# *** USER'S MANUAL ***

## FCC ID : SHBBS4100

# The Federal Communication Commission Statement

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 instruction, may cause harmful interference to radio communication. 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 of more of the following measures: -

- **Reorient or relocate 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.**

Use only shielded cables to connect I/O devices to this equipment. You are cautioned that change or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS: (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERECE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION.

1. This device may not cause harmful interference and
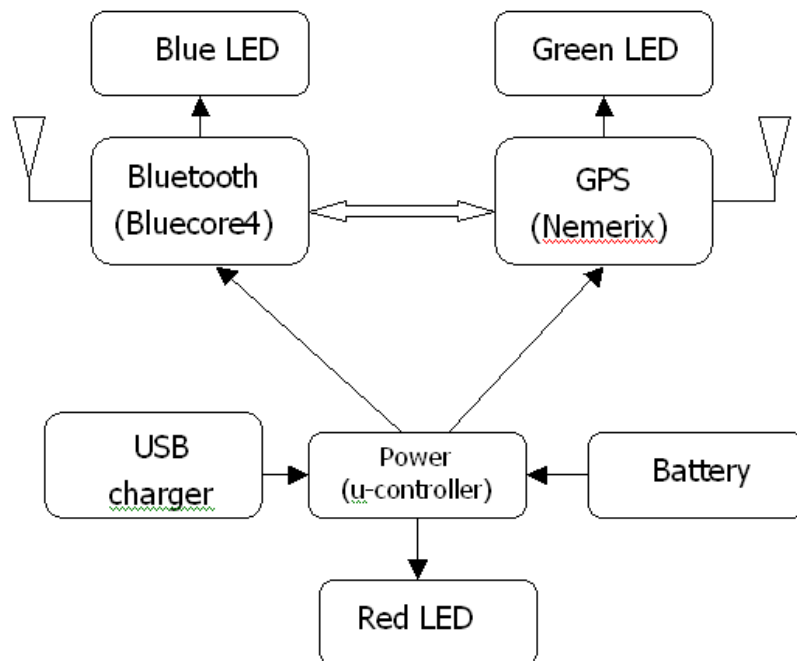2. This device must accept any interference received, including interference that may cause undesired operation.

# Content

# 1. Product Introduction

## 1.1 Overview

RoyalDigital wireless BS4100 GPS receiver is designed with tack switch which makes users power on and off the device easily. The dimension is 79mm(L) x 50mm(W) x 17mm(H) and weight only 68 g, making it an ideal solution to carry everywhere. The following flow chart is the system block diagram.



## 1.2 Main Feature

- 79 channels
- NMEA0183 compliant protocol
- Quick TTFF：      Cold    45sec

                       Warm    34sec
- External Antenna：    MMCX connector
- Built-in active antenna
- Static Accuracy  ：     3.0m (without WASS, Static CEP 95)

## 1.3 Product Notification

- ➢ Operating temperature        -10 ℃ to +60 ℃
- ➢ Storage temperature        -40 ℃ to +85 ℃
- ➢ 20hr at full charge continuous operation mode
- ➢ Humidity range up to 95% no condensing

## 1.4 Application

- ➢ PDA and cellular Phone Navigation
- ➢ Consumer wireless GPS
- ➢ Automotive Vehicle Tracking
- ➢ Personal Positioning
- ➢ Sporting and Recreation

# 2. Before Start

## 2.1 LED Display

- ➢ Green LED indicates the status of the GPS
- ➢ Blue LED indicates the status of Bluetooth connectivity
- ➢ Red LED indicates the status of the battery

## 2.2 Hardware Feature

## 2.2.1 Power Switch

RoyalDigital wireless GPS receiver is designed with tack switch which makes users power on and off the device easily.

## 2.2.2 Power Jack

With the USB type power jack, users can charge the device through charger, laptop or desktop.

## 2.2.3 Bluetooth Status LED (Blue)

- ✧ Blue light off: The wireless GPS receiver is waiting for other Bluetooth

device to link.
- ✧ Blinking Blue light: The wireless GPS receiver is transmitting data over Bluetooth.

## 2.2.4 GPS Status LED (Green)

- ✧ Blinking Green light: The wireless GPS receiver is powered on and receiving satellite signals.
- ✧ Constant Green light: The position is fixed.

## 2.2.5 Battery Status LED (Red)

When using battery as power source

- ✧ Blinking Red light: The rechargeable Li-Ion battery is in low battery mode.
- ✧ Red light off: The rechargeable Li-Ion battery is normal.

