Introduction

Overview

The Fortuna Bluetooth GPS receiver is a Global Position System Receiver with Bluetooth wireless technology and SirF Xtrac technology. This Bluetooth GPS receiver allows you to receive GPS data on mobile handheld wirelessly. By sending GPS position data over Bluetooth, you can position with receiver for the best possible reception all without wires. The advent of Bluetooth GPS receiver will become the next level of GPS receivers. The SirF Xtrac technology is GPS software that can acquire and track lower signals than any other autonomous software solution. This means that it will enable the device to continue provide positions in places previously not possible.

The Fortuna Bluetooth GPS receiver integrants Bluetooth module into GPS device, it shows the high performance, high sensitivity, low power consumption, easily portable, rechargeable& removable battery function and wireless data transmission. If you have a Pocket PC or other portable devices enabled with Bluetooth function, for example Ipaq 3870/3970 and O2 XDA, you can take advantage of your device's Bluetooth capability to wirelessly add GPS positing technology. When you choose suitable navigation software, you can apply to personal, vehicle tracking, and marine navigation.

If you use this Bluetooth GPS receiver, you will ignore the messy cords and antenna and add the portability of your pocket PC. In addition, This Bluetooth GPS receiver can change the exhausted battery to full battery like battery of mobile phone.

Main Features

12 Channels " All-In-View" Tracking

XT – (SirF Xtrac) and ST – (Standard mode) Switch able (Fortuna Patent Pending)

Position accuracy of 10 meters 2D RMS

Cold/ Warm/ Hot Start Time: 45/38/8 Seconds

Reacquisition Time: 0.1 seconds

RF connector for external GPS antenna

Support Standard NMEA-0183 at 38400 bps baud rate

Support WAAS / EGNOS auto switch

Compatible with Bluetooth devices with Serial Port Profile (SPP)

Superior Sensitivity for Urban Canyon and Foliage Environment

Small, sleek, and lightweight design easily fits in your hand

Three LED at the top of the device show Bluetooth, GPS and Power Status.

Detachable Lithium-Polymer battery lasts for more than 7.5 hours of use

On/Off Switch button

Dimension: L= 74 mm X W= 41.5mm X H= 30 mm

Technical Specifications

Electrical Characteristics

General

Chipset	SiRF Star Ile/LP; SiRF Xtrac
Frequency	L1, 1575.42 MHz
C/A code	1.023 MHz chip rate
Channels	12 channel all-in-view tracking
Antenna Type	Built-in Ceramic patch antenna (External antenna optional)

Accuracy

Position	10 meters, 2D RMS
	7 meters 2D RMS, WAAS corrected
	1-5 meters, DGPS corrected
Velocity	0.1 meters/ second
Time	1 microsecond synchronized to GPS time

Datum

Default	WGS-84

Acquisition Rate(Open sky, stationary) Standard Mode

Reacquisition	0.1 sec., average
Snap start	2 sec., average
Hot start	8 sec., average
Warm start	38 sec., average
Cold start	45 sec., average

Acquisition Rate (Open Sky, Stationary) Xtrac Mode

Reacquisition	100 msec
Continuous	1 sec.
Hot Start	<4 sec.
Warm Start	<35 sec.
Cold Start	<45 sec.

Sensitivity XT Mode

Tracking	16dB-Hz
Hot Start	23dB-Hz
Warm Start	28dB-Hz
Cold Start	32dB-Hz

Dynamic Conditions

Altitude	18,000 meters (60,000 feet) max.
Velocity	515 meters/second (1000 knots) max.
Acceleration	4g, max.

Power

Operational Power	3.3 VDC ±10%
Input Power	5VDC ± 10%
Battery Source	rechargeable and removable lithium Polymer battery with 5V DC input charging circuit (1200 mA)
Operation Time	7.5 hours continuous operating after full charge
Battery Charge time	3 Hours Approx.

