
T28 Software Manual

Release 5.42

Embention

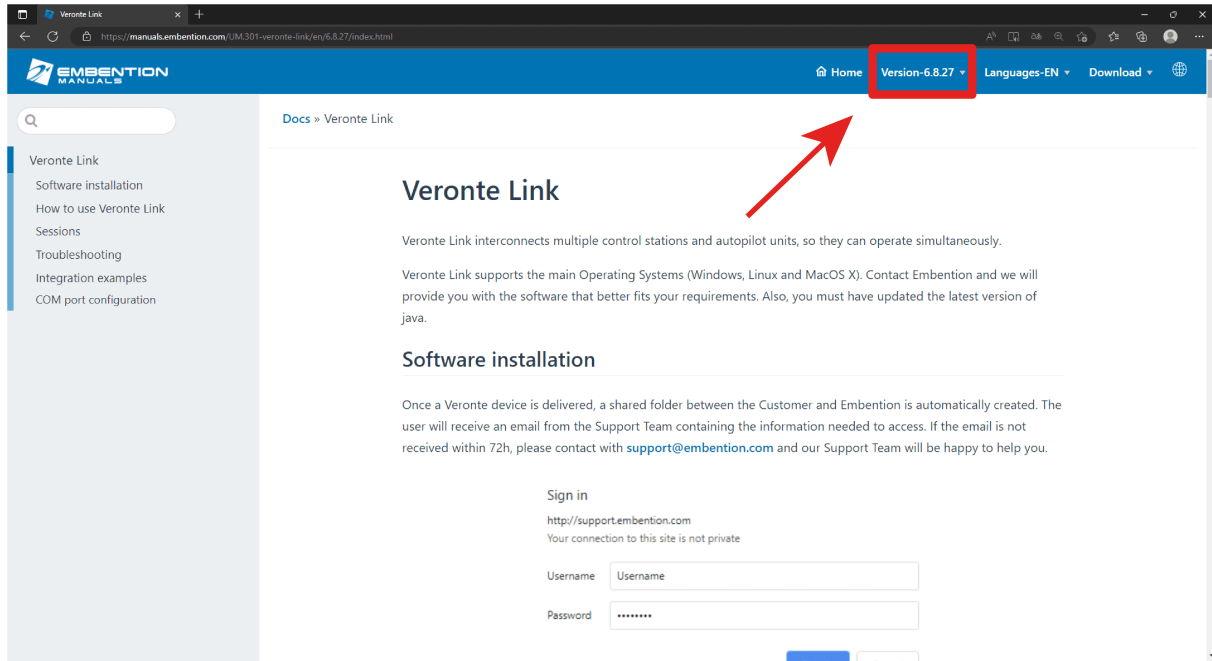
2023-08-21

CONTENTS

1	Configuration	3
1.1	Sending vehicle position over to T28	3
2	Operation	9
2.1	Connection	9
2.1.1	Interface	9
2.1.2	Veronte Pipe	9
2.1.3	USB	11
2.1.4	TCP (Point to Point)	11
2.1.5	Broadcast (UDP)	12
2.2	Start operation	14
2.3	Tilt activation with range	15
3	Troubleshooting	17
3.1	TCP Connection cannot be established	17

Veronte Pipe is required to connect a computer to a **PCS** with **T28** and configure it.

Warning: Select your version before reading any user manual for software. The following image shows where to select a version from any Embention user manual.



CONFIGURATION

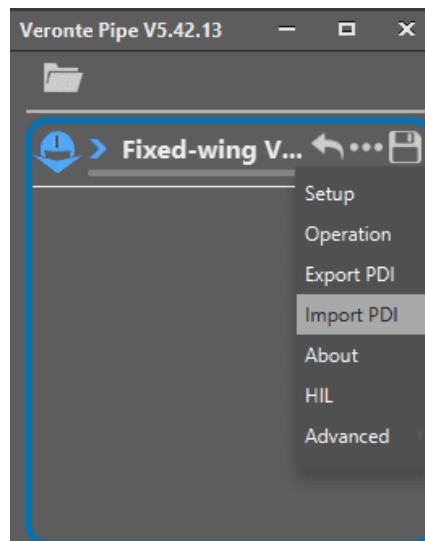
After installing, the default configuration of **PCS** is already prepared for standard operation.

If this configuration needs to be restored to factory configuration, please find the necessary steps in the [Troubleshooting](#) section.

