



ProMark™ 800

powered by
ashtech



Getting Started Guide

Copyright Notice

Copyright 2011-2013 Trimble Navigation Limited. All rights reserved.

P/N 631667-01 rev B, January 2013

Trademarks

All product and brand names mentioned in this publication are trademarks of their respective holders.

FCC Notice

ProMark 800 Receiver complies with the limits for a Class B digital device, pursuant to the Part 15 of the FCC rules when it is used in Portable Mode. See Note below related to Class B device.

Class B digital devices NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures:

- Reorient or locate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

When ProMark 800 is used with an external power supply or connected to an external device using the USB port, it complies with the limits for a Class A digital device, pursuant to the Part 15 of the FCC rules. See Note below related to Class A device.

Class A digital devices NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Remark: Any changes or modifications not expressly approved by Spectra Precision, could void the right for user to operate the equipment.

RF Safety Exposure To Radio Frequency Energy (SAR)

Radio transmitting devices radiate Radio Frequency (RF) energy during its operation. RF energy can be absorbed into the human body and potentially can cause adverse health effects if excessive levels are absorbed. The unit of measurement for human exposure to RF energy is "Specific Absorption Rate" (SAR).

The Federal Communications Commission (FCC), Industrie Canada (IC), and other agencies around the world have established limits that incorporate a substantial safety margin designed to assure the safety of all persons using this equipment. In order to certify this unit for sale in the US, Canada and Europe this unit has been tested for RF exposure compliance at a qualified test laboratory

and found to comply with the regulations regarding exposure to RF Energy. SAR was measured with the unit (GSM Module) transmitting at its maximum certified RF power. Often, however, during normal operation the unit (GSM Module) will transmit much less than maximum power. Transmit power is controlled automatically and, in general is reduced as you get closer to a cellular base station. This reduction in transmit power will result in a lower RF energy exposure and resulting SAR value.

FCC and CE UHF Safety Statement

The different versions of the UHF Transmitters are FCC and CE compliant.

In order to comply with FCC and CE RF exposure safety guidelines as body-worn, normal use of unit, the following must be followed:

A distance of AT LEAST 10 feet (3 m) of separation between the users body and the unit (UHF Transmitter). This distance has been defined taken into account the FCC and CE Requirements and the worst output power configuration.

Do NOT use the device in a manner such that it is in direct contact with the body (e.g. on the lap). Such use will likely exceed FCC RF safety exposure limits. See www.fcc.gov/oet/rfsafety/ for more information on RF exposure safety.

Where to Find Information

This manual is designed to guide you through the basic ProMark 800 procedures. You can find additional information in the *ProMark 800 Reference Manual*, also provided on the ProMark 800 CD.

Warranties

Refer to the *ProMark 800 Reference Manual*.

Table of Contents

Introduction	1
What is ProMark 800?.....	1
Scope of this Guide	1
System Components Overview	2
Basic Supply	2
Standard Accessories	2
Communication Modules and Associated Antennas	3
Base Accessories	4
Equipment Description & Basic Functions	5
Front Panel View	5
Indicators & Controls	5
Bottom View.....	6
Battery, Connectors & Module.....	7
Antenna Characteristics.....	9
Special Button Combinations.....	9
Display Screens	10
Power-On Screen	10
General Status Screen.....	10
Memory Screens.....	12
Receiver Identification Screen	13
Position Computation Screen	13
ATL Recording Screen.....	15
Memory Management Screen	16
Screen Backlight	16
Data Transfer Screen	16
Charging Batteries Before Use	17
Removing the Battery from the ProMark 800.....	17
Charging the Battery	17
Inserting the Battery in the ProMark 800	18
RTK Base Setup	19
RTK Rover Setup	20
Prerequisites	20
Radio Link	20
GSM/GPRS Connection	20
Logging Raw Data	21
Starting/Stopping Raw Data Logging.....	21
Downloading Raw Data.....	21

What is ProMark 800?



Congratulations! You have just acquired the latest multi-frequency, multi-constellation ProMark 800 GNSS Surveying System from Spectra Precision!

GNSS has revolutionized control surveys, topographic data collection and construction surveying. Purchasing the right tools for a professional job is essential in today's competitive business environment. Learning to put these tools to work quickly and efficiently will be the focus of the present manual.