When charging the Li-ion battery
- ✧ Constant Red light: The rechargeable Li-Ion battery is being charged.
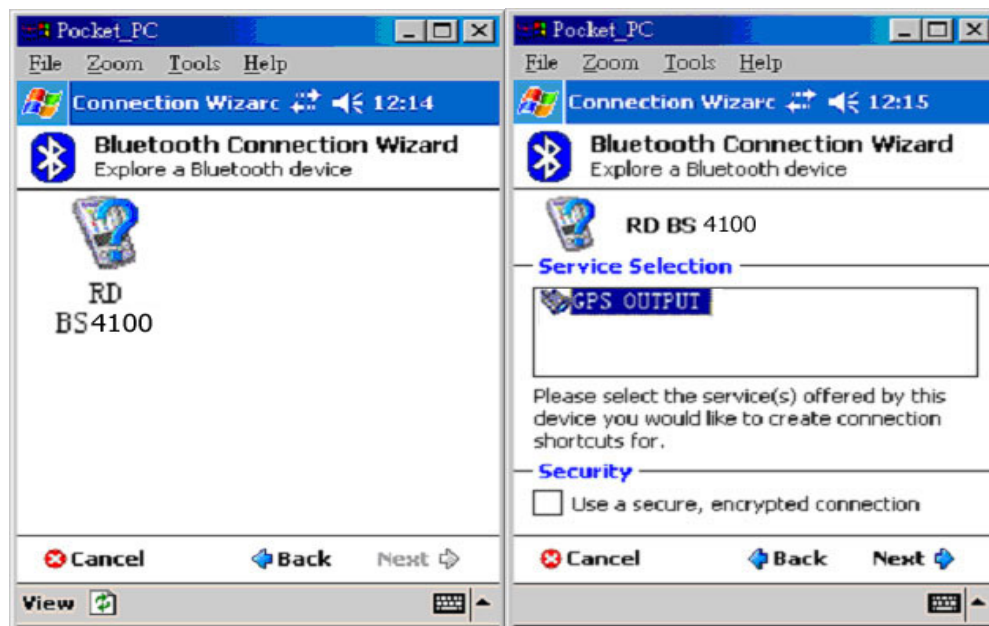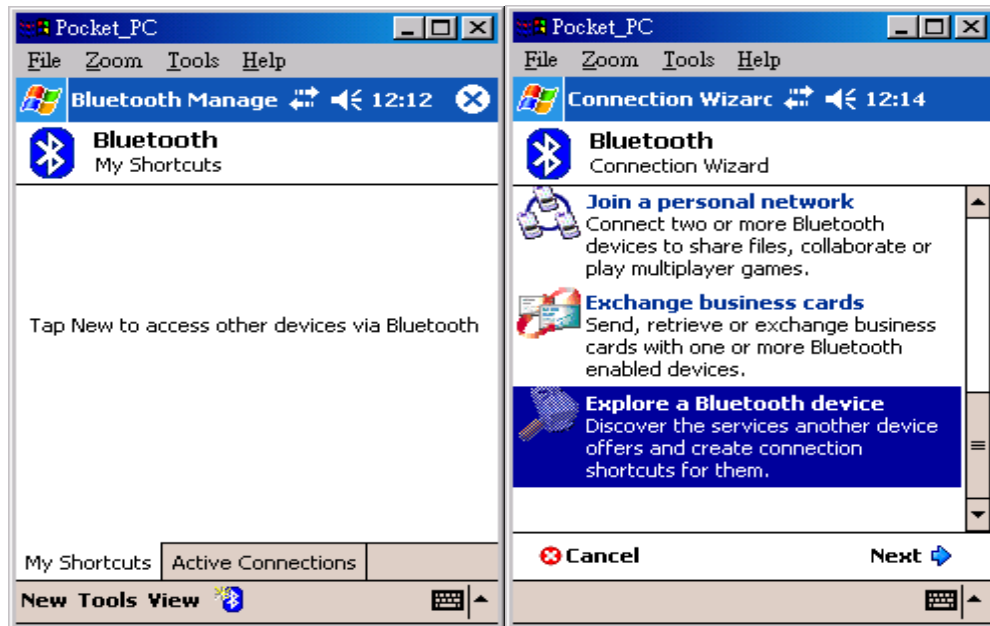- ✧ Red light off: The battery is fully charged.

