

# NAVMAN<sup>®</sup> HARDWARE

The **NAVMAN MOBILE** GPS system is available for a range of different handheld devices.

**For full details, simply click the images below.**



**GPS 3000**  
with SMARTPATH Mapping Software  
for Compaq iPAQ Pocket PC

Supports any handheld series 3000 & 3000

- Shows your location by lane identification
- Displays your position on detailed street maps
- Calculates the most suitable route between locations
- Finds you, even when congested
- Allows voice guidance for the entire or part of the route
- Allows to monitor estimated arrival
- In built-in AutoNavigation auf Tablet und PC
- In engl. Sprache Funktion auf eingebundenen Handhelds
- In deutscher und englischer Sprache Handheld des Users

GPS 3000 INTELLITE RECEIVER & SMARTPATH SOFTWARE

NAVMAN<sup>®</sup>  
The reference in digital mapping. Teile Atlas

**GPS 3000**  
For the **iPAQ** H3000 series Pocket PC.



**GPS 500**  
SMARTPATH Mapping Software  
for Palm M500 and M125 series Handhelds

- Shows you how to turn and follow
- Displays your position on detailed street maps
- Calculates the most suitable route between locations
- Finds you, even when congested
- Allows voice guidance for the entire or part of the route
- Allows to monitor estimated arrival
- In engl. Sprache Funktion auf eingebundenen Handhelds
- In deutscher und englischer Sprache Handheld des Users

NAVMAN<sup>®</sup> GPS 500 SATELLITE RECEIVER & SMARTPATH SOFTWARE

The reference in digital mapping. Teile Atlas

**GPS 500**  
For the Palm™ m500 & m125 handheld series.



**GPS 350**  
with SMARTPATH Mapping Software  
for Palm™ III and V series handhelds

- Shows you how to turn and follow
- Displays your position on detailed street maps
- Calculates the most suitable route between locations
- Finds you, even when congested
- Allows voice guidance for the entire or part of the route
- Allows to monitor estimated arrival
- In engl. Sprache Funktion auf eingebundenen Handhelds
- In deutscher und englischer Sprache Handheld des Users

NAVMAN<sup>®</sup> GPS 350 SATELLITE RECEIVER & SMARTPATH SOFTWARE

The reference in digital mapping. Teile Atlas

**GPS 350**  
For the Palm™ III & V handheld series.

All **NAVMAN** GPS kits are supplied complete with both **SmartPath** City and **SmartPath** Trip providing a complete personal location and route planning GPS solution.

# NAVMAN®

## TECHNICAL SUPPORT

Welcome to **NAVMAN Mobile's** Technical Support. Here you will find all of the very latest news and updates on the **NAVMAN** GPS system and **SmartPath** software, along with any other helpful information we can think of.

If you can not find the information you are looking for, please do contact us via [support@navman-mobile.com](mailto:support@navman-mobile.com)

### NAVMAN GPS Hardware - Technical Specification and Comparison

|                                 | GPS 3000   | GPS 500  | GPS 350  |
|---------------------------------|--|--|--|
| <b>Antenna Type</b>             | Helix Antenna  | Helix Antenna  | Helix Antenna  |
| <b>Satellite Measure Used</b>   | "12-channel parallel, automatic selection"   | "12-channel parallel, automatic selection"   | "12-channel parallel, automatic selection"                               |
| <b>Current Consumption</b>      |  |  |  |
| <b>GPS</b>                      | 32mA average (300ms/1700ms Trickle-power mode with 2 second update rate). Initial acquisition 150mA. | 32mA average (300ms/1700ms Trickle-power mode with 2 second update rate). Initial acquisition 150mA. | "65mA typical, battery charged. 250mA max. during battery charge"        |
| <b>Memory Card</b>              | CF Card: 75mA average  | N/A  | N/A  |
| <b>Time to First Fix (TTFF)</b> |  |  |  |
| <b>Hot Start</b>                | 8s typical   | 8s typical   | 18s typical  |
| <b>Warm Start</b>               | 38s typical  | 38s typical  | 48s typical  |
| <b>Cold Start</b>               | 45s typical  | 45s typical  | 120s typical   |
| <b>Re-acquisition Time</b>      | "100ms typical, reported at selected update rate."   | "100ms typical, reported at selected update rate."   | 2s typical   |
| <b>Accuracy of Position Fix</b> |  |  |  |
| <b>Horizontal</b>               | "5.0 meters, typical (95% probable)"   | "5.0 meters, typical (95% probable)"   | "6.8 meters, typical (95% probable)"                                     |
| <b>Interface</b>                | iPAQ Option Pack Interface.  | Palm Universal Connector (Serial)  | Palm Serial Port   |
| <b>Update Rate</b>              | "Initial, every second. Typically every 2 seconds once fix established."                             | "Initial, every second. Typically every 2 seconds once fix established."                             | Once per second.   |
| <b>Output Message</b>           | "NMEA 0183 Ver: 2.01, GPGGA, GPGSA, GPRMC, and GPGSV."   | "NMEA 0183 Ver: 2.01, GPGGA, GPGSA, GPRMC, and GPGSV."   | "NMEA 0183 Ver: 2.01, GPGGA, GPGSA, GPRMC, and GPGSV."                   |
| <b>Power</b>                    | 3.3V DC from the iPAQ's internal 950 mAh Lithium Polymer rechargeable battery.                       | 3.3V DC from the Palm's internal 950 mAh Lithium Polymer rechargeable battery.                       | 3.3V DC provided by the GPS's internal Lithium-ion rechargeable battery. |
| <b>External Power</b>           | 12.0V DC mains charger   | 12.0V DC mains charger   | 12.0V DC power cable   |
| <b>Battery Life</b>             | N/A  | N/A  | 3.0+ Hours continual use   |

