

GPS BLUETOOTH RECEIVER GPS 4400 and GPS 4500

Installation and Operation Manual



NAVMAN

Compliance is subject to approval

FCC Statement

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 normal 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 to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an output on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced technician for help
- A shielded cable must be used when connecting a peripheral to the serial ports.

Important

It is the owner's sole responsibility to install and use the GPS Bluetooth Receiver in a manner that will not cause accidents, personal injury or property damage; will not obstruct your view; and will not interfere with the operation of the vehicle or the vehicle safety equipment.

Using the GPS Bluetooth Receiver:

- The US government is solely responsible for the operation, accuracy and maintenance of the GPS satellites. The GPS system is subject to changes that will affect the performance and accuracy of all GPS receivers.
- The GPS signals may very occasionally be turned off. This antenna unit will not work if its batteries are flat. You must guard against these events by always having another way of navigating.
- The GPS Bluetooth Receiver complies with CE and FCC standards for radio frequency interference. However, the unit receives and generates radio frequency energy. For reliable operation it must be mounted correctly, as described in this manual.
- The performance of the receiver can be affected by the failure of a part, environmental conditions and improper installation and use.

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This manual represents the receiver as at the time of printing. Navman NZ Limited reserves the right to make changes to specifications without notice.

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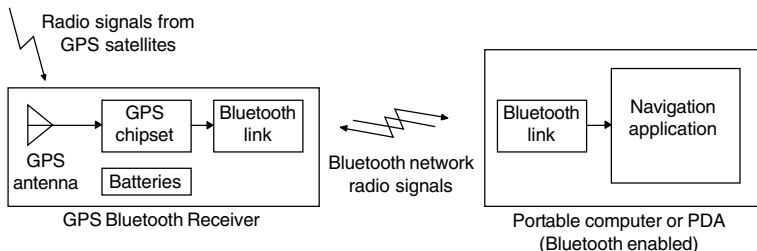
1 Introduction

The GPS Bluetooth Receiver is a peripheral for a portable computer or PDA which calculates where the receiver is on earth. The receiver has:

- A GPS antenna and GPS chipset to receive GPS signals and calculate the GPS position of the receiver.
- A Bluetooth link to send the GPS position to a portable computer or PDA.

The receiver is powered by its own internal batteries.

In a typical land navigation application (see below), the GPS Bluetooth Receiver is mounted on a vehicle and sends the GPS position to a portable computer or PDA in the vehicle for use by a navigation application.



Features of the GPS Bluetooth Receiver

- Extremely long battery life; around 40 hours of operation from one set of AAA alkaline batteries. (2 second update, trickle power mode)
- No operator setup or adjustment required; the only operator control is the On/Off switch.
- 25 x 25 x 4 mm (1 x 1 x 0.2 in) patch GPS antenna with sensitive 12-channel GPS receiver chipset.
- Available in two versions. These are identical except for resistance to water:
The GPS 4500 is fully waterproof and is designed to be mounted outdoors, for example

on the roof of a vehicle.

The GPS 4400 is not waterproof and is designed to be mounted indoors.

- An MCX connector for an external GPS antenna and a connector for an external power supply (GPS 4400 only).

Cleaning and maintenance

Clean the receiver with a damp cloth or mild detergent. Avoid abrasive cleaners, petrol or other solvents.

Do not paint the receiver.

What is GPS ?

The US Government operates the GPS system. Twenty-four satellites orbiting the earth broadcast timing signals which are freely available to use. The positions of these satellites are constantly changing. The GPS receiver tracks signals from all satellites visible above the horizon and uses measurements from all satellites more than 10° above the horizon to calculate exactly where it is on earth. This is called the GPS position.

A GPS receiver can receive signals from the GPS satellites when it is almost anywhere on earth.

The receiver is accurate even at high speeds and accelerations.

What is Bluetooth ?

Bluetooth is an industry standard wireless network for linking peripherals to Bluetooth enabled portable computers or PDAs. Bluetooth is fast, economical

and uses little power. The GPS Bluetooth Receiver uses a Class 2 Bluetooth link, with a range of at least 10 m (33 ft).