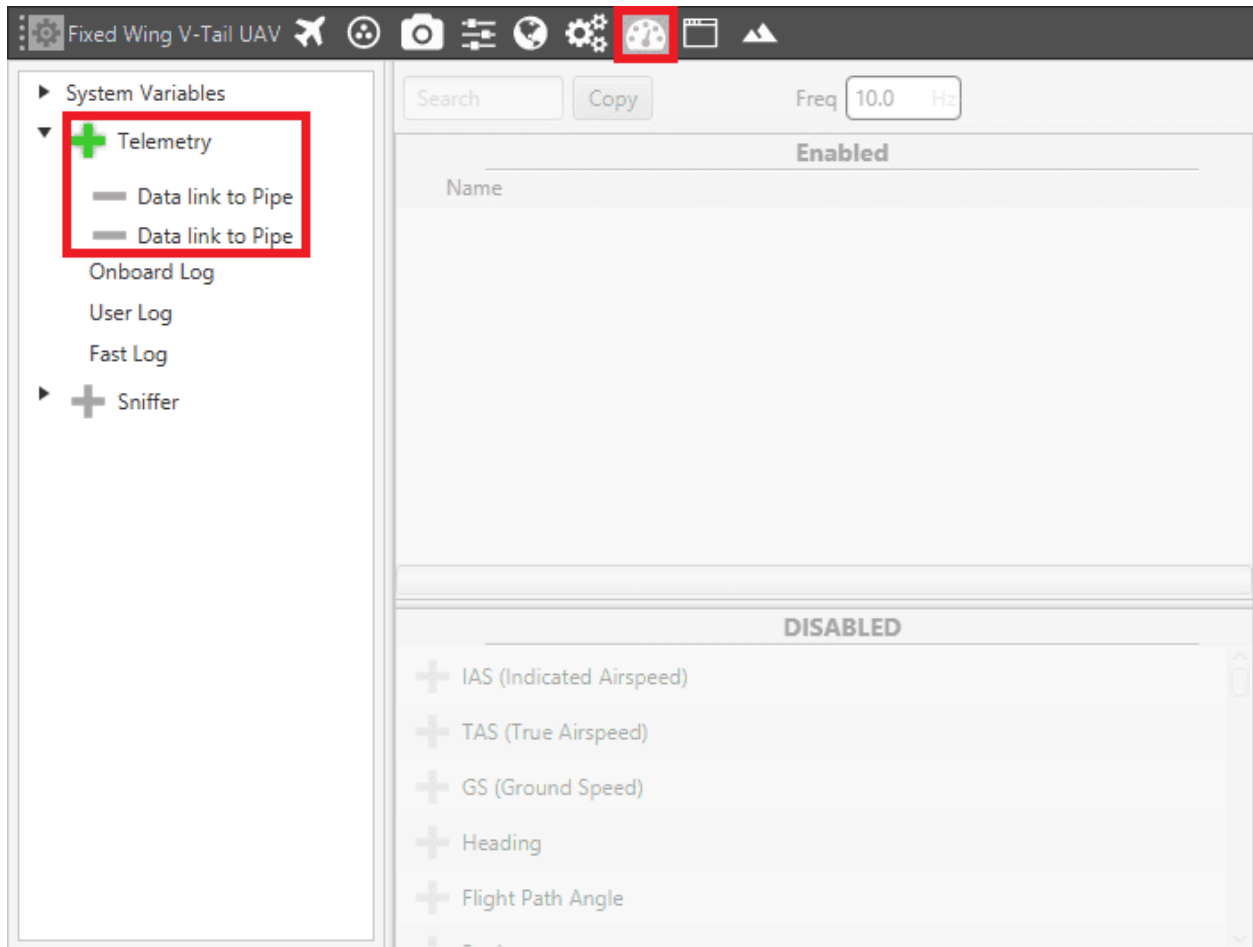
1.1 Sending vehicle position over to T28

For the operation with **T28** the following configuration needs to be added on the **AIR UNIT** Setup:

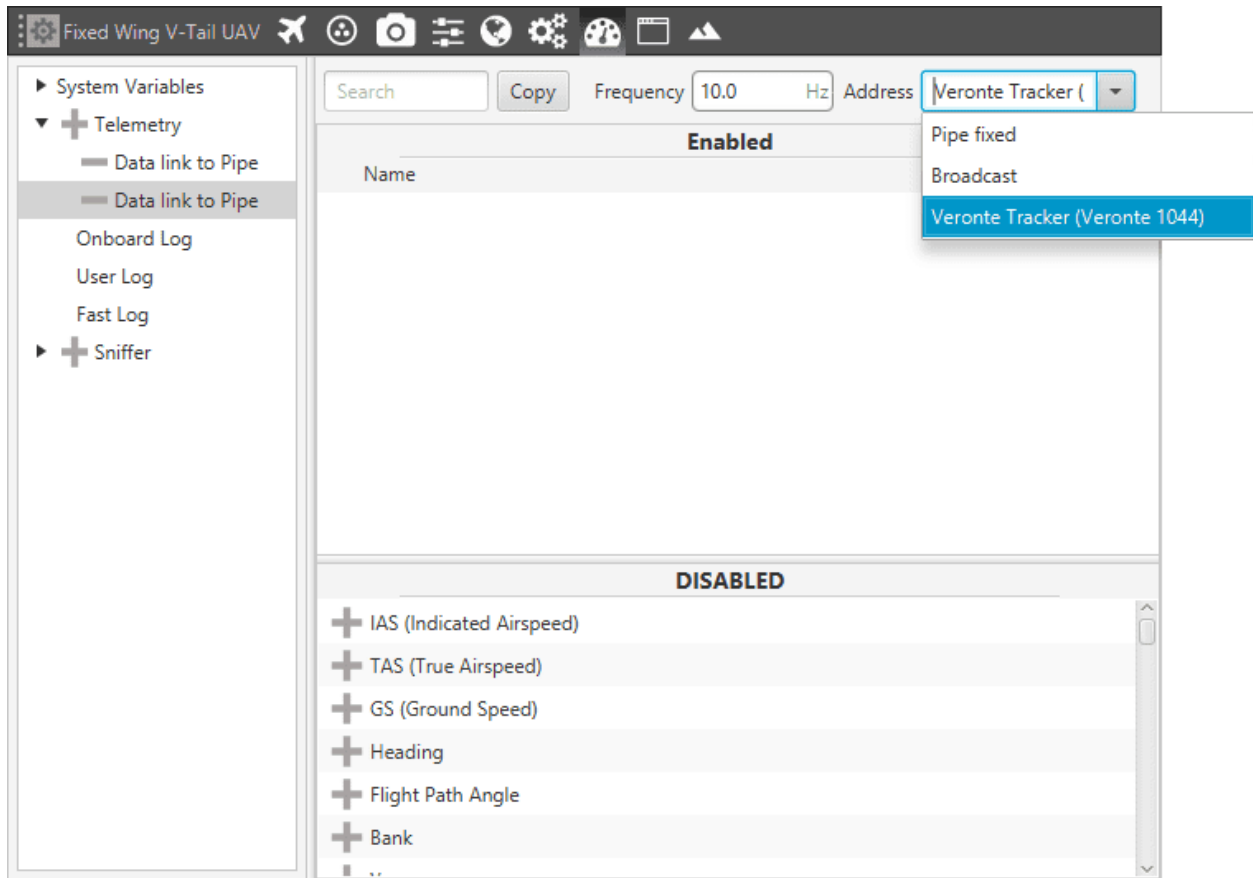
- Click on '**Setup**' in the Air Unit dropdown menu



