

THALES



ProMark™3

>> FREQUENTLY ASKED QUESTIONS

LIST OF QUESTIONS

1	What is ProMark3?	3
2	What is the difference between ProMark2 and ProMark3?	3
3	What is included with a ProMark3?	3
4	What are the applications available with ProMark3?	4
5	What is the difference between ProMark3 and its competition?	4
6	Can I install other programs on ProMark3?	4
7	What accuracy can I achieve with ProMark3?	5
8	Is ProMark3 as easy to use as ProMark2?	5
9	Why two office software programs?	5
10	What are the ProMark3 accessories?	5
11	Are most ProMark2 accessories compatible with ProMark3?	5
12	Can I use Ashtech Solutions with ProMark3?	5
13	What are the occupation times for ProMark3 compared to ProMark2?	6
14	Can I do decimeter GIS/mapping with ProMark3?	6
15	Are the observation times shorter with ProMark3 than with ProMark2?	6
16	How can I use ProMark3 along ProMark2 and/or Z-Max receivers?	6
17	Can I mix data from various receivers?	6
18	Can I reach longer distances from the base than with ProMark2?	6
19	Can I swap from survey function to navigation function without switch the receiver off?	6
20	Is ProMark3 fitted with a cordless communication means to upload/download data from/to the office computer?	7
21	Is it possible to connect an external power supply in order to extend the working time?	7
22	Is ProMark3's screen a touch screen?	7
23	What kind of battery can I use with my ProMark3?	7
24	Is ProMark3 compatible with WAAS-EGNOS data?	7
25	What are the specifications of external antennas that can be used with ProMark3?	7
26	What is the maintenance plan for ProMark3?	7

1 What is ProMark3?

ProMark3 continues the Thales GPS tradition as the next generation of easy-to-use, turnkey survey systems. All the required hardware and software needed to perform fast centimeter-accurate static, stop & go, and kinematic surveys, as well as GIS/mapping projects, is ready to go, right out of the box.

ProMark3 offers a user-friendly interface and capitalizes on the acclaimed ProMark2 and MobileMapper™ ease of use. ProMark3 allows you to:

- Learn GPS operation quickly and easily
- Complete jobs faster both in the field and in the office

ProMark3 is built around a next-generation GPS engine that offers two ranges of accuracy:

- Centimeter in post-processing for accurate surveying
- Sub-meter in real-time for mapping and navigation

ProMark3 includes the state-of-the-art Thales Prism™ technology. Prism reduces the survey data collection occupation time by as much as 33 percent and also allows reliable GPS survey under poor satellite tracking conditions.

ProMark3 is a true integrated survey and GIS/mapping system. At no additional cost surveyors now have the opportunity to offer services to both survey and GIS/Mapping clients. With ProMark3 performance and functionalities, surveyors can be more efficient and more productive than ever.

2 What is the difference between ProMark2 and ProMark3?

The most obvious difference is the form factor. ProMark3 is a rugged platform designed for the tough conditions of survey jobs. But the platform is not just rugged; it offers a large ¼ VGA high-quality color touch-screen and is packed with the latest technology: USB connectivity, Bluetooth® wireless technology, SD card expandability, and more. All features have been selected to enhance ease of use and efficiency.

The second major difference is clear when you turn on the unit: on a Windows® desktop four icons will appear, among which are "Surveying" and "Mobile Mapping". These are two field software applications -- one dedicated to survey jobs, the other to GIS/mapping jobs. Before, two very different and incompatible pieces of hardware were required to achieve this, but now survey and mobile mapping applications are available on a single platform. With the same investment you can operate in two different worlds with the same high standard of quality. Both field applications can upload user background maps to make the survey job more user-friendly.

Finally, and perhaps most importantly, ProMark3 includes the most updated GPS hardware and software technology from Thales. It includes a new and powerful GPS engine with a first-class internal antenna for real-time sub-meter accuracy and the highest quality of data collection when using an external antenna in combination with new post-processing algorithms. The impact of this data collection and data processing combination, called Prism technology, is evident when performing your surveys; real-time accuracy is better, occupation time when collecting data is reduced by as much as 33 percent -- all without sacrificing the legendary ProMark ease of use.

