

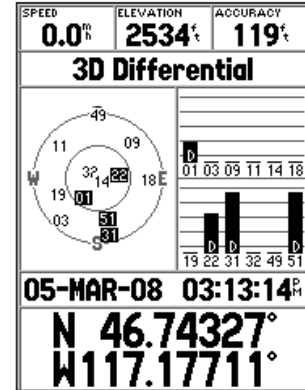


Garmin GPS Map76 Series Field Exercises
Geospatial Resource Analysis

This short field exercise is designed to familiarize Garmin Map76 Series users with the basic operating system of the GPS unit and some useful operations. There is a double-sided, laminated field reference guide for your use as well with step-by-step procedures how to complete common operations such as waypoint and area calculations.

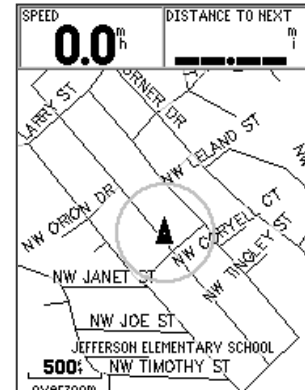
1) The first step is to make sure your unit has been operating at least 15 minutes with un-interrupted view of the satellites. If you are using WAAS correction, make sure you see the "D" at the bottom of the signal strength bars.

The rings on the left show where satellites are located in the sky from the horizon (outer ring) to 45° above your position (inner ring). Each satellite is numbered in these rings and that number corresponds to the signal strength indicator to the right. Your location is shown in the lower box and the estimated accuracy of your position is shown in the upper right corner of the image. In this case an accuracy of 119 feet is poor, but I did this from inside my office so this is not inaccurate – the GPS is in the window sill!



Once the unit has acquired 4 satellites it will go directly to the mapping page and show your location. You can also get here with the <Page> button. <Page> moves you forward through the screens, <Quit> moves you backward through the screens.

2) The mapping page shows your estimated location on a map. These maps are loaded into the units using software provided by Garmin (you have to purchase it). The Map76 Series holds little data, the Map 76CSx holds more data. For comparison, the Map76 will hold streets and points of interest for a state. The Map 76CSx will hold the same level of detail for 9 Western States including Alaska and Hawaii, B.C., Alberta, and still have room left over.



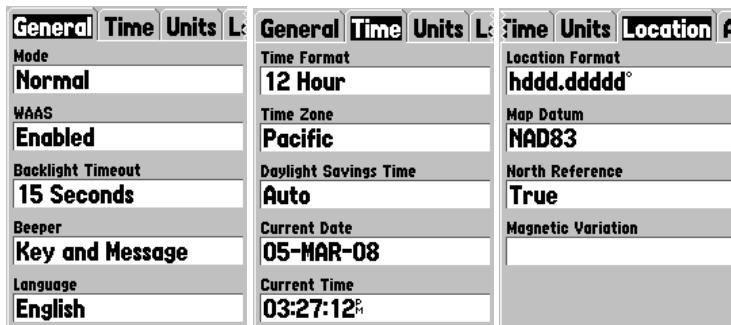
On the screen shot to the right you will see your position with a ring around it. This ring shows your estimated position accuracy. The longer your unit runs, and the better your satellite signal strength, the smaller this ring becomes. As you move about, you will see a "bread crumb trail" of where you have been. We will discuss this as your track log.

Scroll through the screens on the unit using the <Page> and <Quit> buttons.

3) Now, tap the <Menu> key twice. This takes you to the Main Menu. This is where you need to verify settings and change options. Toggle your selection using the pad in the center of the key array. Use Enter to view any of the menu items. Toggle to the <Setup> option and press <Enter>.

