



Prosurv Pocket Quads™

Version 1.0.0

Installation & User's Guide



Contact Information

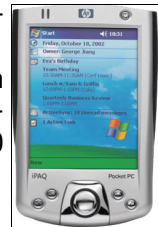
Prosurv, LLC
185 Louis L'amour Lane
Clark, WY 82435

Toll-free 888-647-9500
Web site: www.prosurv.com
E-mail: sales@prosurv.com
techsupport@prosurv.com

Welcome to Pocket Quads™

Thank you for purchasing Prosurv Pocket Quads! To get all the benefits of Pocket Quads on your Pocket PC, Prosurv recommends the following hardware and software:

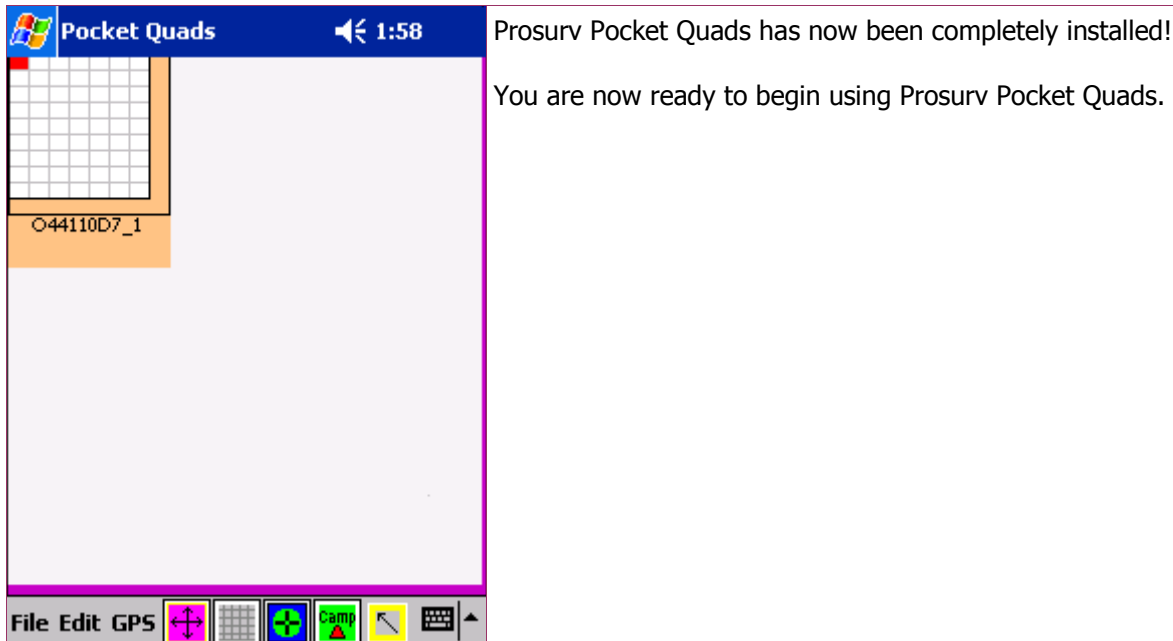
- A **GPS receiver** such as the DeLorme Earthmate GPS with *Bluetooth®* PowerPack (requires a *Bluetooth®*-enabled Pocket PC). Or, any GPS receiver that outputs NMEA data through a COM port (a 'virtual' com port, such as when using COM 8 with a *Bluetooth®* device, or via a cable connection using COM 1), on your Pocket PC. Note that some Pocket PC devices, such as the HP iPAQ 1900 Series DO NOT HAVE SERIAL PORT CAPABILITIES.
- **USGS 7.5' Topo Quad sheets** (DRG's), for your State, or your destination State (such as Yellowstone National Park, in Wyoming and parts of Idaho and Montana). State by State USGS 7.5' Quad maps can be purchased at our web site at www.prosurv.com. Prosurv LLC sells the exceptional **All Topo Maps** Series of USGS maps by iGage Corporation. The **All Topo Maps** Software has the ability to *export* each map as a *Georeferenced .tif* file, which can be used by Prosurv Imaging to create the images used by Prosurv Pocket Quads.
- A **Pocket PC** with a 400Mhz Intel X-Scale processor, and Windows Mobile 2003 Operating System. The HP iPAQ 2215 is the model currently recommended by Prosurv.
- A large-capacity **storage card** (flash card) such as an SD Card or CF Card with 256MB or 512MB RAM. A 512MB flash card can store about **170** Prosurv-compressed Quads. As a reference, the entire Yellowstone NP requires about 70 Quad Sheets.



To prepare a Quad Sheet for use with Pocket Quads requires the following:

- **Any Georeferenced .tif image** representing a USGS 7.5' Quadrangle. Georeferenced means that along with the .tif image, there is also a .tfw (world) file in the same folder as the .tif image file. This world file contains information about the image, such as the coordinates for the upper left corner of the image. Some web sites allow you to download USGS Quad images (DRG's). Typically when downloaded, the image will come with a georeference file.
- **Prosurv Imaging**—used to divide each Quad Sheet image into a number of 'slices'. Pocket PC's do not have the resources (ie memory) to open an entire Quad image. Therefore, Prosurv prepares the image(s) for use by Pocket Quads by creating a new folder that contains dozens of slices of the original image.

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Important information you should know

Pocket Quads installs to the \Program Files\Pocket Quads\ folder on your Pocket PC. Inside this folder is a file called ***Defaults.txt***. This file contains information that ***can*** be changed by you. You can copy the file to your PC using Microsoft ActiveSync. Make a backup of the file, then make the changes that you'd like to make. Finally, copy the file back to the folder that it came from, overwriting the existing file (when asked).

The ***Defaults.txt*** file contains the following information:

```
QuadPath=\Program Files\Pocket Quads\  
Units=meters  
JobZone=UTM,12  
RefreshRate=1  
GPSIndicatorRate=10  
ComPort=8  
BaudRate=19200  
FilePath=\My Documents\  
DefaultQuad=O44110D7.pcq
```

The **QuadPath** is the *only* path that Pocket Quads will use when searching for any particular Quad sheet automatically (for example, when connected to a GPS receiver, Prosurv Pocket Quads will determine the name of the Quad sheet needed for proper display of the current GPS location). Initially, this path is defined to be the Pocket Quads folder of your Pocket PC. However, it is recommended that this path be changed to a path representing the location of your own, personal, Quad sheets. You should use ActiveSync to explore the path names to your flash cards, so that you use the proper path name. For example, on an HP iPAQ 2215, the path to your CF Card (compact flash) is simply \CF Card\. The path to your SD Card is simply \SD Card\. Let's say you're going to take a trip down Interstate 80, and you've created several Quads for the trip. You could store them on a CF Card in a folder called I80. Then, your QuadPath would be;

```
QuadPath=\CF Card\I80\
```

Be sure to include the final backslash, or you might get a *file not found* error, or *invalid path*.

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Units=

Valid entries for Units= are:

- Units=meters
- Units=usfoot
- Units=ifoot

JobZone=

The Job Zone defines the coordinate projection system that is used, by default, when creating or recording points. All NAD83 State Plane Coordinate Zones and UTM1-60 Zones are valid. If you are not familiar with projections and zones, then you should use the UTM Zone that is the same as your image zone. For example, in your area, all of your Quad Sheets may use the UTM 12 projection. Therefore, if unfamiliar with zones and projections, then you should define your JobZone as the same projection, in this case, UTM 12.

For those familiar with projections and zones, you can select to use a different projection than the one used by the image. For example, even though your image's projection is UTM 12, you could use the Wyoming West Central state plane coordinate projection for each file, or job, that you create. This allows you to collect your point data in Wyoming West Central coordinates, rather than having to collect the data in UTM 12 coordinates.

To define a JobZone, enter the name of the projection, then a comma (,) followed by the zone, such as:

- JobZone=UTM,12
- JobZone=Wyoming,West Central
- JobZone=Tennessee,All
- JobZone=Montana,All

RefreshRate=

The Refresh Rate indicates how quickly Prosurv Pocket Quads will attempt to refresh the GPS signal over the image. Default is every 1 second. Slower Pocket PC's should use a refresh rate of 1.5 to 2 seconds or more. Faster Pocket PC's could use a refresh rate faster than every 1 second, such as 0.5.

Valid entries are:

- RefreshRate=1.5
- RefreshRate=1

GPSIndicatorRate=

This value should not be changed by the user. The default value is 10 (milliseconds).

ComPort=

The Com Port indicates which com port is used (by default) when trying to achieve a connection with a GPS receiver. Typical values are 1 for a normal, wired connection, and 8 for a wireless connection.

Valid entries are:

- ComPort=1
- ComPort=2
- ComPort=3
- ComPort=4
- ComPort=5
- ComPort=6
- ComPort=7
- ComPort=8
- ComPort=auto

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BaudRate=

The Baud Rate indicates the default baud rate used by Pocket Quads when trying to achieve a connection with a GPS receiver. Default value is 19200.

Valid entries are:

- BaudRate=4800
- BaudRate=9600
- BaudRate=14400
- BaudRate=19200
- BaudRate=38400
- BaudRate=57600
- BaudRate=auto

FilePath=

This is the default path used when you create a new "points" file. Default path is:

- FilePath=\My Documents\

You can store your point files to a CF Card or SD Card by default by entering the path needed. Note that storage to a card may cause the program to slow down.

DefaultQuad=

If you change your QuadPath, you must also change your DefaultQuad. This indicates the **name** of the default Quad sheet that is loaded each time you start Pocket Quads. The path and name of your default Quad sheet must exist.