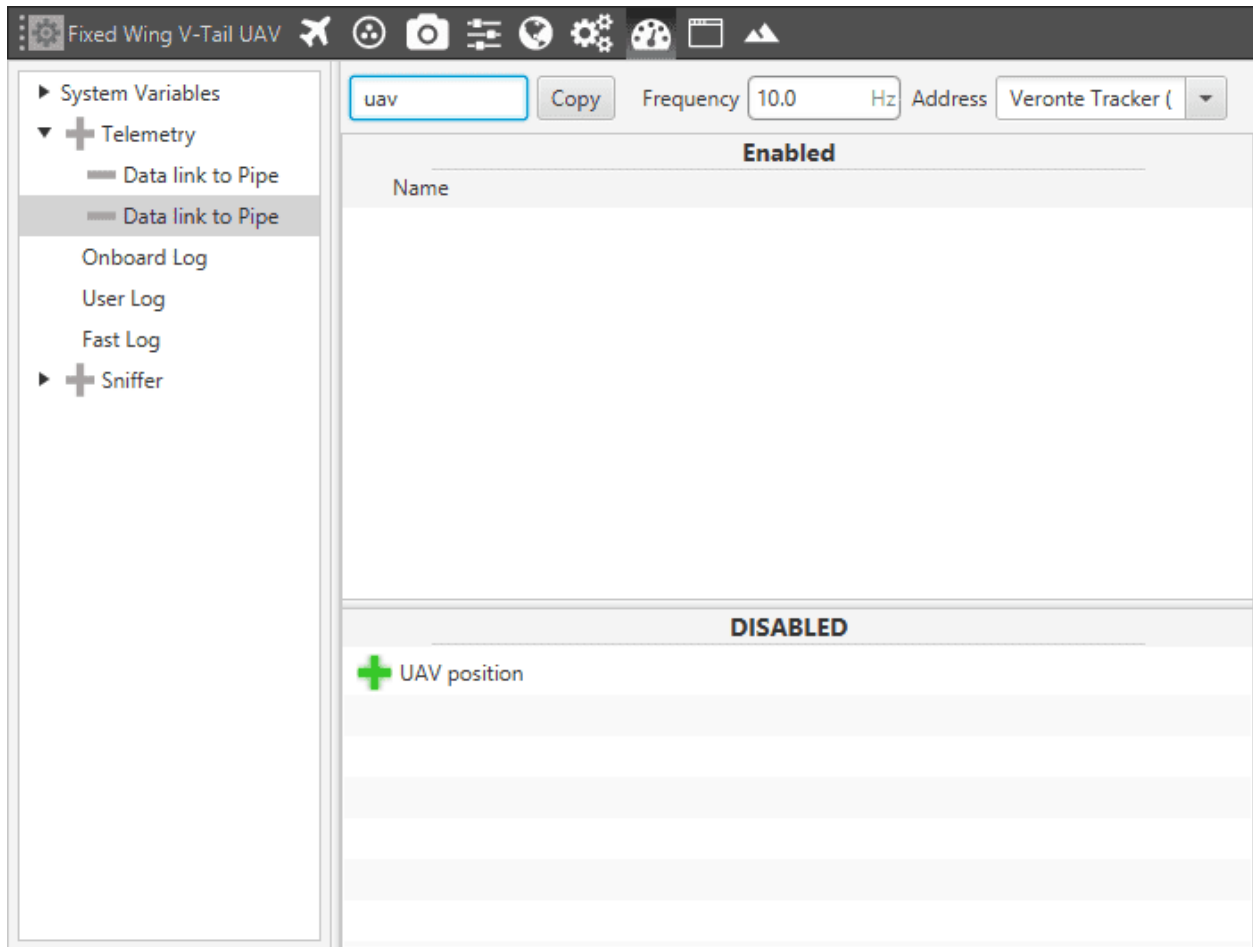
- In the '**Telemetry**' menu, press the '+' button and click on the created '**Data link to Pipe**'