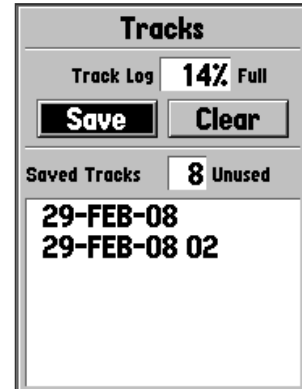


This puts you into the settings for the data you will collect. We will talk about each screen. These 3 screens are very important to pay attention to:

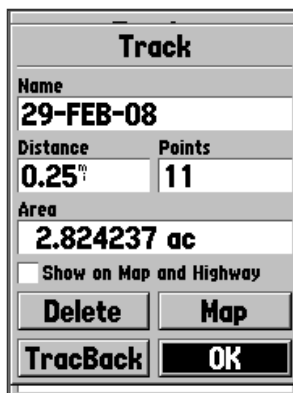




4) Return to the main menu and select <Tracks>. The track log can be a very useful tool for you in determining area and location. You have a couple of important issues with the track log. First, you have tracks saved in Active Log memory. This is what has been collected since the time you turned on the unit or last cleared the Active Log memory. On the screen shot to the right, the Active Log is using 14% of the available memory. There are also 2 saved track logs saved by date. The Map76 only holds 10 track logs, plus the Active Log memory. The Map76CSx holds something like 999 logs.



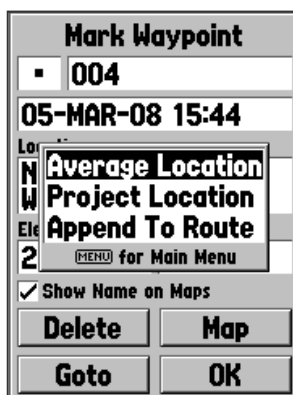
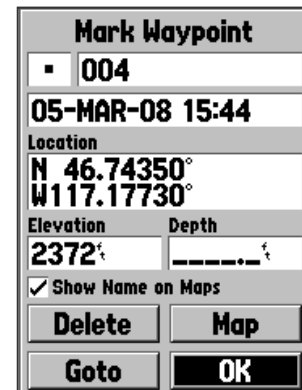
Here is a step-by-step on how to traverse an area for acreage and perimeter, and potentially future mapping use. First, clear the Active Log by selecting and hitting <Enter> on Clear. This only clears the Active Log, not the saved logs. Once the Active Log is cleared, walk or drive your traverse. As you walk the traverse, pause at turning points for a few extra seconds to improve mapping. At the point you close the traverse, save the track log. When you do, you will see a report of the area and distance traversed.



The Map76 reports distance in hundredths of a mile (about 53 feet) but the Map76CSx lets the user select units of measure. To increase the amount of data collected, hit the <Menu> button while on the Tracks screen and select <Setup Track Log>. The method of recording the perimeter of your Track is set here. Set your record method to Time and decrease the Interval to 1 second or 5 seconds. This will instruct the Unit to record more points when creating the track log. It is a trade-off between available memory and desired level of detail. You have to do this BEFORE you record your traverse.



5) Waypoints are used to record the location of a desired point. Return to the Main Menu and select Points. Here you will see saved Waypoints you have created, Points of Interest (nearest restaurant, bar, hotel – with addresses and telephone numbers!), Cities and Exits. When you have created a waypoint, you can find it here. For now, return to the mapping page by hitting <Quit> until you return to the map page. When you are ready to record a waypoint hold down the <Enter> button. The dialog box to the right will appear. You can select a new name by scrolling to the "004" and hitting enter. But what is not in the user manual, is instructions to now hit the <Menu> button.



Once you do, the dialog box to the left appears. <Average Location> will increase your number of points used to determine the location where you are standing. Hold the unit high and still for 90 seconds and you will create a pretty darn good location. Try it out!

Project Location is another great tool. In a nut shell, it allows you to use a spot with great satellite geometry and then "project it" using measured distance and compass bearing to a spot with poor satellite geometry. Think of a point to be recorded at the bottom of a river bottom in thick timber. Now measure to a point out of the riparian zone where you can see satellites – record a position and project it to the bottom of the valley. Tricky, but it works.