Compared to ProMark 500, ProMark 800 integrates the so-called "GNSS-centric" new technology, known as Z-Blade™. By allowing the receiver to better combine all the signals available from the different visible GNSS constellations, Z-Blade will allow you to improve your field productivity.

In addition, because it's easy to use, you will be able to focus on your job and forget almost everything about the technical aspects of your equipment. No more cables, no more clip-on modules: ProMark 800 will be the reliable tool you are expecting for all your GNSS survey operations!

Scope of this Guide

This guide is designed to help you rapidly familiarize yourself with your new equipment. For the sake of conciseness, only a selection of the many ProMark 800 functions are presented in this guide.

Most notably, in the RTK surveying section, only the use of radios is fully described in the implementation of the data link. The other solutions are only outlined. For a full description of these solutions, refer to the *ProMark 800 Reference Manual*.

Likewise, in the Logging Raw Data section, the assumption is made that raw data logging takes place simultaneously with the RTK field operations, which means the setup and configuration of the equipment is as described in the RTK surveying section. In fact, post-processed surveys can be conducted with ProMark 800 using optimized setups and configurations for static, Stop&Go and kinematic surveys. These are also discussed in the *ProMark 800 Reference Manual*.

System Components Overview

The tables below provide an overview of the different key items composing the ProMark 800.

Depending on your purchase and based on the type of survey you wish to perform, you may only have some of the listed items. Please refer to the packing list for an accurate description of the equipment that has been delivered to you.

NOTE: Spectra Precision reserves the right to make changes to the list of items provided below without prior notice.

Basic Supply

Item	Part Number	Picture
ProMark 800 GNSS receiver with standard accessories: <ul style="list-style-type: none"> • 1x Li-ion rechargeable battery pack • AC/DC power supply kit • HI measurement tool • USB cable, host • USB cable, device • GSM antenna • GPS antenna extension • Transport bag • GNSS Solutions (RTK+L1 post-processing) • Firmware options: Unlimited RTK, GLONASS, GALILEO, GSM Modem, 20- Hz Fast Output 	990657-99	

Standard Accessories

(Can be ordered separately as spare parts.)

Item	Part Number	Picture
USB Device to PC Cable (long)	702103	
USB Host to Device Cable (short).	702104	
7.4 V-4.6 Ah Li-ion Battery Pack (rechargeable)	111374	

Item	Part Number	Picture
AC/DC Power Supply Kit (includes external AC adapter, battery charger and cable extension for powering ProMark 800 directly from the AC adapter)	802064	
Vertical Antenna Extension	103717	
HI Measurement Tool	111146-1	
Field bag	206490-ASH	

Communication Modules and Associated Antennas

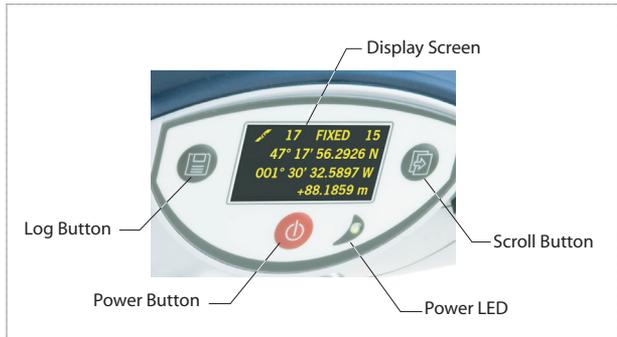
Item	Part Number	Picture
ADL Vantage	87330-00: ADL Vantage Kit, 430-470 MHz, 4 W 87330-20: Accessory kit, 430-450 MHz 87330-10: Accessory kit, 450-470 MHz Each accessory kit includes a unity-gain antenna, a range pole mount, a tripod mount system, a battery accessory kit (without the battery) and a Vantage/Vantage Pro programming cable.	 Transmitter alone
ADL Vantage Pro	87400-00: ADL Vantage Pro Kit, 430-470 MHz, 35 W 87400-20: Accessory kit, 430-450 MHz 87400-10: Accessory kit, 450-470 MHz Each accessory kit includes a unity-gain antenna, a range pole mount, a tripod mount system, a 35-W radio battery bag with 2 x 6' cables (without the battery) and a Vantage/Vantage Pro programming cable.	 Transmitter alone
Radio receiver kit (includes radio module, whip antenna and small parts)	PacCrest: 802149-30 (430-450 MHz, 12.5 kHz or 25 kHz) 802149-50 (450-470 MHz, 12.5 kHz or 25 kHz)	

Item	Part Number	Picture
Quad-band GSM antenna	111397	

Base Accessories

Item	Part Number	Picture
Power cable kit	802143	
ADL Vantage (Pro) to ProMark 800 cable (PacCrest ref. A00630)	105659	

Front Panel View



Indicators & Controls



Power button

To turn on the ProMark 800, hold the Power button pressed until the power LED lights up.

