcpDeviceDriver_windows_3264_v2.30.exe file, follow the on-screen prompts to install the driver.
7. Windows may or may not prompt to reboot the tablet. **Regardless if prompted or not, reboot the tablet to ensure the COM port is recognized and functioning properly.**

8. Open the Device Manager again and verify that the COM driver is version 2.30.00, and take note of the COM port assigned as it might be different than the number previously assigned, and it will be needed to connect the GPS to Roadsoft LDC.

Configure Internal GPS to work with Roadsoft LDC

Once the correct driver is installed, the internal GPS needs to be configured in order for Roadsoft LDC to communicate with it. The MobileDemand T1600 tablet has a pre-installed u-center GPS configuration utility that allows the user to set parameters so Roadsoft LDC can recognize the GPS output. Some agencies reformat new computers and rebuild them with standardized software. If this applies, or for those that purchased the Trimble T10 tablet that doesn't have the u-center utility pre-installed, follow the steps below to download and install u-center.

If u-center isn't currently installed, browse to http://ctt.mtu.edu/tamc-culvert-pilot and download the u-center installation program as highlighted below.

1. Browse to the location of the downloaded file, double click on the u-center_v8.29.exe file and follow the on-screen prompts to install.

2. Once installed, start the u-center application, and either click on the down-arrow button next to the connect icon on the left-hand side of the bottom icon ribbon, or click on the Receiver pull-

down menu, then click on Ports, then select the COM port that matches the virtual u-blox COM port that was installed earlier.
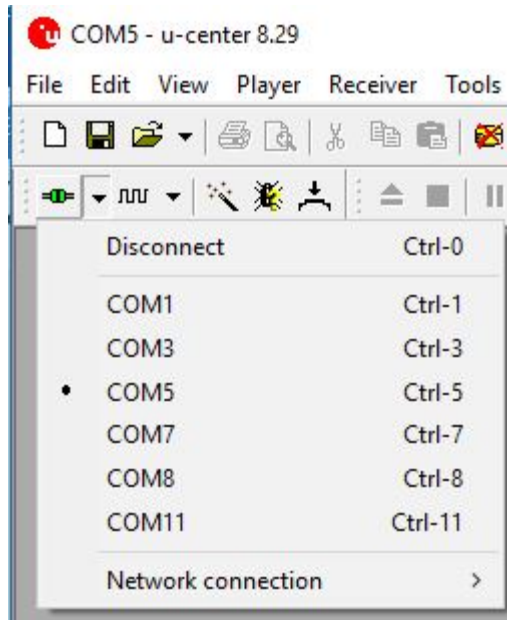

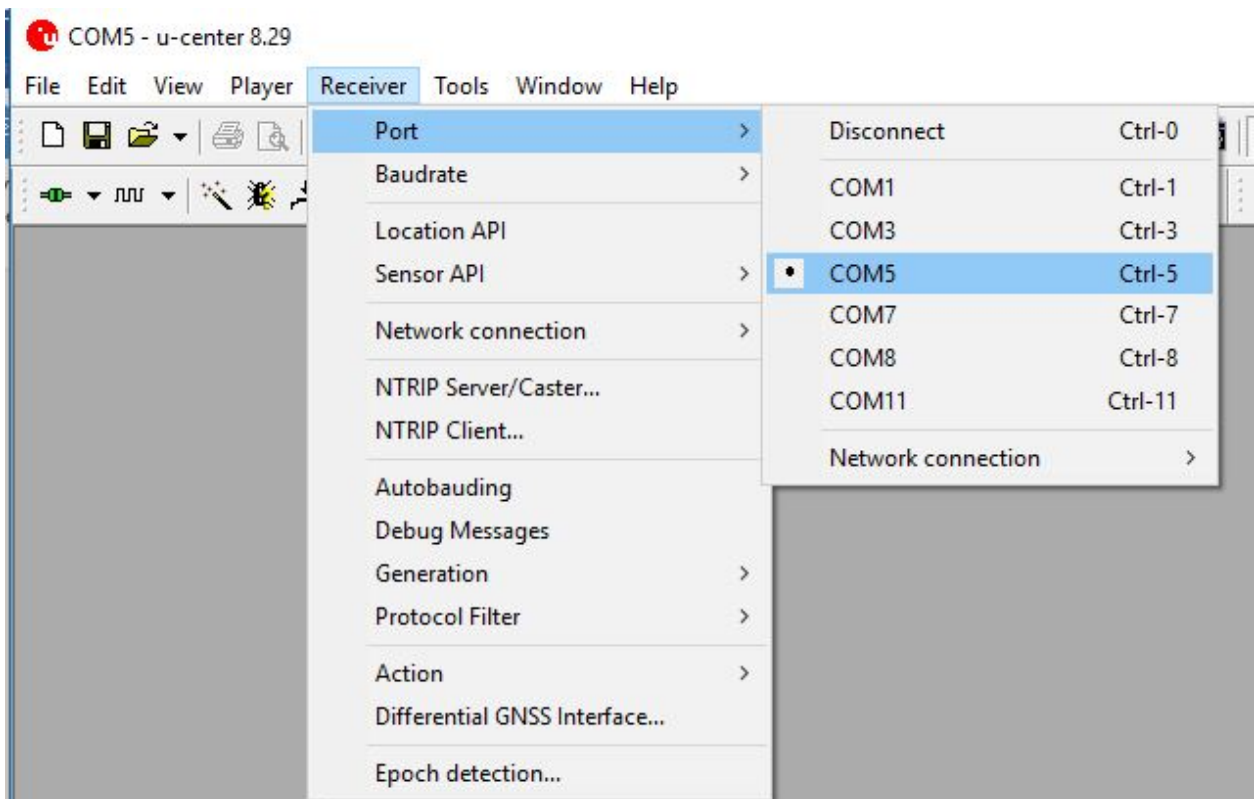*Figure 5 - u-center Connect to COM port via the icon*

