



Prosurv  
cEZ.NET 1.0  
for  
2003SE.exe

# Prosurv cEZ.NET™

## Version 1.1

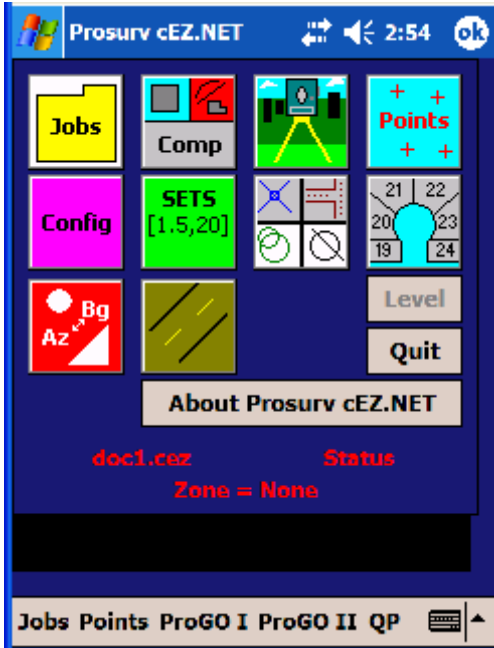
### DC Graphics Guide

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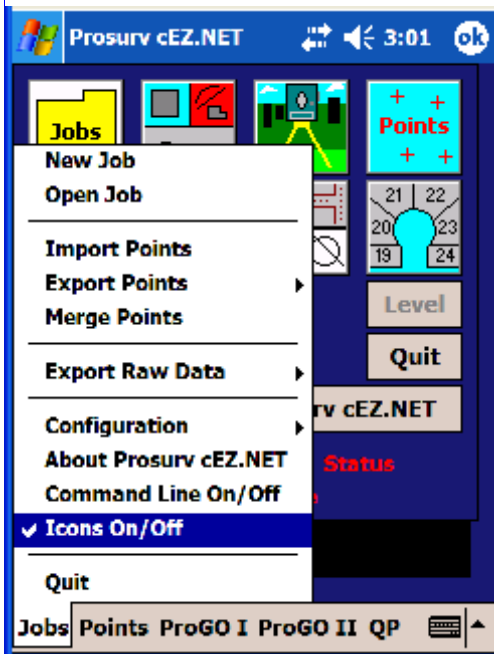
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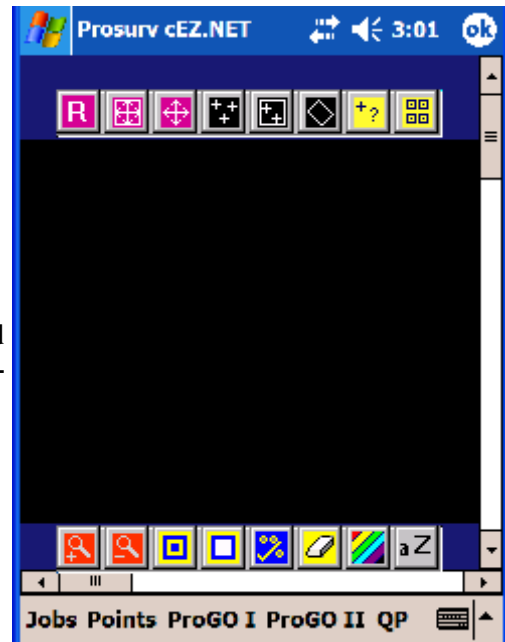
Version 1.1 of Prosurv cEZ.NET™ includes extended graphics capabilities.

There are two menus in Prosurv cEZ.NET. The 'main' menu is shown to the left. The graphics screen can be viewed by tapping Jobs→Icons On/Off.