To turn off the ProMark 800, hold the Power button pressed until the “Ashtech” screen is displayed. Then release the button and wait until the ProMark 800 shuts down.

Power LED

This indicator is on when the ProMark 800 is on, and off when it is off.



Display Screen

The display consists of a 128 x 64-pixel, 1.5-inch monochrome yellow screen using organic LED technology (OLED). It is oriented slightly downwards so the screen can easily be read when the ProMark 800 is installed on top of a range pole.

Used in conjunction with the Scroll button, the display screen allows you to view different pages of information. See *Display Screens on page 10* for a detailed description of the information available from this screen.



After a few seconds of inactivity (i.e. Scroll button idle), screen luminosity turns from high to low level.

Scroll button

Press this button shortly to scroll through the different pages of information viewed on the screen.

If an alarm is reported on the display screen, a short press on the Scroll button will acknowledge the alarm. The Scroll button will recover its display scrolling function only after all the alarms have been acknowledged this way.

Another function of the Scroll button is to re-activate the screen backlight after the latter has automatically been turned off. The Scroll button is also used in the firmware update procedure.

Log Button

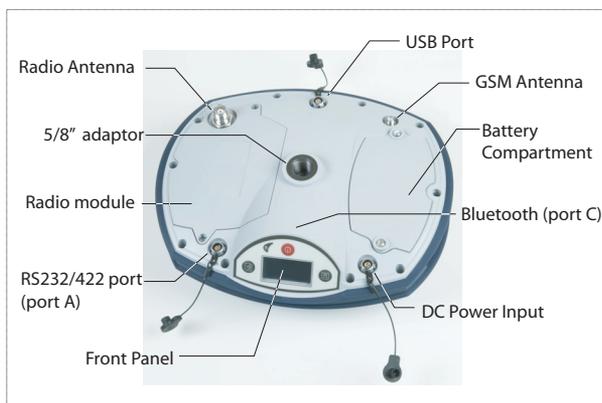
Press this button briefly to start recording raw data on the selected storage medium.

Another short press on this button will immediately stop raw data recording.

Buzzer

The internal buzzer will sound an alarm whenever a warning message is reported on the screen. The buzzer will beep until you acknowledge the warning message by pressing the Scroll button.

Bottom View





The battery used in the ProMark 800 is a 7.4-V DC - 4600 mAh rechargeable battery. It is a standard model used in many camcorders.

The battery is housed in a battery compartment accessible from underneath the ProMark 800. The compartment door can be removed using a coin to release the two quarter-turn screws.

DC Power Input

A three-contact, female connector (Fischer type) allowing the ProMark 800 to be powered from either the provided AC adapter (connect the cable extension between ProMark 800 and the end of the AC adapter output cable), or an external 9- to 28-V DC battery through cable P/N 730477 (cf. base configuration with radio).

GSM Antenna

A coaxial female connector (SMA type) allowing you to connect a GSM whip antenna to the ProMark 800.

Radio Antenna

A coaxial female connector (TNC type) allowing you to connect a radio whip antenna to the ProMark 800. This connector is available only if the ProMark 800 has been fitted with a radio module.

Radio Module

A module allowing ProMark 800 to receive and process corrections from a base. When a radio module is used, a radio antenna must be connected (see above). When no radio receiver kit is delivered, a single compartment door is provided instead, with no connector on it.

USB Port

A nine-contact female connector (Fischer type). Depending on how it is configured, the USB port can be used in two different ways:

1. For a USB host such as a mass storage device. In this case, you should use the special adaptor cable provided (P/N 702103) to attach the USB key to the ProMark 800. This configuration can be used to log raw data on the USB key or upgrade the ProMark 800 firmware from the files stored on the key.
2. For a USB device allowing ProMark 800 to be seen as a disk from the computer connected to this port. In this configuration, files can be transferred between the ProMark 800's internal memory and the computer using the USB cable provided (P/N 702104).