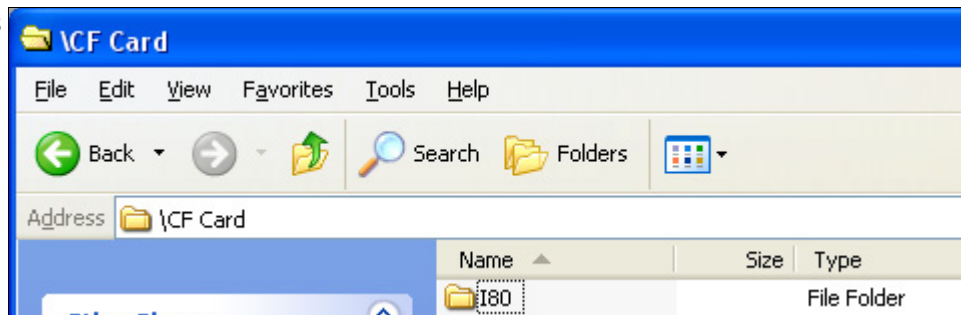
When you first install Pocket Quads, a Quad sheet is installed with the program in the \Program Files \Pocket Quads\ folder of your Pocket PC. The initial default quad is:

- DefaultQuad=O44110D7.pcq

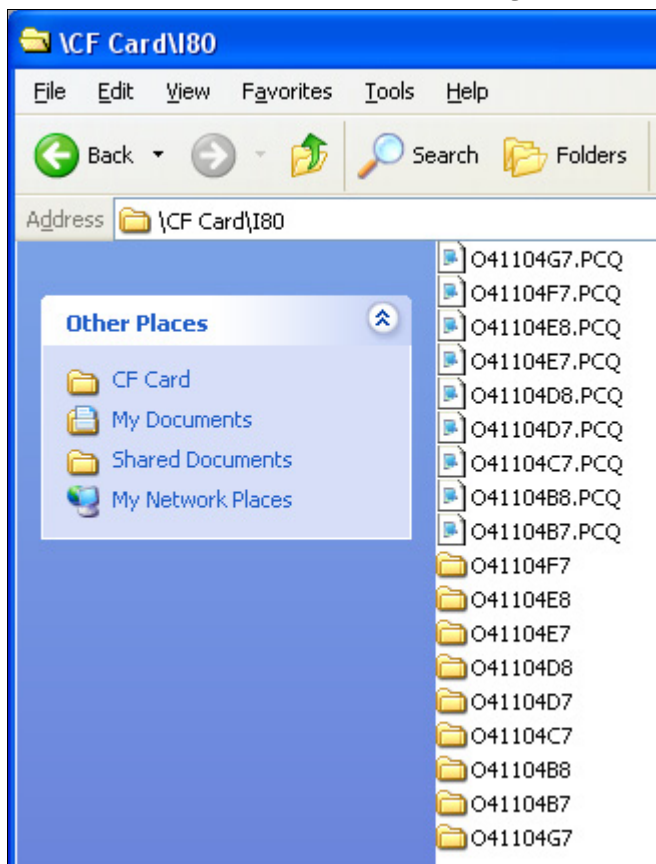
The .pcq file is a special file created by Prosurv Imaging that contains information about the slices for displaying the Quad Sheet. A new folder, called "O44110D7" is also found in the \Program Files\Pocket Quads\ folder of your Pocket PC. This folder contains all the slices for that Quad sheet (in a compressed .png format).

Using the example above, let's say you've created a dozen Quad sheets for an upcoming trip across Interstate 80. Using Prosurv Imaging, you've saved 12 new Quads and their folders to a Compact Flash Card, to be used on your Pocket PC (refer to the Prosurv Imaging documentation for more information about creating the Pocket Quads files).

Using ActiveSync's Explore button, when looking at the contents of the CF Card, you'd see what is shown on the right.



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Double-clicking on the I80 folder reveals several pcq files and their corresponding folders, which were created by Prosurv Imaging.

So, you would want to set your DefaultQuad= to one of the pcq files in the list. For example:

- DefaultQuad=O41104G7.pcq

Then, when Prosurv Pocket Quads is ran, it will look for the Quad located at:
\CF Card\I80\O41104G7.pcq

This file **should** exist, otherwise an error will be displayed.

IMPORTANT NOTES:

- **YOU CAN CHANGE THE VALUES IN YOUR *DEFAULTS.TXT* FILE USING THE FILE EXPLORER PROGRAM ON YOUR POCKET PC. SIMPLY FIND THE DEFAULTS.TXT FILE USING THE FILE EXPLORER PROGRAM, THEN SINGLE-TAP THE FILE TO EDIT. TAP OK WHEN EDITING IS COMPLETE TO SAVE THE FILE. BE SURE TO THEN EXIT AND RESTART PROSURV POCKET QUADS SO THAT IT USES THE NEW DEFAULTS.**
- **CHANGES TO THE DEFAULTS.TXT FILE WILL NOT BE USED UNTIL YOU'VE EXITED, THEN RE-STARTED PROSURV POCKET QUADS.**
- **BE SURE THAT, IF MAKING CHANGES TO THE DEFAULTS.TXT FILE ON YOUR PC, YOU REMEMBER TO COPY AND OVERWRITE THE EXISTING FILE WITH THE CHANGED DEFAULTS.TXT FILE ON YOUR POCKET PC.**

Using Prosurv Pocket Quads

There are **3 Menus** in Prosurv Pocket Quads:

1. **File**
2. **Edit**
3. **GPS**

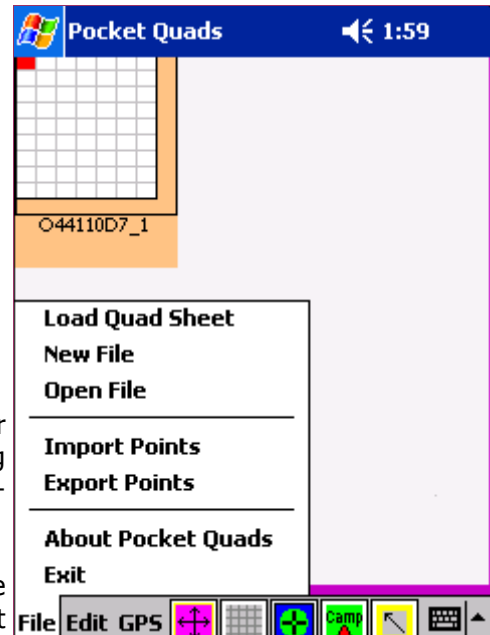
There are **5 buttons** in Prosurv Pocket Quads:

1. **Pan On/Off**
2. **Slices On/Off**
3. **Center On/Off**
4. **Text / Lines**
5. **Navigate On/Off**

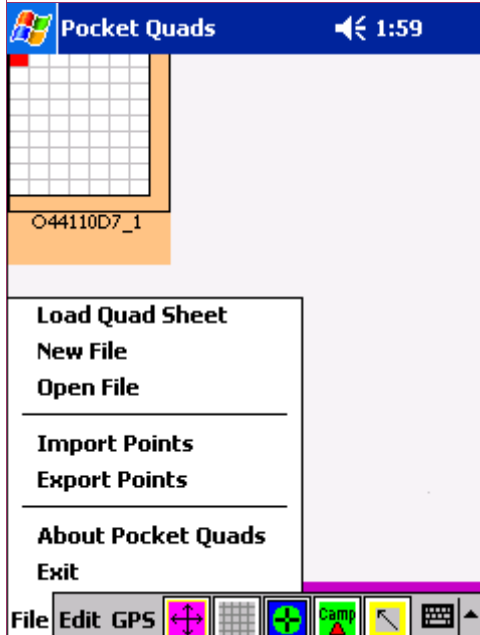
Tapping the screen and "dragging" (gently dragging your stylus across the screen) will give different results, depending on the selections in the menu as well as which buttons are currently on or off.

When you first run Pocket Quads, the program will read the defaults file and determine the name and path of the default Quad sheet to be loaded. Loading of the Quad will take place automatically. It is important that the default Quad sheet exists in the folder, for proper running of the program.

Many functions only work after you've created a file. A file will store any points that you create, or points that are recorded by the GPS Recorder. The file also stores other information, such as lines that are drawn.



The File Menu

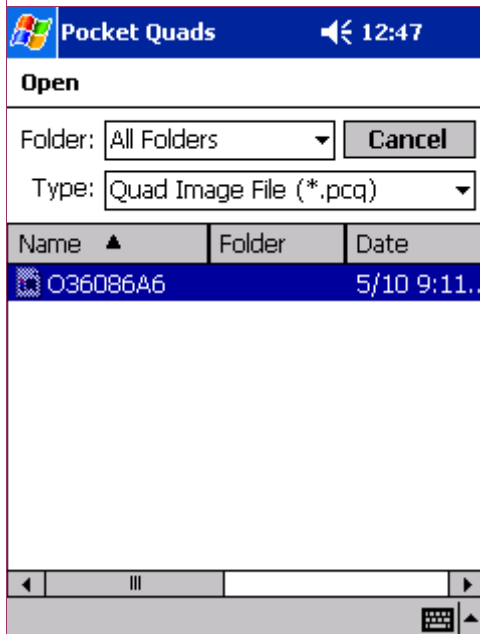


The File Menu contains the following functions:

- **Load Quad Sheet**
- **New File**
- **Open File**
- **Import Points**
- **Export Points**
- **About Pocket Quads**
- **Exit**

Load Quad Sheet

The Load Quad Sheet function lets you load any Prosurv Compressed Quad (.pcq) image. ***The .pcq file can be in any folder, however, the folder containing the actual images (it has the same name as the .pcq file) must also be in that same folder.***

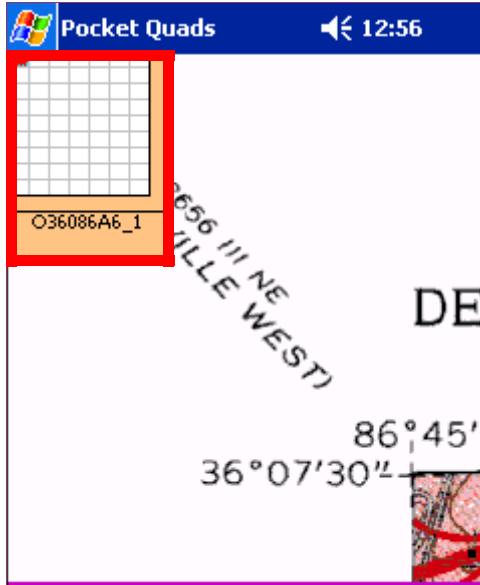


Center on GPS button

Quad sheets will load (change) automatically when using a GPS receiver and the Center on GPS button is ON. However, if GPS is off, or the Center on GPS button is off, then you can load individual Quads as needed.

Tap the **Load Quad Sheet** function. All .pcq files available will be shown. Tap **Cancel** to exit, or **tap the pcq file** to load that quad.

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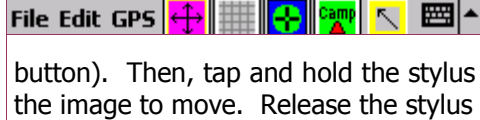
The O36086A6.pcq Quad sheet has been loaded.

Once a sheet is loaded, Prosurv displays a **grid** that shows the current slice being viewed. The example shows that the Quad has been sliced into 7 columns and 9 rows, for a total of 63 slices. Typically, each slice is 2000 meters x 2000 meters.

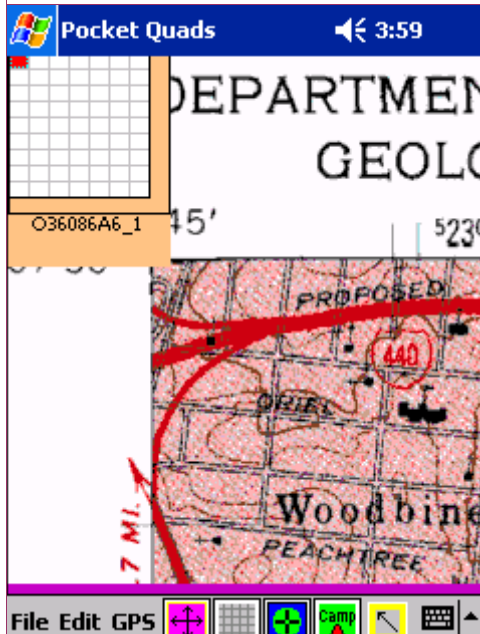
When GPS centering is on, Prosurv Pocket Quads determines the proper Quad sheet to load, *and*, the proper slice to display, based on your current GPS position.