Figure 6 - u-center Connect to COM port via the menu

3. Once connected, the various u-center windows on the right should start to react and green and blue bars should begin to appear as the GPS communicates with satellites, etc.
4. Select Configuration View under the View pull-down menu, then scroll down the left-hand list of options and click on NMEA (NMEA Protocol).
5. Change the various settings to match those that are highlighted below.
6. Once the settings have been changed, hit the Send button in the lower left to send the settings to the GPS.
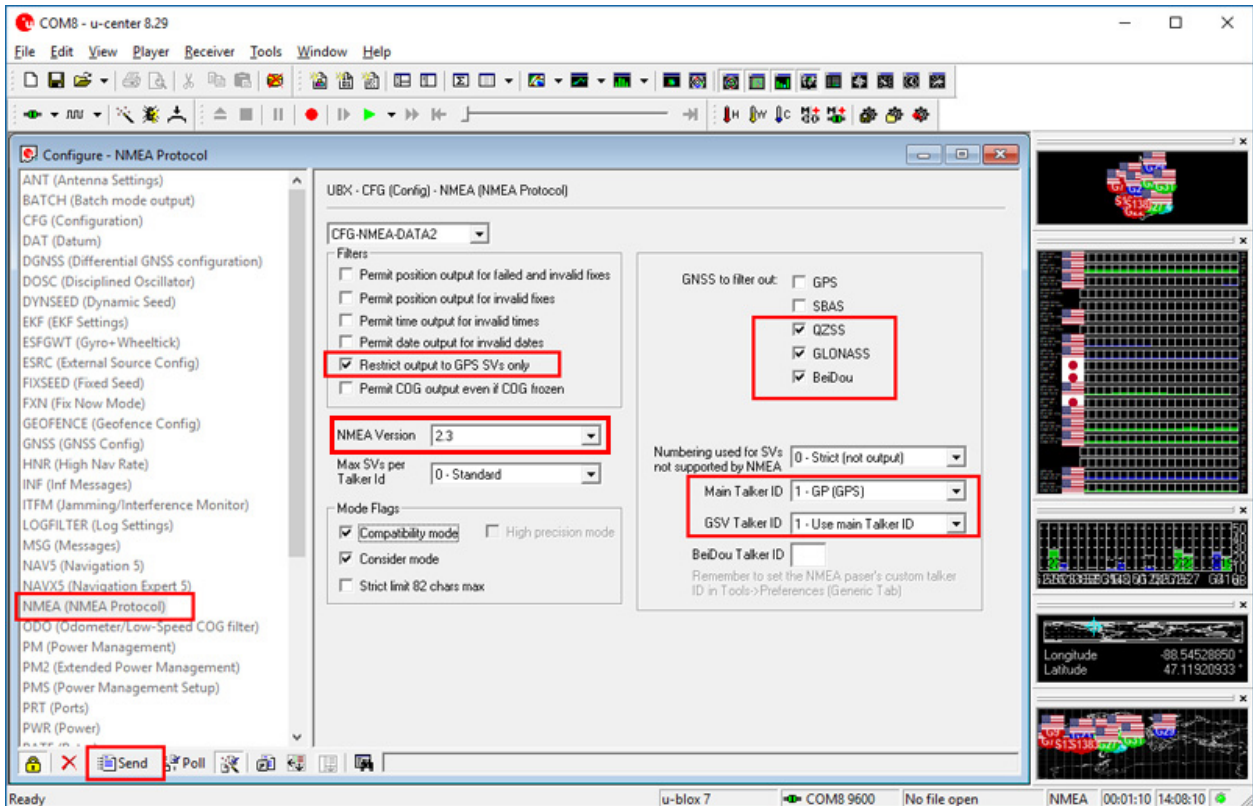
Figure 7 - u-center GPS Configuration Settings

