



PathAway GPS 5 Express Edition

GPS Navigation and Mapping Software

version 5.20

for
Symbian™ Handhelds

Tutorial



Last Updated: Dec 21, 2009

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Tutorial

Be sure you have downloaded and installed the **PathAway Tutorial** install file. This can be found on the main PathAway Download page.

If you haven't done so already, then start PathAway from the handheld Programs home page by selecting the PathAway



If presented, press **Options->Try it** in the **About PathAway** Screen to continue to run the program.

If you have just installed the PathAway tutorial, then the tutorial data will be automatically imported the first time you run PathAway.

Once the program starts up and tutorial data has been imported, you should see a map on the screen. If not, or you see the **World Map**, then the tutorial maps have not been installed or your map is centered on a different location. To determine what maps and other data is stored on your device, select the PathAway main menu by pressing the **Options** menu button followed by **Data**, and select **Maps**. This will show you all of the maps installed on your device. If no maps are listed, then they have not been installed. In this case, you'll need to go back and reinstall the PathAway Tutorial. If the tutorial maps are shown, then select the map **Lake Joseph S**, and choose **Show Map** from the **Options** menu.

Screen Views

The first screen you see is the **Full Screen Map View**. PathAway has many different views. To see the different views, select PathAway's **Options** menu bar. You bring up the main menu by selecting the main command bar **Options** button.

Choose the **Screens** menu. Now choose one of the screen views listed.

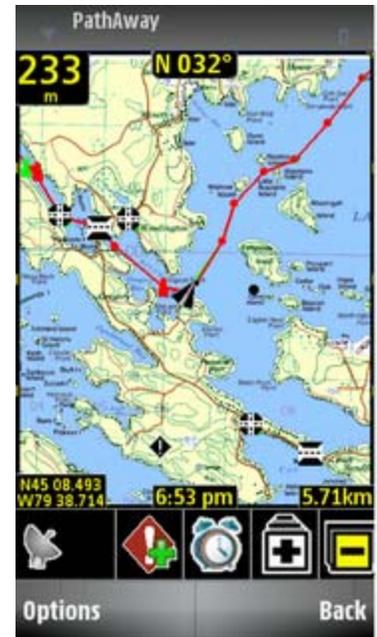
Here is an overview the different screen views.

Full Screen Map View

Utilizes most of the screen to show as large a map area as possible. Long/Lat, speed, elevation, and direction of travel are displayed. This data is the "navigation" data in the program.

In this view, by default, the dashboard shows as follows:

- Upper left: Elevation
- Upper Middle: Course
- Upper Right: Speed
- Bottom Left: Location, overlaid by Proximity and Alarm information.
- Bottom Center: Current Time
- Bottom Right: Map Range



Tracking View

Shows the map and navigation data. Default travel stats are related to information specific to your current trip. Default settings are:

- Upper Left: Elevation
- Upper Middle: Course
- Upper Right and down: current, average, and maximum speed.
- Left side: trip time and distance (odometer)



Route View

Shows the map and "navigation" data, plus full info for point proximity. As you approach a point, "Estimated time to next destination (ete)", "Distance to" and "Course to" are displayed.



Compass View

Shows the navigation Compass and selected "navigation" data. The Compass view is customizable. The screen can display data in a "Tiled" format, or a single Compass in full screen.

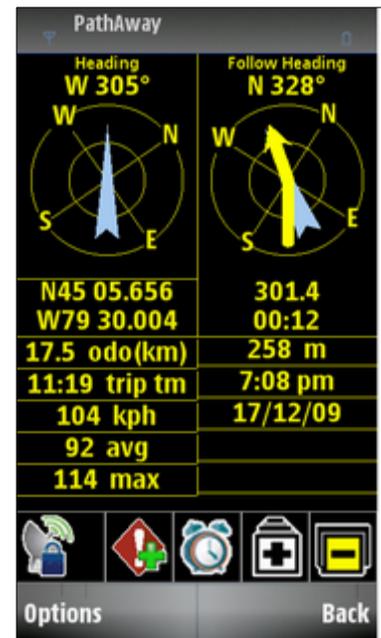
By Default, the Compass view shows the following information by default:

Top-Left: Heading Compass

Top-Right: Next Point navigation Compass

Left under heading Compass: Primary Location Coords.

