

## Quick Start Guide for GeoBee

! Note: David GNSS receiver and Ntrip Modem TR600 are configured well before shipping. Please set up the system according to Chapter 1, David and Ntrip Modem TR600 are ready to work normally after power on.

### 1. GeoBee System Set up

Set up the GeoBee system following the figure below, and power up the system.

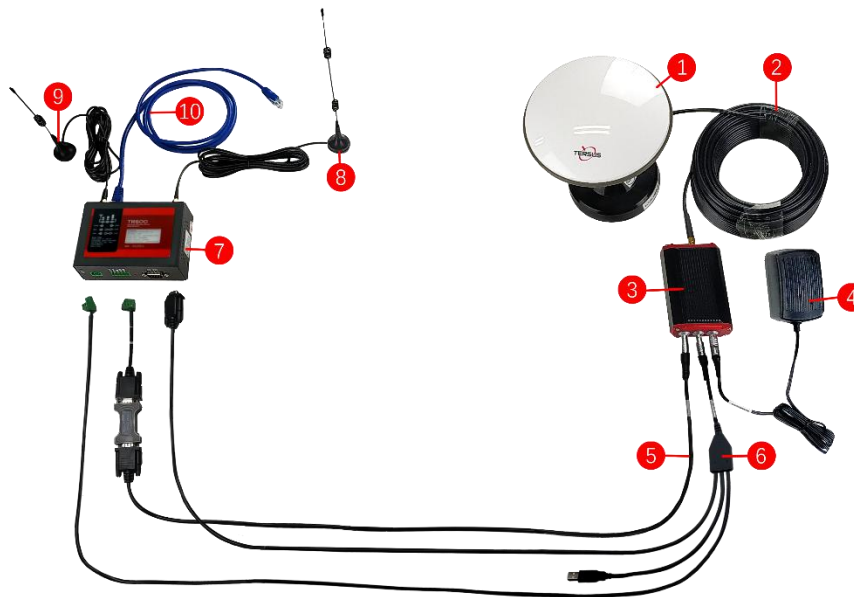


Figure 1 GeoBee System Set up

No.	Name
1	Antenna (AX3702 in the figure above, customizable)
2	TNC-J to SMA cable (25m by default, customizable)
3	David GNSS Receiver
4	Power Adapter (short for 'DC-2pin AC Power Adapter with 1.2m cable')
5	COMM1 cable (short for 'COMM1-7pin to DB9 male cable')
6	COMM2 cable (short for 'COMM2-7pin to TR600-DC-2pin & DB9 female & USB cable')
7	Ntrip Modem TR600
8	4G antenna for TR600
9	Wi-Fi antenna for TR600
10	Ethernet cable 1.5m

**Note:**

- 1) There are two configuration modes for GeoBee. GeoBee system is configure-free if customer adopts GeoCaster provided by Tersus GNSS Inc., as GeoBee is pre-configured when shipped out of factory. GeoBee system needs to be configured if customers demand to set up caster by themselves. This quick start is to introduce the first mode – using Tersus GeoCaster service.

- 2) David GNSS receiver uploads RTCM stream to the NTRIP caster using Ethernet (default) or Wi-Fi or 2G/3G/4G sorted by priority. For Ntrip Modem TR600, Wi-Fi client and Wi-Fi hotspot are both supported, however they cannot be enabled simultaneously. Wi-Fi client function is to use Wi-Fi connection to communicate with caster. Wi-Fi hotspot function is to share internet connection to other devices.
- 3) Place the antenna (AX3702 in the Figure 1) in the outdoor open environment. Install Wi-Fi antenna when Wi-Fi connection is available for communication. Install 4G antenna when 2G/3G/4G SIM card is used for communication.
- 4) GeoBee starts to work in auto start mode by default once it is powered up. According to the autonomous positioning (without RTK or DGPS), it smooth out the average value to be the base coordinate. GeoBee outputs the RTCM32 corrections data and sends to the Ntrip server through LAN, WIFI or 2G/3G/4G mobile network.
- 5) For the known phase center coordinates of the AX3702 antenna, the two configuration methods are as follows:
  - a. Use the 'DB9 Female to USB Type A Male converter cable' to connect the COMM1 cable in Figure 1 and a computer, open Tersus GNSS Center application on the computer, and type below commands in the command window:

```
POSAVE OFF           //Turn off position average
FIX POSITION B L H     // B: latitude (degree), L: longitude (degree), H: height (m)
                    For example: FIX POSITION 31.24523012 121.58922341 40.35
SAVECONFIG           //save configuration
```

