



BT-Q818 eXtreme Super 51-CH Bluetooth® GPS Receiver



BT-Q818 **eXtreme**

# Super 51-CH Performance Bluetooth GPS Receiver

Wired, Wireless Navigation, and eXtreme Sport Mode TRIPLE-IN-ONE



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## 1. Overview

Thank you for choosing Qstarz **BT-Q818eXtreme** Super 51-Channel **Bluetooth** GPS Receiver, built-in new generation GPS chipset MTK with 51 channels tracking, provides hyper performance to meet the market's expectation by fastest position fix with its high speed calculating technology. Ultra low power consumption allows you to navigate up to 32 hours which is much longer than SiRF Star III. Furthermore, it combines wireless **Bluetooth** and wired G-Mouse functions for your convenience plus 1~5Hz adjustable compatibility giving you even higher positioning and accuracy purpose during eXtreme sports.

## 2. Package Content

- (1) GPS Unit BT-Q818eXtreme
- (2) Lithium-ION Rechargeable Battery
- (3) Cigarette Adapter
- (4) mini USB Cable
- (5) Travel Charger (Optional)
- (6) Driver CD
- (7) User's Manual
- (8) Warranty Card

1. 	2. 	3. 	4. 
5. (Optional) 	6. 		

### 3. Product Specification

General	
GPS Chip	MTK GPS Module
Frequency	L1, 1575.42MHz
C/A Code	1.023MHz chip rate
Channels	51-CH Performance Tracking
Antenna (Internal)	Built-in patch antenna with LNA
Sensitivity	Tracking -158dBm
Datum	WGS84
Performance Characteristic	
Position	Without aid: 3.0m 2D-RMS
Accuracy	<3m CEP(50%) without SA (horizontal) DGPS (WAAS, ENGOS, MSAS): 2.5m
Velocity	Without aid: 0.1m/s, DGPS (WAAS, ENGOS, MSAS): 0.05m/s
Time	50 ns RMS
Cold/Warm/Hot Start	36/33/1 sec, average
Dynamic Condition	
Altitude	<18,000m
Velocity	<515m/sec
Acceleration	<4g
Protocol	
GPS Output Data	Protocol: NMEA 0183 (V3.01) -GGA, GSA, GSV, RMC
Baud Rate	115,200 bps
Power	
Built-in rechargeable Li-ion battery, Up to 32 hrs after fully charged	
Bluetooth	
Standard	Fully compliant with <i>Bluetooth</i> V1.2
<i>Bluetooth</i> Profile	Serial Port Profiles (SPP), Up to 15 meters
Others	
Size / Weight	72.2 (L) X 46.5 (W) X 20 (H) mm / 64.7g (battery included)
Operating Temperature	- 10 °C to + 60 °C
Storage Temperature	- 20 °C to + 60 °C
Charging	0 °C to + 45 °C

## 4. Main features

- Adopt MTK chipset with high sensitivity to -158dBm
- Up to 32hrs operating time for GPS navigation
- Fast Position Fix ,Cold start 36s, Warm start 33s, Hot start 1s
- G-Mouse + *Bluetooth* in one: wired and wireless GPS receiver
- Adjustable 1~5Hz update rate for the demand of eXtreme sports
- Smart power control – Auto On-Off function
- Compatible with *Bluetooth* Serial Port Profile (SPP) in 10m wirelessly

## 5. Introduction

### 5-1. Appearance

1. Power jack (mini USB type)
2. Mode switch (OFF/NAV/USB)
3. Battery status LED (Red/Green)
4. *Bluetooth* status LED (Blue)
5. GPS status LED (Orange)
6. Internal antenna



## 5-2. Battery installation

### - Put Battery in place:

1. Press the **PUSH** button on the bottom side of the unit



2. Pull out the battery cover. Insert battery in the unit



3. Put battery cover on to the cabinet



4. Then push down and force it forward to fit firmly



**- Take Battery out:**

1. Press the **PUSH** button on the bottom side of the unit



2. Pull out the battery cover



3. Then take out the battery from the unit.



## - Charging your battery




For the first time using the BT-Q818eXtreme, please charge battery until it is fully charged. Take the power cable and connect it to the power jack (mini USB type) and recharge through travel charger or car cigarette adaptor. This will begin to charge the battery. Charging time is 3 hours typically.



- When the Power LED is Red, battery power is low status. Please recharge.
- When the Power LED is Green, the battery is under charging mode.
- When the Power LED is blinking, the battery is fully charged.