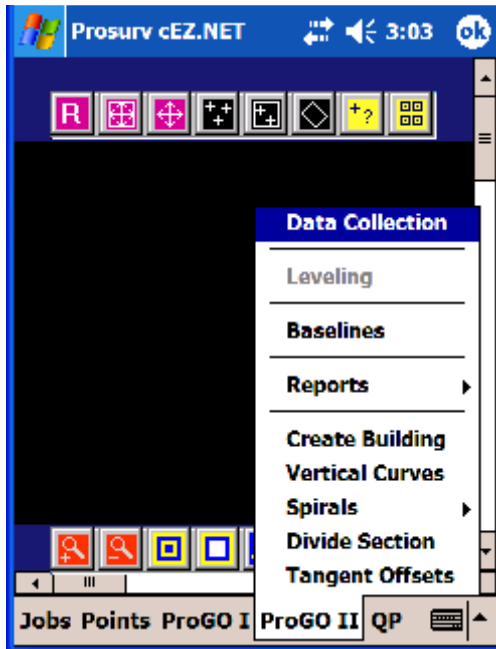
The second menu is the Data Collection menu.



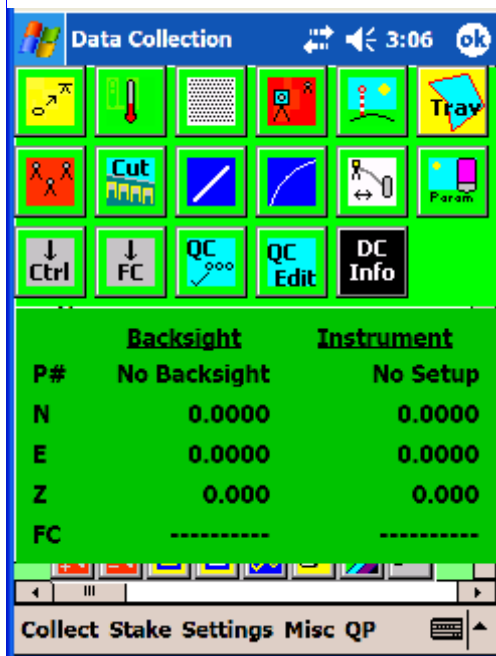
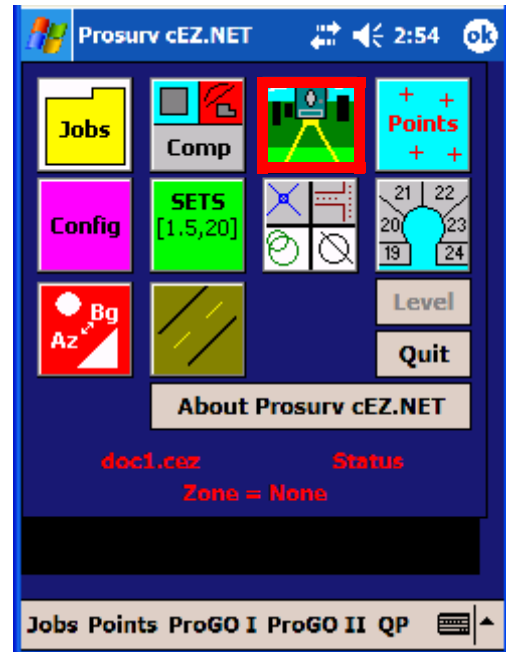
The icons are the large buttons that allow access to most of the functions in cEZ.NET. Turning the icons OFF allows you to view the underlying graphics screen.



The *Installation and Quick Start Guide* will give you a good understanding of how to use the Prosurv cEZ.NET graphics screen.



You can access the Data Collection menu by going to ProGO II on the main menu, or by tapping the Data Collection icon.

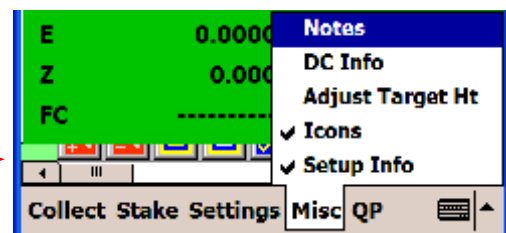


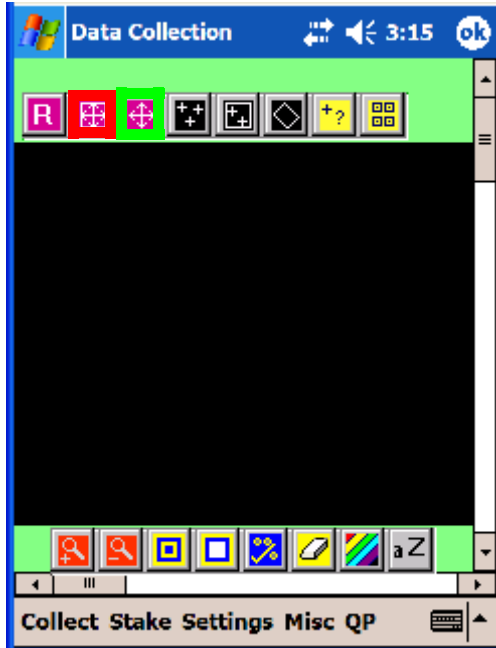
Icons give you access to most of the routines in Data Collection.