RS232/422 Serial Port

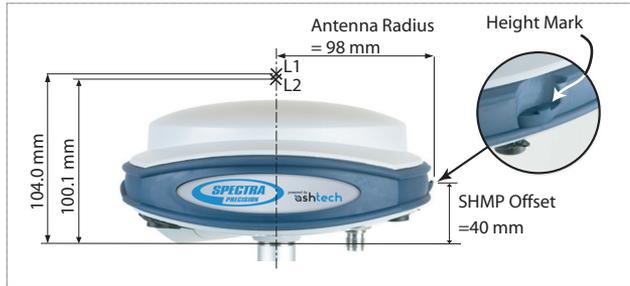
A seven-contact female connector (Fischer type) allowing you to connect the ProMark 800 to an external device via an RS232 or RS422 serial line (default: RS232), as explained in the *ProMark 800 Reference Manual*.

Bluetooth Device

An integrated Bluetooth module allowing the ProMark 800 to communicate with a Bluetooth-enabled field terminal through a wireless connection.

Antenna Characteristics

The diagram below gives the dimensional parameters of the ProMark 800 antenna required for the system to determine the true height of the antenna from the measured value obtained using one of the standard height measurement methods, i.e. slant or vertical.



The height mark allows you to hook the measure tape onto it so you can unroll the tape down to the survey mark and read the slant height measurement directly on the tape.

Special Button Combinations

- With the ProMark 800 OFF, pressing the Power, Log and Scroll buttons simultaneously for a few seconds will restore all the factory settings. **Always use this combination after changing the radio module.** This allows the receiver to recognize the new module.
- With the ProMark 800 OFF and a USB key connected, pressing the Power and Scroll buttons simultaneously for a few seconds will cause the ProMark 800 to start a firmware upload process. If there is no USB key connected or the key does not contain a firmware upgrade, then the process will abort after a few seconds. Because data has to be decompressed on the USB key during upgrades, the USB key must be unlocked, with at least 10 MBytes of free memory, before starting the upgrade.

These button combinations are summarized in the table below:

Button Combination	ProMark 800 State	Function
Power+Log+Scroll	OFF	Restores Factory Settings.
Power+Scroll	OFF	Initiates firmware update from USB key.

Display Screens

If you press the Scroll button several times, you will see the following displays successively.

Power-On Screen

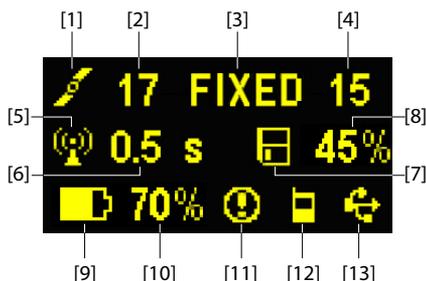
When you power on the receiver, the Ashtech logo appears on the screen. It is displayed until the receiver has completed its auto-test (this takes about 30 seconds).



Then the General Status screen is displayed.

General Status Screen

An example of General Status screen is shown below.



This screen displays the following information:

- : Satellite icon [1] (always displayed).
- Number of satellites tracked [2].
- Position solution status [3]:
 - NONE: Position not available
 - AUTO: Autonomous GPS position
 - DGPS: Differential GPS position
 - S DGPS: SBAS Differential GPS position
 - FLOAT: Float solution
 - FIXED: Fixed solution (RTK is operational)
 - BASE: Receiver configured as a base.

- Number of satellites used **[4]**: Number of satellites used in the position processing, regardless of the current position solution status.
- : Data link icon **[5]**. This icon is displayed only when corrections are received.
- Age of corrections **[6]**, in seconds. This value is displayed when corrections are received and only after base station information has been received (Position status is at least “DGPS”).
- Raw data logging icon **[7]**:

	Data recording through front panel Log button: – Blinking: Raw data logging in progress – Fixed: No raw data logging in progress.
	ATL data recording for advanced diagnosis.

- Percentage of free memory in the storage medium used **[8]**.
- : Battery icon **[9]** with visual indication of remaining charge. If an external power source is used (AC adapter or external battery), the battery icon will be animated to indicate battery charging in progress.
 is displayed when there is no battery in the compartment and the receiver is operated from an external power source.
- Power status **[10]**.

Icon	Definition
Percent value	Percentage of remaining battery. This indication will flash when the remaining energy drops below 5%. When an internal battery is used with external power applied, this icon alternates between the plug and the percentage of charge on the battery.
	Replaces percentage when an external power source is used.