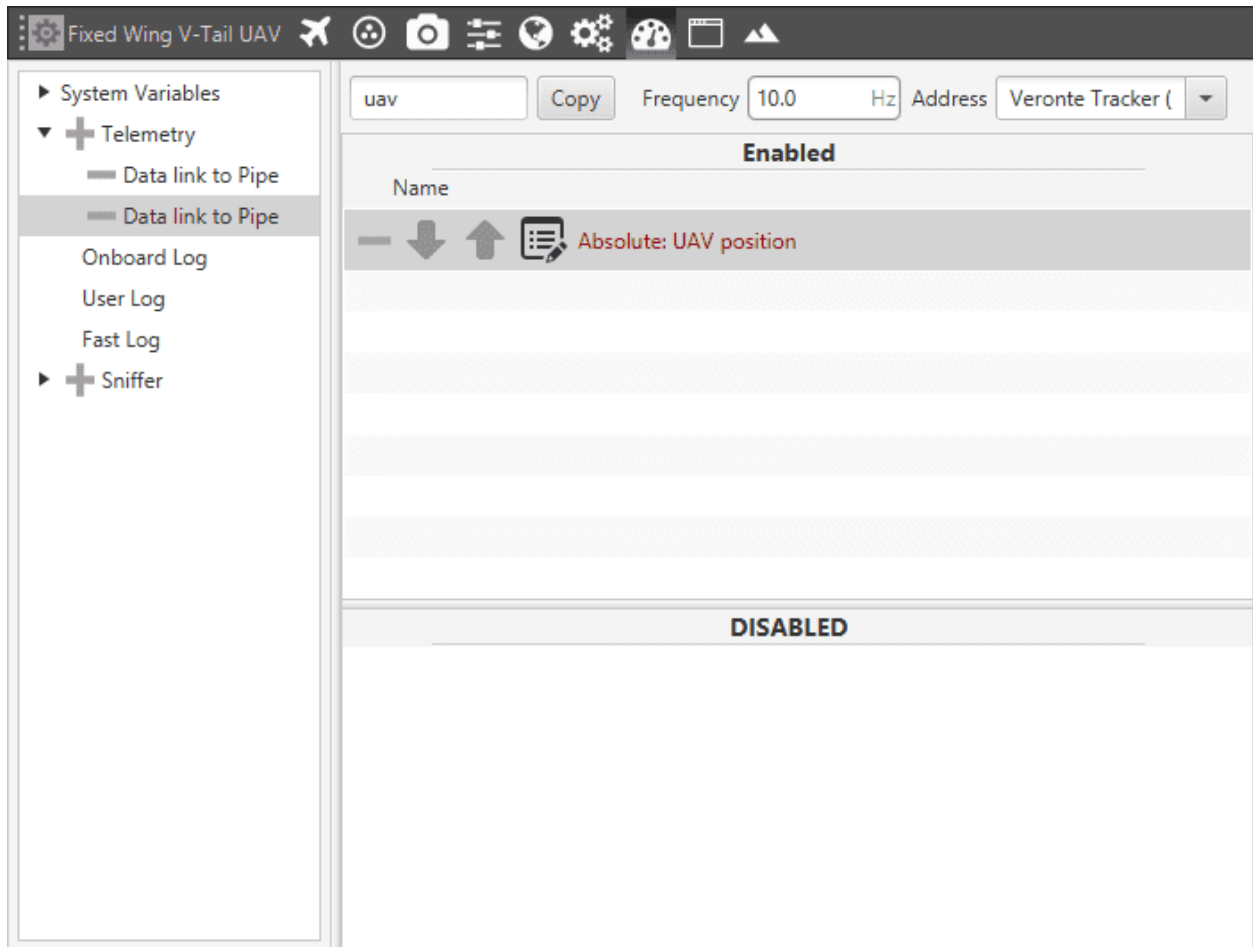
- Select '**Veronte Tracker**' from the dropdown menu in the top right corner



- In the 'Search' tab, write 'UAV' and add 'UAV position' to the telemetry vector



- The final configuration should look like this:



Attention: The above configuration needs to be done on the UAV unit and not on the ground station.

OPERATION

2.1 Connection

Follow the steps below in order to setup the connection of **PCS** with a PC.

2.1.1 Interface

There are three different communication interfaces that can be used to connect the control station PC with **PCS/T28**:

USB

Connect the available USB connector directly to one of the USB ports on the PC.

Ethernet

- If the **PCS/T28** setup is Point-to-Point (TCP), connect it to the PC directly via Ethernet.
- If the **PCS/T28** setup is Broadcast (UDP), connect it via Ethernet directly to the net access port. A router that provides an IP address to Veronte PCS via DHCP will be needed for operation.

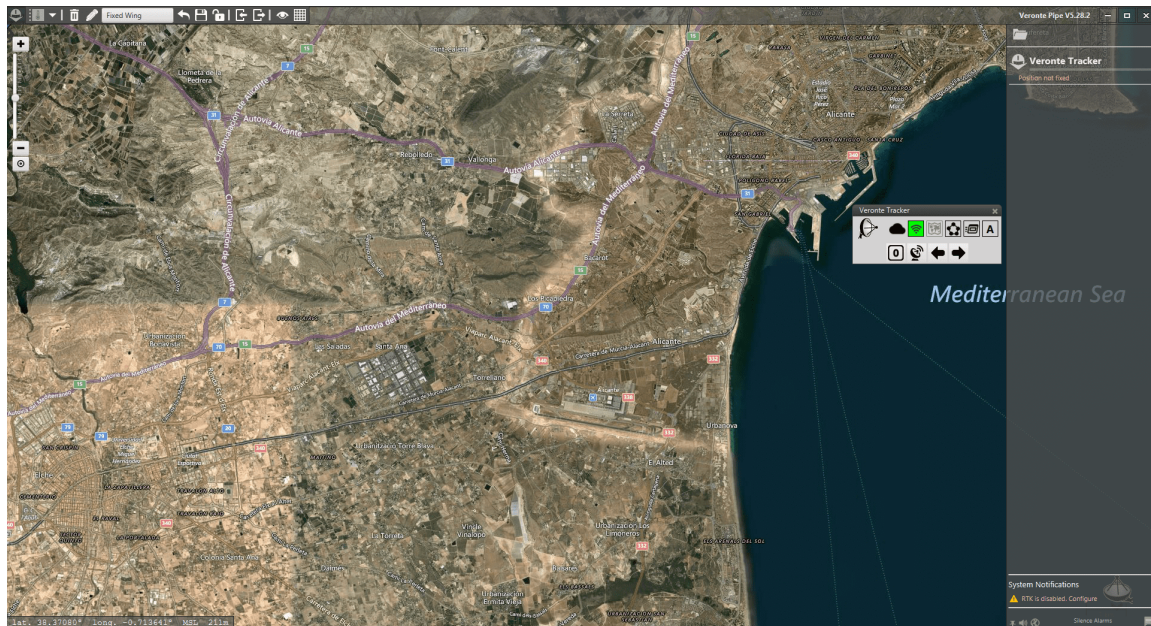
Wifi

If the **PCS** has an enabled Wifi net, it will be possible to connect it using its wireless network. SSID and password can be found on the PCS case, along with the product Serial Number.