The **grid** also displays the name of the currently loaded Quad sheet (and slice, which in this case is slice #1). When a file is created or opened, the name of the file will also be displayed on the grid.


Once a Quad has been loaded, you can use the stylus to “pan” through the current slice. To do this, be sure that the 



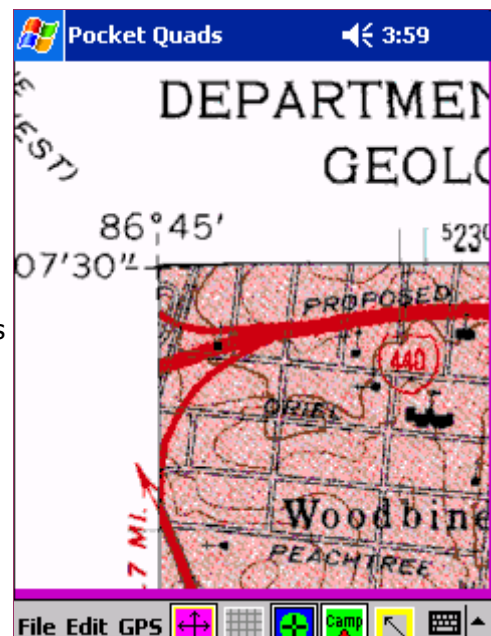
pan button is On (indicated by a black rectangle around the button). Then, tap and hold the stylus on the screen and drag the stylus in the direction that you’d like the image to move. Release the stylus to stop the pan action.



Note: Use of a screen protector is recommended to avoid damaging the touch screen while panning.

Tap the **Grid Button**  to make the grid disappear, as shown to the right.

Tap it again to make the grid reappear.



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New File

Files are used to store data. The files created by Pocket Quads are Pocket Access Database files. When you create a new file, it will have a **.ppq** extension. In other words, if you create a file called **Vacation**, the file name will be **Vacation.ppq**. This extension tells your Pocket PC that the file is a **Prosurv Pocket Quads** file.

An In-Depth Look at the Data Stored by Pocket Quads

For those familiar with using Microsoft Access on their PC, by renaming the Pocket Quads file and using Microsoft ActiveSync to transfer the file, Microsoft can convert the database to a Microsoft Access database which can be viewed on your PC. So, in other words, the files you create in Pocket Quads are fully compatible with Microsoft Access. To do this, you would:

- Be sure that the file is closed (not in use) on your Pocket PC
- Connect your Pocket PC to your PC using ActiveSync
- Be sure that the Tools—>Options—>Rules—>Conversion Settings—>Convert Files when copied... is checked in Microsoft ActiveSync
- Rename the file using ActiveSync so that the extension is changed from .ppq to **.cdb**
- Copy the file to your PC using ActiveSync, converting it to a .mdb file along the way (done by ActiveSync)

Now, you can easily view and use all the data collected by Pocket Quads!

Currently, Prosurv Pocket Quads stores the following information in your file:

The Points Table

- Point #An auto-numbering sequential number, starting with 0
- North.....Northing coordinate of the point, based on the Job Zone
- East.....Easting coordinate of the point, based on the Job Zone
- Elev.....Elevation of the point
- Zone.....Name of the zone currently selected as your Job Zone
- MyText.....The text you entered as the "Annotation" for the point, for example, **Camp**
- Quad.....The current Quad being used when the point is stored
- Slice.....The current Slice being used when the point is stored
- X.....X coordinate of the point on the image
- Y.....Y coordinate of the point on the image
- OffsetX.....The X value of the left edge of the slice being viewed (pan amount)
- OffsetY.....The Y value of the top edge of the slice being viewed (pan amount)
- Font.....The current Font
- Points.....The current text size, in points
- Weight.....The current line weight (width), in pixels
- Italic.....For printing the text on the screen, True or False
- Underline.....For printing the text on the screen, True or False
- Strikeout.....For printing the text on the screen, True or False
- Layer.....The Layer assigned to the point
- ColorR.....The Red value for the color of the point
- ColorG.....The Green value for the color of the point
- ColorB.....The Blue value for the color of the point
- Visible.....Whether the point is visible, True or False
- FCode.....The Feature Code for the point
- Att.....Attributes associated with the point
- ClickN.....The Northing value, in the current Job Zone's coordinate system of the **tapped**location on the screen. When a screen-tapped point is stored, if GPS is ON, theNorth and East values will store the GPS North and GPS East coordinates, which

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.....could be very different than the tapped value. For example, you may be walk
.....ing on a path towards a bridge that is 200 feet away. When you tap the bridge
.....to create a point, the **screen location** of the bridge is stored as the **ClickN**
.....and **ClickE** values, and the **current GPS location** (North & East) is stored as
.....the **North** and **East** values.

- ClickESee the notes for ClickN above
- UnitsThe current Units for the Job (File), either Meters, US Foot, or International
.....Foot
- GPSLatThe GPS Latitude, as reported in the NMEA data string by your GPS receiver
.....when the point is stored.
- GPSLong.....The GPS Longitude, as reported in the NMEA data string by your GPS receiver
.....when the point is stored.
- Deleted.....True or False, whether the point has been deleted

The Lines Table

- Line.....An auto-numbering sequential number, starting with 0
- FromNThe Northing coordinate of the starting point of the line
- FromEThe Easting coordinate of the starting point of the line
- FromZThe starting elevation
- Zone.....Name of the zone currently selected as your Job Zone
- QuadThe current Quad being used when the line is stored
- SliceThe current Slice being used when the line is stored
- FromXThe X (image) value of the starting point of the line
- FromYThe Y (image) value of the starting point of the line
- FromOffsetX.....The current X offset (pan amount) of the slice
- FromOffsetY.....The current Y offset (pan amount) of the slice
- ToNThe Northing coordinate of the end point of the line
- ToEThe Easting coordinate of the end point of the line
- ToZThe elevation of the end point of the line
- ToXThe X (image) value of the end point of the line
- ToYThe Y (image) value of the end point of the line
- ToOffsetXThe current X offset (pan amount) of the slice
- ToOffsetYThe current Y offset (pan amount) of the slice
- WidthThe line width
- Layer.....The Layer assigned to the line
- ColorRThe Red value for the color of the point
- ColorGThe Green value for the color of the point
- ColorBThe Blue value for the color of the point
- Visible.....Whether the line is visible, True or False
- Deleted.....True or False, whether the line has been deleted

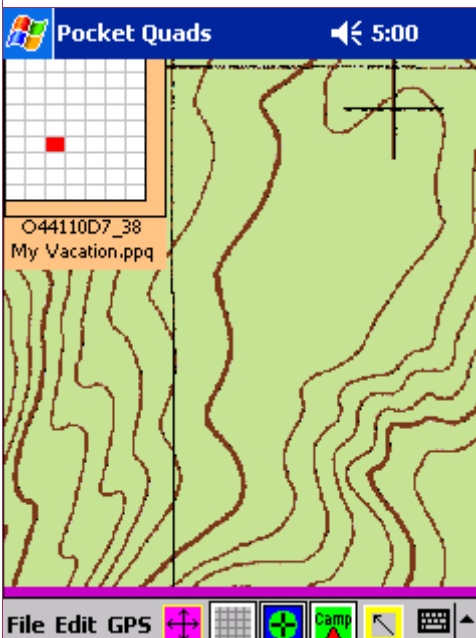
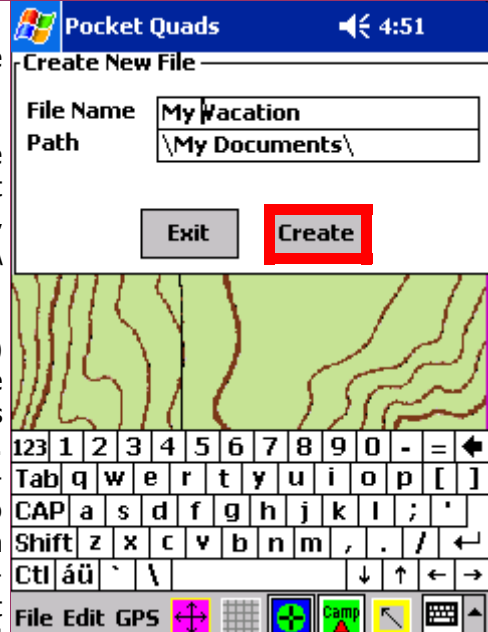
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Creating a New File

Tap **New File** to create a new database file. Enter a File Name such as **My Vacation** and tap the **Create** button.

A new file is created and stored on your Pocket PC. The Path is used to define where the new file is stored. Note that you can change this path, by default, by editing the **Defaults.txt** file, which is found in the \Program Files\Pocket Quads\ folder of your Pocket PC.

You can store files directly to either a CF (Compact Flash) card or SD (Secure Digital) card by using the path name to the card. For example, on a Windows Mobile 2003 device such as the HP iPAQ 2215, the path to the CF Card is simply \CF Card\. The path to an SD Card is simply \SD Card\. You can use ActiveSync to explore (and determine) the correct path names to use. Storing directly to a flash card may be slightly slower than storing to internal memory, however, flash cards are considered as non-volatile memory, and as such, it is less likely that you could accidentally lose data when storing to a flash card (for example, if all power was lost in a Pocket PC, chances are that all data stored on the Pocket PC would also be lost, however, data stored on a flash card would still be safe).



Once the File is created, the name of the File is shown with the Quad name above it.

You must create (or open) a file to do the following functions:

- **Import Points**
- **Export Points**
- **Tap and Create Annotations (points)**
- **Hand-enter a Point (coordinate or Lat/Long)**
- **Create or Draw Lines**
- **View/Change Layers**
- **View Data**
- **Tap to View a Point**
- **Tap to View Distances With Point Searching ON**
- **Record GPS Points**
- **Navigate to Points**

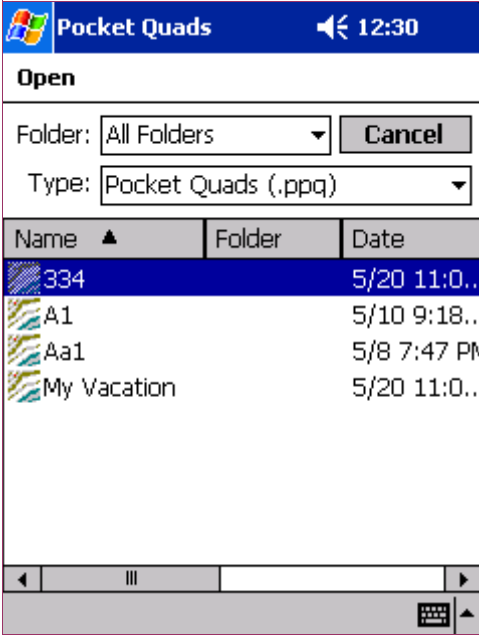
Once you create a File, you can perform all of the functions listed above.