**NOTE: The Cigarette Adaptor can only be used to charge BT-Q818eXtreme. Please don't make use of it with devices other than BT-Q818eXtreme.**

## 5-3. LED Indicators

LED Status		Flash	ON	OFF
<b>Power</b> (Red/Green)		Low Power (Red) Fully charged (Green)	Recharging (Green)	
<b>Bluetooth</b> (Blue)		<u>Flash per 2 sec.:</u> Bluetooth connected and transmitting Mode <u>Flash per 5 sec.:</u> Power saving mode	Not connected/Pairing	GPS not powered / USB
<b>GPS</b> (Orange)		GPS position is fixed, Navigation	Detecting Satellite, GPS position not fix	GPS not powered

## 5-4. Function of Auto On-Off (Power saving mode)

BT-Q818eXtreme supports **Auto On-Off** (Power saving mode). It can automatically enter sleeping mode after the *Bluetooth* connectivity is turned off, so the Blue LED will turn to flash every 5 seconds. Thus you can always power it on with very low



BT-Q818 eXtreme Super 51-CH Performance Bluetooth® GPS Receiver power consumption.

Under power saving mode, when detecting *Bluetooth* is being connected, BT-Q818eXtreme will auto wake up itself and the blue LED will turn to flash every 2 seconds and GPS Orange LED will be also On.

***Note: Power saving mode would not function under G-Mouse mode.***

## **6. Start to use**

### **6-1. Fully charge the battery when using at the first time**

A fully charged battery can last for 32 hours continuously operation (under optimum conditions).

### **6-2. Activate the *Bluetooth* function in your PDA/Smart phone or PC**

Before activating the *Bluetooth* function in your PDA/PC, please switch on BT-Q818eXtreme Receiver for pairing and check if your device is equipped with *Bluetooth* function. If not, you may need to acquire an optional CF/SD *Bluetooth* card or *Bluetooth* dongle.

#### **NOTE 1:**

***BT-Q818eXtreme would be identified as "iBT-GPS" under Bluetooth Manager. In further use, you just need to click it to connect to this Bluetooth GPS Receiver.***

#### **NOTE 2:**

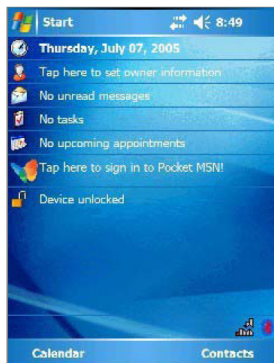
***The pairing procedure is required to execute in the first time only. And the pass code is "0000" if required.***

#### **NOTE 3:**

***Select correct com port and baud rate: 115,200 under your navigation software (Most of navigation software can auto-detect Bluetooth Com port, so you do not need to setup manually).***

### 6-3. Create *Bluetooth* Setting (Windows Mobile 5 for Pocket PC)

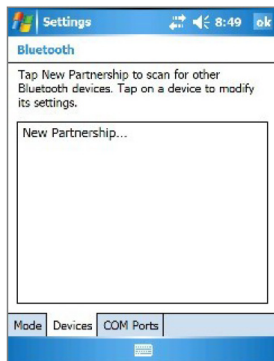
1. Switch BT-Q818eXtreme to NAV mode.
2. Click the **Bluetooth** icon at the bottom.



3. Check **Turn on Bluetooth**.



4. Click the **Devices** tab, and then click **New Partnership**.

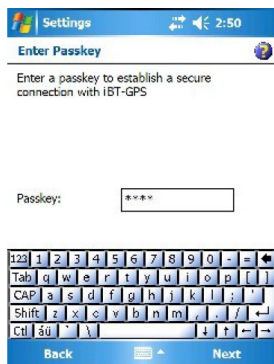


5. System will search for all *Bluetooth* devices.

6. Select **iBT-GPS** device, and click **Next**.



7. Enter Passkey “0000” if required, and then click **Next**.



8. Check **Serial Port**, and then click **Finish**.



9. The **iBT-GPS** device will be established in the list.



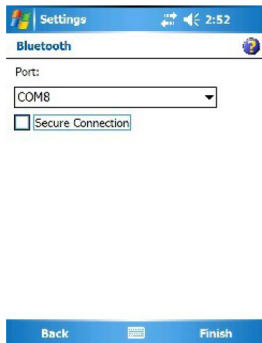
10. Click the **COM Ports** tab, and select **New Outgoing Port**.



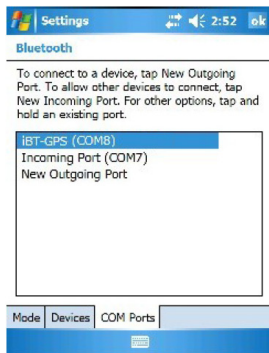
11. Select the **iBT-GPS**, and then click **Next**.