## Hardware Requirements

| PC Requirements                    | For GPS 3000                               |
|------------------------------------|--|
| IBM Compatible 486 or higher.      | iPAQ 3600, 3700 or 3800 series.            |
| CD Rom drive.                      | 800Kb for application software.            |
| MS Windows 95, 98, ME, 2000 or XP. | Typically 4Mb free for map data.           |
|                                    | Pocket PC ROM V1.77 or later.              |
|                                    | For GPS 500                                |
|                                    | Palm m500, m505, m125                      |
|                                    | 2Mb RAM.                                   |
|                                    | 116Kb Minimum free space.                  |
|                                    | Palm™ ROM V3.1 or later.                   |
|                                    | For GPS 350                                |
|                                    | Palm III, IIIe, IIIx, IIIxe, IIIc, V or Vx |
|                                    | 2Mb RAM.                                   |
|                                    | 116Kb Minimum free space.                  |
|                                    | Palm™ ROM V3.1 or later.                   |

### 2D Mode

Position indicated in Latitude and Longitude only.

### 3D Mode

Position indicated in Latitude, Longitude and Altitude (or elevation)

### Acquisition Time

The time it takes for a GPS receiver to acquire satellite signals and determine the initial position.

### Atomic Clock

A very precise clock carried by each of the GPS satellites. These clocks are accurate to within 1 second in every million years.

### Azimuth

Also know as bearing. Measured from North in degrees.

### Bearing

The compass direction from any given location to another, measured in degrees.

### Coarse Acquisition Code

The standard positioning signal used by civilian receivers to calculate both position and time.

### Cold Start

Initial switch on process for the GPS receiver. During this process the receiver is gathering data from any satellite it can "see" so that the receivers position can be calculated.

### Co-ordinate

A numeric representation of a position on the Earth's surface.

### Differential GPS (DGPS)

A method used for improving the accuracy of GPS receivers. A "local" ground station transmits correction information that DGPS enabled receivers can combine

with standard GPS data to provide a more accurate fix.

### **Elevation**

The distance above or below average sea level.

### **Ephemeris**

A GPS satellite's current position and timing information, transmitted as part of the satellite data message.

### **Estimated Time of Arrival (ETA)**

The time of day you expect to arrive at your destination.

### **Global Positioning System (GPS)**

A navigation system, based on 24 satellites orbiting the earth at an altitude of 12,000 miles. Also known as the NAVSTAR system.

### **Greenwich Mean Time**

A standard time based on the meridian at Greenwich, England. GMT is used to calculate local time in most of the world. Also known as universal time.

### **Heading**

The direction in which you are moving, usually expressed in degrees.

### **L1 Frequency**

One of two radio frequencies transmitted by GPS satellites. This frequency carries the Coarse Acquisition Code, P-Code, and the NAV message and is transmitted on a frequency of 1575.42 MHz.

### **L2 Frequency**

One of two radio frequencies transmitted by GPS satellites. This frequency carries only the P-Code, and is transmitted on a frequency of 1227.6 MHz.

### **Latitude**

A position's distance north or south of the equator measured by degrees from 0 to 90.

### **Longitude**

The distance, measured in degrees, East or West of the Greenwich meridian, a notional line drawn from the North pole, through Greenwich, and on to the South pole.

### **Magnetic North**

As opposed to "True" North, magnetic North is the actual location to which a compass will point.

### **Map Display**

A graphical representation of a geographic area.

### **Navigation Message (NAV)**

The data stream transmitted by each GPS satellite. The information contained in the NAV message enables the receiver to process GPS data and thus derive its position.

### **NAVSTAR**

The official U.S. Government name given to the GPS satellite system. NAVSTAR is an acronym for NAVigation Satellite Timing and Ranging.

### **NMEA (National Marine Electronics Association)**

A U.S. standards committee that defines data message structure, contents, and protocols to allow the GPS receiver to communicate with other pieces of electronic equipment, specifically those on board ships.

### **NMEA 0183**

A standard data communication protocol used by GPS receivers.

### **Parallel Receiver**

GPS receivers that can continuously monitor multiple satellites simultaneously. This is achieved by equipping a single receiver with several receiving elements.

### **Position Fix**

The GPS receiver's calculated co-ordinates.

### **Route**

A set of directions normally calculated automatically by route planning software. Once a departure and destination have been entered, the software produces a sequence of instructions that, if followed, should take you from one location to the next.

### **Selective Availability (SA)**

The random error which the U.S. government intentionally adds to GPS signals. The purpose of this is to degrade the accuracy of the GPS data for civilian use. The level of SA is subject to accuracy degradation to 100m.

### **Track (TRK)**

Your current direction of travel relative to a ground position.

### **True North**

The direction of the North Pole from your current position.

### **Universal Time Co-ordinated (UTC)**

A universal time standard, referencing the time at Greenwich. Also referred to as GMT.