DazzleR RTK Base

Dazzle Robotics RTK Base is a cost effective and super simple to use GNSS RTK base which comes in a IP65 rated enclosed case.

It comes with a light weight L1+L2+L5 high gain enclosed helical GNSS antenna for high performance applications. It performs same as survey grade antennas but at a fraction of weight and cost.

The receiver is multiband quad constellation GNSS receiver which works with GPS, GLONASS, Galileo and Beidou satellites. With upto 230 tracking channels it easily gains 25 to 40 usable satellites within 1 minute of power up in open area. A configurable position update rate of 1 to 10Hz makes it a real

performer. With built in survey function and Bluetooth connectivity it is very simple and easy to without need of any special software.

A built in 5000mAh battery allows it to work for 8 hours without requirement of charging, if longer operation time is required it can be easily connected to power bank via Micro USB connector without need of restarting the device.

It works out of the box, powering up the device goes into survey mode for 10 minutes. After the survey is finished it starts sending data with base location, while survey is running it still keeps on sending raw satellite data in RTCM format to achieve RTK fix quickly for rovers. Survey length and other parameters can be configured by easy to use software.

It works on generic RTCM 3.x protocol which supports most RTK compatible GNSS receivers. For drone users it works with Mission Planner and QGroundControl and works with popular GPS receivers like Here3, Here Pro, CUAV C-RTK & C-RTK 2, Holybro RTK M8P & F9P, ArduSimple RTK GPS, Ark RTK GPS, Blicube RTK GPS, Reach RTK, Hitec PositionPro, Qiotek DroneCAN RTK-F9P and any other receivers compatible with RTCM data.

Features

- Comes in IP 65 rated case which allows outdoor use in Harsh environments
- Includes L1+L2+L5 high gain enclosed helical GNSS antenna
- Compatible with any survey antenna
- Multiband Quad constellation GNSS receiver with 230 tracking channels
    - GPS L1 / L2C
    - Galileo E1 / E5b
    - Beidou B1I / B2I
    - GLONASS L1 / L2
    - QZSS L1 / L2C
- Upto 10Hz position update rate
- RTCM 3.x protocol
- Bluetooth Classic communication (Optional BLE, WiFi TCP/UDP/NTRIP available on request)
- 5000mAh inbuilt battery for upto 8 hours of continuous operation
- External power can be given using a micro USB connector for uninterrupted long time usage
- Compatible with most RTK GPS receivers working on RTCM 3.x protocol which includes popular Ublox F9P/F9R and M8P based receivers

Hardware

IP65 Rated Case

Power On/Off switch

- Power on and off the RTK base
- Must be kept ON to charge the battery when USB is connected

LED indication

- Steady – Powered up
    - Not charging if USB not connected
    - Charging finished if USB connected
- Blinking – Powered up & Charging
- Off – Powered OFF

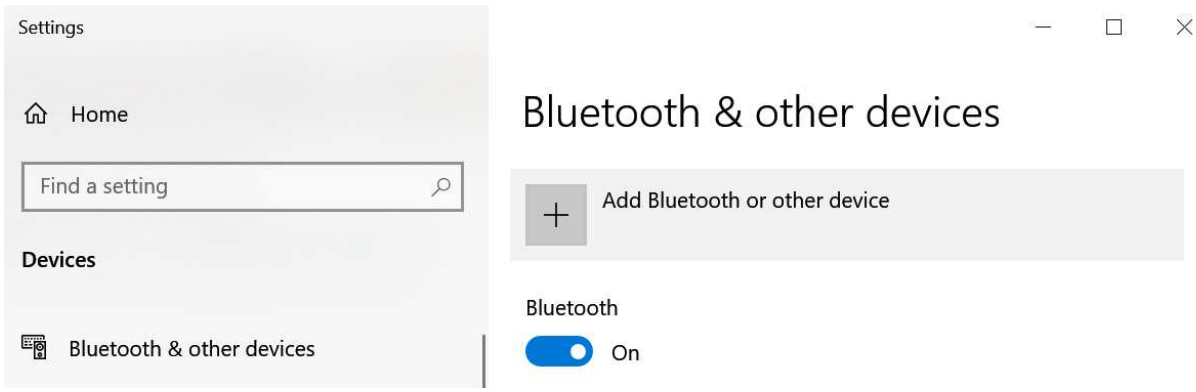
Micro USB connector

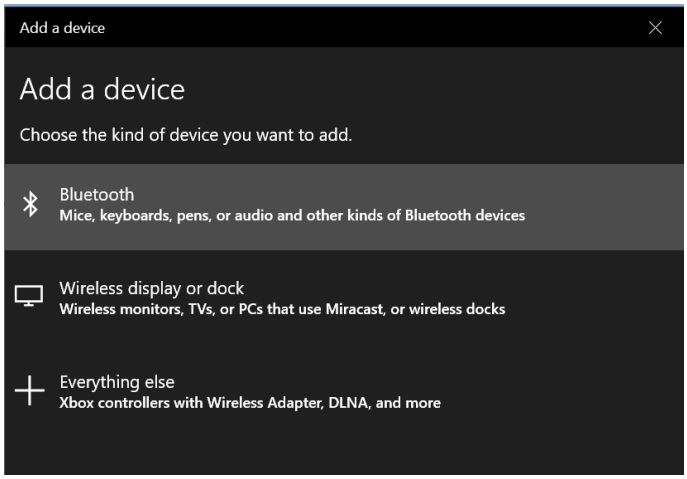
- Works as a USB-Serial GNSS receiver and Charging connector
- 115200 baud rate for USB-Serial connection