12. Uncheck **Secure Connection**, and select a COM port (for example, COM 8) from the **Port:**. Then click **Finish**.

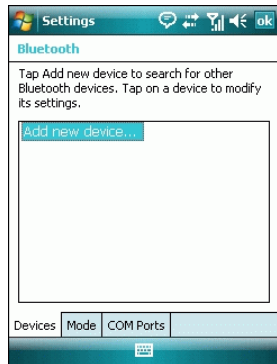


13. The **iBT-GPS** with its COM port will be shown on the list.



## 6-4-1. Create *Bluetooth* Setting (Windows Mobile 6 for Pocket PC)

1. Switch BT-Q818eXtreme to NAV mode.
2. From the **Start** menu, click **Settings**. On the **Connections** tab, click the *Bluetooth* icon
3. On the **Devices** tab, click **Add New Device...**  
The settings application will search for your device.  
When it is found, click **Next**.

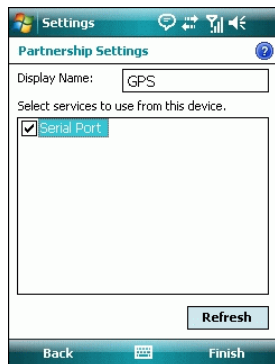


4. Enter the passcode "0000" and click **Next**.

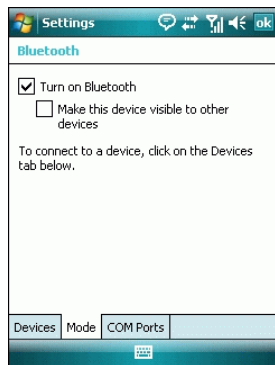




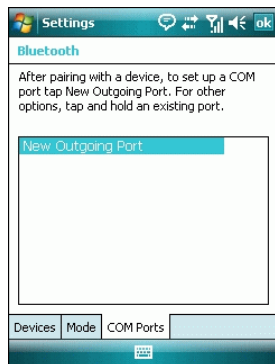
5. On the **Partnership Settings** screen, select **Serial Port** and click **Next**



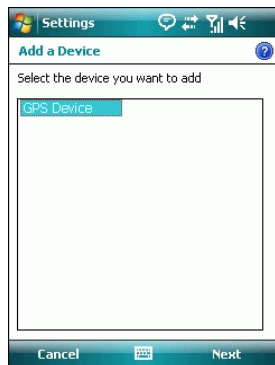
6. Select the **Mode** tab and check the **Turn on Bluetooth** checkbox if it is not already checked.



7. Select the **COM Ports** tab and click **New Outgoing Port**

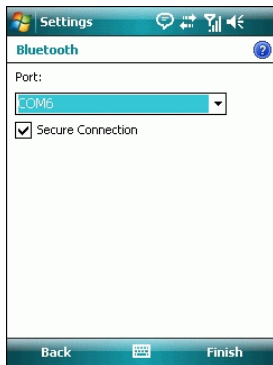


8. Select "iBT-GPS" from the **Add a Device** list and click **Next**



9. From the **Port** drop-down list, select a port number. Remember the port you choose. You will need it when you configure the GPS Intermediate Driver.

10. Click **Finish** and exit the *Bluetooth Control Panel* item.

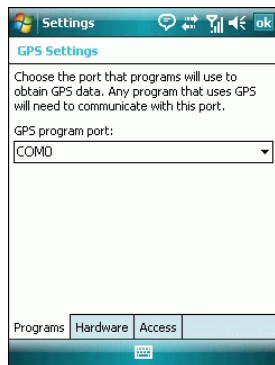


## 6-4-2. Configure the GPS Intermediate Driver with the GPS Settings icon

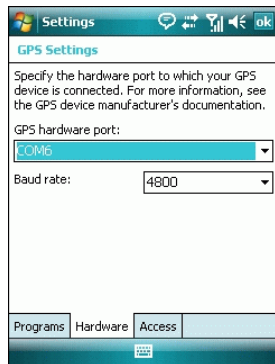
The GPS Intermediate Driver is a software layer between a Windows Mobile application and the GPS hardware drivers. This allows applications to work with a variety of GPS hardware. The GPS Intermediate Driver uses the registry to determine what COM port should be used to communicate with the GPS hardware. The recommended way to configure the registry to work with your GPS device is the GPS Settings icon

1. From the **Start** menu, click **Settings**. On the **System** tab, click the **External GPS** icon. On some devices, this item has a different name.