Main Interface

Connection:	Communication with host platform via Bluetooth Serial Profile
Protocol messages	NMEA 0183 output protocol
Baud rage:	38400 bps
Data bit:	8
Stop bit:	1
Output format:	GGA (1 sec), GSA (1 sec), GSV (5 sec), RMC (1 sec), VTG (1 sec)

Environmental Characteristics

Operating temperature range	-20°C to +60°C
Humidity range	5% to 95 % No condensing

Physical Characteristics

Length	74 mm
Width	41.5 mm
Height	30 mm
Weight	95g

Applications

Fortuna GPS Bluetooth receiver is a high performance, low power consumption product. The product applications are as follow.

Vehicle Tracking & Location-based Services
Personal/ Portable Navigation
Car Navigation
Marine Navigation

Operation and Test

Hardware Description

LED	Light	Status	Description
GPS	Red	Not Fix / ST Mode	Standard mode, GPS is searching for Satellites
	Green	Fix / ST Mode	Standard mode, GPS is Fix, ready for Navigation
	Orange	XT mode	Xtrac mode Activated
BT	Blue	Blinking	Bluetooth function linking and Transferring data
Power	Red	Power low	Battery is low power status
	Green	Normal	Battery is in normal status
	Orange	Charging	Battery is charging

"Dual Mode" Hardware Switch

ST - (Standard)

Recommended usage: When using the ST Mode we recommend the user to use it under clear open sky condition for car navigation.

XT - (Xtrac)

Recommended usage: When using the XT Mode we recommend the user to use it under more crowed environment. For example cover garages, multi-level roads, dense foliage cover, and many indoor environments.

Caution

1. When switch between the ST mode and XT mode the user must turn off the BT GPS device.
2. When using XT mode on a high-speed environment some delay will be visible.
3. After the GPS device change to XT or ST mode the unit will automatically switch to cold start.

BT Setting for PC or NB

Before you use GPSmart BT connect with PC or NB, you need to have Bluetooth driver and Bluetooth device for PC or NB.
Please turn on Bluetooth function in GPSmart BT. As follow:

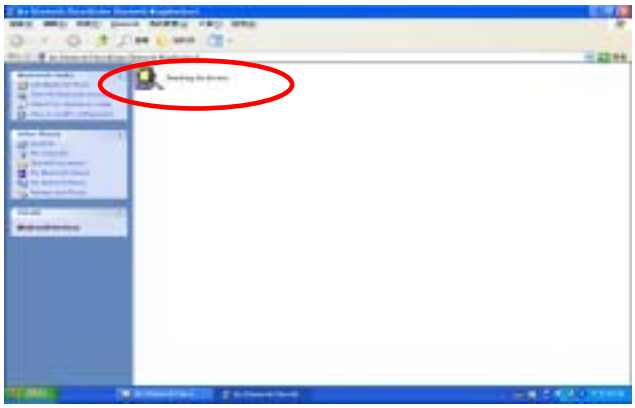
The follow steps of setting Bluetooth function in PC or NB.

(1) Enter in “Bluetooth Configuration” and select “ My Bluetooth Place Neighborhood”.

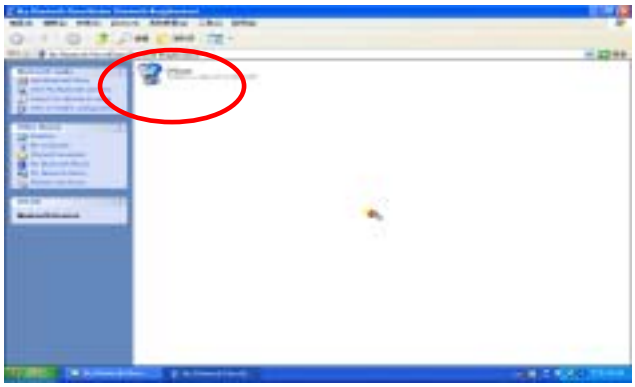

Bluetooth Configuration

(2) In “ My Bluetooth Place”, you will see “ Entire Bluetooth Neighborhood”. Then, you have to press right button of mouse to open “ SPP Slave” window.