Plus: Time, Date, Speed, Elevation



GPS Sky View

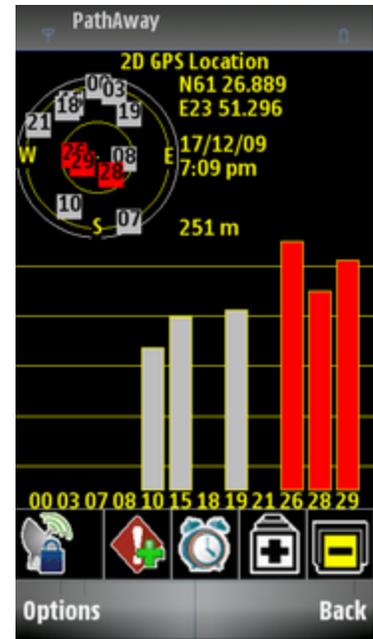
Shows information about the current status of the GPS. GPS must be in use. To turn on the GPS, select the menu Options->GPS->Use GPS command.

Top line displays the type of GPS fix. No Fix, 2D fix (no elevation), and 3d Fix.

The Data lines display the current GPS location, date and time reported by the satellites.

The Circle shaped upper area shows the relative sky location of each satellite in view. The satellites used for the GPS fix are highlighted in red.

The Bars at the bottom represent the signal strength of each satellite. The satellites used for the GPS fix are highlighted in red.



Choosing a Navigation Route

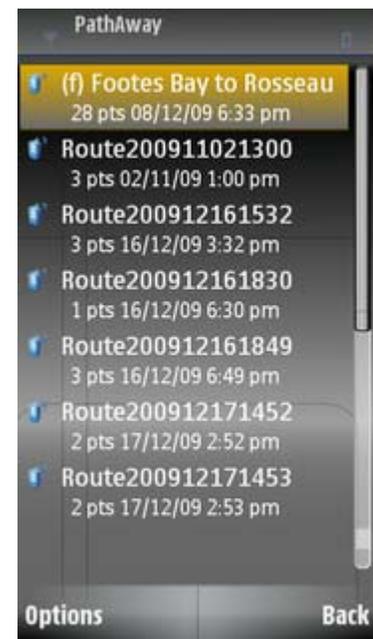
The sample data includes a route for you to try out. Go to the **Data** menu and choose **Routes**. Routes are a pre-defined sequence of points which represent the path you should follow to reach your destination. The route could be a hiking trail, road, or marine passage, etc.

For this example, **select** the route entitled **Footes Bay to Rosseau**. You're about to take a nautical tour through the lakes of Muskoka Canada!

From the **Options** menu, choose the option **Follow->Forward**. This means you will be following the route from it's start point to the end.

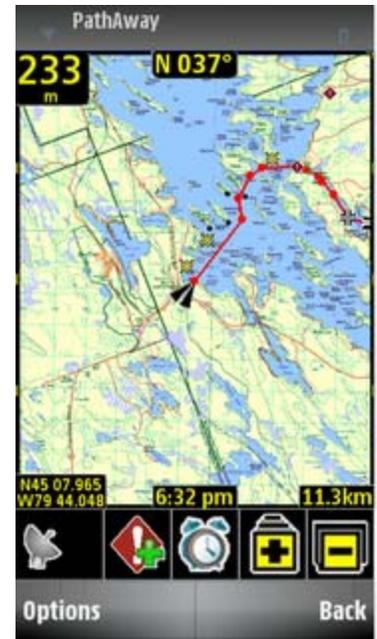
You have now chosen to use the **Footes Bay to Rosseau** route for navigation, from the start of the route to the end. You will see the (f) prefix on the chosen route indicating the Active Route, and the direction you are following.

*Note: **Follow->Reverse**, allows you to follow the route in reverse order for the return trip home.*



Now, to see the location at the start of the route, choose the menu **Goto Start Location**. This moves the map to center it's location at the start of the route.