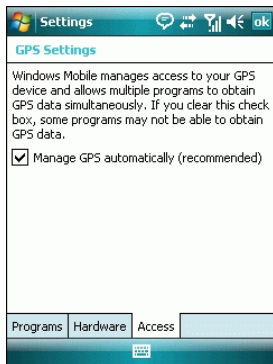
2. On the **Programs** tab, select any available COM port from the **GPS Program Port** drop-down list. The GPS data sent through the GPS Intermediate Driver is streamed to applications through this port. This should not be the same port that your GPS receiver is configured to use.



3. On the **Hardware** tab, select the COM port BT-Q818eXtreme is configured to use from the **GPS Hardware Port** drop-down list



4. On the **Access** tab, make sure that the **Manage GPS Automatically** checkbox is checked



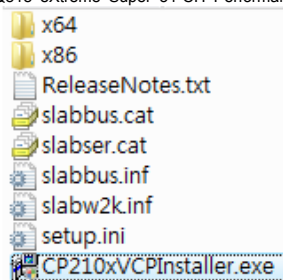
## 6-5. Activate G-Mouse function via USB connection

### 1. Install USB Driver

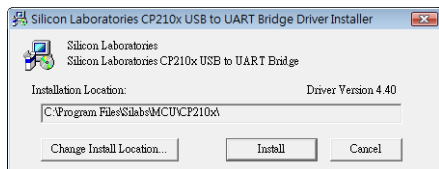
#### **NOTE:**

*The USB driver of BT-Q818eXtreme only supports Microsoft Windows XP/Vista.*

- 1.1 Please insert the Driver CD to your computer, and find the folder "USBDriver\Windows\_2K\_XP\_S2K3\_Vista". Double click "CP210xVPIInstaller.exe" to install the USB driver.



**1.2 System would pop up the driver installation dialog. Please click <Install> to install the driver.**



**1.3 After completing the installation, please click <Yes> to restart your computer for taking effect of new setting. Driver installation dialog will show up. Please click <Install> to install the driver.**



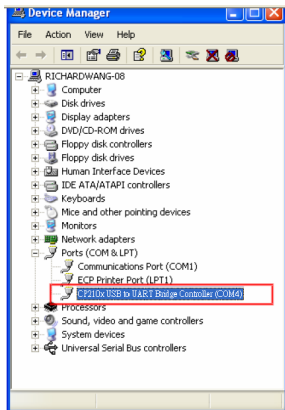
## 2. Connect BT-Q818eXtreme with your PC

2.1 Connect BT-Q818eXtreme with your PC by mini-USB cable.

2.2 Switch BT-Q818eXtreme to <USB> position.

## 3. Check the COM port no. your PC is assigned for BT-Q818eXtreme.

- 3.1 Go to <Start> \ <Settings> \ <Panel Control> \ <Performance and Maintenance> \ <System>
- 3.2 Select <Hardware> tab and then click <Device Manager>
- 3.3 Expand the <Ports (COM & LPT)> and check “CP210x USB to UART Bridge Controller (COM4)” to see which COM port is for BT-Q818eXtreme. (COM4 is for example)



## 6-6. Start your navigation software

Activate your navigation software and make sure to select the correct “COM Port”.

**NOTE 1:**

*In the map software such as TomTom, you might need to change preference and set “Other Bluetooth GPS” according to PDA/phone model. In some case please consult map software company to vary the setting if you have issue on positioning.*

**NOTE 2:**

*There might be specific setting requirement per navigation software. Such as Tomtom, please delete other GPS settings under Tomtom software, and keep one only.*

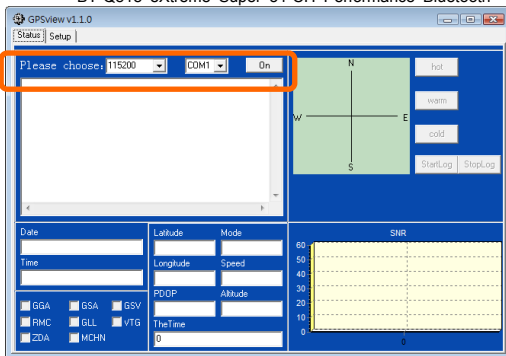
## 6-7. Switch to eXtreme 5Hz sport mode by QstarzGpsView software application

eXtreme 5Hz sport mode allows your GPS to get the same or even higher positioning and accuracy ability during eXtreme sports.