2 The GPS Bluetooth Receiver

On/Off push switch

To turn GPS receiver on: press and release.

To turn off: press for half a second and release.

Indicator LED under On/Off switch

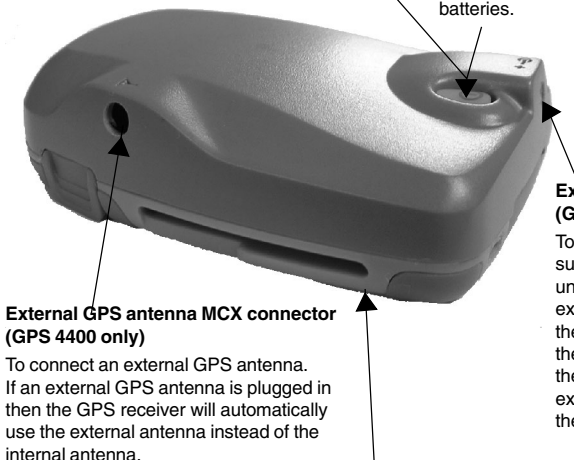
Off: GPS receiver power is off

Two blinks every 1.5 seconds: the receiver is not connected to a portable computer or PDA via Bluetooth.

Blink every 1.5 seconds: the receiver is connected to a portable computer or PDA via Bluetooth.

LED is blue: battery voltage is good.

LED is red: battery voltage is low, change the batteries.



External GPS antenna MCX connector (GPS 4400 only)

To connect an external GPS antenna. If an external GPS antenna is plugged in then the GPS receiver will automatically use the external antenna instead of the internal antenna.

External power supply connector (GPS 4400 only)

To connect an external 5 V DC power supply (such as the NAVMAN universal in-vehicle power cable). If an external power supply is plugged in then the receiver will automatically use the external power supply instead of the internal batteries. **Note:** the external power supply can not charge the internal batteries.

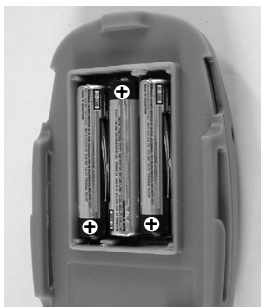
Internal batteries

To change or insert the batteries (change the batteries when the LED turns from blue to red)



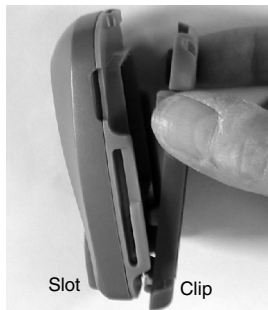
Remove back

Press the two lugs with your fingers and pull the back and main unit apart.



Fit batteries

Remove the old batteries. Insert 3 x new AAA alkaline cells or 3 x charged rechargeable AAA batteries. Observe the battery polarity shown above.



Replace back

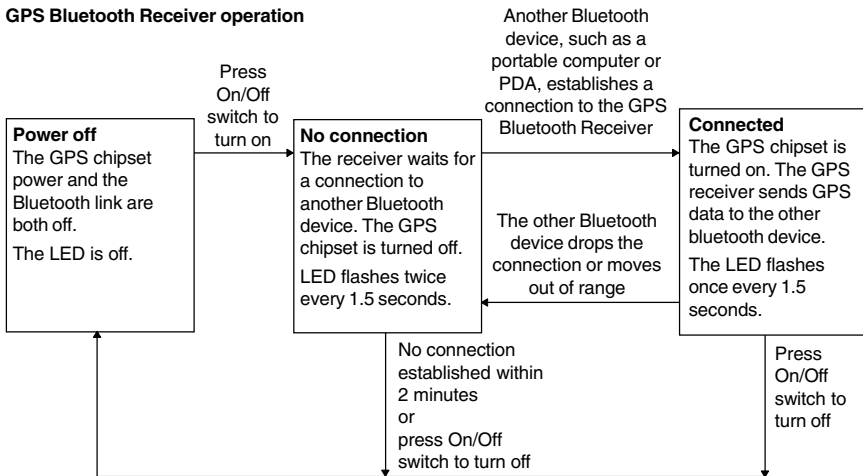
Insert the clip on the back into the slot on the main unit. Snap the back and main unit together.