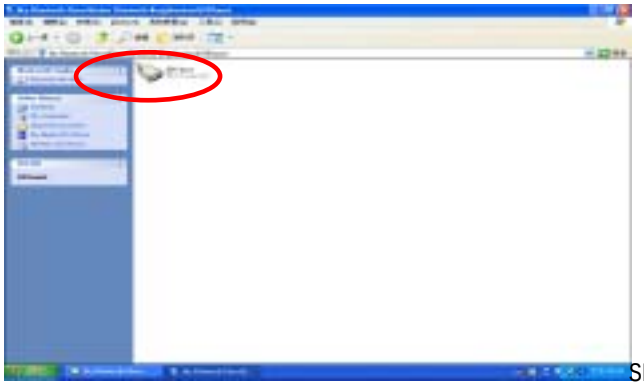
(3) It will search GPSmart BT devices in range.



(4) After enter “ GPSmart”, the screen will display “ SPP Slave”.



(5) Then, enter “ SPP Slave”, it will display “ Bluetooth Connection Request Detected”.



SPP Slave Window

(6) It will display “ Bluetooth Connection Request Detected “ window.

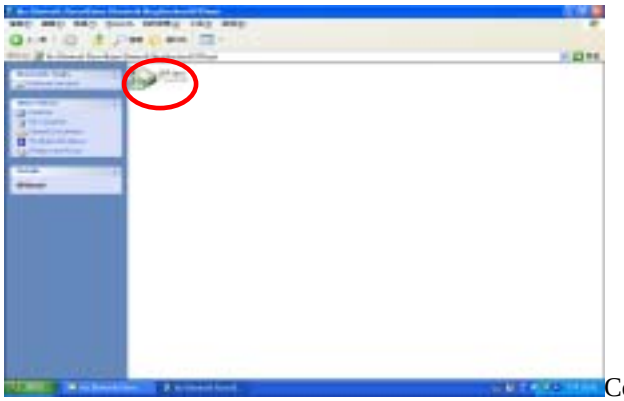
Bluetooth Passkey Request

(6) The Bluetooth passkey is “ 0000”, please enter “0000” in Bluetooth Passkey Request.

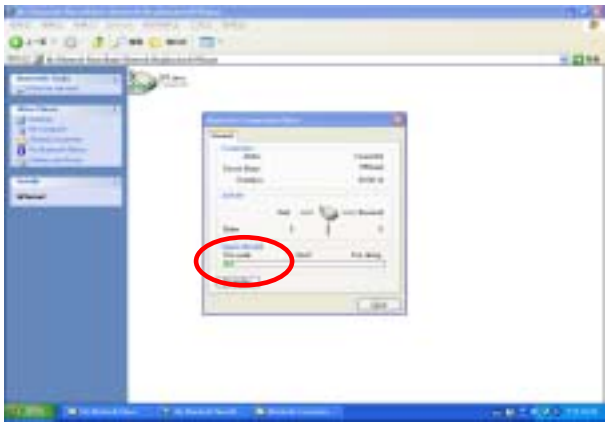
 Enter passkey

(7) Then, it will display confirm window.

(8) It indicates GPSmart BT is connecting.


Connect Bluetooth

(9) You can view signal strength in status of “ SPP Slave”.



FCC&CE Compliance Statement

The Clip-On Bluetooth GPS complies with Part 15 of FCC limits for Class B (DoC). This device has been shown to be in compliance with and was tested in accordance with the measurement procedures specified in the standards Specification listed above and as indicated in the measurement report number :02E0549-D. This product is for home and office use only.

FCC RF Exposure requirements:
This device and its antenna(s) must not be co-located or operation in conjunction with any other antenna or transmitter.

NOTE: THE MANUFACTURER IS NOT RESPONSIBLE FOR ANY RADIO OR TV INTERFERENCE CAUSED BY UNAUTHORIZED MODIFICATIONS TO THIS EQUIPMENT. SUCH MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.