You should see a red line on the map at Footes Bay. That is your travel route. Each **red dot** on the route represents a change in direction. When navigating you'll follow this route to get to your destination.



Simulating Navigation

PathAway provides a nifty feature to animate your route before actually traveling. Under the **GPS** menu, Select **Simulate**. The travel simulation will begin. The simulator works just as if you are actually traveling. In fact, if you're following a recorded track, the simulator will display the actual speed and time. (See **Following Tracks** later on in this section).

Watch the simulator until it stops at your destination, the town of Rosseau.

Note: When you're actually connected to a GPS, you'll see a blue line indicating the line you have travelled. This is your recorded track log.

Try running the simulator with the different screen views. Each screen shows you a different set of interesting information. See **Screen Views** above for details.

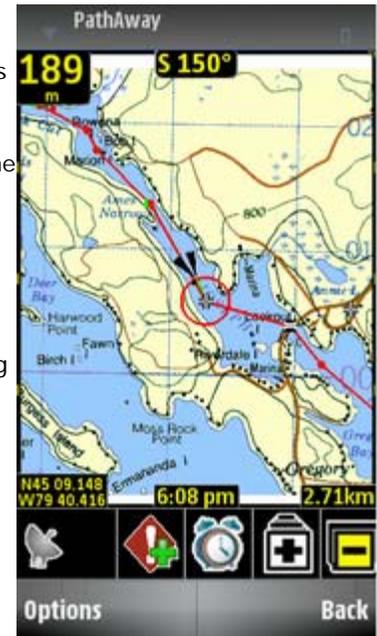
Scrolling Maps

Maps in PathAway can be larger than the screen, so scrolling maps is important. Besides scrolling automatically as you move, maps can be scrolled in the following ways.

- **On Touch Device:** Scroll the map to around by pressing down on an area of the map and dragging it. Release the stylus when you've reached the position you would like to view.
- **On Non-Touch Device:** In the **Options** menu, choose **Tools->Scroll Map** mode. Then using the directional keys scroll the map around. The longer you press, the faster the map will move across the screen.

Try it out. See if you can find the **Joseph River** on the map. Scroll the map by following the red route line.

Tip. To quickly go to the start or end of your route, go to the **Find** menu and select **Goto Start of Route** or **Goto End of Route**.



Changing Map Views

There are two different ways to change the view of the map:

1. By zooming in or out of different maps or
2. By scaling the current map. I.e.: Expanding or shrinking the current map.

1. Zooming Between Maps

You can install as many different maps as you like into PathAway. PathAway will organize and layer the maps depending on the scale and geographic coordinates of the map. Think of the maps as if they are organized from above the surface of the earth. When you are up very high, you see a wider area. Moving closer (or down) you see less area and more detail. So **Map Zoom In** moves you closer, and **Map Zoom out** moves you further away.

When you have two or more maps within the same geographic location that you are centered on, you can switch in and out of these maps in one of the following ways:

- Or select **Zoom Map->Map Zoom In**, or **Zoom Map->Map Zoom Out**
- Select the **Options** menu and from the **Zoom Map->Choose Map...** menu. From this menu, choose a map.
- If you have set **Map Zoom** mode from the Tools menu, you can press the hard Up (out) or Down keys (In) to switch between maps.
- If your device has a numeric keypad or keyboard, some keys have been mapped to the Map Zoom functions. Check the **Reference Manual** for the key mapping for your device.

The samples come with a few different resolutions of maps. The **Zoom Map->Choose Map** command allows you to move into and out of these stacked maps. You don't need a map to increase or decrease the view, but if there is a map available, it will be shown.

There are some on-screen indicators to show you if there are maps available to zoom to.

