

How to Set Up a Bluetooth Link Between Trimble GeoExplorer GPS Unit and a Laser Rangefinder and How to Find Offset Points

Note: These instructions are for a TruPulse 360 Laser Rangefinder. Instructions for a Lasercraft rangefinder are similar, though the specific controls are slightly different. Both can be used to establish a bluetooth connection and take readings using offsets in ArcPad on a Trimble GPS unit running ArcPad v. 7.0 or greater.

1. Turn on the rangefinder and turn on the GPS unit.
2. Go to *Start; Settings;* at the bottom click on the *Connections* tab; then *Bluetooth*.
3. On the *Mode* tab, check *Turn on Bluetooth* and *Make this device visible to other devices*.
4. On the *Devices* tab, click *Add new device* in the window.
 - a. The device will search and the rangefinder should appear.
 - b. Click on it and click *Next*.
 - c. Establish a Passkey of "1111" and click *Next*. Once it has finished pairing, do not check the *Serial Port* Box.
 - d. Click *Finish*.
5. Minimize the QWERTY keypad if necessary. Click on *COM Ports* tab at the bottom of the screen. In the window, click *New Outgoing Port*. Once the GPS unit finishes searching, select the rangefinder from the list and click *Next*.
6. A window that says *Port:* will open. Make a mental note of the COM that is selected as the GPS unit will randomly select an open COM port. It will be COM1-8. Do not select a different one.
 - a. Click *Finish*.
 - b. Click *ok* at the top of the screen, then click on the *X* at the top right of the screen and you will be returned to the *Start* menu.
7. Open *ArcPad 7.1.1*. from the *Start* pull-down menu.
 - a. Click the black down arrow at the opened folder icon in the upper left. Select *New> Shapefile*.
 - b. Click the + button at the bottom of the screen. Name the field (ie. Rangefinder) and click the green *ok* button at the bottom of the screen. Click *ok* again.
 - c. Name the new shapefile layer only if you don't already have a shapefile you're using to collect data. If you are saving, next to *Folder*, select *Personal* from the dropdown menu and *Save*. Answer *No* when a window opens to ask if you would like to create a quickform.

8. Back on the ArcPad tool bar, click the down arrow to the left of the GPS icon (satellite with crosshairs under it next to the tools icon).
 - a. Click on *GPS Preferences*.
 - b. On the GPS tab: Protocol should be *Trimble GPScorrect*. Port should be *COM3:TSIP Serial Port*. Baud is *9600*. Check the first three boxes and click the green *ok*.
9. Click the down arrow next to the GPS icon and select *Rangefinder Preferences*.
10. From *Protocol*, select your rangefinder from the dropdown list.
 - a. Set the *Port* to the COM# that was assigned for the rangefinder when it was being set up.
 - b. Set the *Baud* to the Rangefinder baud of *4800*.
 - c. Check the *Automatically Activate* box and click *ok*.
11. Click the down arrow next to the GPS icon and select *GPS Active*. This will activate the GPS receiver.
12. Click on the icon that looks like a stack of three yellow sheets.
 - a. Both check boxes to right of the layer you will to collect data on should be checked. This enables you to “edit” or gather data on that layer.
13. Click the icon on the third row of the toolbar that looks like a red dot with an arrow pointing at a blue dot. This is the offset tool that enables you to capture offset points.
14. From the GPS symbol dropdown menu, select *Rangefinder Active*.
15. You will need to do a calibration routine at every new site.
 - a. Create reference points A & B
 - A – from rangefinder to GPS
 - B – from rangefinder to point
 - b. Set the True/Pulse rangefinder to HD (Horizontal Distance).
 - c. Pull the trigger by pressing “fire” button.
16. Set the Rangefinder mode to distance.
 - a. Point the Rangefinder at the target you wish to capture and hold the button until the range appears in the HUD. The GPS screen should go to a screen titled *Point/Vertex*.
 - b. Click on the tripod beside the *Reference Point* box to set your reference point.
 - c. Click the satellite to begin averaging your position.
 - d. Click *ok* when it is finished averaging.
 - e. Click *ok* to record your point. Fill out the *Feature Properties* and click *ok*.
 - f. Point the Rangefinder at the next point and repeat the steps.