MobileMapper FAQ: MobileMapper Pro System

3 April 2007

What is MobileMapper Pro?

MobileMapper Pro is a low-cost/high-performance GIS data collection/data maintenance tool. It brings together the affordability of consumer GPS with the feature and attributing capabilities of commercial grade GPS mapping systems.

What features does the receiver software offer?

MobileMapper Pro field software combines GIS data collection functions with full navigation features. Key GIS data logging capabilities include:

- o GIS feature libraries for logging feature descriptions
- o Support for logging point, line and area features
- o Feature offset function for logging hard to reach features
- o Feature nesting function for logging features without closing other features already being logged, e.g., inserting a telephone pole while mapping a road
- o Repeat feature function for rapid logging of features with identical descriptions, e.g. poles along a road
- o Grid mapping utility for collecting evenly distributed measurements (water depth, chemical concentration, etc.) required for contour map generation
- o Ability to record data for post-processed differential correction. (Older MobileMapper receivers may be upgraded for post-processing.)

A separate FAQ on the MobileMapper Pro receiver is available from the /Mobile Mapping/MM Pro/Application Notes/ folder at ftp.magellangps.com.

What does MobileMapper Office software do?

MobileMapper Office is a user-friendly office software package linking the MobileMapper Pro receiver to the user Geographic Information System GIS. Key software functions include:

- o Feature library creation
- o GIS data display and editing
- o Uploading of GIS data and base maps to the MobileMapper Pro receiver
- o Definition of data collection grids
- o Display in different coordinate systems and map datums
- o Export of data to: SHP, MIF, DXF and CSV format
- o Post-processed differential correction of data recorded using optional receiver software

A separate FAQ on MobileMapper Office software is available from the /Mobile Mapping/MM Pro/Application Notes/ folder at ftp.magellangps.com.

Can I use MobileMapper Pro for both collecting new GIS data and maintaining my GIS database?

Yes. You can take MobileMapper Pro "to the field" and record the location of point, line and area features and fully describe them using feature libraries (code lists). You can also maintain/update existing GIS data files by uploading GIS files and background maps into

the MobileMapper Pro receiver. You then navigate to and inspect the features in the GIS file and update the coordinates and/or descriptions of those features that have changed since the last inspection.

How accurate is MobileMapper Pro in real-time?

With real-time WAAS/EGNOS corrections (available automatically and free of charge in North America and Europe) and under ideal circumstances (tracking 5 or more satellites and with a PDOP less than 4), MobileMapper Pro accuracy is between 2 and 3 meters, 95% of the time. With short base line RTCM corrections, such as from a "beacon receiver," accuracy can be somewhat better than this. Without WAAS/EGNOS/RTCM, MobileMapper Pro accuracy will be 7-10 meters, 95% of the time. The MobileMapper Pro receiver will average point features while stationary and this can improve accuracy.

Can the data from MobileMapper Pro be post-processed?

The MobileMapper Pro receiver can record the GPS measurements required for post-processing to submeter accuracy. After downloading this data together with data from a reference receiver to the PC, you use the current version of MobileMapper Office to perform differential correction. You can purchase an option for older versions of the MobileMapper receiver. This option is available for purchase from your MobileMapper dealer or from the Magellan Professional website at https://pro.magellangps.com/en/contact/product_cd.asp (in North, Central and South America only).

How does MobileMapper Office handle post-processed differential correction?

The MobileMapper Pro differential correction feature is initiated by inputting an activation code into the receiver. (You only have to do this once.) This activation allows the receiver to record the L1 GPS code and carrier phase measurements that are required for post-processed differential correction. When you use MobileMapper Office's transfer utility to download a post-processing job file from the receiver's SD card, the code and carrier data files are simultaneously downloaded into the same directory. When you display this job, the presence of the corresponding GPS code and carrier measurement files alerts MobileMapper Office to display the differential correction window. You input data from a "reference station" receiver and then initiate the differential correction program.

What is a reference station receiver?

This is a GPS receiver that records GPS code and carrier data while remaining stationary over a precisely surveyed location. You can use a second MobileMapper Pro receiver or any GPS survey receiver outputting code and carrier data in the standard RINEX format. If you own a reference station receiver, you turn this receiver on prior to recording your job files. If you do not own one, you can often download free reference station files off the World Wide Web, e.g. from http://www.ngs.noaa.gov/CORS/ and other public sites. MobileMapper Office includes a utility that accesses ftp sites and automatically searches for, downloads, and reformats reference station files.

In what formats will MobileMapper Office import and export GIS data files?

MobileMapper Office can import and export files in ESRI's SHP and MapInfo's MIF and Autodesk's DXF formats. In addition, MobileMapper Office can export job files in Comma-Separated Value (CSV) format – a type of ASCII format recognized by most GIS, CAD, spread sheet and database programs.

Can I create feature libraries (code lists)?

Yes. You create them using MobileMapper Office's Feature Library Editor and upload them into the handheld. When importing SHP or MIF files into the MobileMapper Pro receiver, MobileMapper Office automatically generates feature libraries matching those used by your GIS.

Can I create background maps?

Yes. You create them using MobileMapper Office's background map utility. You create background maps by importing .SHP, .MIF and DXF files. You can also import a variety of raster formats to make background maps but these can be displayed only in MobileMapper Office and cannot be uploaded to the receiver. There is a separate FAQ on this subject on the Magellan Professional website (ftp.magellangps.com) in the /Mobile Mapping/MM Pro/Application Notes/ folder.