Your Setup information is displayed in large, easy to read text.

Turn off the Icons by tapping the Icons menu item. Turn off the Setup Info by tapping the Setup Info menu item.

The DC Graphics screen will appear when both the Icons and the Setup Info are turned OFF!





Once Icons and Setup Info have been turned OFF, you'll see the DC Graphics screen. It looks almost identical to the main menu's graphics screen. However, the main menu graphics screen has a **Blue** border, while the DC Graphics screen has a **Green** border.

Both screens let you scroll up/down and left/right. Both offer the same regen, plotting, and other functions.

By viewing the graphics screen while in Data Collection, you'll be able to see your shot points appear as you shoot them.

Autodraw is a capability in cEZ.NET that will automatically draw lines between your points based on your Feature Codes. The extensive autodraw capabilities are covered in the full cEZ manual.

For now, we will discuss simple plotting and the appearance of points as you're shooting them.

The most important thing to remember is the 'screen limits'. That is, you must define the limits of your graphics screen based on your coordinates, so that cEZ.NET will know where to plot your points. There are two ways to define the screen limits:

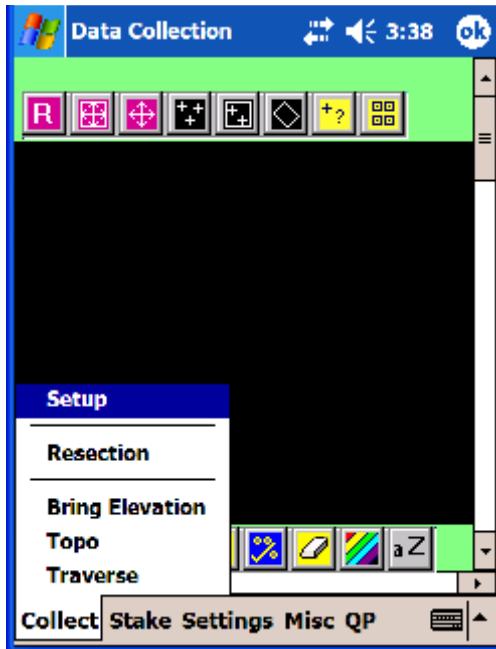
1. Screen Limits by a SET of points—shown above surrounded by the Red square
2. Screen Limits by the Entire File (like Zoom Extents in CAD) - shown above surrounded by the Green square

Of course, both these methods will need some points (coordinates) to define the limits. If you've shot some points, you could simply use option #2—Entire File.

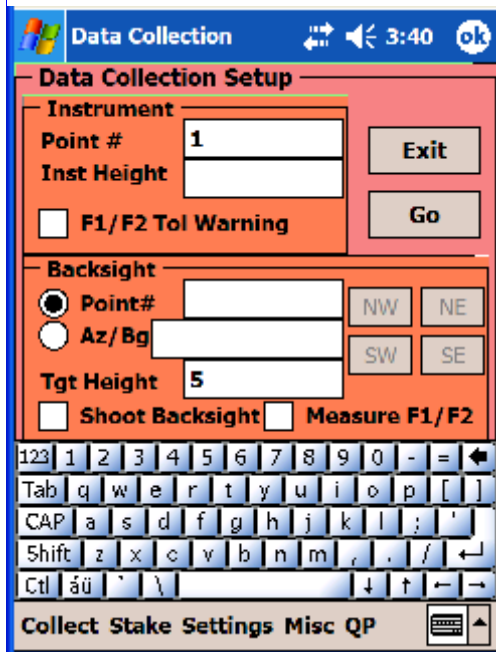
Using option 1, screen limits by SETS is a powerful yet easy way to 'zoom into' a certain group of points. For example, you may have a topo of a large circular area surrounded by a hill. When you shot around the bottom of the hill, you called the points "TOE". In the middle there was a swamp. You shot around the swamp using the code "SWAMP". Prosurv lets you easily create SETS of points based on your feature codes (in fact, this is how the autodraw function works, but it does it automatically). So, you could have SET#1 as all the TOE points and SET#2 as the SWAMP points. To 'zoom into' the swamp area, you'd simply set the screen limits by SET#2.

