



MAGELLAN MOBILEMAPPER 6 PRODUCT REVIEW

OUR EDITOR – AND A FEW OF HIS FRIENDS – PUT THE MOBILEMAPPER 6 HANDHELD THROUGH ITS PACES.

Magellan's **MobileMapper 6** has all the features needed on a mapping device for users requiring productive data collection and efficient asset management in the field at an affordable price. MobileMapper 6 comes with the Microsoft Windows Mobile version 6 operating system, designed for mobile devices such as PDAs, smartphones or handheld PCs. So users have access to other GIS and productivity software which run under Windows Mobile. In theory, any mapping or navigation programme that is compatible with Windows Mobile 6 should be compatible with the MobileMapper 6. In fact, the good people at Magellan GPS sent my review machine with ArcPad 7.1.1 already pre-loaded (standard in the USA). I must admit that I did not have the time to try loading any of the newer navigation packages that have appeared on the market that claim to be Windows Mobile 6 compatible. Other software provided as standard are Windows Mobile ActiveSync, Calculator, Calendar, Notes, File Explorer, E-mail messaging, Internet Explorer, Office Mobile (Excel Mobile, PowerPoint Mobile, Word Mobile), Pictures and Videos Viewer, Windows Media Player, etc.

Physical characteristics – and style!

MobileMapper 6 fits perfectly in the palm and weighs only 224 g (7.9 oz), batteries included. The unit uses two standard AA batteries, alkaline or re-chargeable, with an advertised battery life (on alkaline batteries) of 10 hours. The 4000ma rechargeables used during most of this review period easily lasted an entire working day, even with most of the more power-hungry features enabled.

The QVGA screen (240 x 320 pixels), measuring 2.7" (6.86 cm), with four brightness settings controlled by pressing a button on the left side of the unit – which also controls a built-in 3 LED torch! – is exceptionally easy to read in all lighting conditions, especially when the device is held in the position recommended for best operation of the low-power, high-sensitivity built-in GPS antenna. The unit is rated to operate within a temperature range of minus 20°C to +50°C. MobileMapper6 is rated as conforming to IEC 60529 IPX7, a European system of test specification that means the GPS case can withstand accidental immersion in one meter of water for up to 30 minutes. (Unfortunately, this is one of the tests that we did not conduct for the product review, although it was used in quite rainy conditions along the Belgian coast). The device is also guaranteed to withstand a 1-meter drop onto a hard surface.

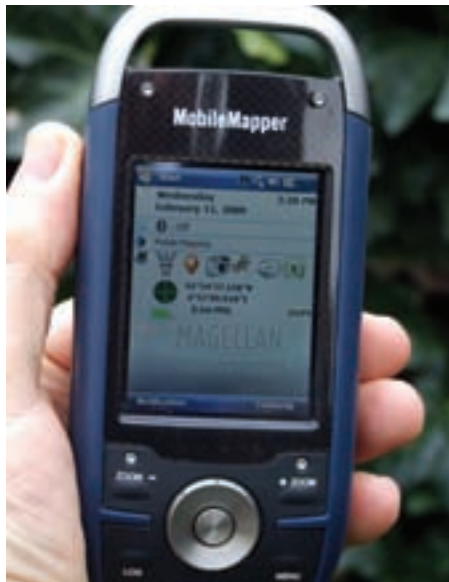
Yet these specification details do not give you a feel for the instrument itself – and, yes, I call it an 'instrument' because the terms 'device' or 'GPS receiver' simply do not do it justice.

As soon as you take it out of the box, you want to hold it – and, no, I'm not some sort of mobile device junkie – but I do appreciate excellent build quality when I see it. My personal IPX7-rated Garmin 400T, weighing an ounce less than MobileMapper 6, is not in the same class when it comes to feel and style. Intelligent design is critical for any instrument that is going to be used for hours in the field. Such design features are readily evident in MobileMapper 6 - for example, the button that controls screen brightness falls naturally under the thumb of the left hand (for you right-handed users!) while the Power on/off/standby

button is immediately under the index finger – both in the most natural position you would assume for picking up and holding the device. A small thing, but these two buttons allow the user to control two of the more power hungry features on any portable device – screen brightness and lower power consumption while in standby mode.

Out of the box!

So what do you get when you open the box, along with the **MobileMapper 6 GPS receiver** itself? There is the external USB data cable, two alkaline AA batteries, five spare styluses (more about these later) and the “Getting Started” CD, which contains all the supplemental software you need plus four manuals (in three languages). First is the 18-page *MobileMapper 6 Getting Started* manual, which contains all you need to know to operate the device. Then there is the brief, 8-page *MobileMapper Today Getting Started* manual, describing this plug-in enhancement for the “Today” screen that greets you when MobileMapper 6 is turned on. The plug-in delivers offers productivity tools providing quick access to a range of hardware features, such as the built-in torch (flashlight to you Americans!), 2 megapixel CMOS camera (with 3X zoom), the GPS, and digital e-Compass. There is the more extensive (40-page) *Mobile Mapping Software - Getting Started* manual describing this user-friendly program used for mobile, general-purpose GIS applications (more about this later) including post-processing options for the data logged in the



MobileMapper 6 fits wonderfully in the hand!]

field, using **MobileMapper 6 Office Software**. Finally, there is Magellan’s short white paper on *Meter-Level Mapping Accuracy With Post-Processing*, which describes how the user can use MobileMapper 6 to achieve 1 metre accuracy at this price.

Why and where to use MobileMapper 6?