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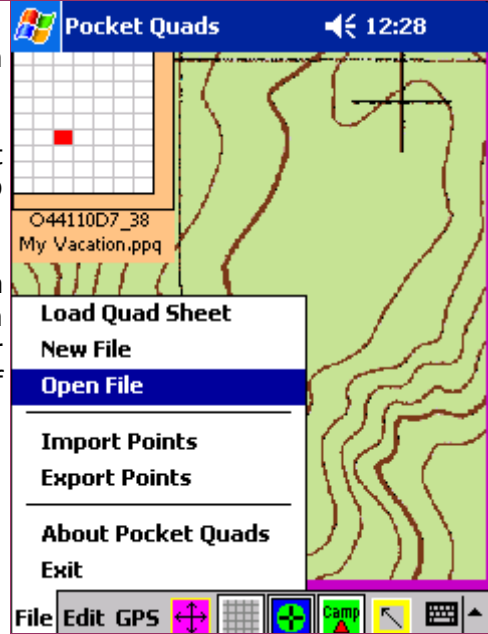
Open a File

To open a file that you've created previously, select **Open File** from the Menu.

All .ppq (Prosurv Pocket Quad) files that exist in your Pocket PC will be shown (even those on CF or SD Cards). Simply tap the file that you'd like to open, or tap the Cancel button to exit.



The Pocket Quads icon is shown next to each Pocket Quads file, for easy identification of the file.



You can also open a Pocket Quads file, and launch the Pocket Quads application by using File Explorer on your Pocket PC, and then tapping the file that you'd like to open.

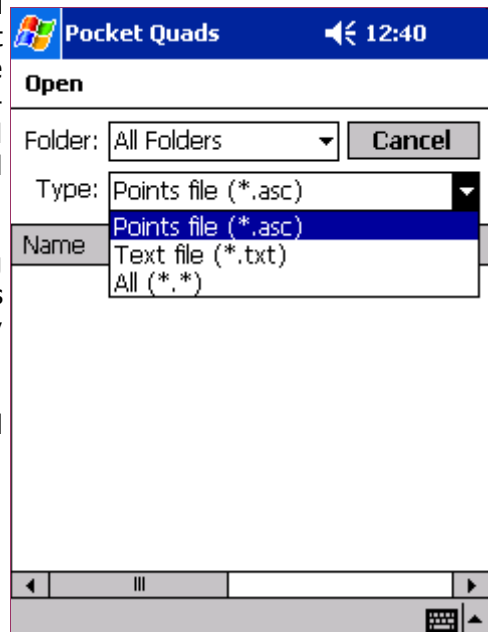
Import Points

The **Import Points** routine will read a text file that contains points in the following format:
Point (Name or Number), Northing, Easting, Elevation, Feature Code

Each field must be separated by a comma. The Point # will be stored in the **MyText** field of the database, and each point will be stored as a waypoint. Imported points can then be used to Navigate to. You can use the Prosurv Imaging program to Export Points in this format. Many other programs and CAD software allow you to export points that can be imported into software, such as Pocket Quads.

Pocket Quads looks for a **.asc** extension when first searching for available text files to import. The "Type" drop-down allows you to view files with either the .asc or .txt extension, or any extension.

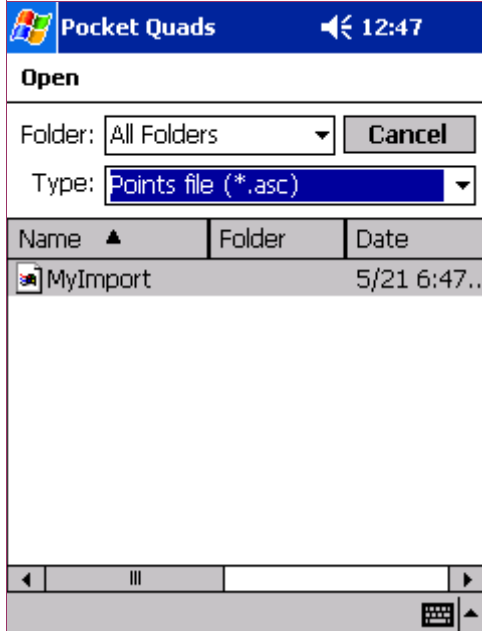
To begin importing the points, simply tap the file that you'd like to import.



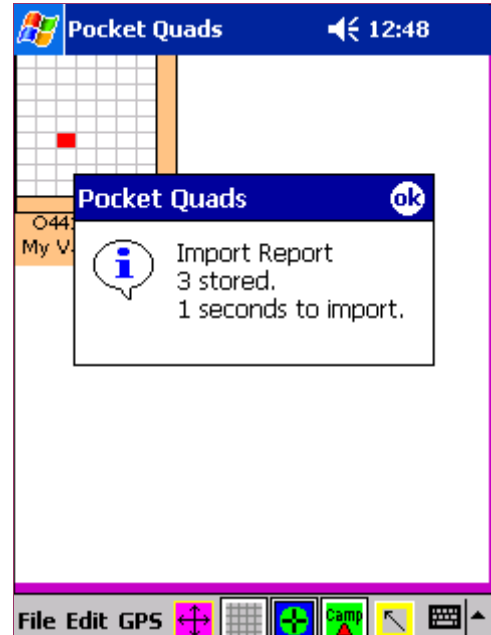
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An example .asc file might contain:

CAMP,495652.12,565075.44,1318.51,OUR CAMP SITE
BRIDGE,495712.14,565044.43,1322.15,BRIDGE OVER TROUBLED WATER
LAKE,495999.7,565135.47,1312.0,EAST EDGE OF LAKE

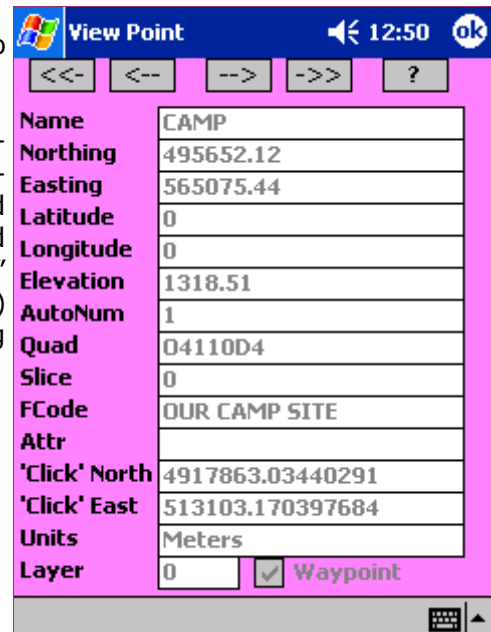


Tap the File to begin importing the points. If you goes well, you will see an **Import Report**:



You can view the data (that was imported) by going to **Edit—>View Data**.

Note that the Quad Sheet needed for the coordinate is automatically computed and stored with the point. And a coordinate transformation is performed that changes the imported coordinates into the Image Zone coordinates. These changed coordinates are stored as the "Click North" and "Click East" data. The original Northing and Easting (that were imported) are kept the same and are stored as the Northing and Easting of the point.

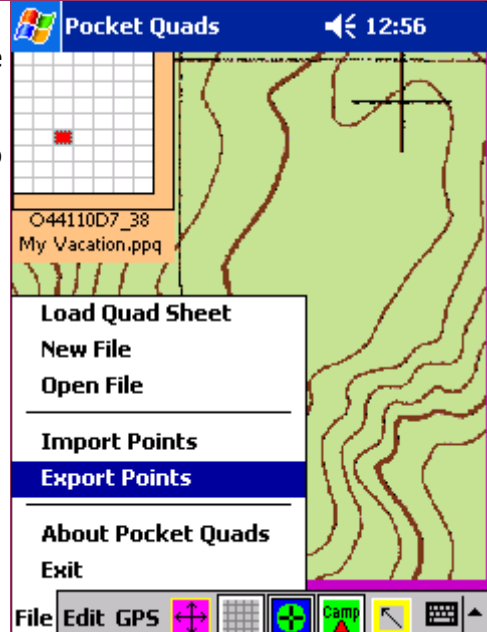
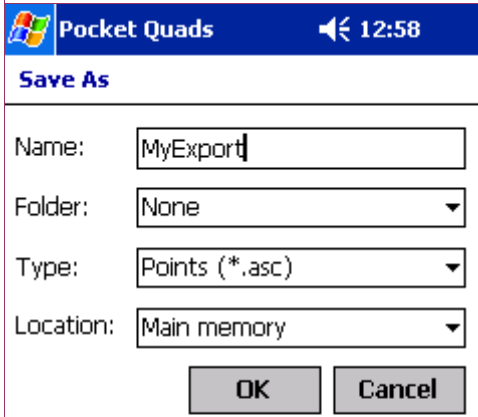


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Export Points

The **Export Points** routine writes all of your points (in the current File) to a text-readable file.

Select **Export Points** from the Menu, then enter a name to Save As.



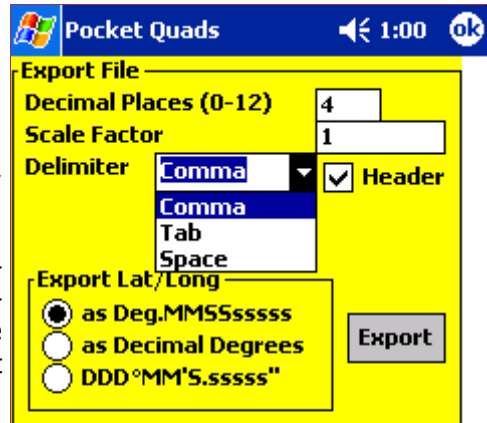
Tap the **OK** button to accept the file name. You will now see the **Export File** dialog:

Choices include the number of decimal places for Northings, Eastings, and Elevations (Default=4).

You can also enter a scale factor which will be used to multiply each Northing and Easting upon Export. This is for advanced users who wish to change the data from State Plane Coordinates to Surface Coordinates (using a Datum Adjustment Factor also known as a Combined Scale Factor).

You can select to use a **comma, tab, or space** character to delimit the fields being exported.

Finally, you can select the type of output (format) for Latitudes and Longitudes. Tap the **Export** button to write to the file.



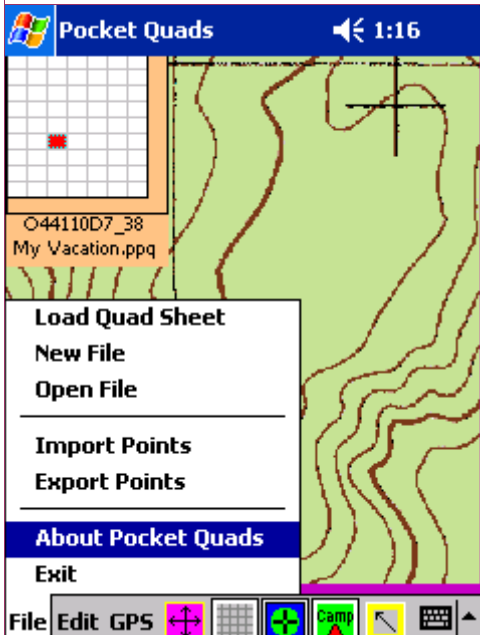
Note: Exported data files have the .asc extension, however, they can not be directly imported into a different Pocket Quads file using the Import Points routine at this time.