- In the event that u-center is unable to connect to the GPS, ensure that the GPS is running. The easiest way to check that it is running is to use the built-in Quick Menu application on the tablet (T1600 only).
    1. Click on the upward pointing arrow in the Windows Taskbar at the lower right-hand corner of the screen. This will show hidden icons for programs running in the background.
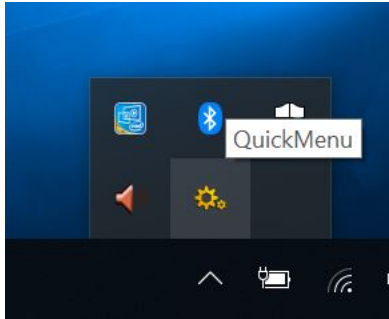
Figure 8 - Quickmenu launch icon is in the hidden icons area of the Windows Taskbar

2. Click on the gear icon to open up Quick Menu
3. Ensure that the GPS is running in Quick Menu – the GPS icon in the upper-right will be blue if the GPS is running, and gray if the GPS isn't running. If the GPS isn't running, click the icon to start it up.

Figure 9 - Quickmenu Control Screen – if the GPS icon in the upper-right is blue the GPS is running

Connect Roadsoft LDC to GPS

Now that the correct GPS Virtual COM port driver has been installed, and the GPS is configured, it can be connected to Roadsoft LDC.

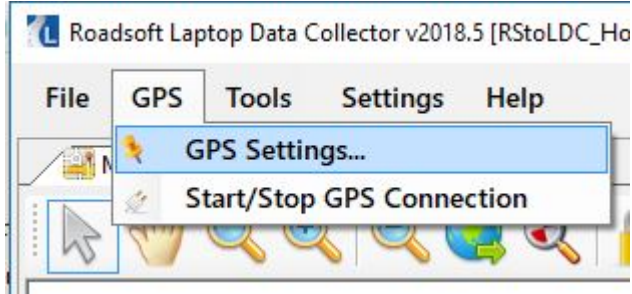1. Within Roadsoft LDC, select the GPS Settings under the GPS pull-down menu.

Figure 10 - Roadsoft LDC GPS Settings Location

2. In the GPS Configuration window that appears, select the COM port for the GPS as mentioned above.
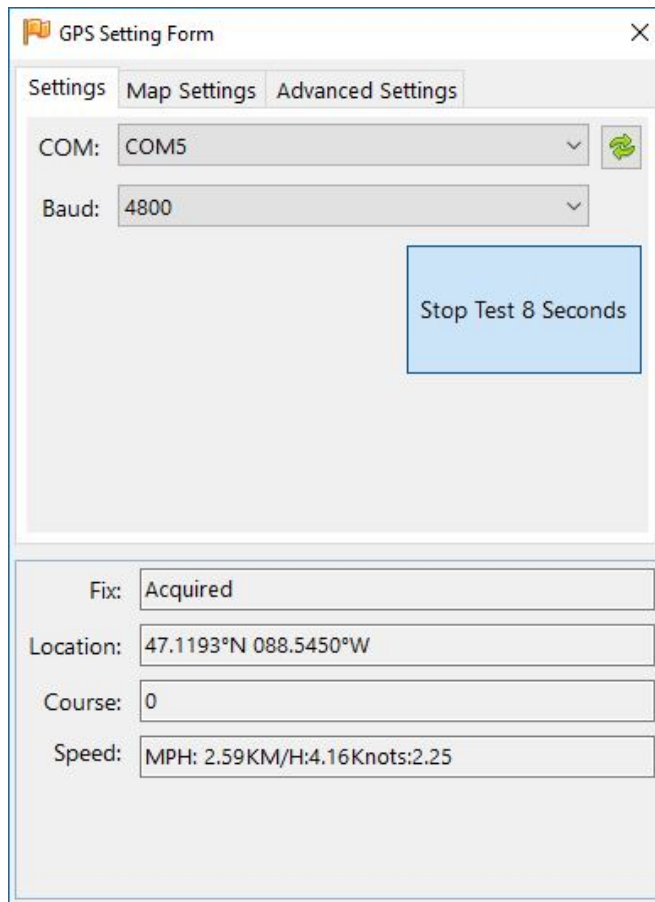

Figure 11 - Roadsoft LDC GPS Settings

3. Click the **Test Settings** button. If this is the first time the GPS has run, it may take a minute to locate itself, but the form fields at the bottom of the window should begin to fill in as the GPS gets a location lock.