For Touch devices:

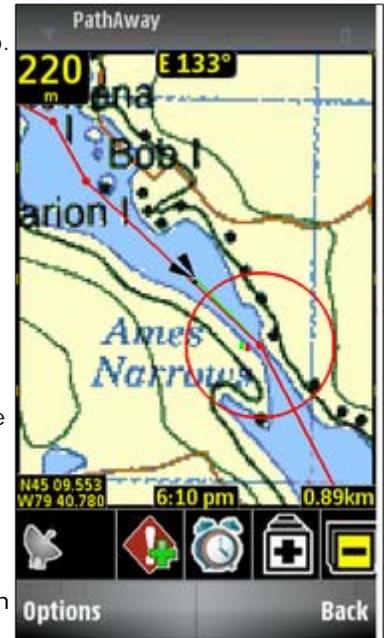
A highlighted zoom in  or out  button indicates there is a map available. An

un-highlighted zoom in  or out  button means there is not. Scroll around the Joseph River. You'll see the buttons change. When the **Zoom In** button changes to

, press it. You'll be shown a closer up view of the river. You can also select maps by name by going to the **Options-Maps** dialog, selecting a map, and pressing the **Display** button.

For Non-Touch devices

The GPS Status dashboard item (by default in the bottom center of the screen, also shows the current directional key mode you're in, as well as the **Map Zoom** state. When The icon for **Map Zoom** will highlight as described above, except the Zoom in indicator is on top part of the icon, and the Zoom out is on the bottom. 



Please note, moving between stacked maps should not be confused with map scaling where you zoom into or out of a single map by expanding or shrinking the map. The scaling of maps is done via the magnifying icons.

2. Scaling a Map (Expand/Shrink)

You can expand or shrink your maps on the view screen to show a wider area or to get "close" to a location, while still rendering a view of the map. To scale maps use one of the following methods:

- Select the **Options->Zoom Map** menu, and select **Zoom Scale In**, or **Zoom Scale Out**.
- Press the right and left directional hard keys when in **Zoom Map** mode.
- Keyboard keys are also configured for Map Zoom and Scale Zoom. See the mappings in the Reference manual.

When you zoom in, all of the map pixels are expanded to show you a closer look at the area. When you zoom out, you will see a wider view of the map. To return to the original map pixels select the **Zoom** menu and choose **Scale 100%**.

Note: *If your Scale Map commands are not working then you may need to turn them On in the **View->Map Display Dialog** under **Scale Maps for Zoom**.*

Capturing Points on a Map

Run the simulator until it stops at the town of Rosseau. Let's say there is a marina close by that you'd like to mark for future reference. I.e. you're almost out of gas and can't afford to go searching for the nearest marina.

Center the map at a shoreline near Rosseau. Fortunately, there is a marina here that serves gas. Let's mark this point so we can find it in the future.

Touch devices: Press the Add Point  button. Alternatively, you can **tap and hold** on a point anywhere on the map. A menu pops up with some options. Select **Add Point**.

Non-Touch devices: Choose the menu option **Tools->Add Point**. Alternatively, you can **scroll the map** (in **Tools->Scroll Map** mode) to a point anywhere on the map and press the **Select** button. A menu pops up with some options. Select **Add Point**.



When the **Add Point** command is selected, the **Edit Point** dialog is displayed. Here you can enter information about this point such as its name, description, icon, position and elevation. Position will be already entered because the point has a location on the map. If you were actually tracking using a **GPS**, the true position and elevation would be entered.

Tip. You can also add a point to the map by pressing the pre-defined keyboard key. See the **Reference Manual** for your keyboard mappings.

One of the coolest features of PathAway is that you can use your own icons to display your points on the map. In the **Edit Point** dialog, select the Icon Popup. You'll be shown a list of available icons available to attach to a point. For the marina, choose the **Gas Station** icon.

Tip:. Check out **PathAway Tools - Icon Manager** for creating your own icons.



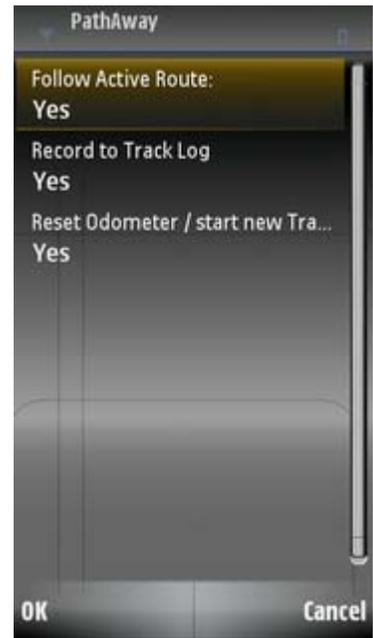
Starting a new Trip

When you have completed a trip, and are ready to start a new trip, you can quickly configure the trip options by Starting a new trip in the **GPS->Start New Trip** dialog.