- Alarm status **[11]**.

Icon	Definition
	Alarm detected. Press the Scroll button to view the alarm type. Press it again to acknowledge the alarm, which then disappears from the list. Unless there is another alarm in the queue, in which case you will have to resume the acknowledge sequence, the screen then displays the memory screen.
None	No alarm detected

- GSM module (modem) status [12]. This may be one of the following icons:

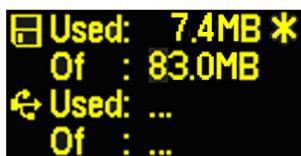
Icon	Definition
	Modem turned off.
	Blinking icon: Modem turned on but not initialized yet. Indicates signal strength at modem antenna input.
	Fixed icon: Modem turned on and initialized (ready for a connection). Indicates signal strength received at modem antenna input. The higher the number of bars, the better the signal.
	This icon will show four dots at the bottom when the input signal is zero. The symbol shown in the upper left corner stands for "2G". When the modem detects a 3G network, "3G" is displayed instead.
	Modem on line.

- [13]: USB status and/or Bluetooth status.

Icon	Definition
	USB port connected to active device
	Bluetooth active
	These two icons will appear successively when both the USB port and Bluetooth are active.
Blank	USB port unconnected and Bluetooth inactive.

Memory Screens

From the General Status screen, press the Scroll button to access the Memory screens. Memory screens appear successively (see examples) at a display rate of about five seconds:



Left screen:

- First line: Percentage of free space in the internal memory.
- Second line: Number of files currently stored in the internal memory.
- Third line: Percentage of free space on the USB mass storage device.
- Fourth line: Number of files currently stored on the USB mass storage device.

Right screen:

- First line: Total space occupied by the files currently stored in the internal memory.
- Second line: Nominal size of the internal memory.
- Third line: Total space occupied by the files currently stored on the USB mass storage device.
- Fourth line: Nominal size of the USB mass storage device.

About the “*” symbol:

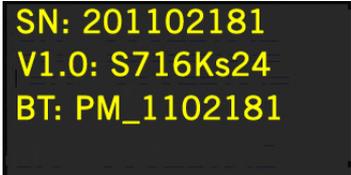
- It can only appear at the end of the first or third line.
- Where placed, it indicates that this storage medium is used for data logging.

What if there is no USB mass storage device connected to the receiver?

- Parameters relevant to the USB key size and space used and available are void (three dots displayed instead).
- Number of files is forced to “0”.

Receiver Identification Screen

From any of the two Memory screens, press the Scroll button to access the Receiver Identification screen. See example below.



SN: 201102181
V1.0: S716Ks24
BT: PM_1102181

- Receiver Serial Number
- Firmware Version
- Receiver Bluetooth Identifier

Position Computation Screen

From the Receiver Identification screen, press the Scroll button to access the Position Computation screen. This screen displays the receiver position. The displayed coordinates will be:

- either WGS84 coordinates (“W84” displayed at the beginning of the last line; coordinates are latitude, longitude and ellipsoidal elevation)
- or local coordinates (“LOC” displayed at the beginning of the last line; coordinates may be either Easting, Northing, Height or Latitude, Longitude, Ellipsoidal Elevation,

depending on whether or not a projection is defined in the local coordinate system used),

If the receiver is a rover, the displayed position will be the last computed position. The coordinates will be local (“LOC”) only if the rover receives specific RTCM messages from the base describing the local system used by the base.

If the receiver is a base, the displayed coordinates are set ones (not computed ones) representing the WGS84 or local reference position assigned to the base. See screen example below for a rover delivering WGS84 coordinates.



17 FIXED 15
47° 17' 56.2926 N
001° 30' 32.5897 W
W84 +88.1859 m

The upper line contains the same information as in the upper line of the General Status screen.

A new press on the Scroll button will take you to the ATL Recording screen (see below). If however the receiver is fitted with a radio receiver or is connected to an external radio transmitter, an additional display screen will show up before pressing the Scroll button takes you back to the ATL Recording screen.