4. At the conclusion of the test, if a signal was received, a confirmation window will appear asking to use the settings and connect, click **Yes**.

5. Once connected, your location will be indicated on the map.
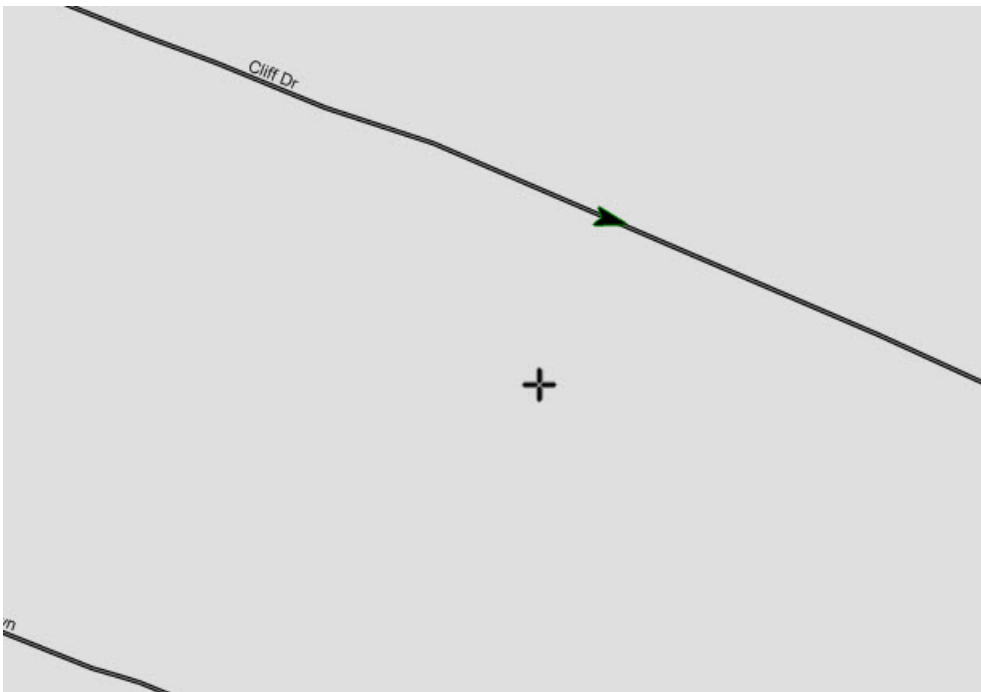
*If a COM port error (shown below) appears in Roadsoft LDC when connecting to the internal GPS, follow the steps above to ensure that the u-blox Virtual COM Port is using driver version 2.30.00. **Also, be sure that u-center isn't running, as only one program can use the COM port at one time**.
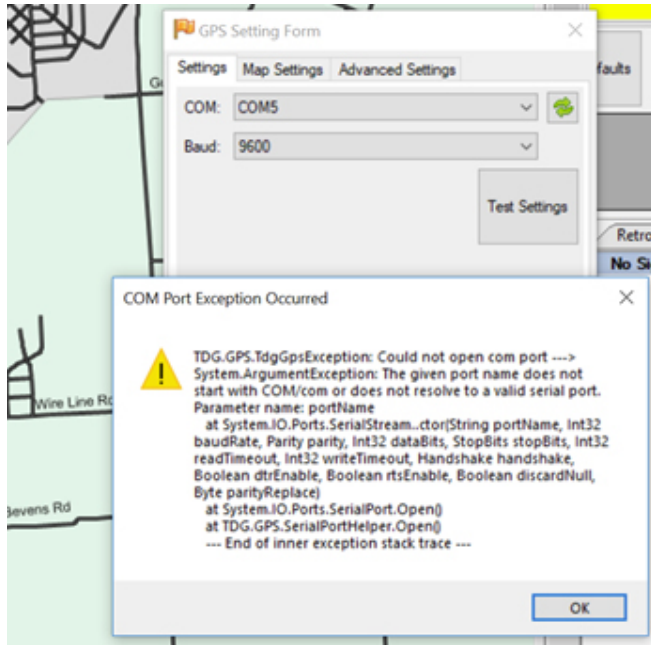
Figure 12 - Roadsoft LDC Potential COM port error