

# UMA Wireless GPS Receiver

## User Guide

Ver. 1.4



COMPANY NAME:

**RoyalDigital Inc.**

PRODUCT NAME:

**UNA wireless GPS receiver (BS1100)**

ISSUED DEPT.:

**Product Development Division**

DOCUMENT TYPE:

**Tech. Description**

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## Overview

UMA wireless GPS receiver is an ultra compact GPS receiver with Bluetooth interface. The dimension is 62mm (L) x 47mm (W) x 18mm (H), and the weight approximates 70g (including rechargeable Li-Ion battery). UMA wireless GPS receiver has excellent performance such as high GPS sensitivity. After its rechargeable Li-Ion battery is fully charged, UMA wireless GPS receiver can be used up to 8 to 10 hours.

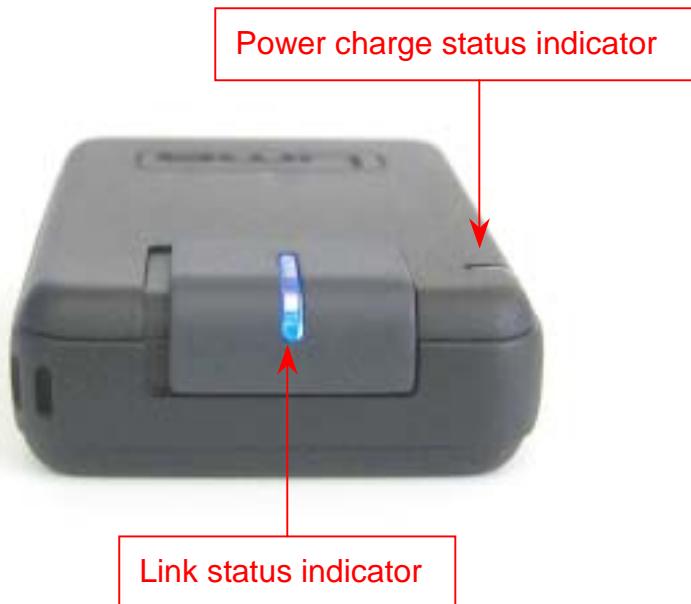
## Power Switch, Power Jack

The large power switch makes users power on the UMA wireless GPS receiver easily. The power jack of UMA wireless GPS receiver is compatible with many kinds of the PDA. UMA always knows what friendly design is.



## Status indicator

The simple status indicator makes you easily understand the status of UMA wireless GPS receiver.



- Link status indicator
  - Blinking blue light:  
Blinking blue light indicates your Bluetooth device is powered on but unlinked.
  - Constant blue light:  
Constant blue light indicates your Bluetooth device is linked.
- Power charge status indicator
  - Red light:  
Red light indicates the rechargeable Li-Ion battery is being charged.
  - Green light:  
Green light indicates the rechargeable Li-Ion battery is fully charged.

## Let's get starting

Before your first use of UMA wireless GPS receiver, please fully charge the rechargeable Li-Ion battery over 8 hours until the power charge status indicator shows green light (Note: Only the first use of UMA wireless GPS receiver requires over 8 hours of battery charge. Normally, it takes about 3.5 hours to charge the battery).

### **STEP 1: Power on UMA wireless GPS receiver**

Please put UMA wireless GPS receiver under in a place with open sky and turn on the power switch. As the status indicator blinks blue light, UMA wireless GPS receiver starts searching GPS satellites and waiting for the Bluetooth link with the host Bluetooth device such as PDAs, PCs, handheld PCs, smart phones, or other Bluetooth devices which support SPP(Serial Port Profile).

### **STEP 2: Link to your other Bluetooth device**

Before you start linking UMA wireless GPS receiver with your host Bluetooth device, please make sure that your host Bluetooth device supports SPP (Serial Port Profile), which is one of the Bluetooth profiles.