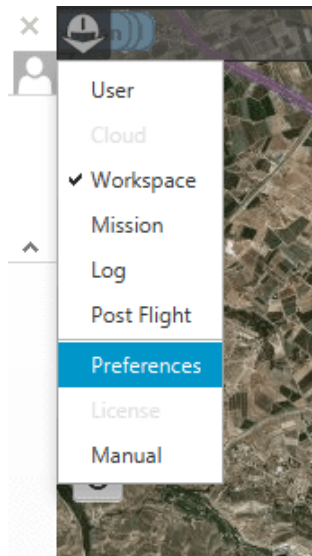
2.1.2 Veronte Pipe

Once the selected interface is connected, last step is to enable the connection in **Veronte Pipe**.

- Open **Veronte Pipe**



- On the top left corner, click on 'Preferences'

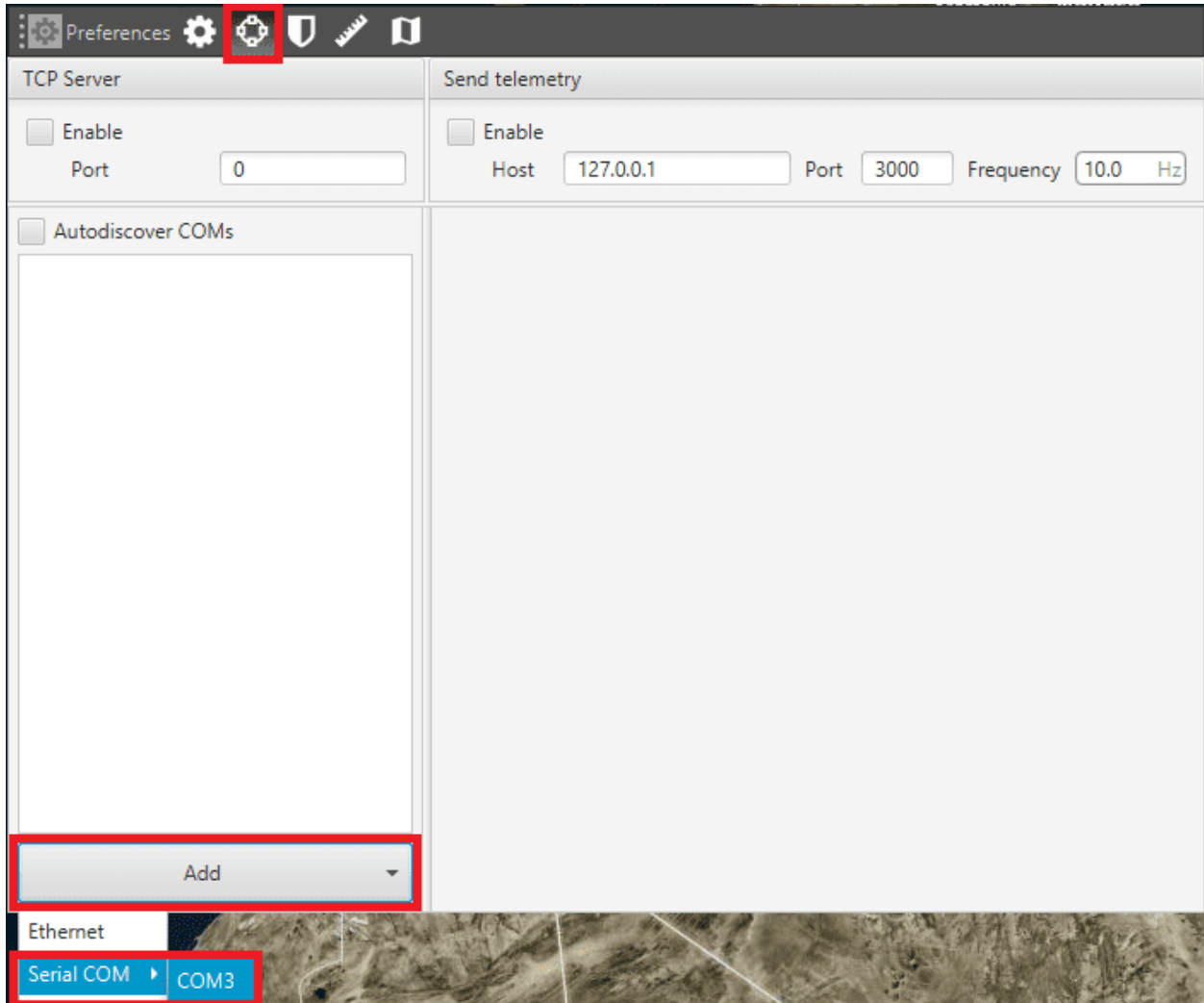


- On the Preferences menu, access the 'Connections' Tab



2.1.3 USB

- Click on 'Add' and then 'Serial COM'
- If a COM Port was detected, it will be listed here. Click on it in order to enable the connection



2.1.4 TCP (Point to Point)

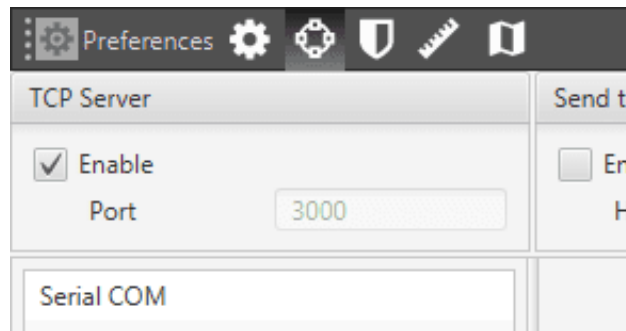
For this setup, **Veronte PCS** creates a net where it holds a static IP address. The first device connected to the net will be also assigned a specific IP address.