3 Using the GPS Bluetooth Receiver

To use the GPS Bluetooth Receiver in a typical application (a portable computer or PDA running a navigation application):

- 1 When the navigation application is started, turn the GPS Bluetooth Receiver on by pressing the receiver On/Off switch.
- 2 If the navigation application is closed or the portable computer or PDA moves out of range of the receiver (about 10 m (33 ft)), then the receiver will automatically turn itself off after 2 minutes.
- 3 If the receiver LED changes from blue to red, change the batteries (see previous page).
- 4 When the navigation application is finished with, either press the receiver On/Off switch to turn the receiver off or allow the receiver to automatically turn itself off after 2 minutes.

GPS Bluetooth Receiver operation



Note

- When another Bluetooth device establishes a connection with the GPS Bluetooth Receiver, the receiver's GPS chipset is turned on.
- If the signals from the GPS satellites are blocked, for example in a tunnel, the receiver can not send GPS positions. When the block is removed, it might be a few seconds before the receiver calculates GPS positions again.
- **Pairing:** The GPS Bluetooth Receiver will

accept all requests to pair. The password is NAVMAN. However, the unit will not honour the pairing, and will establish a connection with any other Bluetooth device that requests a connection. This is because there is no way of manually cancelling pairing on the GPS Bluetooth Receiver.

4 What comes with your GPS Bluetooth Receiver



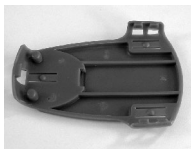
Main unit, with back



3 x AAA alkaline batteries



Universal in-vehicle power cable
(12 V DC to 5 V DC)



Vehicle mount suction cup and cradle



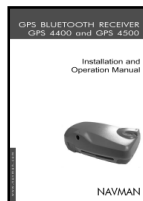
Two-sided permanent mounting tape



Arm band and lanyard



Magnetic mounting strip
(GPS 4500 only)



This manual

Other parts

The GPS Bluetooth Receiver can be powered by three optional rechargeable AAA batteries. Using rechargeable batteries requires a suitable external battery charger. The GPS Bluetooth Receiver does not recharge the internal batteries when it is connected to an external power supply.

5 Installing the GPS Bluetooth Receiver

The GPS Bluetooth Receiver has several mounting options:

- Suction cup, for example to attach the unit to the inside of a vehicle windscreen.
- Magnetic mount, to attach the unit to a metal surface, for example the roof of a vehicle (GPS 4500 only)
- Double sided tape, for permanent mounting.
- Armband, to attach the receiver to the user's arm.
- Lanyard, for holding the receiver.

Locating the GPS Bluetooth Receiver

Find a suitable location for the receiver:

- With as good a view of the sky and horizon as possible. The receiver can be under glass, perspex, fibreglass or fabric, but not under metal or wood.
- Where it will not obstruct your view; and will not interfere with the operation of the vehicle or the vehicle safety equipment.
- Accessible to change the batteries and operate the On/Off switch.
- Away from any source of electrical interference or noise.
- Away from excessive vibration or shock.
- Within 10 m (33 ft) of the Bluetooth device that the unit will connect to.
- A GPS 4400 is not waterproof and must be mounted where it will not get wet and where there will be no condensation.

If the GPS 4400 is mounted in the vehicle, the inside, top of the windscreen is usually a good location.

The GPS 4500 is waterproof. If the GPS 4500 is mounted on the vehicle, outside on the roof is usually a good location because the receiver has a good view of the sky. A GPS 4500 mounted on the roof will usually have better performance than a GPS 4400 mounted in the vehicle, because the metal roof will shield the receiver inside from the GPS signals.

TIP: If you are not sure if a location is suitable, mount the receiver temporarily and check that the receiver operates properly. Then mount the receiver permanently.

Installing the suction cup mount

- 1 Find a suitable location for the receiver (see above) on a smooth panel.
- 2 Use an alcohol swab to clean where the suction cup will be fitted.
- 3 Press the suction cup firmly onto the surface.
- 4 Slide the receiver into the cradle.

