

## Frequently Asked Questions and Answers

What is the BoB™ receiver?

BoB stands for Beacon-on-a-Belt. The BoB receiver is an integrated, belt mounted differential correction receiver that tracks broadcasts from DGPS radio beacons, decodes the corrections and sends them on to a GPS receiver. These corrections are used by the GPS receiver to eliminate errors in the GPS signals to give a much more accurate position in real-time.

What does a standard system include?

The BoB receiver comes with following standard accessories.

- Ergonomic belt and holster
- PC-BoB configuration software
- Power supply
- Curly data cable
- Quick reference card
- Printed manual and release notes

What accessories are available?

An external power kit is available for extended use of the BoB receiver in the field. The external power kit contains vehicle and camcorder adaptors, a vehicle adapter splitter cable, a camcorder battery charger and soft shoulder bag.

What is real-time differential GPS (DGPS)?

Often called DGPS, real time differential GPS is a technique for eliminating errors in your GPS position that is applied as the position is calculated, providing better accuracy as you collect your data or navigate in the field. To take advantage of DGPS accuracy you need to have a differential correction receiver (such as BoB) and a GPS receiver in the field. These two units comprise the 'rover' part of the system. You also need a GPS receiver at a known location to generate corrections, and a transmitter to broadcast the corrections to the rover. These two units comprise the 'base' component of the system. The BoB receiver allows you to use an existing worldwide network of DGPS radio beacon base stations to achieve DGPS accuracy for your application.

What is the DGPS radiobeacon differential system?

The DGPS radiobeacon differential system is a worldwide network of radiobeacons whose broadcasts conform to the standards of the International Association of Lighthouse Authorities (IALA). They transmit differential corrections free-to-air using the standard differential correct protocol RTCM (Radio Technical Commission for Maritime Services) SC-104.

Which parts of the world are covered by beacons?

Beacons originated as a means for providing DGPS accuracy for maritime navigation and are typically concentrated around coastal areas or navigable inland waterways. They are often administered by Coast Guards or similar authorities. As the benefits of beacons for land based applications has become increasingly recognized networks are constantly expanding to cover greater land areas. In the United States the beacon network is being expanded with the aim of providing seamless coast to coast coverage.

How can I find out if there is a beacon transmitter near me?

A list of beacons is available on Trimble's website at <http://www.trimble.com/gis/beacon/>

Which GPS receivers can the BoB receiver be used with?

The BoB receiver can be used with any real-time capable GPS receiver that accepts RTCM SC-104 standard corrections over an RS-232 serial port. The BoB receiver is designed to provide the additional functionality of cable-free communication and detailed status information when used with Trimble's GeoExplorer® 3 mapping system. Other supported Trimble receivers are the GeoExplorer II, Pathfinder Pro XL and GPS Pathfinder® Pocket.

How does the BoB receiver communicate with these receivers?

With the GeoExplorer 3 system the BoB receiver communicates over a cable-free link. Due to radio spectrum licensing regulations the cable-free option is not available outside North America. Outside North America, and with the GeoExplorer 3c edition of the GeoExplorer 3 firmware, communication with the BoB receiver is via the data cable provided. Communication to other compatible GPS receivers is also via the data cable.

Which parts of the world can cable-free transmission be used?

The cable-free link is only available in the United States and Canada. This is due to the 916MHz frequency that the BoB receiver uses not being license free outside of North America. BoB receivers sold outside North America are not cable-free enabled.

How does the BoB receiver choose which beacon to track?

The BoB receiver will automatically track the strongest beacon signal straight out of the box. However the BoB receiver can be configured to automatically track the closest beacon station, or to track a specific beacon.

How do you configure the BoB receiver?

The BoB receiver can be easily configured in the field using the simple two-button interface. For advanced configuration options including custom station naming and station filter setting, use the powerful PC-BoB configuration software.

How do you check the status of the BoB receiver?

The simple two LED display on the BoB receiver itself will tell you the BoB receiver's tracking status and battery status at a glance. For more detailed status in the field the GeoExplorer 3 system displays detailed tracking performance and status information of the BoB receiver.

What is the PC-BoB software used for?

The PC-BoB software allows you to configure all aspects of the BoB receiver in preparation for your day in the field. You can set station names, include or exclude certain stations or set the tracking mode. PC-BoB also contains advanced diagnostic tools to help troubleshoot beacon signal issues.

How is the BoB receiver powered?

The BoB receiver is powered by a single Lithium Ion battery that is rechargeable in the unit.

How long does the battery last on a single charge?

The internal battery will last for up to 10 hours.

How long does it take to charge the battery?

The internal battery takes approximately 4 hours to fully charge. At the end of the day you can simply plug in the charger and leave the BoB receiver to charge overnight.

Is there a way to power the BoB receiver for extended operation?

The BoB receiver can be powered for extended periods using either camcorder batteries or a vehicle adapter. The optional accessory BoB external power kit provides everything necessary for extended operation.

How is the BoB receiver worn?

BoB is designed to be worn on your belt, and comes supplied with an ergonomic holster and belt. The BoB holster is versatile enough that it will attach to most belts or backpack waistbands. The BoB receiver should be positioned so the distance between the BoB receiver and other electronic devices (including GPS receivers) is no closer than 1 ft (0.3 meters).

Is the BoB receiver weatherproof?

The rugged design of the BoB receiver is fully sealed and will withstand wind driven rain and dust.

Is the BoB receiver immune to noise and jamming signals?

The BoB receiver employs a 4-stage process for eliminating signal noise and jamming signals. This includes pre-filtering the signal, conversion to a digital signal and then digital signal matched filter processing. This processing allows the BoB receiver to track more effectively in noisy conditions.

Can the BoB receiver be used inside a vehicle?

The BoB receiver can be used inside a vehicle, however RF noise from engine electronics inside the cab of most modern vehicles will seriously degrade BoB tracking performance. The BoB receiver is recommended for on foot data collection and maintenance, and not for vehicle based applications.

How is the BoB receiver different from the GeoExplorer 3 system?

The BoB receiver is a DGPS beacon receiver whereas the GeoExplorer 3 system is a GPS receiver and datalogger. BoB receives corrections from land based DGPS radiobeacons and transmits them to the GeoExplorer 3 system, The GeoExplorer 3 system receives the corrections from the BoB receiver and applies them to the position it generates from the information it gets from the GPS satellites that orbit the earth.

How is the BoB receiver different from the GPS Pathfinder Pro XR/Pro XRS?

The BoB receiver is a DGPS beacon receiver whereas the GPS Pathfinder Pro XR and Pro XRS systems are both integrated GPS and DGPS beacon receivers. The differential correction functionality provided by the BoB receiver is also provided in the GPS Pathfinder Pro XR and Pro XRS receivers.

Where can I find out more information on the BoB receiver?

For more information on the BoB receiver check out the BoB web page <http://www.trimble.com/products/catalog/gis/bob.htm> or contact your local Trimble dealer. To find out who your local dealer is use our dealer locator located at: <http://www.trimble.com/sales/locator/index.htm>.

How do I order a BoB receiver?

The BoB receiver can be bought stand alone or with a GeoExplorer 3 mapping system. For pricing and ordering information please contact your local Trimble dealer. To find out who your local dealer is use our dealer locator located at: <http://www.trimble.com/sales/locator/index.htm>.