D Rx ADL ON
0 446.7750Mhz
TRANS 4800bds
MED FEC SCR

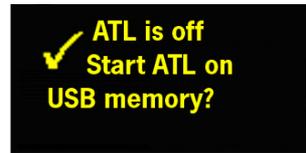
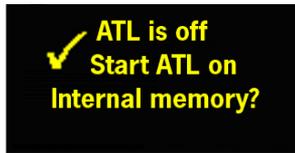
The possible two screens show the current radio settings:

- First line: Serial port used, “Rx” for radio receiver or “Tx” for radio transmitter, radio type (ADL). Extra-parameter for “Rx”: Power status
- Second line: Channel number, carrier frequency
- Third line: Protocol used (Transparent, Trimitalk, DSNP, etc.), airlink speed
- Fourth line: Squelch setting (medium, low, high). Extra-parameters for Rx if a Pacific Crest: “FEC” if forward error correction enabled, “SCR” if scrambling enabled. Modulation type (GMSK, 4FSK). The fourth line will be

slowly scrolled to the right if four parameters have to be displayed in the line.

ATL Recording Screen

Pressing the Scroll button from the Position Computation screen –or from the Radio Settings screen if there is a radio used– will take you to the ATL Recording screen, which looks like one of the following, depending on whether a USB key is connected to the receiver (below, right) or not (below, left).



You don't normally have to record ATL data, but if for troubleshooting purposes, the Technical Support asks you to do so, then proceed as follows:

- Press the Log button (left-hand button). This will cause the receiver to start recording ATL data on the specified storage medium. The screen will then look like this:



You can then freely use the Scroll button to access other receiver screens without affecting the ATL data collection in progress (pressing the Scroll button from this screen will take you back to the General Status screen).

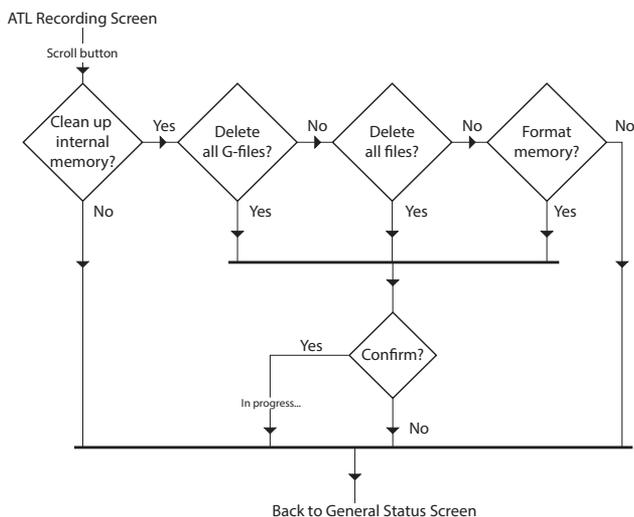
- When enough ATL data have been recorded (Tech Support will usually indicate the duration of ATL data collection needed for troubleshooting), then come back to the ATL Recording screen and simply press on the Log button again to stop the recording.

NOTE 1: ATL data recording is totally independent of raw data recording: controlling ATL recording is done exclusively from the ATL recording screen, and raw data recording from any other screen.

NOTE 2: Before connecting a USB key to record ATL data, make sure there is no *.par files saved on the key as the presence of this type of file would initiate some other functions in the receiver.

Memory Management Screen

From the ATL Recording screen, press the Scroll button to access the Memory Management screen. The flowchart below summarizes the different tasks you can perform at this point in the management of the receiver memory.



Screen Backlight

The screen backlight is automatically turned off if no key is pressed for 1 minute. When the backlight is off, a short press on the Scroll button will turn it back on. The Scroll button will then recover its usual functions.

Data Transfer Screen

For more information on the screen displayed when downloading files, refer to *Downloading Raw Data on page 21*.

Charging Batteries Before Use

Make sure the battery is fully charged for each ProMark 800 you will be using in the field. Follow the instructions below to charge a battery.

Removing the Battery from the ProMark 800

Unless the battery has already been taken out, do the following:

- Put the ProMark 800 upside down.
- Remove the battery door, accessible from underneath the ProMark 800, by loosening the two quarter-turn screws (see picture) using a coin.



- Keeping one hand on the battery still in its compartment, put the ProMark 800 the right way up. The battery will then easily slide out of the battery compartment.

Charging the Battery

The battery charger comes with a separate universal AC adapter fitted with a 1.5-m output cable. The AC adapter includes a choice of four different, detachable plug types. Follow the instructions below to operate the charger.