This setup only allows to connect to one device at the same time.

Warning: If a different device wants to be connected, the system needs to be rebooted, or no device should remain connected to the net for 2 minutes. At this point, IP address will be available and can be claimed by a new device.

- TCP settings can be found on the upper left corner.
- On 'Port' field, type '3000'.

- Click on 'Enable' box.

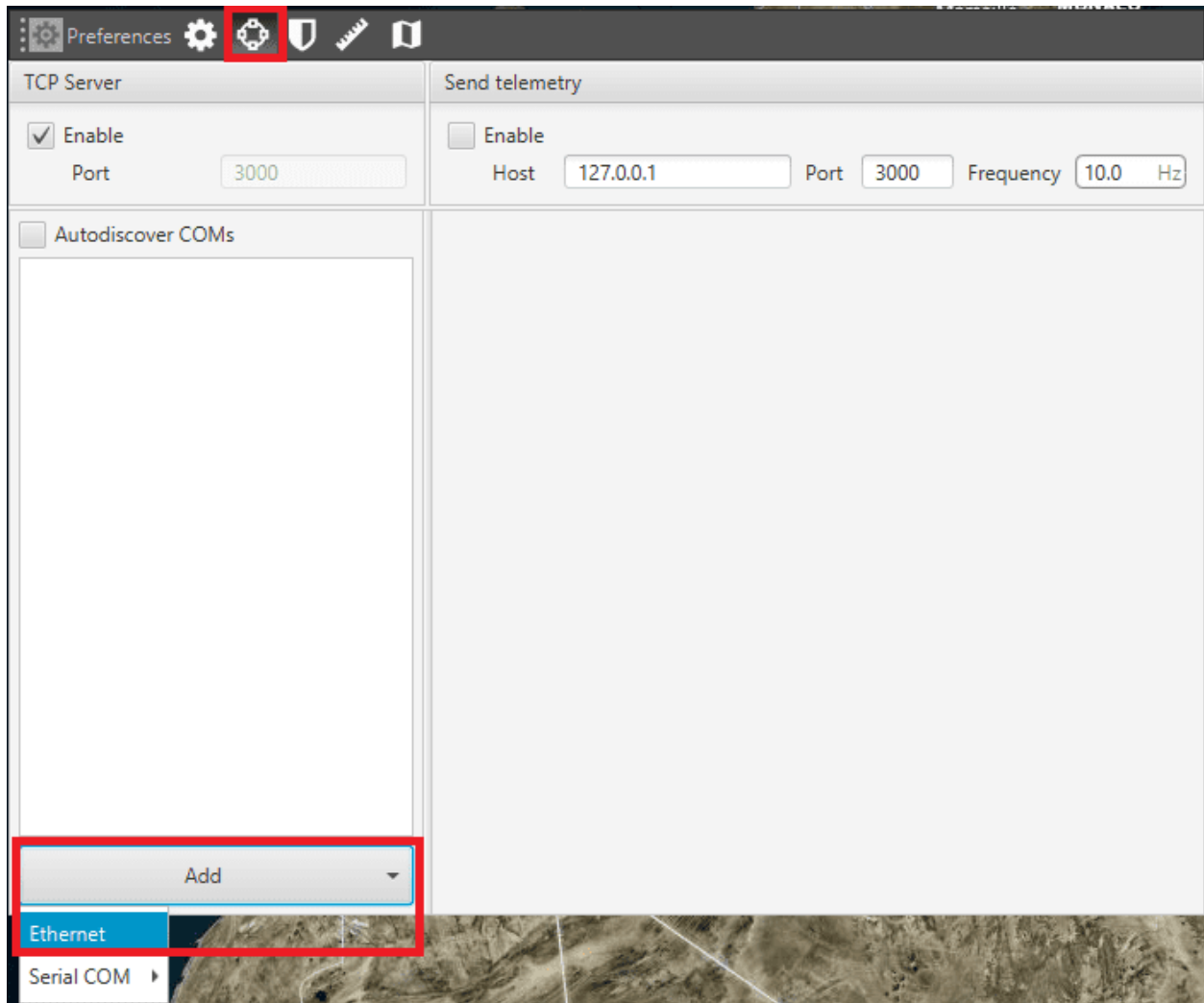


Tip: If connection is not setup correctly, please visit the [Troubleshooting](#) section.

