BT-16 High Sensitivity Bluetooth GPS Receiver
### Product Briefing

<table>
<thead>
<tr>
<th>GPS Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitivity at -157dBm (-187dBw)</td>
</tr>
<tr>
<td>Acquisition: 32 satellites parallel</td>
</tr>
<tr>
<td>Update rate: 1 second</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Acquisition time:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reacquisition 0.1 sec., averaged</td>
</tr>
<tr>
<td>Hot start 6 sec., averaged</td>
</tr>
<tr>
<td>Warm start 30 sec., averaged</td>
</tr>
<tr>
<td>Cold start 30 sec., averaged</td>
</tr>
</tbody>
</table>

**Position accuracy: Non DGPS (Differential GPS)**

<table>
<thead>
<tr>
<th>Position</th>
<th>&lt; 5 meter (RMS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Velocity</td>
<td>0.1 meter / second, with SA off</td>
</tr>
<tr>
<td>Time</td>
<td>1 microsecond synchronized GPS time</td>
</tr>
</tbody>
</table>

**Dynamic Conditions:**

<table>
<thead>
<tr>
<th>Altitude</th>
<th>18,000 meters (60,000 feet) max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Velocity</td>
<td>515 meter / second (1000 knots) max</td>
</tr>
<tr>
<td>Acceleration</td>
<td>4 G, max</td>
</tr>
<tr>
<td>Jerk</td>
<td>20 meters/second, max</td>
</tr>
</tbody>
</table>

**Interfaces**

- RS-232 compatible level, with auto adjusted baud rate
- NMEA 0183 Version 2.2 ASCII output (GPGGA, GPGLL, GPGSA, GPGSV, GPRMC, GPVTG).

**Bluetooth Characteristics**

- Transmits up to 10 meters.
- SPP Profile, V1.2
### Battery

Capacity: 1000mA Li-ion rechargeable  
Power Consumption: 80mA  

### Environmental Characteristics

Operating temperature: -30°C to +85°C.  
Storage temperature: -50°C to +100°C.  

### Physical Dimension

Size: 83.0(W) x 44.5(L) x 23.5(H) (mm)  
Weight: 72g (battery included)  

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## Introduction

**BT-16 Bluetooth GPS Receiver** is a total solution GPS receiver with Bluetooth wireless transmitting ability. Its design is based on next generation indoors GPS technology with super sensitivity at -157dBm (-187dBw), plus low power (<80mA) consumption. This revolutionary device provides you unbelievable positioning sensitivity, which allows you to have easy and quick position fixed in urban canyon conditions. You could use this device for strict needs of positioning applications, such as car navigation, mapping, surveying, security, agriculture, and etc. BT-16 communicates with other electronic utilities with built in wireless Bluetooth technology. It requires 32 satellites parallel when cold start, and display the best 8 signals for power saving purpose.

## Features

1. **AUTO ON-OFF** function makes you **hands-free** once you place the device in place.  
2. Wireless transmitting positioning status up to 10 meters.  
3. High sensitivity receiver, 32 satellite signals parallel while providing first fast fix and low power consumption.  
4. Initialization free.  
5. Automatic baud rate setting, no need to do any selection.  
6. LED display status: visible operating status for recharging, battery power level, bluetooth and GPS.  
7. Rechargeable Li-ION battery.
Physical Dimension

Size: 83.0(W) x 44.5(D) x 23.5(H) (mm)
     3.27"(W) x 1.75"(D) x 0.93"(H).
Weight: 72g (battery included)

Environmental Characteristics

Operating temperature: -30°C to +85°C.
Storage temperature: -50°C to +100°C.

Electrical Characteristics

Input Power - external: +4.75 ~ 5.5 VDC, battery: +3.7V

GPS Functions

Acquisition - 32 satellites parallel
Update rate - 1 second.

Acquisition Time

- Reacquisition - 0.1 sec., averaged
- Hot start - 6 sec., averaged
- Warm start - 30 sec., averaged
- Cold start - 30 sec., averaged

Position accuracy - Non DGPS (Differential GPS)
- Position - < 5 meter (RMS)
- Velocity - 0.1 meter / second, with SA off
- Time – 1 microsecond synchronized GPS time

Dynamic Conditions -
- Altitude - 18,000 meters (60,000 feet) max
- Velocity – 515 meter / second (1000 knots) max
- Acceleration - 4 G, max
- Jerk – 20 meters/second, max
Bluetooth Functions

Transmits up to 10 meters.
Details specifications please refer to appendix D at page 19.
SPP Profile, V1.2

Battery

Capacity - 1000mAh.
Type - Li-ion rechargeable

Interfaces

RS-232 compatible level, with auto adjusted baud rate.
NMEA 0183 Version 2.2 ASCII output (GPGGA, GPGLL, GPGSA, GPGSV, GPRMC, GPVTG).

Connector

Battery recharging connector - 4.0mm DC jack, with center “+” (positive).
Active antenna connector – MMCX

Accessories

Standard
✓ 80026: Easy-Place, 35mm round pad sticking on the dashboard or other place for hold
✓ A-6003-E: Travel adapter, with 120V, 230V adapter
✓ 9004: Lithium-ION, rechargeable battery, 1000mAh
✓ A-6024-40: Cigarette Adapter, DC Jack 4.0mm, 850mA, 5 meter

Optional - A-10302-M: Active Antenna, 2 meters
Switch Function

<table>
<thead>
<tr>
<th>Switch</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFF</td>
<td>System power Off</td>
</tr>
<tr>
<td>ON</td>
<td>For pairing and operating of Bluetooth GPS.</td>
</tr>
</tbody>
</table>
| AUTO   | ✓ Works on Auto ON-OFF function (Patent pending)  
        | ✓ Automatically starts when Car Engine Starts (Through Cigarette Adapter).  
        | ✓ Automatically switch off the power when the car engine is off, or when the  
        | ✓ Cigarette adaptor is un-plugged |

LED Indicator

<table>
<thead>
<tr>
<th></th>
<th>System state</th>
<th>LED_Blue</th>
<th>LED_GPS</th>
<th>LED_Battery</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>STANDBY</td>
<td>Flash</td>
<td>Flash</td>
<td>On</td>
</tr>
<tr>
<td>2</td>
<td>PAIRING</td>
<td>Flash</td>
<td>Flash</td>
<td>On</td>
</tr>
<tr>
<td>3</td>
<td>CONNECTING</td>
<td>Flash</td>
<td>Flash</td>
<td>On</td>
</tr>
</tbody>
</table>
| 4 | ACTIVE       | On       | On: GPS fix  
          |             | Flash: non-fix | On          |
| 5 | BATTERY FULL | N/A      | N/A     | Off: System off  
          |             |         | On: system on |
| 6 | BATTERY LOW  | N/A      | N/A     | Off: System off  
          |             |         | Flash: system on |
| 7 | BATTERY CHARGING | N/A | N/A | ON |