3 What is included with a ProMark3?

ProMark3 retains the Thales philosophy of offering a fully operational system without additional, difficult to understand options or accessories. All the required hardware and software needed to perform all survey (static, stop-and-go, kinematic) and GIS/mapping jobs are available and ready to go right from the shipping box. The included software comes with all the features operational.

ProMark3 is available in two different kit versions: "Single" and "Dual".

The "Single" kit includes:

- One ProMark3 unit and its accessories (Li-Ion battery, I/O module, power converter, stylus, canvas carrying case, hand strap)
- One geodetic antenna and its cable
- One field bracket
- One HI tape
- One Antenna extension

- One CD including a copy of the manuals.

All items are included in reinforced field bag for protection and easy transport.

The “Dual” kit includes:

- Two ProMark3 kits
- One Kinematic Bar kit
- GNSS Solutions™ post-processing office software
- MobileMapper Office

4 What are the applications available with ProMark3?

When you turn on the unit you see four icons, among which are “Surveying” and “Mobile Mapping”. These are two field software applications, one dedicated to survey jobs, the other to GIS/mapping jobs.

“**Surveying**” lets you survey points with an accuracy of 1 centimeter. Surveying offers an application similar to ProMark2 in that it includes navigation features and data recording for post-processing in static, stop-and-go and kinematic modes.

“**Mobile Mapping**” allows the surveyor to perform GIS surveys with real-time sub-meter accuracy and post-processed decimeter accuracy.

5 What is the difference between ProMark3 and its competition?

ProMark3 continues the Thales GPS tradition as the next generation of **easy-to-use**, turnkey survey systems. All the required hardware and software needed to perform fast centimeter accurate static, stop & go, and kinematic surveys, as well as GIS/mapping, is ready to go, right out of the box.

ProMark3 easily beats optical instruments in terms of portability and range. It is highly shock and water resistant, designed to perform even in the toughest environments. Easy-to-learn, easy-to-use and cost-effective, ProMark3 is the must-have GPS system for post-processed survey.

More Accurate and 33% Faster

ProMark3 delivers centimeter, post-processed positioning for accurate surveys as well as sub-meter accuracy in real-time for GIS/mapping and navigation.

Thales Prism technology reduces survey data collection time by as much as 33 percent for a marked increase in productivity. Prism technology gets surveyors onto the next job faster than ever and also allows GPS survey under poor satellite tracking conditions. This saves time both marking points and acquiring satellites enabling you to perform more efficient surveys and get jobs done quickly.

A unique survey-GIS/mapping system, ProMark3 offers much more than just centimeter accuracy. It expands your business capabilities, enabling you to offer both survey and GIS/mapping services to customers without requiring costly equipment and training investments. The advanced features and performance provide greater efficiency, increased productivity and the ability to add an additional GIS revenue stream to your business.

ProMark3 retains the Thales philosophy of offering a **fully operational system** without complicated options and accessories. All the required hardware and software needed to perform all static, stop-and-go and kinematic surveys, and GIS/Mapping jobs are ready to go right out of the shipping box. No need to ask for an additional terminal and field application software like Trimble’s 4600 or Topcon HiperL1. No need to ask for an additional Network Adjustment office software function or the additional GIS field application software. Open your ProMark3 shipping box and you are ready to survey and map.

6 Can I install other programs on ProMark3?

ProMark3 is a dedicated tool designed for the high accuracy measurement survey work demands. To achieve this level of ease of use and accuracy protection the platform is closed and does not allow the upload of third-party programs. With this configuration, ProMark3 is truly a turnkey, ready-to-use solution and Thales will be able to bring you the high-quality support you need.

ProMark3 architecture and tools allow upgrades of existing Thales software and future expansion with new applications.

7 What accuracy can I achieve with ProMark3?

	Real-time	Post-processing
Surveying	Sub-meter	Centimeter
Mobile Mapping	Sub-meter	Decimeter

8 Is ProMark3 as easy to use as ProMark2?

With additional user-friendly features such as a color touch-screen, Bluetooth wireless technology, USB port, rechargeable long-life battery, ProMark3 use is even more simple and flexible. The survey field software workflow is very similar to ProMark2 and takes advantage of the larger screen to simplify it. For example, now all survey settings can be selected from one single screen. GNSS Solutions, the survey office software, has retained the ease of use of Ashtech Solutions and includes new more powerful features.