Installing the magnetic mount (GPS 4500 only)

- 1 Find a suitable location for the receiver (see above) on a smooth steel panel.
- 2 Use an alcohol swab to clean the depression on the back of the receiver and the panel where the receiver will be fitted.
- 3 Peel the backing from the magnetic patch and press it firmly into the depression on the back of the receiver.
- 4 Attach the receiver to the panel.

Installing the permanent mount

- 1 Find a suitable location for the receiver (see above) on a smooth panel.
- 2 Use an alcohol swab to clean the depression on the back of the receiver and the panel where the receiver will be fitted.
- 3 Peel the backing from one side of the double sided tape and press it firmly into the depression on the back of the receiver.
- 4 Peel the backing from the double sided tape and press the receiver firmly onto the surface.

Installing the armband

Thread the armband through the slots on either side of the back of the receiver.

Installing the lanyard

Push one end of the lanyard through the lanyard hole in the receiver case. Loop the end of the lanyard through the other side and pull it tight.

6 Specifications

Size

95 x 62 x 26 mm (3.7 x 2.4 x 1 in)

Weight

223 g (7.9 oz) (No batteries, without magnet base)

Case

UV stable plastic

Mounting options

- Suction cup
- Magnetic (GPS 4500 only)
- Double sided tape, permanent mounting
- Armband
- Lanyard

Internal batteries

3 x AAA alkaline supplied

Rechargeable AAA batteries can be used; the GPS Bluetooth Receiver does not recharge the internal batteries when it is connected to an external power supply.

External power supply (optional)

5 V DC, centre pin is positive

Low battery indication

The LED is blue when the battery voltage is above 3.2 V DC and red when it is lower.

Change the batteries when the LED turns red.

Operating temperature

-10 to + 60°C (14 to 140°F)

Standards compliance

Subject to approval

- EMC compliance
 - USA (FCC): Part 15 Class B, 15.247.
 - Europe (CE): EN301489, 300328-2
- Environment:
 - GPS 4500: IP43
 - GPS 4400: not waterproof

GPS antenna

25 x 25 x 4 mm (1 x 1 x 0.2 in) ceramic patch

GPS receiver

SiRF low power chipset

Bluetooth

Class 2

Bluetooth range

At least 10 m (33 ft) with no obstructions

Conditions of Sale & Manufacturer's Warranty

IMPORTANT: Some of the following terms and conditions vary from country to country. Please check with your NAVMAN dealer from whom you purchased your product.

A. Conditions of Sale

Except to the extent otherwise required by the laws of the country in which the accompanying product ("the product") is sold the manufacturer of the product NAVMAN NZ Limited ("NAVMAN") - has no liability in respect of the product beyond the warranty hereunder provided. Where liability may not be excluded but may be limited to repair or replacement or the supply of equivalent goods or for the payment of the cost of replacing the goods or of acquiring equivalent goods, liability is so limited.

B. Manufacturer's warranty

Warranty Period - 1 year from the date of purchase.

Extent of warranty - Subject to the following conditions NAVMAN will rectify any defect occurring in the product of which notice in writing is received by NAVMAN or its approved distributor within the Warranty Period.

Conditions:

- 1 Repairs may only be carried out by a Service Centre approved by NAVMAN.
- 2 Repairs as above will be carried out at no cost to the owner subject to these conditions.

- 3 The cost of returning the goods to an approved dealer shall be met by the owner.
- 4 Warranty does not extend to accessories or defects or injuries caused or resulting from causes not attributable to faulty parts or the manufacturer of the product including, but not limited to, defect or injuries caused by or resulting from misuse, abuse, neglect, accidental damage, incorrect installation, water damage, use of consumables other than those approved by NAVMAN or any alterations to the product not approved by NAVMAN.
- 5 No warranty claim accepted without sales documentation.
- 6 NAVMAN may, at its discretion, replace the product instead of repairing it.

C. Acceptance of Conditions of Sale

In consideration of this warranty the purchaser accepts the limitations of liability as set out in the conditions of sale.

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