Please refer to the user manual of your host Bluetooth device and link it with UMA wireless GPS receiver step by step.

When your host Bluetooth device links with UMA wireless GPS receiver successfully, the status indicator shows constant blue light.

If your host Bluetooth device requests a “ PIN code “, please key in number “ 0000 “.

### **STEP 3: Navigate**

Install your own navigation software in your host Bluetooth device. Run the navigation software, and set the correct Bluetooth COM port for your navigation software. Please note that different host Bluetooth devices may have different correct COM ports. Please refer to the user manual of your host Bluetooth device and set the right Bluetooth COM port. The connection speed is 9600 bps.

## How to replace rechargeable Li-Ion battery

Take off the bottom cover of UMA wireless GPS receiver and remove the rechargeable Li-Ion battery.

UMA wireless GPS receiver uses "NP-40" rechargeable Li-Ion battery which is also used by many kinds of digital cameras, such as Pentax, Fujifilm. The battery is available and easy to get in the market.



The "NP-40" rechargeable Li-Ion battery is also used by the following digital cameras,

FujiFilm FinePix : F402 / F710 / F610 / F601Z / 50i / F401Z / 1400 / 2300 / 2400

PENTAX OPTIO : 430RS / 330RS / 430 / 330 / S4 / S4i

Ricoh Caplio : RR30 / RR10

Panasonic : SV-AV10

### CAUTION

Risk of explosion if battery is replace by an incorrect type.

Dispose of used batteries according to the instructions.

## **How to use clip**

UMA also provides a practical accessory for UMA wireless GPS receiver- clip. You can clip the receiver to your waist belt, arm belt or anywhere you like with this clip when you are driving, walking, jogging, cycling, mountain climbing, or in other outdoor activities. The clip will make users easy to enjoy navigation anytime and anywhere.



## UMA wireless GPS receiver specification

### Mechanical specification

Size	Typical 62mm(L) x 47mm(W) x 18mm(H)
Weight	Typical 70g (with Rechargeable Li-Ion Battery)

### Temperature requirements

Operating temperature	-10 °C to +60 °C
Storage temperature	-40 °C to +85 °C

### Power supply

Main Power	Rechargeable Li-Ion Battery .3.7V
Battery charge Power	5 VDC / 500mA
Power Consumption	Typical 80mA (Tracking mode with Bluetooth™ connection)

### Communication Interface

Compatible with Bluetooth™ devices with Serial Port Profile (SPP)

Bluetooth™ Class 2 operation (up to 10 meter range)

Bluetooth™ Specification version 1.1 compatible

Frequency 2.400 to 2.480 GHz

Input Sensitivity -80dBm

Output Level: 4dBm

### Communication Data

GPS Data Update Rate	1 /sec
Map Datum	WGS-84
NMEA Data format	NMEA0183 v3.0
NMEA Data Sentences	GSV, GGA, RMC, GSA, GLL, VTG

### Built-in Antenna

GPS	Patch Antenna
Bluetooth™	Chip Antenna

## **Acquisition Time (TTFF)**

TTFF COLD (95%)	50 sec
TTFF WARM (95%)	35 sec
TTFF HOT (95%)	8 sec

\*\* Location: Open Sky (Mask Angle: 7) and use simulator STR4500, -130dBm signal level

## **Reacquisition Time**

Obscuration time 10 sec	Typical 1 sec
Obscuration time 60 sec	Typical 5 sec
Obscuration time 300 sec	Typical 8 sec

## **Position accuracy**

10 meters CEP

\*\* Condition : without SA, HDOP<2.5, static

## **Dynamics**

Speed	515 m/s, max
Altitude	18,000 m max

## **Sensitivity**

Tracking sensitivity	-153 dBm
Navigation sensitivity	-147.5 dBm

## **FCC Statement**

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Notice: Any changes or modification not expressly approved by the party responsible could void the user's authority to operate the device.

## **Contact Information**

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