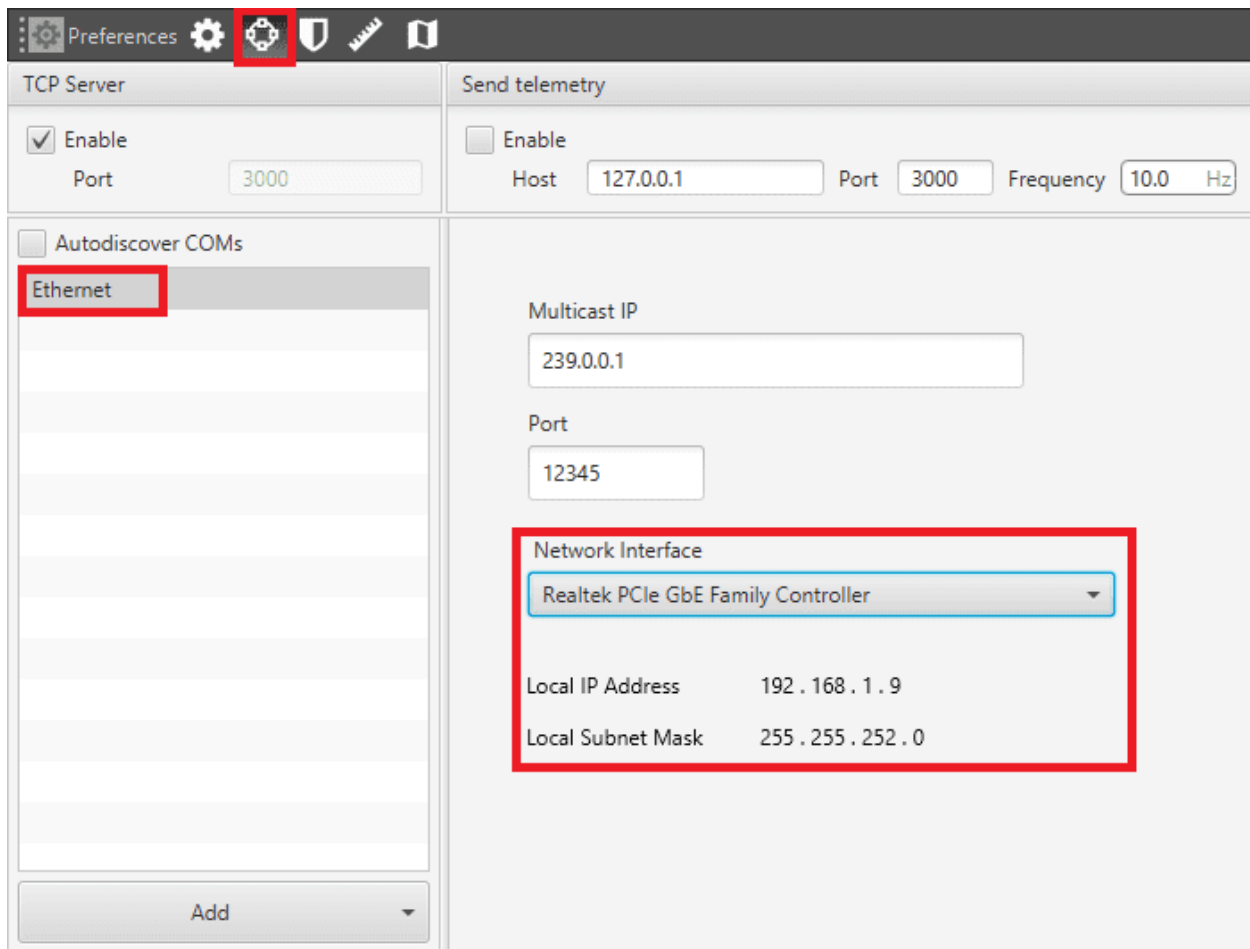
2.1.5 Broadcast (UDP)

For this setup, once connected to the net, **T28** will wait for an IP assignment from a router device via DHCP. Once the IP address is correctly assigned:

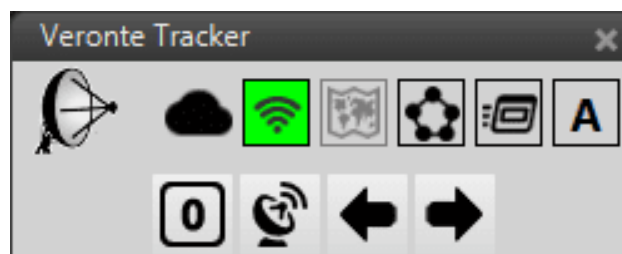
- Click on 'Add' and then 'Ethernet'



- On the displayed dropdown list, select the net adapter that is currently being used to connect to the network.



2.2 Start operation



- After powering the **T28**, the motors will set the antenna to a 45° position with respect to the horizontal axis. Once the **PCS** has been switched on, the antenna will move to 0°.
- In **Veronte Pipe**, the position of the aircraft and the **T28** should appear in the map once the GPS signal is established.
- Press the neutral position command (0).
- Trim the antenna by pointing North, using the **arrow buttons**.
- Press the **antenna button** in order to start tracking.

Note: Use the aid of a compass device in order to trim **T28**. A trimming accuracy of $\pm 5^\circ$ is enough for a correct operation with Veronte **T28**.

Attention: Always check that GPS position for both air and ground segments has been established before sending the tracking command.

2.3 Tilt activation with range

By default, a circular area is attached to the GPS position of Veronte **T28**. Tilting movement of antenna is only activated if the target UAV is located **outside** this area

The radius of the circle can be changed in **T28** by right clicking on it and setting a value for the radius or simply by dragging with the mouse the circumference.