OK, enough about theory. Let's move on to simply starting out with 2 points. You have a Back-sight point and an Instrument point (occupied point). Your coordinates are:

- 5000N, 5000E, 300Z for the Instrument
- 6215N, 4838E, 301Z for the Backsight



We could use the Add New Point routine to enter the points, or we can go straight into the Setup routine in Data Collection. Tap Collect—>Setup to go into the routine.



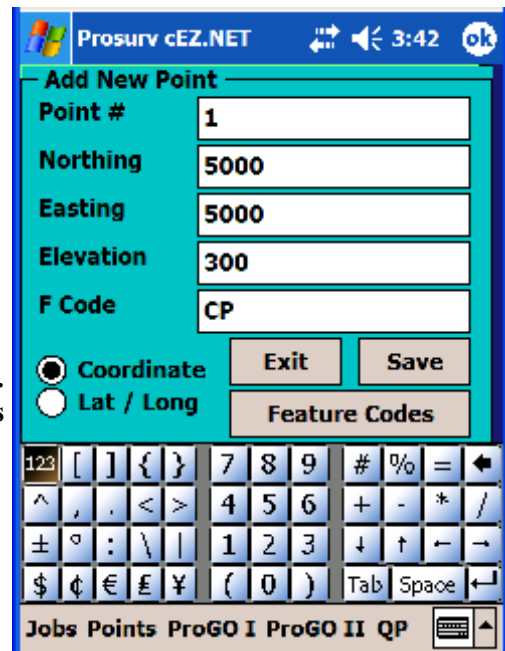
Prosurv cEZ.NET requires a Setup in Data Collection before you can topo or perform stakeout.

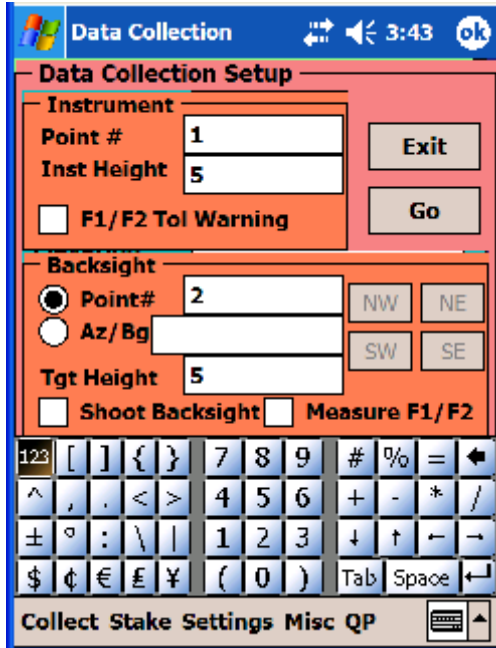
Enter the Instrument (occupied) point as point #1. Now, leave the box by tapping into another box, such as the Instrument height.

Since point #1 doesn't exist, Prosurv will ask you for the coordinates for point #1. Note that you can bring up the Numeric Keypad by tapping the 123 button in the upper left hand corner of the keyboard.

Enter the coordinates for the point, then tap Save.

**NOTE:** Your first point stored may take a few seconds. From then on, all shot points and all hand-entered points will save instantaneously.





- Enter an instrument height
- Enter Point #2 as your Backsight
- Tap in another box so that Prosurv looks for Point #2. Since it doesn't exist, you'll be prompted to enter the coordinates.