- Choose the plug type that is suitable for your country.
- Secure that plug on the AC adapter by giving the plug the right orientation with respect to the adapter, then pushing and rotating it by about 10 degrees clockwise until you hear a “click”.
- Connect the cable from the AC adapter to the battery charger.
- Give the battery the right orientation with respect to the charger **[1]** (the battery terminals should come into contact with the two sets of connectors on the charger),

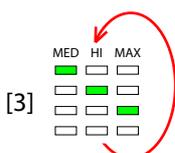
then push the battery against the plate and slide it forward [2] until it locks into place.



[1]



[2]



[3]



[4]



[5]



[6]

Inserting the Battery in the ProMark 800

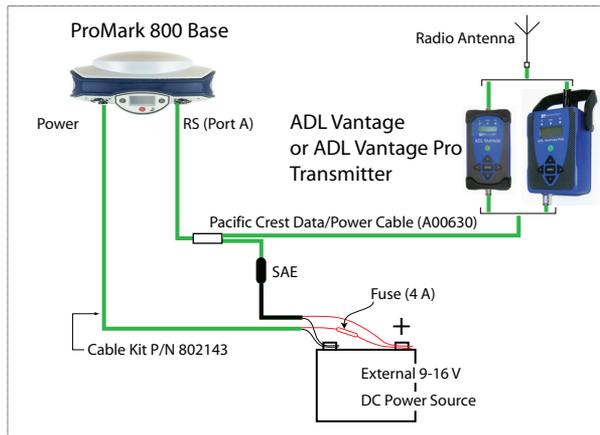
- Plug the adapter into an AC outlet. Battery charging starts immediately.
For a low battery that's being charged, you will first see the three LEDs switch on and off, one after the other, followed by a short period of time when none of the LEDs is on (see [3]).
After about two hours of charging, the MED LED will stay on [4]. A few minutes later, the HI LED [5], and then the MAX LED [6] will also stay on.
- When the three LEDs are on, this means the battery is fully charged and can be disconnected from the charger.
- With the ProMark 800 upside down, insert the battery into the compartment making sure the battery has the right orientation (the battery terminals should come into contact with the two sets of connectors located at the bottom of the compartment).
- Place the battery door over the battery and tighten the two screws, using a coin. Note that, once it is properly secured, the battery door pushes the battery against the bottom of the compartment to ensure electrical connection of the battery to the ProMark 800.

- You will need a tripod and a tribrach (not provided) to install the base. The provided antenna extension pole fitted with a 5/8" male adapter is also required in this configuration.
- For a long-range radio link, i.e. more than 1 mile or 1.6 km, for which the radio antenna should be placed as high as possible, it is good practice to install the antenna on top of an antenna pole secured on a tripod (neither of these items is provided).
- To power the radio, you need an external 9-16 V DC power source. Using a standard 12-V DC battery is a convenient choice. In this configuration, the ProMark 800 can be powered either from the same power source (recommended), using cable P/N 802143, or from its internal battery.

Powering the ProMark 800 from the external battery offers two advantages:

1. Operating sessions can be extended significantly.
2. The external battery operates as a trickle charger for the ProMark 800's internal battery.

The connection diagram is as follows.



RTK Rover Setup

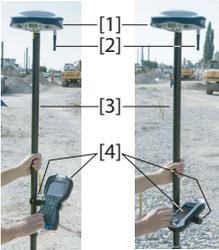
Prerequisites



- Use a range pole fitted with a 5/8" male adaptor at the upper end (not provided).
- If a radio link is used with the base, your rover should normally have been fitted with the radio module that matches the reception band covered by the radio transmitter used at the base.
- If a GPRS connection is used, your rover should normally have been fitted with the SIM card that will allow it to perform a network connection.

To connect the SIM card, first use a flat screwdriver to loosen the two quarter-turn screws securing the radio module. Remove the module. This gives access to an electronic card on which you can insert the SIM card as shown on the picture.

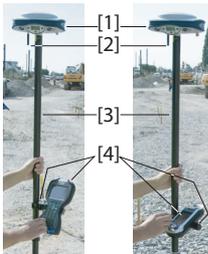
Radio Link



Mount the different items as shown on the picture, including the ProMark 800 [1], the radio antenna [2], the range pole [3] and the field terminal with its mounting bracket [4].

Caution! Use of a non-metal range pole is recommended to maintain the performance level of the radio antenna.