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You can copy the exported file to your PC using Microsoft ActiveSync, then you can view the text file using Notepad.

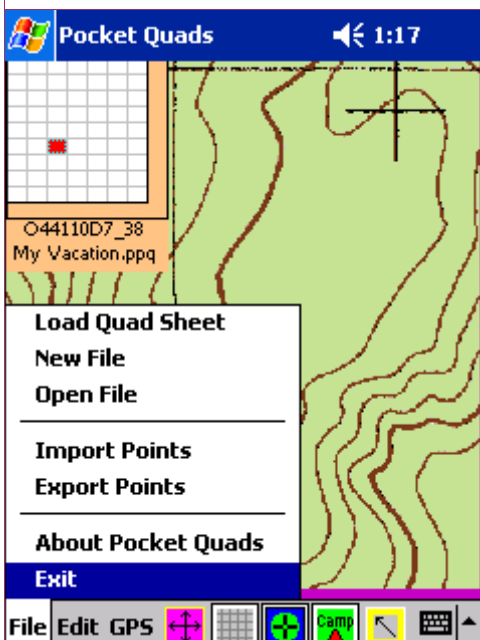
Tip: Using a **comma** as the delimiter allows you to easily open the file using Microsoft Excel. Simply rename the file to **.csv** (instead of .asc). Then, double-click to open it in Excel.

About Pocket Quads



Tap the **About Pocket Quads** selection to view important serial number, registration key, and copyright information about Prosurv Pocket Quads.

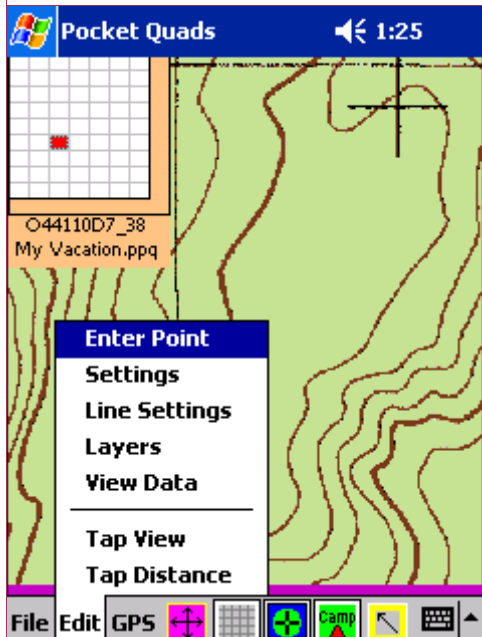
Exit



Tap the **Exit** selection to exit Prosurv Pocket Quads, closing any File automatically, if one is currently open.

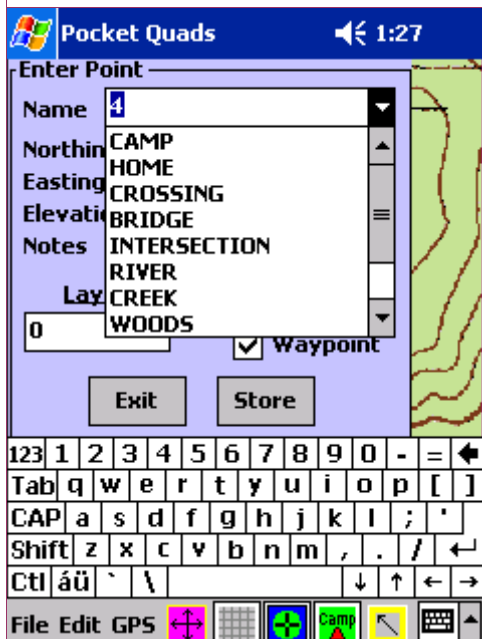
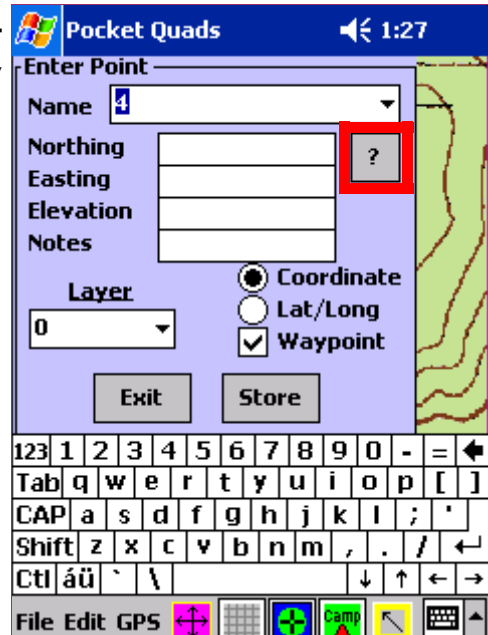
The Edit Menu

Enter Point



Pocket Quads lets you easily hand-enter a point. You can enter either Northing and Easting coordinates, or the Latitude and Longitude of the point.

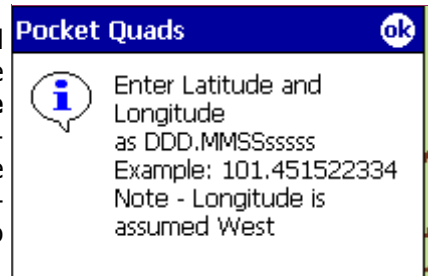
When you tap the **Enter Point** selection, you'll see:



You can enter a Name for the point (the next autonumber is used by default), or you can select a pre-defined name from the drop-down list:

Tip: The drop-down list of Names is user-definable. Simply edit the *Codes.txt* file located in the `|Program Files|Pocket Quads|` folder of your Pocket PC. Once edited, you'll need to Quit (Exit) Pocket Quads, then re-start Pocket Quads which will load the new file.

If entering a Northing and Easting coordinate, be sure to select the **Coordinate** option. If entering a Latitude and Longitude, be sure to select the **Lat/Long** option. Tap the ? button to see the notice shown here.



You can also select which layer the point is assigned to. Individual layers can be turned on and off. For example, Layer 0 might contain your camp site points, while Layer 1 contains points that were stored while walking down a certain path.

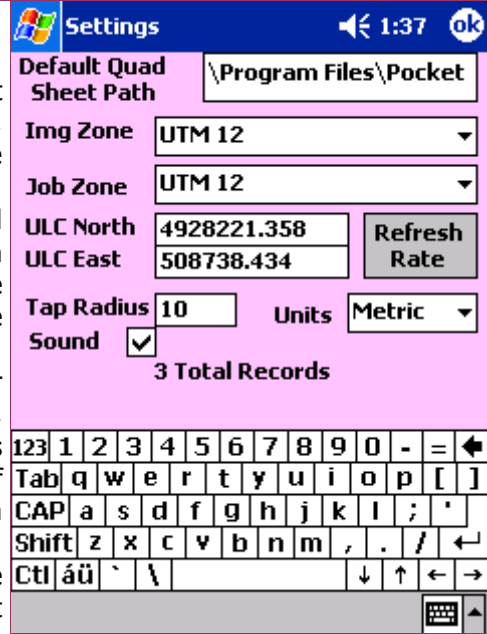
Tap the **Store** button to store the new point to the file.

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Settings

The **Settings** selection has several options:

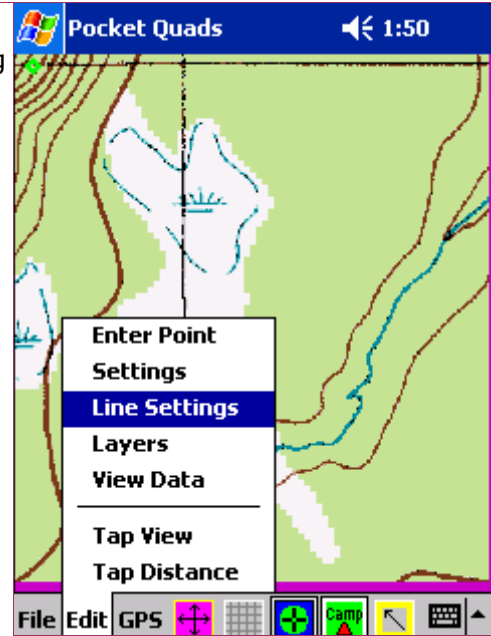
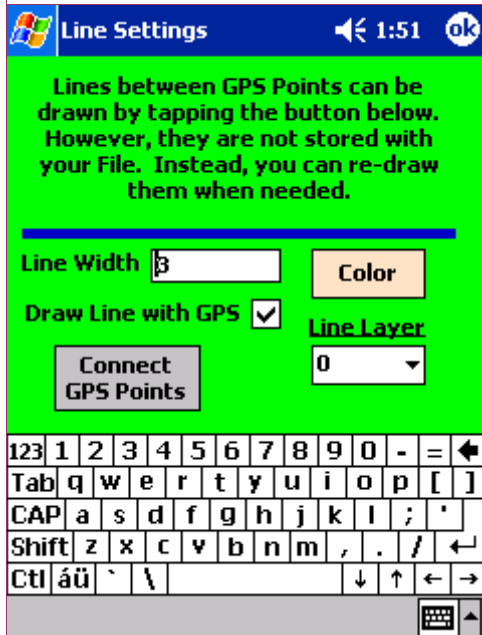
- **Default Quad Sheet Path**—You can edit the default path used for searching for Quad sheets here. However, it is recommended that you edit the default path in the **Defaults.txt** file instead.
- **Img Zone**—This is the image zone currently being used by Pocket Quads, based on information contained in the .pcq file for this Quad. This value should not be changed, unless it is known that the Quad sheets zone (Img Zone) is currently incorrect.
- **Job Zone**—Indicates the Zone that you'd like to use for your Job File. If this is different than the Image Zone, Pocket Quads will automatically transform coordinates between the Image and Job Zones when needed. All of your stored points, GPS Recorded points and other data will have coordinates based on this selected Job Zone.
- **ULC North**—Indicates the northing coordinate, in the Image Zone of the Upper Left Corner of the Quad Sheet being used. Coordinates for the ULC are assumed to be metric, and must be NAD83 datum coordinates.
- **ULC East**—Indicates the easting coordinate, in the Image Zone of the Upper Left Corner of the Quad Sheet being used. Coordinates for the ULC are assumed to be metric, and must be NAD83 datum coordinates.
- **Refresh Rate Button**—Allows you to change the value, in seconds, of the GPS Refresh Rate. Slower processors should use slower refresh rates, such as 2 seconds or longer. Faster processors can use refresh rates of 0.5 to 1 second.
- **Tap Radius**—The tap radius is the search radius used by Pocket Quads when searching for points based on a screen tap. A radius of 10 means all points within 10 meters (or feet if using US Foot Units).
- **Units**—Select the units that you'd like to use for the current job (file). You can change your units, by default, by editing the Defaults.txt file located in the \Program Files\Pocket Quads\ folder of your Pocket PC.
- **Sound**—Turn all sound On or Off (applies to Pocket Quads only).
- **# of Records**—Indicates the total number of records in the current file.