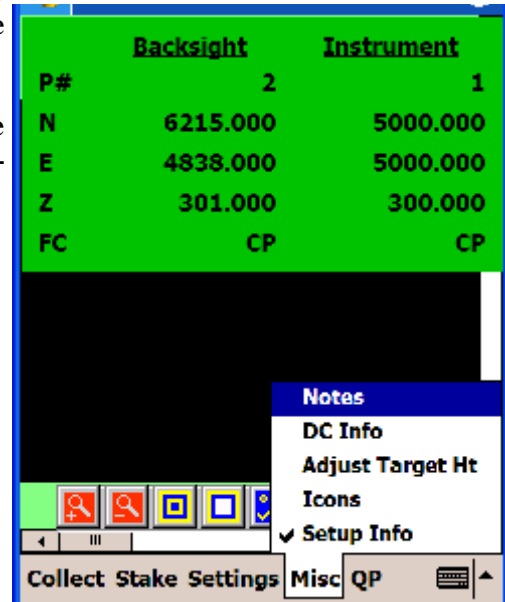


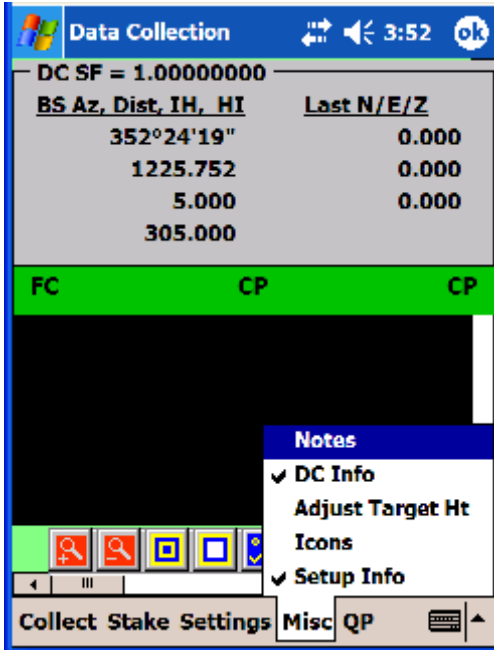
Tap Save to store the point.

Now, you can decide if you want to 'shoot' (take a distance measurement with your Total Station) to the Backsight, or simply take 'Line-Only'. If you shoot your Backsight, Prosurv will display a comparison of how close you are horizontally and vertically to the shot point. In other words, Prosurv will Inverse between the shot coordinate and the 'given' coordinate for your Backsight.

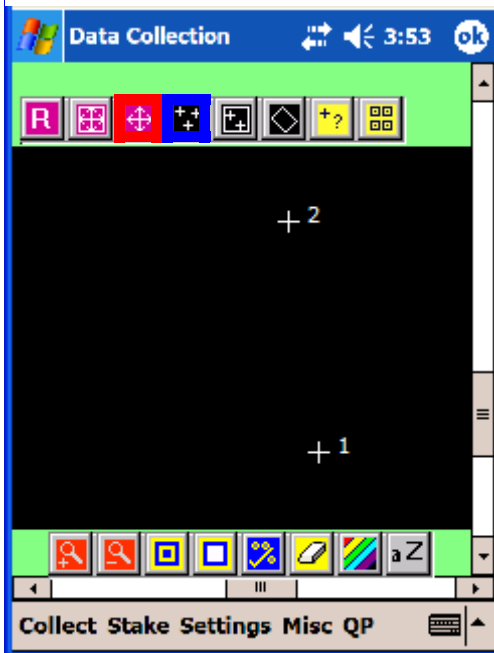
Or, you can simply take Line Only on the Backsight. The 'Shoot Backsight' check box determines whether the Backsight is shot, or not.

Tap the Go button to complete the Setup. If you have the Setup Info menu item checked, you will see the Setup information.



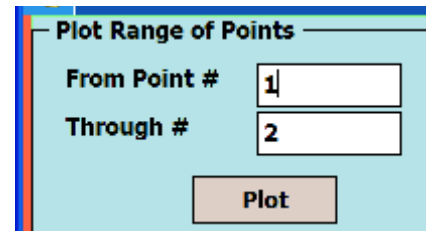


Click on the DC Info button to display more information about your current Setup.