Start New Trip

In this screen you will see options for creating, and choosing trips. **Trips** are a structure in PathAway that contains a set of routes, tracks, and points to be used for a certain activity such as a hiking tour, or geocache hunt.

To continue, we'll clear out the current route and trip data. Select the option **No** in **Follow Active Route**, **Yes** to **Record to Track Log**, and **Yes** to **Reset Odometer**. Press the **OK** button to dismiss the dialog.



Creating Navigation Routes

With PathAway you can create point-to-point routes to follow for navigation. You can choose to select an individual point or create a multi-point route.

If you haven't done so already, ensure you have cleared out the Route and trip data. (see previous section **Start New Trip**).

Navigating to a Single Point

To select a point to navigate to, select the main **Options** menu and choose **Data->Points**. By default, this dialog shows the Points from your Personal Points database called "**My Points**". From this dialog, select the menu, **Databases**, then choose **Tutorial Points**. The Points used for the Tutorial will now be listed. Scroll down this list until you find **Rosseau Lk College**. You can use the menu option **Search**, to quickly find this point. You only need to enter the letter '**R**' followed by **OK**. The point will be highlighted. This will be our destination. Select this point on the map, then from the context menu, choose the option **Add to Route**. A dialog will pop up. Choose the option **Navigate to selected point** and press **OK**.

This will create a destination route to this point.

Back at the list of Points. Ensure **Rosseau Lk College** is still selected. Then, from the **Options** menu, choose **Show on Map**. This point will now be centered on the map.

Next, let's scroll the map to find our next point to add for the route.

*For non-touch devices, ensure you are in **Scroll Map** mode (**Options->Tools**).*

Scroll the map down the lake. You will see a red line protruding from the center position to the destination point. As you move the map around, the line will change to always show the direction to this destination. When you are navigating with the GPS in use, then this line will be from your **current location** to the **destination point**.

To view details on the time to travel to the point, and the distance to the point, select the **Route View**, from the **Options->Screen** menu. You will now see the **estimated time to travel** to the point. (ETE), and the distance to the point, and the Heading required to reach the point.

Creating Multi-Point Routes

Of course, in many situations, you will want to navigate along a certain path instead of direct to a point. For this, you need to create multi-point routes. These are simply a list of points aligned in sequence. A track log that you have recorded is actually a multi-point route that you can use to navigate with, such as finding your way home along the same path you came.

To create a multi-point route we'll simply start adding on points to our **Rosseau Lk College** destination. To do this you can use the Points dialog and choose other points to add to the route, or you can choose points on the map. For this tutorial we'll choose the points from the map since your route will be visually evident as you build it.

Scroll down the map until you find a **Gas Station** icon near **MacTier**. (at N45 08 W79 44). Center the map over the icon and bring up its **Context menu**. (For touch devices, you can **Tap and Hold** to call up the menu. For non-touch devices you can either **center the map using the scroll buttons**, or select **Tools->Item Selection**, and move the cursor to the desired position.) To add to your route select the point on the map to bring up the **Point Context Menu**.

From the menu, choose **Add Route Pt**. A sub menu will then appear. Choose **Add to Start** to make this point the beginning of your route. Once done, the line on the map will now stay fixed from the **Footes Bay Marina** to **Rosseau Lk College**. If you scroll the map around you will see this. There will also be a **green line** showing the line to the next point in your route. This is helpful if you get off-track.

The next step is to start adding other points to the route. This is done in the same way as setting the start point above, except you will choose **Insert** instead of **Add to Start**. The point will be inserted into to the route, and the route line is altered to reflect the change. PathAway will insert the new point between the two closest points along the route.