Enhanced ease of use means a short learning curve, quicker jobs both on the field and in the office and seamless data collection and data processing. The result is a more efficient, more productive surveyor.

9 Why two office software programs?

The survey and GIS worlds have been converging for many years and in an increasing number of cases the demarcation line is thin. However, in many instances survey and GIS projects present different, though complementary, goals. Furthermore, a single software program to handle both applications would have made a more complex, difficult-to use program, which does not support the Thales approach of simplicity.

10 What are the ProMark3 accessories?

ProMark3 comes standard with all accessories required to perform your survey or GIS/mapping job, both on the field or in the office. >> see answer 3.

Numerous accessories are also available as options to extend ProMark3 operation or replace a lost accessory, such as a battery charger, external power pack, or cigarette lighter power cable.

11 Are most ProMark2 accessories compatible with ProMark3?

Yes. The geodetic antenna, the vertical extension, the kinematic bar set, the HI tape are all compatible. Only the field bracket and the antenna cable are different and can not be used interchangeably between the two products.

12 Can I use Ashtech Solutions with ProMark3?

No. First, Ashtech Solutions does not include the appropriate tool to download the data from the ProMark3 unit. More importantly, Ashtech Solutions does not include the new processing engine that makes ProMark3 so powerful so you will not take full advantage of the advances offered by the ProMark3 system through the Prism technology.

GNSS Solutions is the appropriate survey office software: it includes the new Prism technology and is perfectly suited to process your ProMark3 data and offer you all the advantages included in ProMark3 system. GNSS Solutions can also process your previous data, in Ashtech® or RINEX format, with the same quality result.

If you are familiar with Ashtech Solutions you will be totally at ease with GNSS Solutions since a very similar, user-friendly workflow has been implemented. In many cases you will not see a difference between the two graphical user interfaces.

13 What are the occupation times for ProMark3 compared to ProMark2?

ProMark3 takes advantage of a new powerful receiver GPS engine to collect high quality GPS data and a new post-processing engine to reduce occupation time up to 33 percent! This is the Thales Prism technology. Occupation time is highly dependent on the number of tracked satellites and their respective position (called PDOP or Position Dilution of Precision). Occupation time difference between ProMark2 and ProMark3 will vary, but to *your* advantage: The worse the satellite constellation, the more the Prism technology will help you reduce your occupation time. This means that you will spend less time on the field collecting data and will be able to perform survey jobs in difficult tracking conditions.*

14 Can I do decimeter GIS/mapping with ProMark3?

Absolutely! The new ProMark3 GPS engine offers you real-time sub-meter accuracy when using SBAS or DGPS corrections and a post-processed decimeter accuracy using the MobileMapper Office differential correction function.

15 Are the observation times shorter with ProMark3 than with ProMark2?

Most definitely yes! The ProMark3 receiver includes a new high-tech GPS receiver that allows top quality data acquisition. This translates into extremely good quality raw data for post-processing and sub-meter real-time accuracy. In addition, GNSS Solutions, the survey office software, includes a new post-processing engine with extremely powerful algorithms that help achieve up to 33 percent reduction in occupation time when collecting data.

16 How can I use ProMark3 along ProMark2 and/or Z-Max receivers?

In any way you want:

- Data collection for post-processing with ProMark2 or Z-Max® receiver as a base and ProMark3 as rover; or reverse
- Real-time sub-meter with a Z-Max receiver as base transmitting DGPS corrections to ProMark3 rovers

In fact, ProMark3 is so flexible that it does not limit operation to Thales GPS receivers. ProMark3 data can be processed with any data in RINEX format. However, you will only get the best of your ProMark3 system and the Prism technology when using two (or more) ProMark3 units and the appropriate office software, GNSS Solutions.

17 Can I mix data from various receivers?

Absolutely. GNSS Solutions accepts data from any receiver in RINEX format. GNSS Solutions has a function to directly access Internet-based reference station sites to download data for post-processing.