**Note:** If customer needs to use global geoidal height model EGM96 for mean sea level height, type below command to replace the undulation command above.

```
UNDULATION EGM96    //Set EGM96 geoidal height model
```

More details about logs and commands refer to *Log & Command Reference document*.
  - b. Use the COMM1-Bluetooth module in the package, insert the Bluetooth module to the COMM1 port of David GNSS receiver. Launch Nuwa app on an android device, connect David by pairing Bluetooth. Create a base configuration with manual start in network mode, fill in the base coordinates, antenna height and Ntrip network information. Detailed operation refers to *User Manual for David GNSS Receiver*.
- 6) The known phase center coordinates of the AX3702 antenna can be obtained from surveying and mapping department of local government, or calculated from commercial software such as Bernese or Gamit.

## 2. Status Check

### 2.1 Check the status of Ntrip Modem TR600

The number of signal lights on determines the signal strength of 2G/3G/4G mobile network. When using Ethernet to access to the Ntrip server, the signal lights are off. The PWR is steady red to indicate GeoBee is powered normally, ERR is off to indicate GeoBee is not at abnormal state. The NET is steady green to indicate that it is connected to Internet. The SVR1 is steady green to indicate that it is connected to the Ntrip Caster normally. The SVR2 is steady green to indicate that it is connected to the mserver (a remote control terminal) normally. The LAN1 is steady green to indicate that the Ethernet connection is normal.

### 2.2 Check link status using browser

Open any browser on your computer (accessible to the Internet) and enter the following URL in the address bar:  
<http://geobeeaster2.tersus-gnss.com:2101/>

In the login window, type the (Ntrip) Client User and (Ntrip) Client Password which are shown on the label of the Ntrip Modem TR600.



Figure 2: Label on Ntrip Modem TR600

After a successful login, the link status is shown in Figure 3:

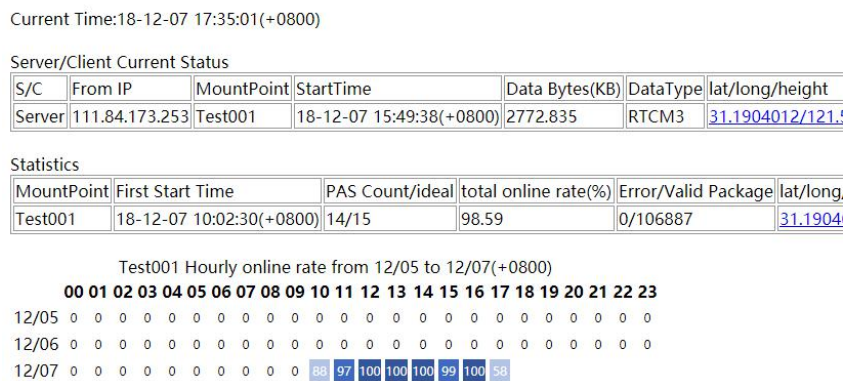


Figure 3: Example of http status view

### 3. Get More

This Quick Start Guide introduces the easy operating process of the survey for getting started only. The user manual and firmware for the specific model can be downloaded from Tersus official website:  
[www.tersus-gnss.com/support](http://www.tersus-gnss.com/support).

### 4. Exemption of Liability

Before using this product, please be sure to read the product manual carefully, which helps you to better use the product. Tersus is not liable for damages caused by failure to follow the instructions in the manual. Tersus is committed to continually improving product features and performance, and the contents of subsequent product manuals are subject to change without notice. If the pictures and icons in the manual are different with actual product, please refer to the actual product.

### 5. Technical Support

Thank you for using Tersus products. If you have any technical questions or suggestions for the products, you can send email to [support@tersus-gnss.com](mailto:support@tersus-gnss.com) and we will serve you promptly.