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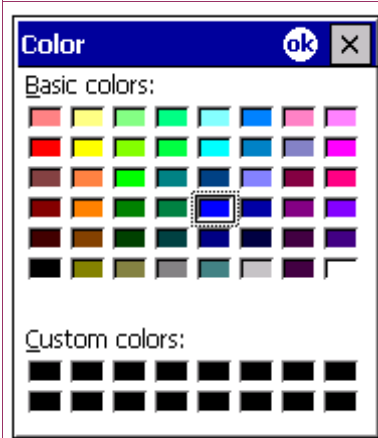
Line Settings

Tap the **Line Settings** selection to view the following screen:



The Line Settings routine lets you:

- Enter a line width
- Select a line color
- Select a Layer that will contain any lines drawn after the selection
- Connect GPS Points (Recorded Points)



Tap the **Color** button to select a color to use for the line(s).

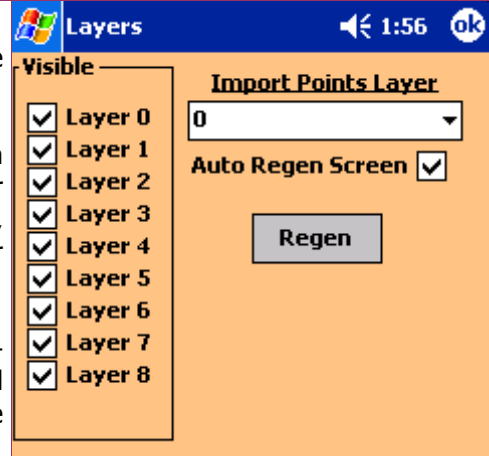
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Layers

Tap the **Layers** selection to turn Layers On/Off and change other Layers settings.

Imagine that layers are just like drawing on a see-through surface—like a clear piece of plastic. On one piece of the clear plastic, you might draw lines for a house. On another piece, you draw lines for the sidewalks and driveway. On yet another piece, you draw the sky and the lawn.

Now, when you overlay the pieces, you have a complete picture. By putting certain points and lines on specific layers, and turning layers on and off, you can alter the picture that you see on the image.



Pocket Quads has 9 layers (numbered 0 to 8). You can also indicate which layer **Imported Points** will be stored on.

When creating lines and points, you're given the option of which Layer to store the points and lines on.

The **Auto Regen Screen** check box, when checked, will force Pocket Quads to redraw your lines and points when you tap the **OK** button. Or, tap the **Regen** button to force an immediate re-drawing of your points and lines.

Tip: Pocket Quads searches the entire file for all the lines and points that fall within the current slice ONLY. Lines and Points that are on a layer that has been turned OFF, will NOT be plotted at that time. Each time a Regen is performed (either automatic or manual), Pocket Quads re-loads the current image slice, which effectively wipes the image clean, then re-plots the lines and points.

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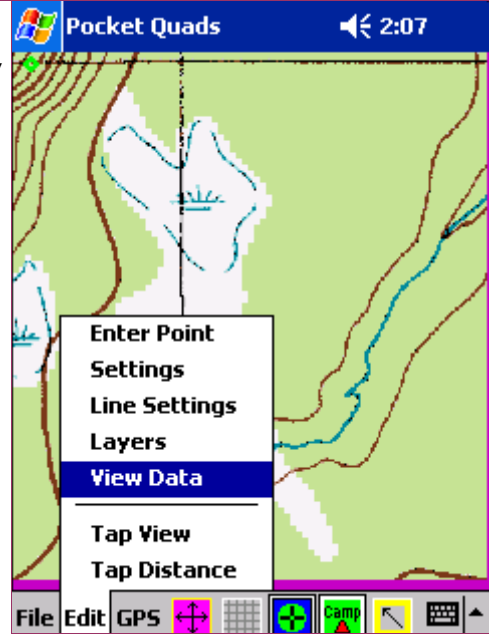
View Data

Tap **View Data** to scroll through the records in your file, one record at a time:

View Point 2:10 ok

<<< << --> -->> ?

Name	BRIDGE
Northing	495712.14
Easting	565044.43
Latitude	0
Longitude	0
Elevation	1322.15
AutoNum	2
Quad	04110D4
Slice	0
FCode	BRIDGE OVER TROUBLED
Attr	
'Click' North	4917863.03440291
'Click' East	513103.170397684
Units	Meters
Layer	0 <input checked="" type="checkbox"/> Waypoint



Tap the Arrows to:

- **Go to the First Record**
- **Go Back One Record**
- **Go to the Next Record**
- **Go to the Last Record**

View Point 2:13 ok

<<< << --> -->> ?

Pocket Quads

Enter search Name

lake

OK Cancel

FCode OUR CAMP SITE

Tap the ? button to search for a particular point (by **Name**).

View Point 2:13 ok

<<< << --> -->> ?

Name	LAKE
Northing	495999.7
Easting	565135.47
Latitude	0
Longitude	0
Elevation	1312
AutoNum	3
Quad	04110D4
Slice	0
FCode	EAST EDGE OF LAKE
Attr	
'Click' North	4917863.03440291
'Click' East	513103.170397684
Units	Meters
Layer	0 <input checked="" type="checkbox"/> Waypoint

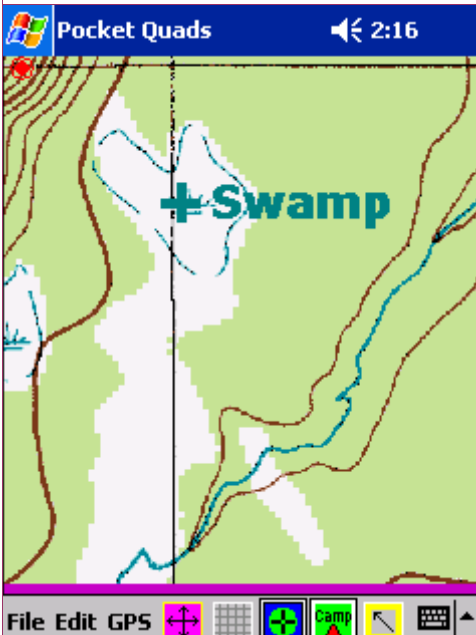
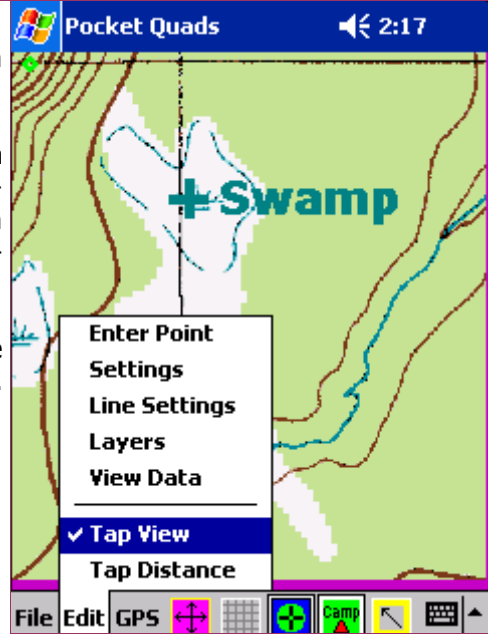
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Tap View

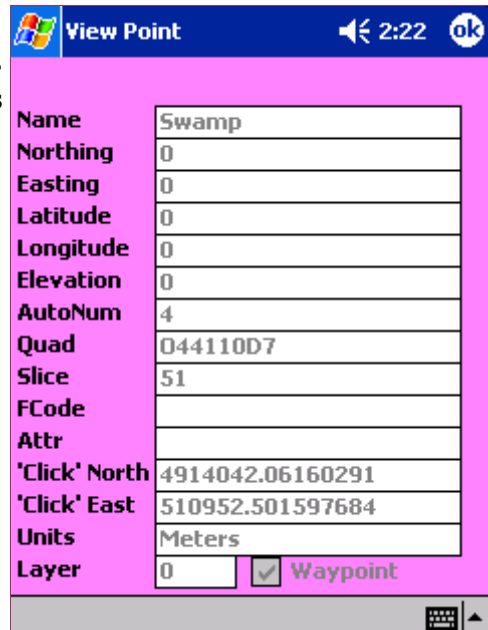
The **Tap View** option is either **on** or **off**. Tap the option once to turn **Tap View** on, or tap it again to turn it off.

If **Tap View** is **ON**, then Pocket Quads allows you to tap a point that's currently on the image and view the data associated with that point. The **Search Radius**, which can be set in the **Settings** screen, is used to determine which point is closest to where you tapped.

When a tapped point is found in the file, the color of the point will change to **Magenta**, and the point's data is displayed. See the screens below.



Note: The Tap View option overrides any other tapping capabilities. Turn Tap View OFF to create points and lines by tapping.

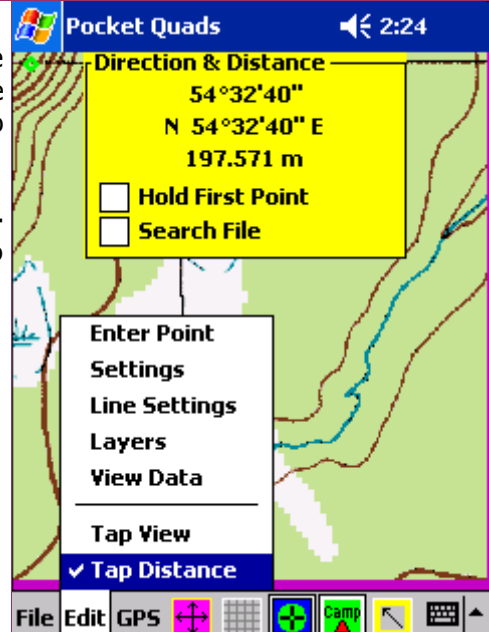
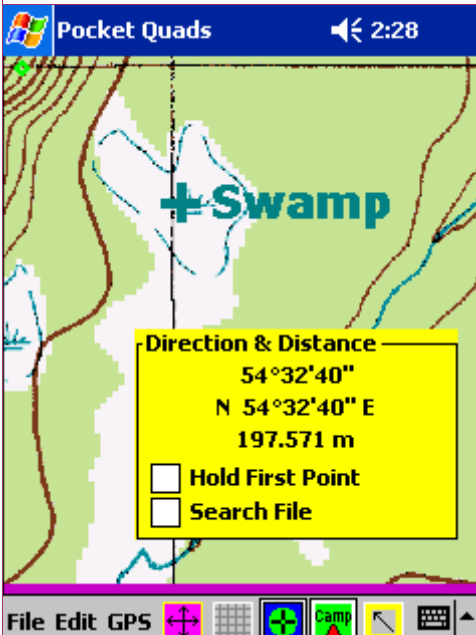


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Tap Distance

This option is also an **On** or **Off** option. When you tap the **Tap Distance** selection, a dialog will pop up showing you the direction and distance between points. Tap the option again to turn **Tap Distance** Off.

Note: You can move the "Direction & Distance" dialog elsewhere on the screen by "dragging" the box to the desired location using your stylus.



This routine lets you find the distance between any two locations on the screen. You don't need any points to see what the distance is between two locations.

Simply tap any two screen locations to see the distance between them, such as from a road intersection to a bridge. The direction between the locations is given as an Azimuth and as a Bearing.