To make the two points appear, as in the example shown:

1. Tap the Screen Limits by Entire File button
2. Tap the Plot Range of Points button (Blue square)
3. Enter from 1 to 2



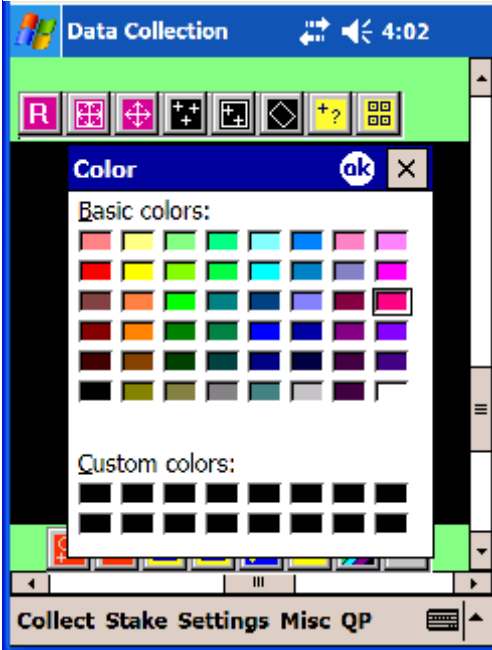
Now, tap the Zoom —(minus) button *twice*. Then scroll to see the two points.

Your screen is now setup to display points as you shoot, since you've used a couple of points to define the "limits" of the screen.

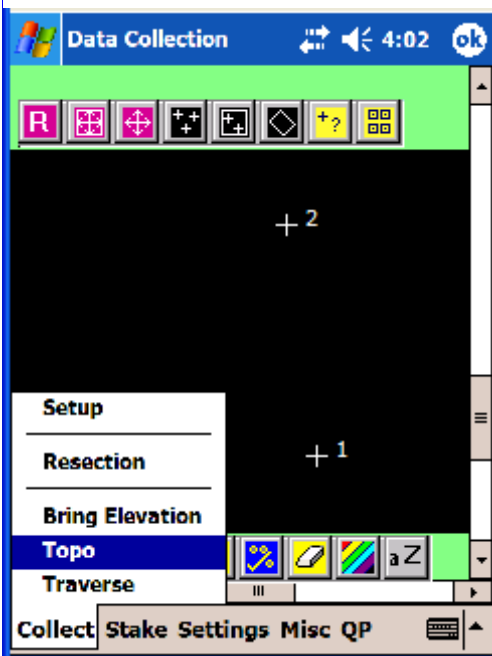
"Where were the points before we zoomed in?"

That's a good question! Actually they were on the plotting surface, but, the plotting surface is 600x600. The viewable screen area is actually much smaller. That's why there's both a scroll and zoom capability in cEZ.NET!

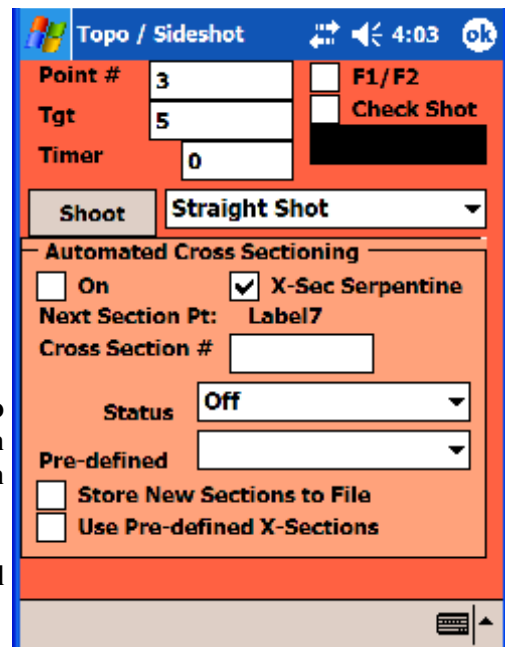
OK, let's take some shots and see what happens!



First, let's set the color to something other than white. Perhaps hot pink will do the trick.



Go to Collect—>Topo on the menu.



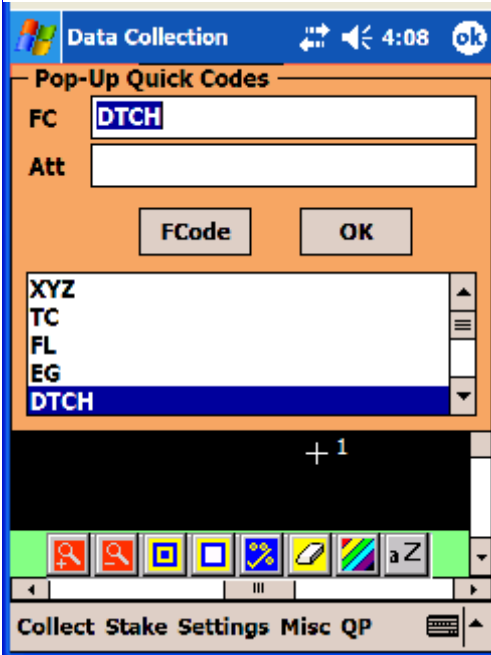
The topo screen has a lot of functions, but we only need to worry about the Target Height (Tgt) and the Shoot button for now. First, set your Target Height (Prism Height) in the Tgt box.