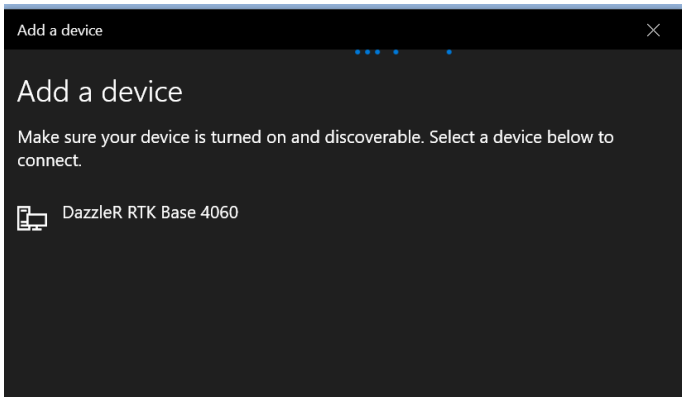
SMA Female Antenna Connector

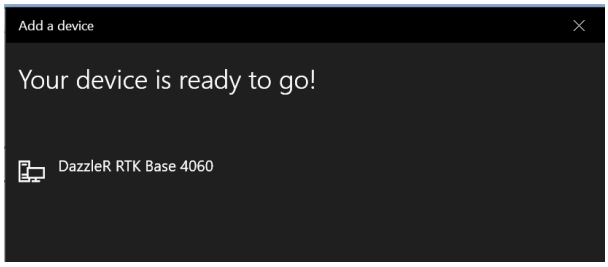
- To connect active antenna with LNA

Usage

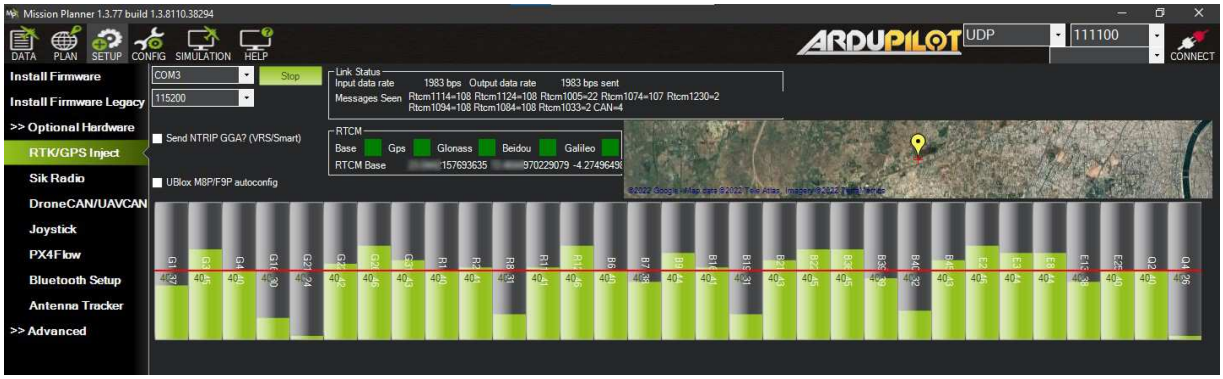
1. Setup the device in open area and power up. Its recommended to be placed atleast 1 meter above the ground level.
2. Power up the device using rocker switch, make sure antenna is connected before powering up.
3. Connect the device to PC with micro USB cable or Bluetooth.
4. For Bluetooth connection on Windows 10/11 based PC - Go to Settings -> Bluetooth and other devices
    - Click Add Bluetooth or other device
    - 

    - Select Bluetooth in Add a device dialog box
    - 

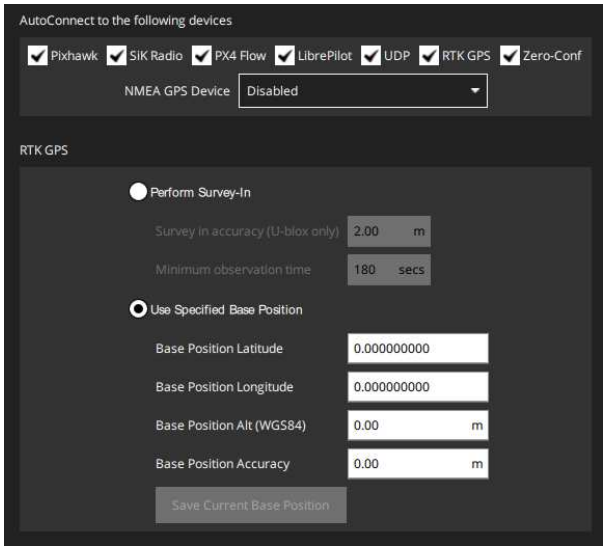
    - Select DazzleR RTK Base XXXX
    - 

- Device will get connected and it will generate one or 2 virtual COM ports, one of which can be used to connect to the RTK base for RTCM data.
- 

5. Connect the device using installed COM port in Mission Planner or other software which can receive and show/use RTCM data from serial port.



6. For QGroundControl disable survey in option. It should take base position data automatically on connect



7. You can also see raw data in serial terminal application like realterm or docklight