By checking the **Hold First Point** check box, you can find multiple distances from one point. For example, how far is it from your camp site to the lake, and from your camp site to the road?

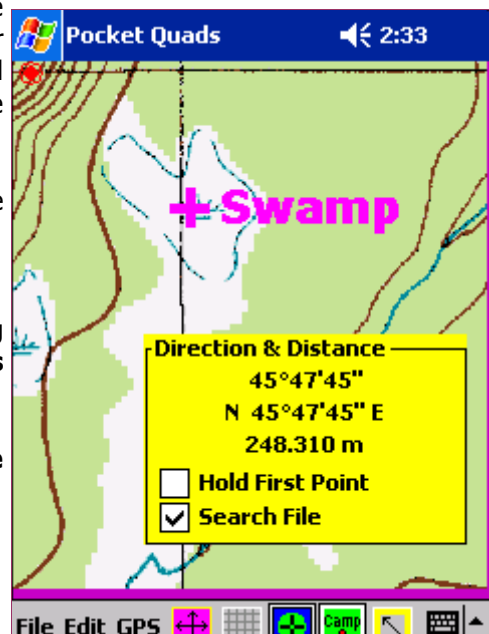
The **Search File** check box tells Pocket Quads to search the file for existing points that are within a given radius of your screen tap location. If no points in the file match your tapped location (within the radius as defined in **Settings**), then the screen tap location will be used.

When a tapped point is found in the file, the color of the point will change to **Magenta**.

Notes:

The Tap Distance option overrides any other tapping capabilities. Turn Tap Distance OFF to create points and lines by tapping.

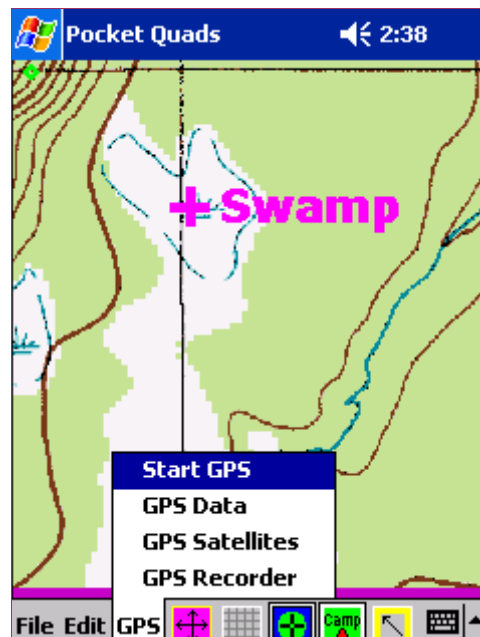
Turning OFF the Tap Distance selection will cause the Direction & Distance dialog to go away.



The GPS Menu

The **GPS** Menu contains 4 functions:

- **Start/Stop GPS**
- **GPS Data**
- **GPS Satellites**
- **GPS Recorder**



Starting Your GPS Receiver

Notes: You must set your GPS Receiver to output NMEA data, if NMEA data output is not sent by default. If using a Bluetooth connection to your GPS receiver, be sure that Bluetooth is turned on in your Pocket PC (as well as on your GPS receiver), and that you've already established a Bluetooth connection between the GPS receiver and your Pocket PC.

Typically, Bluetooth connections require the use of Com Port 8 in your Pocket PC, while cable connections are Com Port 1.

Once you've established a connection to your GPS receiver, simply tap the **Start GPS** selection to begin receiving GPS data. Once a connection has been established and GPS data is being received, the selection will change to **Stop GPS**. So, stopping the GPS data is simply a matter of tapping the same selection.

"Beeps"

If **Sound** is on, you will hear an audible double-beep indicating that a connection has been established with your GPS receiver. Double and triple beeps are an indication of loading a different Quad sheet or slice. Constant, single beeps are an indication that good GPS data ("fixed") is coming in at a constant interval. If constant beeping was present for a while, but is no longer, it could be an indication that there aren't enough satellites (due to buildings, trees, or other blockage) to get a "good fix" on the satellites, or, that there simply aren't enough satellites currently visible in the sky.

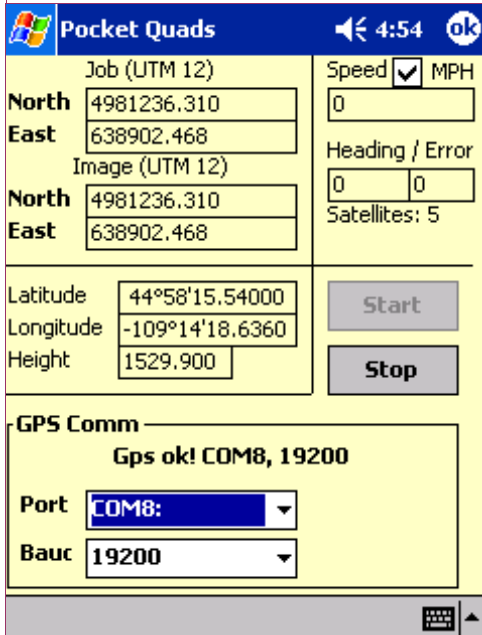
5 satellites are normally required to achieve a "good fix". You can observe the current satellite configuration by tapping **GPS Satellites**.

When recording GPS points by time or distance intervals, you will hear a special beep each time a point is stored.

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GPS Data

Once a connection with your GPS has been established, you can select **GPS Data** from the Menu.



Pocket Quads 4:54 **ok**

Job (UTM 12)
 North 4981236.310
 East 638902.468

Image (UTM 12)
 North 4981236.310
 East 638902.468

Latitude 44°58'15.54000
 Longitude -109°14'18.6360
 Height 1529.900

Speed MPH
 0

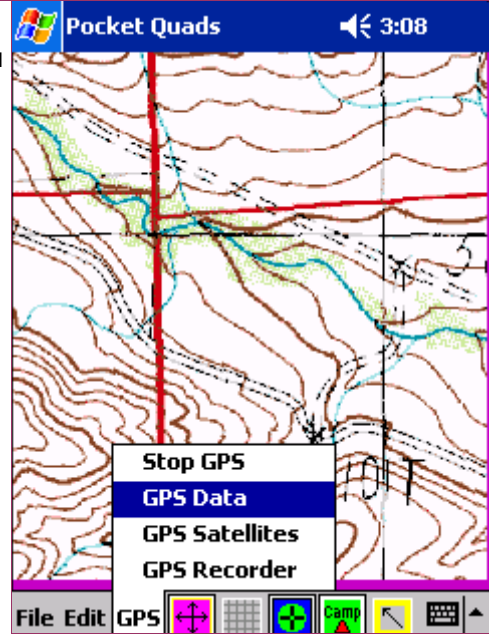
Heading / Error
 0 0

Satellites: 5

Start
Stop

GPS Comm
 Gps ok! COM8, 19200

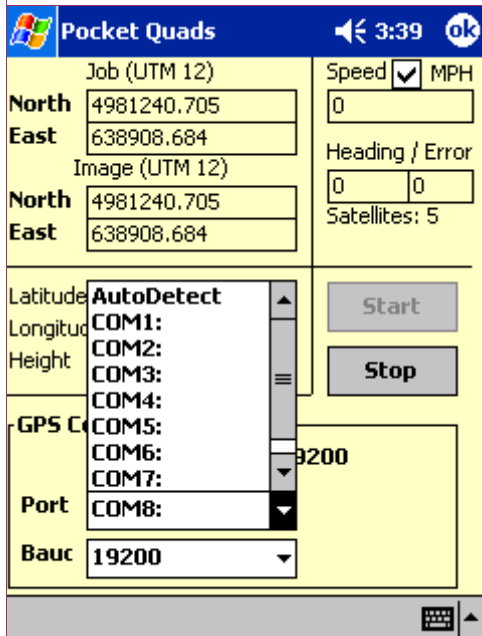
Port **COM8:**
 Baud **19200**



The **GPS Data** screen gives you:

- Northing & Easting coordinates in the Image Zone and Job Zone
- GPS Latitude & Longitude
- Ellipsoid Height
- Speed in meters per second or miles per hour
- Heading
- # of visible satellites

Comm Port



Pocket Quads 3:39 **ok**

Job (UTM 12)
 North 4981240.705
 East 638908.684

Image (UTM 12)
 North 4981240.705
 East 638908.684

Latitude **AutoDetect**
 Longitude **COM1:**
 Height **COM2:**

Speed MPH
 0

Heading / Error
 0 0

Satellites: 5

Start
Stop

GPS Comm
 COM8, 19200

Port **COM8:**
 Baud **19200**

Com Port settings should be made using the **Defaults.txt** file. However, you can change the Port and Baud Rate settings manually in the program.

The Port and Baud Rate pull-down boxes have an **AutoDetect** mode which can be used to automatically detect the correct port and baud rate settings. You can use this to find out what your "default" settings should be, and then set them in your Defaults.txt file.

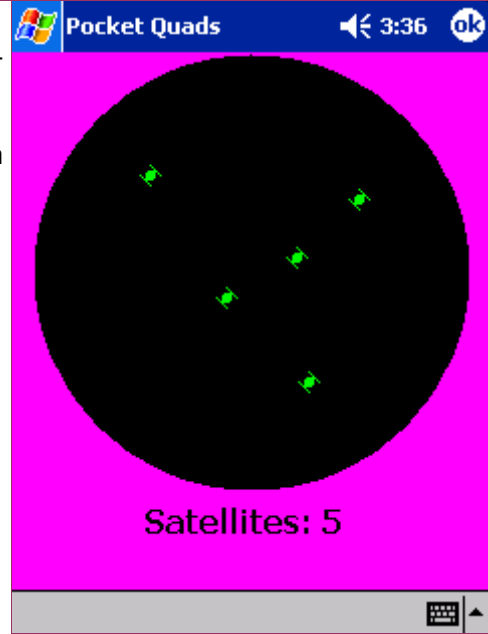
Note that you can also **Start** and **Stop** the GPS signals from within the **GPS Data** screen.

Tap the **OK** button to leave.

GPS Satellites

Tap the **GPS Satellites** selection to view the current satellite configuration.

Pocket Quads displays the number of satellites as well as a graphic display of their current position.



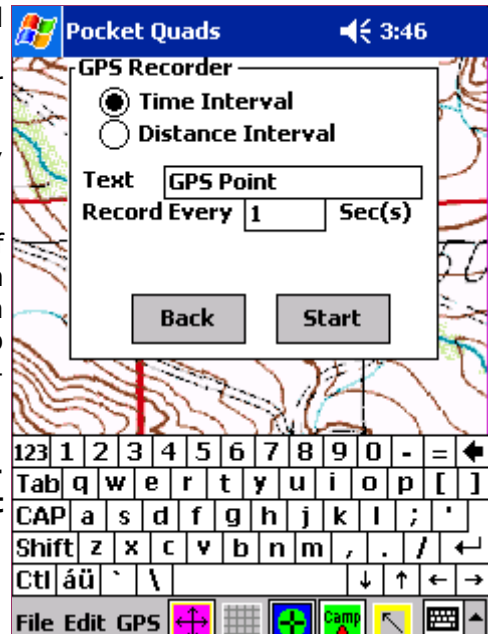
GPS Recorder

Prosurv Pocket Quads' built in GPS Recorder lets you record points at time or distance intervals.