Next, sight the target and tap the Shoot button. That's all there is to it!



The first shot taken has the following raw data:

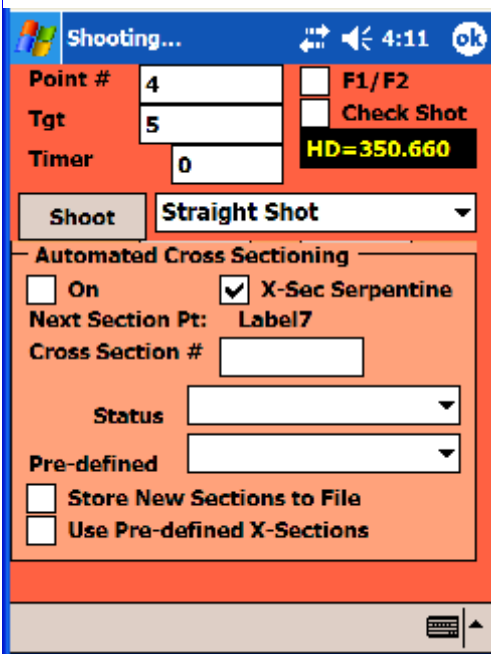
- HA = 75.1410
- ZA = 90.0235
- Slope Distance = 350.66'



Prosurv will automatically store the raw data, compute the coordinate (based on your Setup), and display the point on the screen. But first, we need to give the shot a description. In this case, we'll use DTCH.

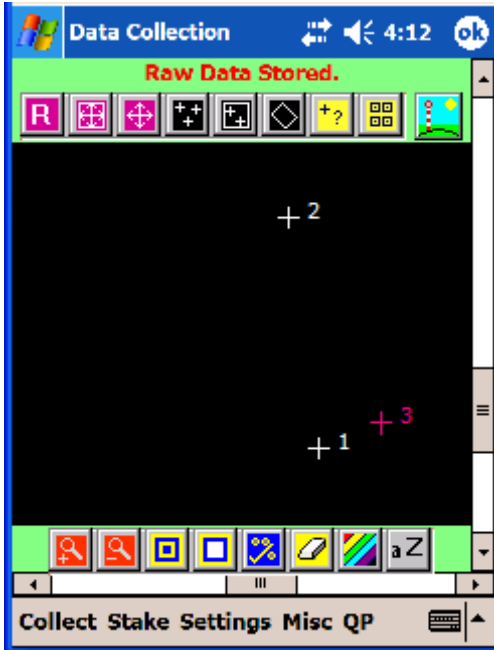
The screen shown here is the Pop-Up Quick Codes screen. This is a list of your 16 most used, favorite codes. It, of course, can be modified. It can also be setup to put new codes at the top of the stack, dropping one off the bottom, or, you can just use the same 16 codes all the time.

Prosurv cEZ.NET also offers *unlimited* Feature Codes with Attributes capability. Just tap the Fcode button to see your entire code list, including Control Codes, and Feature Codes.



After tapping OK, the shot is complete. You're now returned to the original Topo screen.

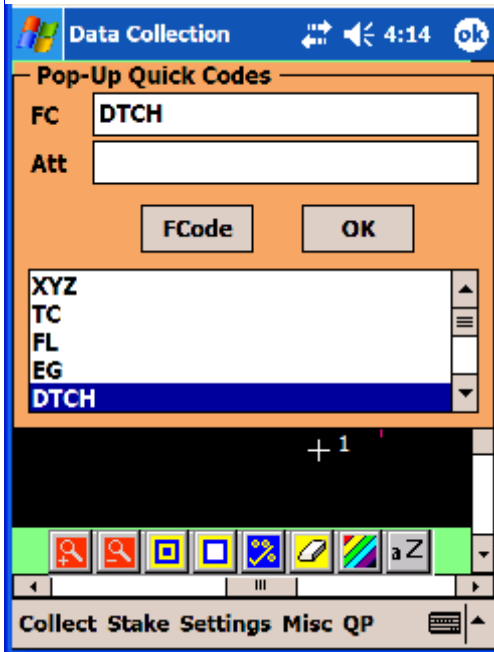
Tap the OK button in the upper right hand corner to leave the Topo screen.