## 2.3 Getting Start

It is recommended to charge the rechargeable Li-Ion battery over 8 hours until the red LED light goes off before your first usage of wireless GPS receiver. (Note: Only the first usage of wireless GPS receiver requires 8 hours battery charging. This action can make longer Li-on battery life time. Normally, it takes about 4.5 hours to fully charge the battery.)
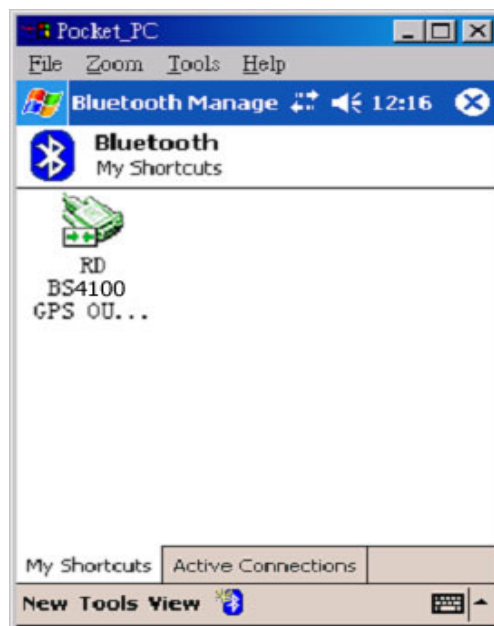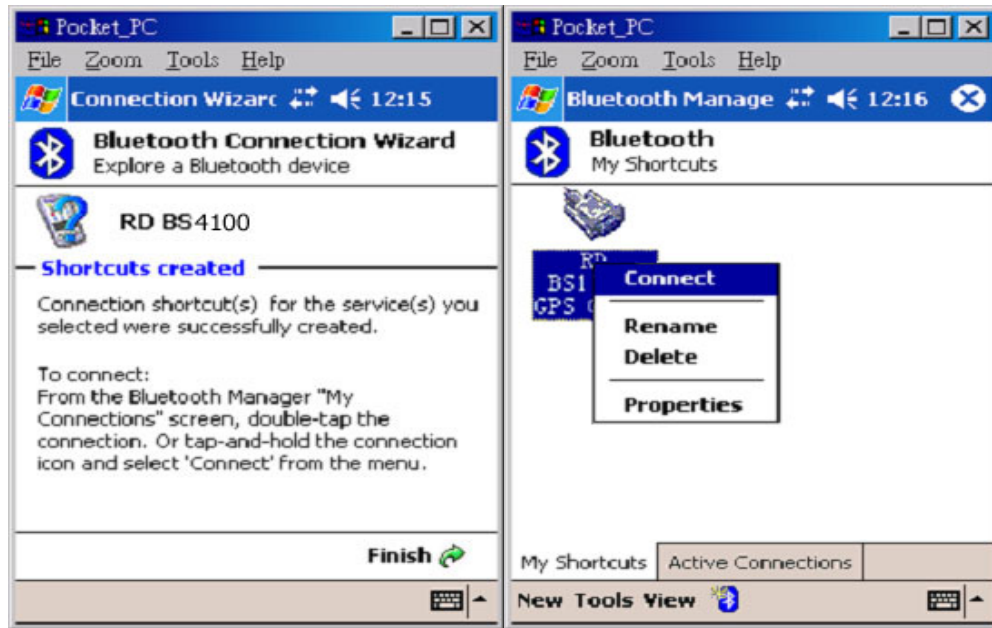
## 2.3.1 Step 1: Power on wireless GPS receiver

Please place the wireless GPS receiver under the open sky without obstruction to ensure a better signal reception. Turn on the power and the green light will be blinking, which means the wireless GPS receiver is searching for GPS satellites and waiting to be linked by other Bluetooth devices, such as PDA, PC, Notebook, Handheld PC, smart phone or other Bluetooth devices supporting SPP (Serial Port Profile).

## 2.3.2 Step 2: Link to Bluetooth device

Before linking the wireless GPS receiver with your host Bluetooth device, please make sure your host Bluetooth device supports SPP (Serial Port Profile). Please activate the Bluetooth Manager on your host Bluetooth device (we take Pocket PC PDA as example here) and refer to the following steps to link up the wireless GPS receiver. When your host Bluetooth device links to the wireless GPS receiver successfully, the Blue LED light will be blinking. If your host Bluetooth device requests a PIN code, please key in "1234".

### 2.3.3 Step 3: Navigate

Install your navigation software to your host Bluetooth device. After installation, please start the navigation system and set the correct COM port for your navigation software. Please note that different host Bluetooth devices may request different COM port. Please refer to the user manual of your host Bluetooth device and set the correct COM port. The baud rate is "9600" bps.

## 2.4 FCC Notices

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference
(2) This device must accept any interference received, including interference that may cause undesired operation.

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.