GSM/GPRS Connection



As a standard feature, the ProMark 800 incorporates a built-in GSM modem, which means you only have to connect the GSM antenna if you have paid for activation of the hardware. Mount the different items as shown on the picture, including the ProMark 800 [1], the GSM antenna [2], the range pole [3] and the field terminal with its mounting bracket [4].

Caution! Use of a non-metal range pole is recommended to maintain the performance level of the GSM antenna.

Starting/Stopping Raw Data Logging

You simply need to use the Log button to start and stop raw data logging. Later, you will however need to do the following manually:

1. Downloading phase (if appropriate, rename the raw data files collected on each site).
2. Post-processing phase: Manually correct all computed elevations for the antenna height.

By default, raw data is logged to the receiver's internal memory. The Raw Data Logging icon on the General Status screen will start flashing when a raw data file is open for logging.

Downloading Raw Data

Use a USB mass storage device as a transit storage medium to download raw data files from the receiver's internal memory to your office computer.

Important! During a download operation, files are not deleted from the receiver but simply copied to the USB mass storage device.

After downloading the files to this device, connect the USB device to your computer and use your usual browser to copy the files to the project folder.

Using a USB Mass Storage Device

- Connect the USB mass storage device to the receiver via the short USB Host-to-Device cable provided (P/N 702104).

If raw data files are present in the receiver's internal memory, the following icons will automatically appear on the display screen:



- To confirm the file transfer, press the Log button. The General status screen will re-appear after the file transfer is complete.
- To cancel the file transfer, press the Scroll button.

- If you do not press any button within the next 10 seconds, the download procedure will be canceled automatically and the screen will come back to the previous display.

Using the USB Cable Provided

- Connect the USB cable provided (P/N 702103) between the office computer and the receiver's USB port. The receiver is then seen as a USB device from the office computer
- Using Windows Explorer on your office computer, browse the receiver's internal memory for the raw data files.
- Copy/paste the files to your project folder.

Index

A

AC/DC power supply kit *3*
Alarm status *11*
Alarms *6*
Antenna characteristics *9*
Antenna extension *3*
AUTO *10*

B

Backlight *6*
BASE *10*
Battery (external) *19*
Battery (insert) *18*
Battery (remove) *17*
Battery charger *3*
Battery icon *11*
Battery model *7*
BLADE *1*
Bluetooth *8*
Bluetooth identifier *13*
Bluetooth status *12*
Buzzer *6*

C

Charging battery *17*

D

Data link icon *11*
Data transfer screen *16, 21*
DC power input *7*
Device cable (USB) *2, 21*
Display screen *5*

F

Factory settings *9*
FAST Survey *1*
Field bag *3*
Field terminal *20*
Firmware update *9*
Firmware version *13*
FIXED *10*
FLOAT *10*

G

General Status screen *10, 21*
GLONASS *1*
GPRS *20*
GSM antenna *4, 7, 20*
GSM module (built-in) *20*
GSM status *12*

H

Height mark *9*
HI measurement tape *3, 9*
Host cable (USB) *2*

K

Key combinations *9*
Kinematic *1*

L

L1 phase center *9*
L2 phase center *9*
LED status (battery charger) *18*
Li-ion battery *2*
Log button *6*
Long-range radio link *19*

M

Memory screens *12*

O

OLED *5*

P

PacCrest transmitter (connection diagram) *19*
Pages (of information) *6*
Position computation screen *13*
Post-processed surveys *1*
Power button *5*
Power LED *5*
Power status *11*
Power-on screen *10*

R

Radio antenna *7, 20*
Radio module *7, 20*
Radio receiver kit *3*
Radio transmitter (#800986) *19*
Range pole *20*
Raw data *6*
Raw data icon *11*
Receiver identification screen *13*
Receiver serial number *13*

S

Satellites in use *11*
SBAS *1*
Screen backlight *16*
Scroll button *5, 6, 10*
Serial port *8*
SIM card *20*
Slant measurement *9*
Standalone (raw data logging) *21*
Status (position) *10*
Stop&Go *1*

T

Tribrach *19*
Tripod *19*

U

USB port *8*

USB status *12*

Getting Started Guide

Contact Information:

SPECTRA PRECISION DIVISION
10355 Westmoor Drive,
Suite #100
Westminster, CO 80021, USA
www.spectraprecision.com

Rue Thomas Edison
ZAC de la Fleuriaye, BP 60433
44474 Carquefou Cedex, FRANCE