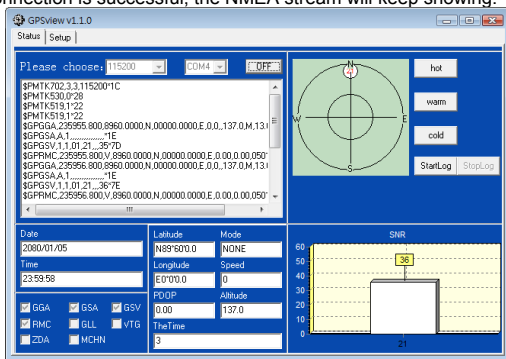
**NOTE:** *The default setting for Q818eXtreme is 1Hz. If you are no longer to use eXtreme 5Hz sport mode, either to switch it from software or to hard reset the GPS by unplugging the battery for 5 mins.*

1. Connect BT-Q818eXtreme with your PC by mini-USB cable.
2. Switch BT-Q818eXtreme to <USB> position.
3. Execute QstarzGpsView.exe from Driver CD “Tools\QstarzGpsView.exe”.
4. Select COM port (refer to 6-5, item 2) and set the baud rate to **115200**.



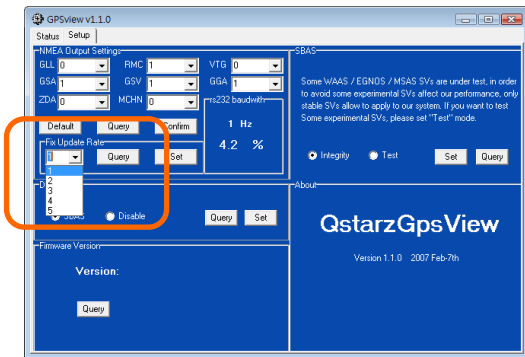


5. Click **On** button to establish the communication between BT-Q818eXtreme and your PC. If the connection is successful, the NMEA stream will keep showing.



6. Click **Setup** tab, and you can change to eXtreme Sport mode under **Fix Update Rate**. The higher number means the device can bear extremer environment. After

BT-Q818 eXtreme Super 51-CH Performance Bluetooth® GPS Receiver  
select an update rate, click **Set** to save the setting.






## 7. Trouble Shooting

Problems	Reasons	Methods
No position output but timer is counting	Weak or no GPS signal can be received at the place of BT-Q818eXtreme	Find an open space for your BT-Q818eXtreme
Execute fail	Bluetooth function unstable	Re-Start PDA or PC or re-install software
Can not turn on the COM port	Install BT-Q818eXtreme incompletely or the COM port of the device is being used	Install BT-Q818eXtreme completely or stop other device that is being used.
Can not find out BT-Q818eXtreme	Poor connection	Re-Start PDA or PC and re-install software.
No Signal	No action for few minutes may cause the Pocket PC enter power saving mode. It may close the COM port at the same time.	Close the application and execute it again to re-open the COM port.

No Signal	Weak or no GPS signal when using <b>BT-Q818eXtreme</b> indoor	Go outdoors to improve the poor GPS signal.
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## 8. Qstarz Accessories

Qstarz provides suitable GPS accessories for your optional purchase to fit BT-Q818eXtreme. Please purchase according to your requirement.

<b>- PDA Holder (Item no. QA-01A)</b> 1. Innovative PDA holder with extra 3M stick-based plate 2. Adjustable stainless gooseneck for suitable position of PDA 3. Adjustable holding arm with suction base plate to fix the holder on glass or very smooth plate	
<b>- 2 in 1 Charger Pack : Car Charger + USB Charger (Item no. QA-CP-MU)</b> Simply use the USB charger lead to connect to BT-Q818eXtreme and charge from PC, and using the same lead to connect to the Car adapter.	
<b>- Lithium-Ion Rechargeable Battery</b> <b>(1) QA-02-10T:</b> for 25hrs of navigation <b>(2) QA-02-11T:</b> for 32hrs of navigation	

## 9. Safety Notices

### R&TTE / CE Notice

This device is confirmed to comply with the requirements set out in the Council Directive on the Approximation of the Laws of the Member States relating to Electromagnetic Compatibility (89/336/EEC), Low-voltage Directive (73/23/EEC) and the Amendment Directive(93/68/EEC), the procedures given in European Council Directive 99/5/EC and 89/336/EEC.

The equipment was passed. The test was performed according to the following European standards:  
 EN 300 328-1  
 EN 301 489-1 / 17  
 EN60950

### FCC Notice

## BT-Q818 eXtreme Super 51-CH Performance Bluetooth® GPS Receiver

This device complies with Part 15C, Part 15B and ID Application 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.

Spec. is subject to change without prior notice.

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