MobileMapper 6 is ideal for small(er) projects where 2 to 5 metre GPS accuracy is acceptable – or 1 to 2 metre with post-processing. Priced at considerably less than the more powerful



Look at the clarity and detail possible on this small screen – easily usable in any field or office lighting conditions

MobileMapper CX (US prices for MobileMapper 6 range from \$900 to \$1200, as this article went to press, compared to \$2400 to \$3000 for the CX model), MobileMapper 6 fills an important market niche, well within most budgets. Deciding whether to use MM6 of CX depends upon the level of accuracy needed, where the CX models offer sub-metre (real-time) and sub-foot (post-processed) readings. The post-processing option added by Magellan to MobileMapper 6 in September 2008 has greatly increased the utility of this product to

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The Today menu that greets you on start-up, which is configurable by the user.

match that of the MobileMapper Pro line in delivering meter-level accuracy at an affordable price.

Communicating with the outside world

MobileMapper 6 lacks Wi-Fi. Communication is achieved either via the USB cable, connecting the device to a PC or laptop or Bluetooth.

When the USB cable is in use, attached securely to a special connection on the rear of the unit, MobileMapper 6 is powered from the external device. This is the most common way to transfer data from the mobile device to the desktop back at the office, and data transfer worked very smoothly and painlessly.

MobileMapper 6 Bluetooth supports Serial Port Profile (SPP) for RS232 serial cable emulation, Object Push Profile (OPP) for simple file transfers between devices and Dial-Up Networking (DUN) for modem or cellular phone connection. The latter is for the MobileMapper 6 Messaging client, which allows you to configure an e-mail account and connect to the internet through the Bluetooth connection to a cell phone. The e-mail tool also allows you to attach files to your e-mails, for example, files containing the data you just collected! While this works, it is fiddly and Wi-Fi would have made the whole process that much easier.

Software – MobileMapper 6 is more than just a GPS receiver

MobileMapper 6 has Magellan's own Mobile Mapping application, and can also run any other Windows Mobile compatible software. Being familiar with ESRI's ArcPad from prior PDA reviews, I chose to use that application (which comes bundled with the unit, in the USA). Everything worked just as expected, including easy synchronizing with the desktop when necessary. There is simply not sufficient room in this review to go into more detail on the software, but let the professionals using MobileMapper 6 tell their own story.



Backside view of MobileMapper 6, showing the speaker grill, 2 megapixel camera lens, unique USB connection and battery compartment.

"As GPS/GNSS users of 15 years, we have welcomed the impact of Magellan solutions on the market, and have moved to use of their systems over recent years. We have applied the MobileMapper CE and now the CX to surveys of cycle tracks citywide, neighbourhood accessibility and network analyses, and parking space, tree, field and marine ecology surveys. Our tests of MobileMapper 6 have been very positive too, especially with the easy-to-use post processing option - delivering well structured data at accuracies around the metre mark. While the MM6 is not at the consumer price level, it is ideal for field surveyors looking for lower cost tools to do the same job that might have cost 10K to 20K euro ten years ago." Gearoid O'Riain, Managing Director, Compass Informatics Ltd, Black Rock, Co. Dublin, Ireland



The supplied stylus is far too small to be useful

Small annoyances – but worth noting.

- The **system clock** seems to lose its setting when the system is powered off, requiring the user to either use System functions to reset the correct date and time, or use the GPS function to automatically set the date/time as soon as MobileMapper 6 is again receiving a signal, i.e. is within sight of the satellites. During review, the GPS signal was received inside a building if placed near a window, within a matter of seconds.
- The **stylus** used to interact with the unit is far too small to be useful, even in warm climates where the user is not wearing any gloves (see photo). Come on, Magellan, you can do better than this!
- **Sensors** - calibrating the **digital compass (e-Compass)** is just as painful on MobileMapper 6 as it has been on the other GPS units I have reviewed. Also, there is no way (that I could find) to access information from the g-sensor or barometer that are listed in the specification.
- **Wi-Fi** would make data communications so much easier!

My verdict? I would buy one tomorrow – and in fact, am trying to do a special deal with Magellan as this goes to press! See it at pro.magellangps.com/en/products/

MOBILEMAPPER 6 – HARDWARE SPECIFICATIONS

- Operating system - Microsoft Windows Mobile version 6
- Samsung S3C2442B43 CPU 400 MHz processor
- Size: 14.6 x 6.4 x 2.9 cm (5.75 x 2.5 x 1.13")
- Weight: 224 g (7.9 oz), batteries included
- Bluetooth wireless technology, Object Push Profile (OPP)
- USB interface (via special cable, supplied)
- GPS receiver: accuracy with SBAS (WAAS, EGNOS, MSAS) corrections is 2-5 meters, 12 (L1 code only) channels, Patch antenna, NMEA and SiRF protocols, with 1 Hz update rate.
- User Interfaces: touch screen, virtual keyboard, handwriting recognition, audio notifications and multi-level screen backlighting
- Memory include 128-MB NAND Flash memory, 64-MB SDRAM memory, and an SD memory card slot which will take up to 4GB Secure Digital (SD or SDHC high capacity) cards (testing was conducted with a 2G SD card installed).
- Other features: integrated 2-megapixel CMOS camera, built-in loudspeaker and microphone, multiple sensors (e-Compass, G-sensor, and barometer), and a 3 LED torch.
- Language support for 11 languages
- Optional accessories include an external GPS antenna, windshield mount, AC power adapter, cigarette lighter power adapter and carrying case.