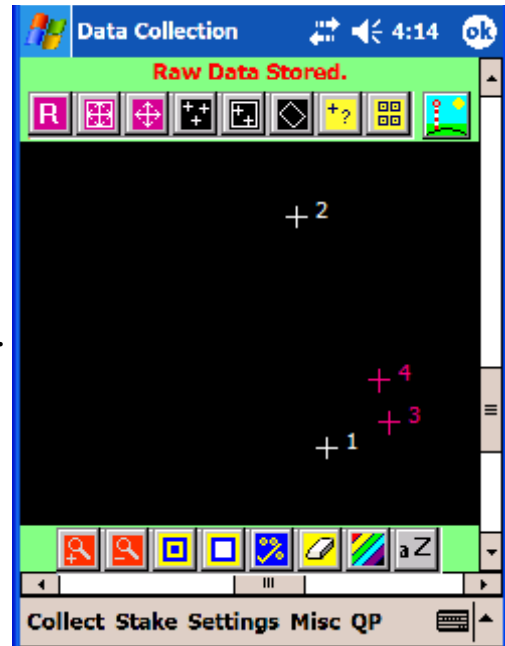
Voila! Point #3 appears on the screen!

Now, you could go back to the Topo screen and shoot more points, and of course, they'd be there when you left the Topo screen.

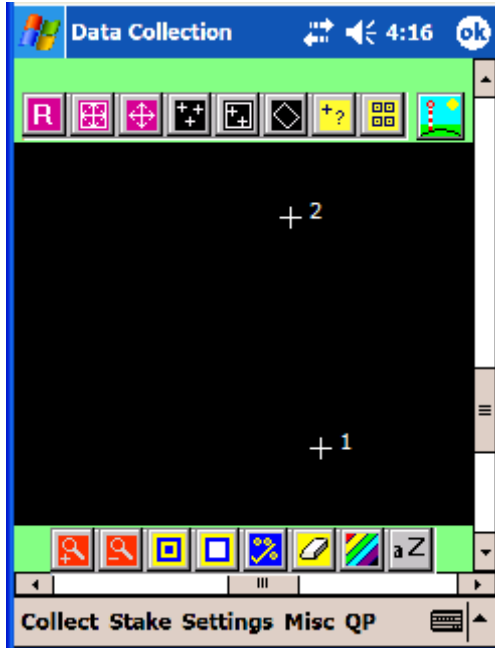
However, a new button has now appeared on the right hand side of the top row. Simply tap this button to take your next Topo shot!



Once again, select a descriptor and tap OK.



Point #4 now appears.



**“Why do my shot points disappear when I do a Regen?”**

**It’s because they haven’t actually be stored as a drawing command. When you tell Prosurv to:**

- **Plot a Range of Points**
- **Plot Points in SETS**
- **Draw SETS (connect the dots)**

**each of these is a plotting command. The command is stored with your job, so the next time you open your job, a simple Regen brings everything back.**

**Shot points aren’t stored as a plotting command. To have them automatically appear when you do a Regen, simply instruct Prosurv to plot the range of points.**

**For example, just say from 1 to 100, and Prosurv will plot the points that exist in that range.**

**Of course, Autodraw does everything automatically, including plotting the points, storing the commands, and connecting the dots. This way, you have total control of what you plot and when (manually or automatic).**

**Finally, to Exit Data Collection, simply tap the OK button in the upper right hand corner. A Regen will be performed automatically and your drawing is displayed in the Main menu.**

### **Final Thoughts**

**Entire Subdivisions, including curves, streets, lots etc can be plotted in Prosurv cEZ.NET simply by using SETS. SETS can be created in many ways, including:**

- **By Point List**
- **By Description (Feature Code)**
- **By Text in Attributes**
- **By Radius From a Point**
- **Just by tapping points on the screen**