In another configuration, ProMark3 data can be exported either in the well-known Ashtech format or in the international standard RINEX format.

18 Can I reach longer distances from the base than with ProMark2?

Long distances between the base and the rover(s) are subject to GPS satellites "spatial decorrelation"; thus the longer the baseline, the longer the occupation time. ProMark3 is based on GPS L1 technology and we would not recommend performing surveys with baselines over 20 km. We recommend taking special care when conducting long baseline surveys to ensure a good clear sky view at both base and rover(s) to ensure that there are as many satellites as possible that are commonly visible from the base and the rover(s).

19 Can I swap from survey function to navigation function without switch the receiver off?

Absolutely. This limitation existed in ProMark2 but has been corrected in ProMark3. You can now switch back to any navigation screen (map, GOTO, satellite polar view, etc.) when logging data by pressing the NAV key and returning to the logging status screen by pressing the LOG key.

20 Is ProMark3 fitted with a cordless communication means to upload/download data from/to the office computer?

Yes, ProMark3 is fitted with an internal Bluetooth module. You can use it to upload/download maps/data from/to the office computer or to receive RTCM corrections from MobileMapper Beacon or from a cell phone.

21 Is it possible to connect an external power supply in order to extend the working time?

Absolutely. An external power supply kit will be available as an additional accessory. It is based on a battery similar to the one internal to the ProMark3 unit installed in a pouch, connected to the receiver with a waterproof cable/connector. For easy portability, the pouch can be attached to the ProMark3 field bracket. Such a system extends the autonomy by eight hours in typical operation conditions. Batteries can be recharged using the dual-slot battery charger provided as an additional accessory.

22 Is ProMark3's screen a touch screen?

Yes, ProMark3 includes a high-quality 1/4" VGA touch screen to allow for unsurpassed simplicity of operation. Both surveying and mobile mapping applications have been reviewed to take advantage of this feature and allow the surveyor to select and input items or comments using the touch screen or the keyboard.

23 What kind of battery can I use with my ProMark3?

ProMark3 uses a Li-Ion 3.7VDC 3960mAh battery. The Li-Ion technology was selected for its performance, light weight, endurance and ease of use. With a single battery you will have a full eight hours of battery power in typical operational conditions. The same battery can be used with the external power supply kit. It can be recharged either when installed inside the receiver or using the dual-slot battery charger.

24 Is ProMark3 compatible with WAAS-EGNOS data?

Yes. ProMark3 is fully compatible with any SBAS (Satellite Based Augmentation System): WAAS (Wide Area Augmentation System) for the United States, EGNOS (European Geostationary Navigation Overlay System) for Europe, or future expected systems (MSAS, SNAS, CWAAS, GAGAN). Today, only the U.S. WAAS is fully operational, with EGNOS expecting to become operational in the coming months. Other systems are still in the design phase. The Thales continuous improvement policy ensures we will always offer you updated firmware to take advantage of the latest evolutions when new SBAS systems will become operational.

25 What are the specifications of external antennas that can be used with ProMark3?

ProMark3 is delivered with a high quality geodetic antenna designed especially for ProMark3 to offer you the best satellite tracking and data collection performance, and optimized autonomy. Furthermore, ProMark3 includes quality control protections to detect potential antenna/cable anomalies: short circuit, open circuit, etc. For this reason, every ProMark3 is delivered with its geodetic antenna to guarantee surveyors the performance and productivity they expect and deserve.

26 What is the maintenance plan for ProMark3?

The ProMark3 maintenance plan is based on a flexible three-level approach to confirm equipment status at the lowest level. The first level is based on the embedded test program that allows any user to fully test his/her unit for good operation. The second level is based on the hotline any user can contact for help. Finally, the third level deals with the repair of the unit in case a unit failure has been confirmed. In this case, expert support is provided to analyze your data and either confirm a potential failure, user error, or a site configuration limitation.

*Performance values assume minimum of five satellites, following the procedures recommended in the product manual. High-multi-path areas, high PDOP values and periods of severe atmospheric conditions may degrade performance.

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