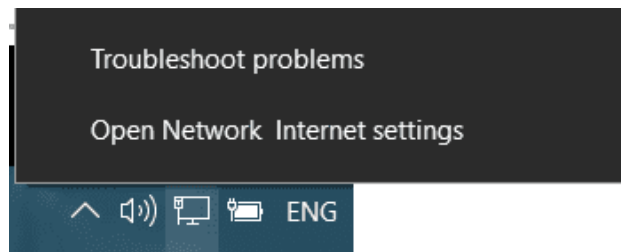
TROUBLESHOOTING

3.1 TCP Connection cannot be established

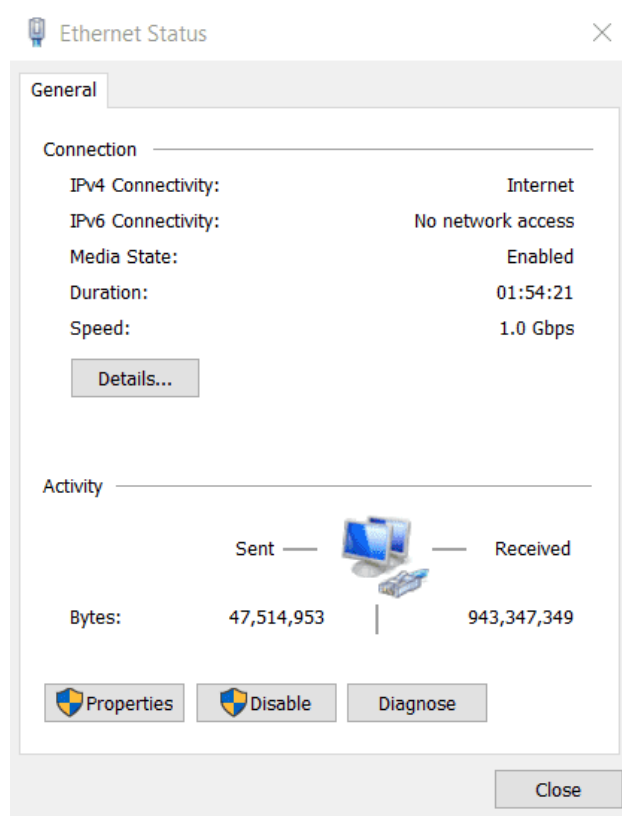
In order to correctly establish the connection with **PCS/T28** through TCP, the device running the Veronte Pipe software must be assigned the following IP address: **192.168.8.3**. This address should be automatically assigned when connecting to **T28** network.

If this is not the case, please follow the example below in order to assign a static IP address to your device:

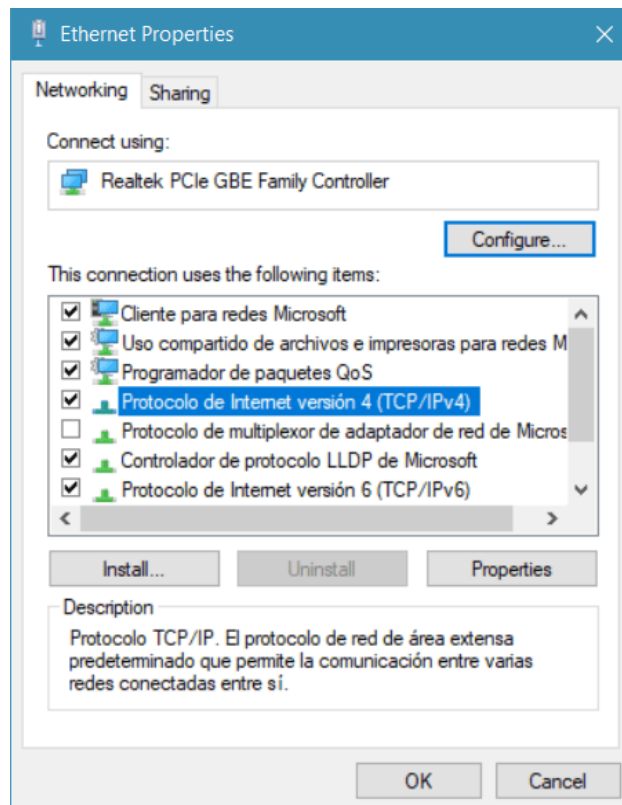
- Click on 'Open Network Internet settings' in the dropdown menu of the Internet configuration



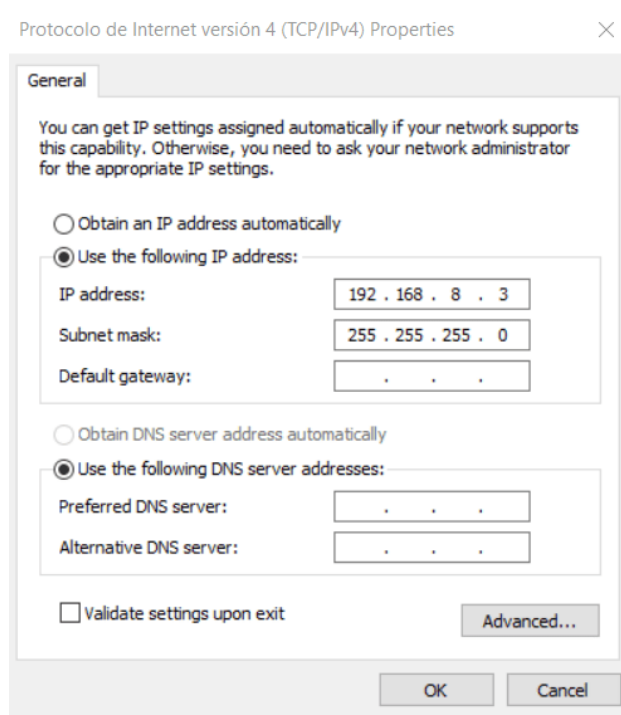
- Click on 'Change adapter options' and select your Internet connection method by double clicking on it



- Click on 'Properties' and select IPv4 Internet Protocol, then click on 'Properties'



- Select 'Use the following IP address:' and type in the 'IP address' tab **192.168.8.3**
- 'Subnet mask' should be automatically fulfilled as observed in the following image, else manually type the same subnet mask



- Click on 'Ok' and close the windows opened