Continue to **Insert** route points that will keep you in the water, since in the example, you're travelling by boat.

To give the route a name, go into **Options->Data->Routes**, your route will be selected and have the **(f)** symbol beside it indicating you're **Following the route forward** (you can also follow routes in Reverse order). From this dialog, choose the Options menu **Edit Details**. Here you can enter the name of your Route. Enter something like **My Lk Rosseau Route** since you're travelling up to Lake Rosseau.



Connecting a GPS

Now that you've got the basics, its time to get on your **Path – Away!** PathAway works best with a GPS (Global Positioning System) device. Your device may have an embedded GPS, or you may have and external GPS that is attached either wirelessly or through a serial cable attached to your device. Other units attach directly to the device.

This tutorial assumes you have setup your GPS correctly. Refer to your device Owners Manual for configuring your GPS. Please note, that since PathAway is a precision GPS system, it requires a GPS satellite fix to work effectively. A-GPS is not recommended.

To connect to the GPS:

Touch Devices: Press the **GPS icon**  on the toolbar.

Non-Touch devices: From the main **Options** menu **GPS-Use GPS**. Or, a keyboard key is mapped to this command. Check the reference manual for the key mapped to this command.

PathAway will then attempt to connect to your GPS and start tracking. The GPS icon will change to the **GPS Searching**

icon  to indicate it is attempting to connect to satellites.

Once the GPS has acquired a fix on your current location the GPS Icon will change to the **GPS Fixed** icon  and the Map View will be changed to the current location. Note: When the fix appears, a new map may be loaded, or a blank map view will be displayed if there is no map within the bounds of your current location.

Navigating with a GPS

Now that you're connected to the GPS, you can begin to travel. At this point you should have acquired your own maps and installed them into PathAway using **PathAway Tools - Map Manager**. You can acquire maps from online web mapping sites, or you can scan your own from paper maps, use digital pictures, or get maps from CD-ROM.

Note: In order to use maps with a GPS, you need to calibrate them to their proper geographic (longitude/latitude) coordinates. This can be done in **Map Manger** by specifying the top-left and bottom-right coordinates of the map, or in PathAway using positions of known points. Refer to **Calibrating Maps** in the **PathAway Map Manager Manual** for more information.

Once calibrated, **PathAway** will center the map to your current location. As you move, the map is re-centered to show your position. If you are recording your track, you'll see a **blue** (or dark gray) line showing your line of travel.

Recording Tracks

You can record tracks for later use, or to see where you've been. This is especially helpful in case you start going in circles!

Tracking databases can get quite large, especially if you are capturing constantly. This can slow screen refreshing down and consume a large amount of memory. The **Preferences** section under **Tracks**, has some options for controlling track database size, and recording precision. A good detailed track for traveling between 30 and 60 mph is to set the precision to record position every 10 seconds.

To keep individual track database sizes down, you can select the menu option **GPS-Reset**. This will save the track, and start a new one. Screen refreshes will only draw the current recorded track.

Alternatively, you can set the tracking to record at certain distances. This will create a track record when you reach a certain distance. Therefore all track points will be of equal distance apart, regardless of your speed.



Further Information and Instructions

For further information and instructions on using PathAway refer to the following:

PathAway Getting Started Manual - Overview of installation and getting started using PathAway.

PathAway Reference Manual - Details on all of the features of PathAway

PathAway Map Manager Manual (PDF) - PathAway manual for Map Manager. Instructions on preparing your own maps for use in PathAway.

Advanced Mapping Manual - Advanced mapping user information of converting and calibrating maps including Map Datum and Map Projections support descriptions.

Map Projections Manual - Definitions and Parameters of each Projected map type.

Map Conversion SDK Manual - Instructions for using the Map Conversion SDK for converting to allow third-party software developers and map producers to convert maps to PathAway format.

Data Conversion SDK Manual - Instructions for using the Map Conversion SDK for converting to allow third-party software developers and track, trail, or waypoint producers to convert maps to PathAway format.

PathAway Web Site - Visit PathAway.com **Support** and **Links** section for further information. The **PathAway Forum** is also available on the web site to help you connect with others using the program.