



GPS Differential™ for ArcPad® 8 In MobileMapper™ 6



Getting Started Guide

Table of Contents

Prerequisites.....	1
Installing GPSDifferential for ArcPad 8.....	1
Operating Requirements.....	2
Recommendations.....	2
Logging Shapefiles with the Post-Processing Extension	2
Post-Processing Shapefiles and Raw Data in MobileMapper 6 Office ...	5
More About MobileMapper 6 Office.....	7

Prerequisites



GPSDifferential™ for ArcPad® 8 requires that you have ESRI's ArcPad installed first on MobileMapper 6. The extension supports ArcPad 8.0. Please refer to the ArcPad documentation for more information.

Installing GPSDifferential for ArcPad 8

The complete process for installing GPSDifferential for ArcPad involves the following:

- Install Microsoft ActiveSync or Windows Mobile Device Center on your desktop PC.
- Establish a synchronization connection between your desktop PC and MobileMapper 6.
- Insert the GPS Differential installation CD in your desktop PC. This automatically launches the setup.exe file from the CD.
- Click on the **Install GPSDifferential** option and follow the instructions to complete the installation. It is recommended to install GPSDifferential for ArcPad 8 in the same location as the ArcPad application (e.g. on the Device, and not on the Storage Card, if ArcPad has been installed on the Device).

NOTE: The underlying *MM6ArcPadPostProcSetup.exe* file used in the installation procedure is suitable for Windows XP and Vista.

The first time you initiate the Start Logging GPS Raw Data, you will be asked to input the activation code found on a separate sheet. This sheet (P/N 631640) is part of the supply.

Operating Requirements

The extension is designed in such a way that when you insert an SD card into the MobileMapper 6, raw data will automatically be logged on the SD card. In the absence of an SD card, raw data will be logged in the *My Documents\GPS Raw Data* folder.

Recommendations

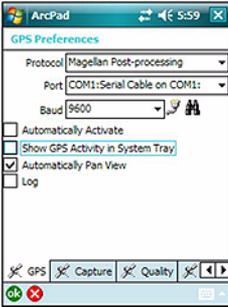
- Data collected by MobileMapper 6 and data drawn in ArcPad should not be mixed in the same shapefile.
- Data collected simultaneously by different MobileMapper 6 receivers should be post-processed separately in MobileMapper 6 Office.

Logging Shapefiles with the Post-Processing Extension

The instructions provided in this section refer to different icons whose meaning and representation are given in the table below.

Icon Name	Icon
GPS icon	
GPS Logger toolbar icon	
Start Logging GPS Raw Data button icon	
Stop Logging GPS Raw Data button icon	

1. Start ArcPad.
2. In the ArcPad tool bar, tap on the down arrow of the GPS icon and then select the **GPS Preferences** option. Make the following settings:
 - Protocol: Magellan Post-processing
 - Port: COM1
 - Baud: Not a significant setting. Should be set to “9600”.



Enable ArcPad averaging:

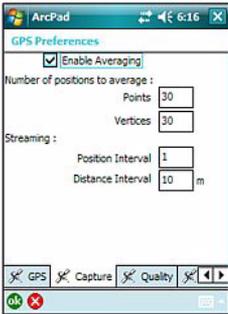
- Tap on the **Capture** tab and make the required settings (see screen opposite). Then tap **ok** to validate your settings and close the window.

The post-processing extension works with or without the averaging being enabled in ArcPad. In fact, ArcPad averaging does not affect post-processing results.

However, to make sure the post-processing accuracy will be achieved, it is important that you stay at the collected point for at least 30 seconds to have adequate raw data collected.

It is therefore recommended to enable the ArcPad averaging option and select at least 30 positions for point and vertex averaging. By doing this you will make sure that you actually stay at the point for at least 30 seconds. Remember the point is created at the end of the averaging interval so it is a good idea to stay on the point for about 10 seconds after the averaging screen is closed.

- Tap **ok** to validate the settings and close the window.





3. Activate the GPS section:

- In the ArcPad tool bar, tap on the down arrow of the GPS icon and select **GPS Active**.



4. In the ArcPad tool bar, tap on of the GPS Logger toolbar icon, and then on the Start Logging GPS Raw Data button icon.

5. Please refer to the ArcPad User Manual to collect point, line and polygon features.

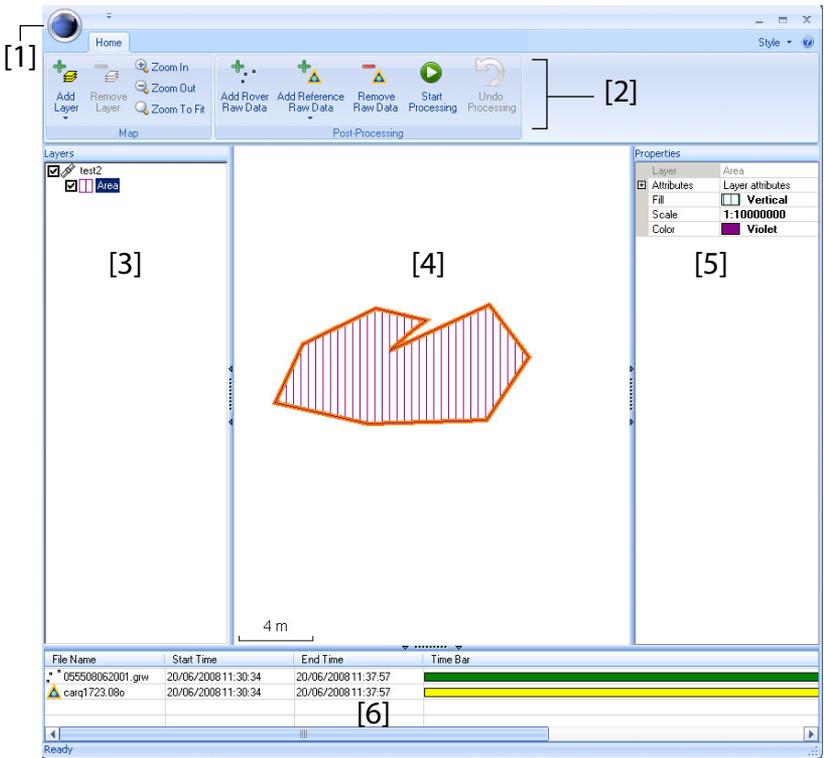
6. When enough data has been collected, do the following to stop data logging:

- In the ArcPad tool bar, tap on of the GPS Logger toolbar icon, and then on the Stop Logging GPS Raw Data button icon.



Post-Processing Shapefiles and Raw Data in MobileMapper 6 Office

- Copy the shapefiles and raw data to your desktop computer.
- Run MobileMapper 6 Office on your computer. The main window looks like this:



The different areas are described below:

- [1]: Open/Create Map button
- [2]: Menu bar
- [3]: MAP filename and Layers list
- [4]: Map screen.
- [5]: Depending on what is currently selected in area [3], [4] or [6], this area shows map properties (coordinate system and units used), layer attributes

and appearance, or raw data file properties (observation time span, etc.)

- [6]: Observation times covered by the raw data files added to the project. A green bar stands for a MobileMapper 6 raw data file, and a yellow bar, for a base raw data file.



- Click  and select **New** to create a new map.
- Click **Add Layer>Select Existing** and then navigate to the shapefiles that you created with ArcPad.
- Select these files and click **Open**. MobileMapper 6 Office shows the content of the project in areas [3], [4] and [5] (see screen above)
- Click on **Add Rover Raw Data**. Select the raw data file corresponding to the project (from the same folder as previously) and click **Open**. MobileMapper 6 Office imports the GRW file and then shows the file properties in areas [5] and [6]:
- Click successively on **Add Reference Raw Data** then **From Web**. MobileMapper 6 Office searches for reference stations liable to provide the base raw data needed for post-processing your project. MobileMapper 6 Office will usually list several possible reference stations.
- Select the most suitable reference station, according to the baseline value (distance), and then click **Download**. MobileMapper 6 Office imports the base raw data and then show its properties in areas [5] and [6].

NOTE: MobileMapper 6 Office lists reference stations that are up to 500 km (300 mi) distant from your working area. However, Magellan does not guarantee 100% quality results when using raw data files from reference stations that are situated beyond 200 km (125 mi) from your working area.

- Click on **Start Processing**. MobileMapper 6 Office post-processes the different files present in the project. At the end of the post-processing, the map screen graphically displays the post-processed, more-accurate position of each GIS feature.

Additionally, MobileMapper 6 Office adds a vector layer into the project. Each feature in the layer can be edited individually. Vector attributes include useful quality information about vector determination.

The post-processed SHP files are automatically updated with the new positions and then saved. Beforehand, backup files (<layer_name>.bak.shp) are created preserving the original content of the <layer_name>.shp files. Being also SHP files, backup files can be added to the project as layers, allowing you to compare the results of the post-processing against the original positions of your features.

More About MobileMapper 6 Office

- **Zoom settings:** In addition to the zoom buttons in the menu bar, MobileMapper 6 Office offers another useful way of adjusting the zoom setting. Double-click on a feature in the map screen. This takes the feature to the center of the map screen. You can then adjust the zoom setting around the feature, which stays at the center of the screen, using the mouse wheel (turn forward to zoom in, turn backward to zoom out).
- **Undo Post-processing:** If the post-processing results do not meet your expectations, you can reverse to the original SHP files by selecting the **Undo Processing** command.
- **Recommendations on folders:** Magellan recommends you store all the files pertaining to a project in the same folder. By doing this, you will be able to open your MAP files equally in your MobileMapper 6 receiver and MobileMapper 6 Office software without losing a single SHP layer.
- **Layer Editor:** MobileMapper 6 Office also allows you to edit SHP files in a way much similar to Mobile Mapping's Edit/Create Layer function.

- **Adding base raw data from a file:** This function is convenient when the useful base raw data files have already been downloaded from the Internet or if they come from a reference station that is not connected to the Internet, like for example a Magellan ProMark3 base. In either case, click on **Add Reference Raw Data>From File** and select the base raw data files.
- **Removing a layer from a map:** Select the layer in area [3] on the screen and press the Del key or click on **Remove Layer**.
- **Important!** Files processed by MobileMapper 6 Office will only work when they are copied from the MobileMapper 6 the same way that they were put on.
For example, if you create jobs with ArcPad on the computer and then copy/paste them to the SD card for use with a card reader, then the only way that those files are usable with MobileMapper 6 Office is if you copy them back to the computer with a card reader. They will NOT work if you copy them directly from the MobileMapper 6 with ActiveSync.

Getting Started Guide

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