- Select **Time Interval** to record a point every 1, 2, 5, or 10 seconds etc...
- Select **Distance Interval** to record a point every 10, 15, or 20 meters (or feet) etc...

You may enter text that will be stored in the **MyText** field of the database, such as GPS Point. While recording points, an audible beep will be heard for each point stored. You can **Start** and **Stop** the recording of points, when needed. Tap the **Back** button to exit the screen without stopping the recorder.

GPS-Recorded points can be plotted using the **Line Settings** routine, and they can be exported by using the **Export Points** routine.



Buttons & Screen Functions

The 5 screen buttons offer different capabilities, depending on which buttons are pressed (ON), and which ones are Off. From left to right, the buttons are:

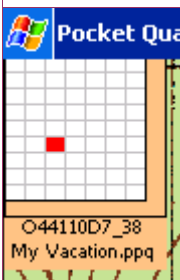
- **Pan On/Off**—When Pan is OFF, you can create points and lines by tapping the screen
- **Grid On/Off**—When the Grid is On, you'll see a grid representing the slices of the current Quad. If the Grid is Off, you can use the up/down/left/right button (physical button on the Pocket PC) to scroll around the image.
- **GPS Centering On/Off**
- **Text or Lines (the button that says "Camp")**
- **Navigate to a Point**

Pan On/Off

With **Pan ON**, using your stylus, you can "scroll" around the screen, effectivelly moving the slice up and to the left or down and to the right etc. Simply drag your stylus across the screen in the direction that you'd like the image to move. Remember that there is a limit to the edge of the slice, and, that some slices contain a large white border.

With **Pan OFF**, you can tap to create an annotation (or point) on the current image slice. If the **Text or Lines** button is **ON**, then you will be creating points. If the **Text or Lines** button is **OFF**, then you will be creating Lines.

Grid On/Off



If the **Grid** button is **ON**, you'll see the grid shown to the left (this grid is re-positionable by carefully tapping the outer orange edge of the grid and dragging it around). The grid displays the current Quad, slice, and File information.

To go to a different slice on the grid, simply **tap the slice that you'd like to go to. The slice is loaded and any points or lines that are on a currently visible Layer within that slice are plotted and displayed.**

If the **Grid** button is **OFF**, you can use the physical left/right/up/down button of your Pocket PC to scroll around the image (slice).

GPS Centering On/Off

If GPS Centering is **ON**, then the image will automatically center on the current GPS signal, and Pocket Quads will automatically load the correct Quad as well as the slice needed to display the current location.

With GPS Centering **OFF**, you can continue to receive GPS data, but Pocket Quads will not attempt to center the image on the GPS signal, nor will it automatically load any Quads or slices.

Text or Lines Button

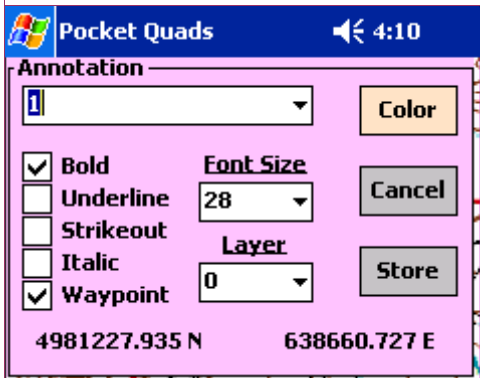
The following must be true in order to create Text or Lines on the image:

- **A File must be opened or created**
- **The Pan button must be OFF**
- **The Tap View selection must not be checked (in the Edit Menu)**
- **The Tap Distance selection must not be checked (in the Edit Menu)**

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Then, if this button is **ON**, a point will be created by tapping the screen. If this button is **OFF**, then a line can be drawn between two tapped screen locations.

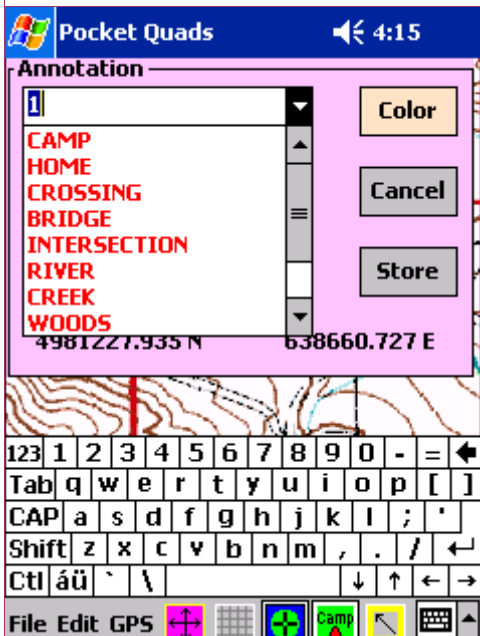
Tapping the Screen with the "Camp" button ON



The tapped screen location is recorded immediately, and the screen shown (above) is displayed. This is the "Annotation" screen, which lets you define the point that you've just created. In this screen you can:

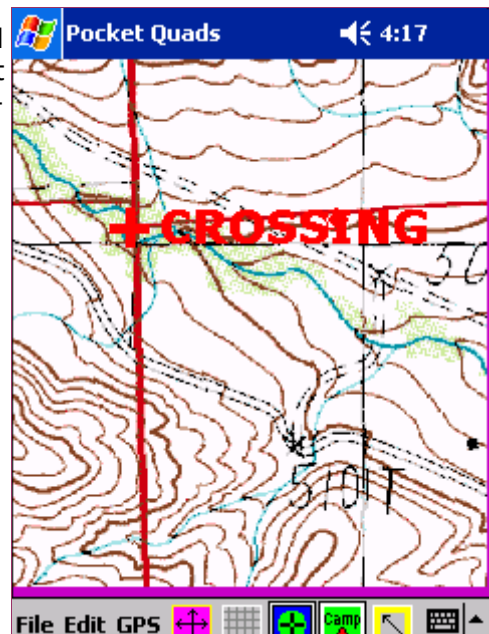
- Select from many **font** options
- Set the font **size**
- Set the Layer that the point will be stored on
- Select a **Color** for the point
- Enter any text as the **Name** for the point (stored in the **MyText** field of the data)

The coordinates of the tapped location, in the Job Zone's coordinate system, are displayed.



You can select from a pre-defined list of "names" for the point by tapping the pull-down arrow. This list can be changed and added to by simply editing the **Codes.txt** file located in the \Program Files\Pocket Quads\ folder of your Pocket PC!

To load the edited code list, simply quit and then re-start Prosurv Pocket Quads.



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Tapping the Screen with the "Camp" button OFF

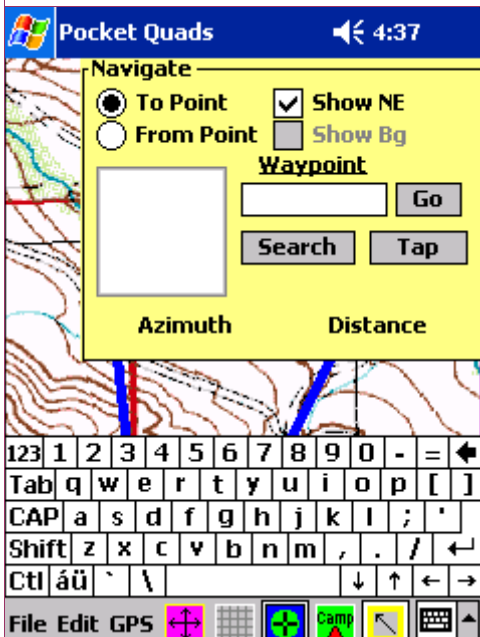


The first tapped point will be the start of a new line. Subsequent taps will create successive end points of new lines.

You can change the Line Color, Width, and Layer using the **Line Settings** function.

Remember, each line is also stored in your File, and lines are redrawn (just like points) when you load a new slice or Quad, depending on your current Layer settings. Of course, lines and points are only redrawn on the Quads and Slices that they "belong to".

Navigate to a Point (Staking Out)



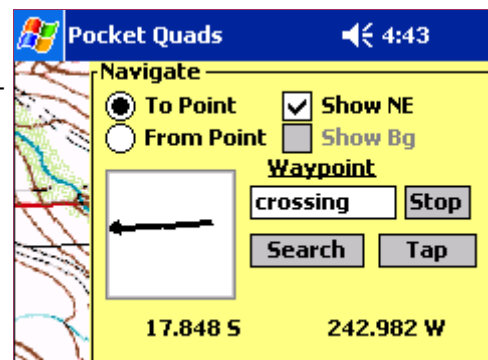
Tap the **Navigate to a Point** button to see the **Navigate** dialog.

The Navigate display shows you the direction and distance to a Waypoint. Any waypoint can be used, including imported points, tapped points, and GPS Recorded points.

GPS must be **ON** in order to utilize this functionality. Begin by entering a point name or number to navigate to. Then tap the **Go** button.

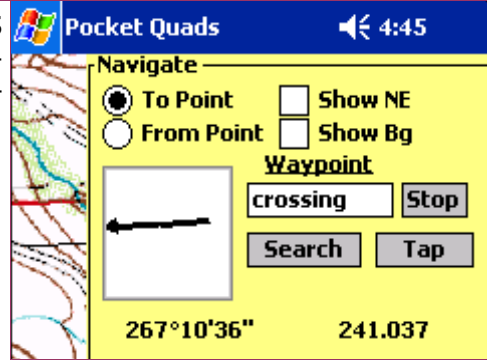
You can stop the navigation by tapping **Stop**.

The data is constantly updated to show you the current direction and distance to the point.

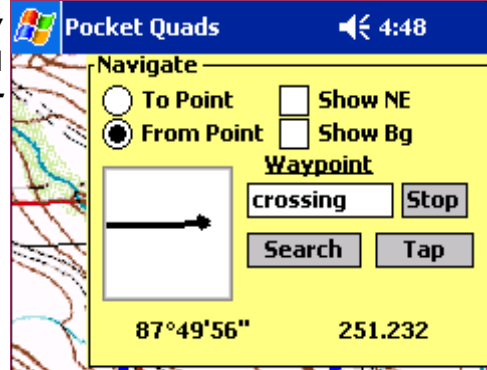


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- The **Show NE** check box will display the amount N/S and E/W that you need to go to get to the point. If unchecked, Pocket Quads will display the direction and distance to the point.



- Selecting **From Point** (instead of To Point) will "reverse" the data. That is, the direction and distance shown will be *from the staked point TO your current GPS location*.



- Selecting the **Show Bg** check box will display the direction as a Bearing, instead of an Azimuth.

Tap the **Search** button to search for a point by Name. Or, tap the **Tap** button to select a point from the screen (by tapping it).

The **Navigate** dialog can be moved by carefully dragging the dialog around on the screen, using your stylus. You can make the dialog go away by tapping the **Navigate** button on the toolbar.

