

**surfbee.io**

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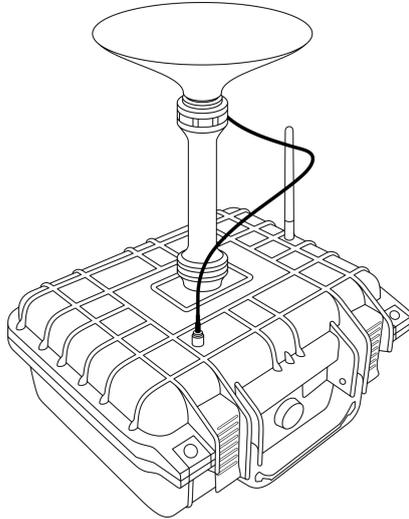
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# Equipment

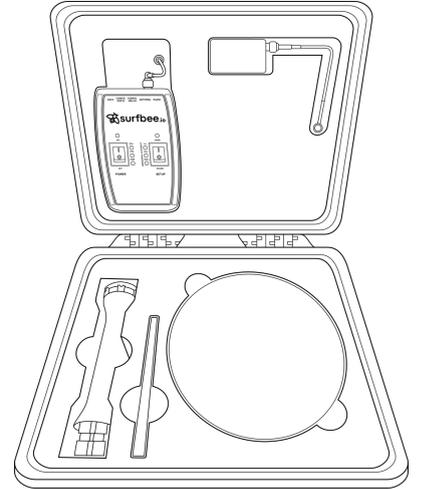
WHAT?

ILLUSTRATION

RTK Base Station

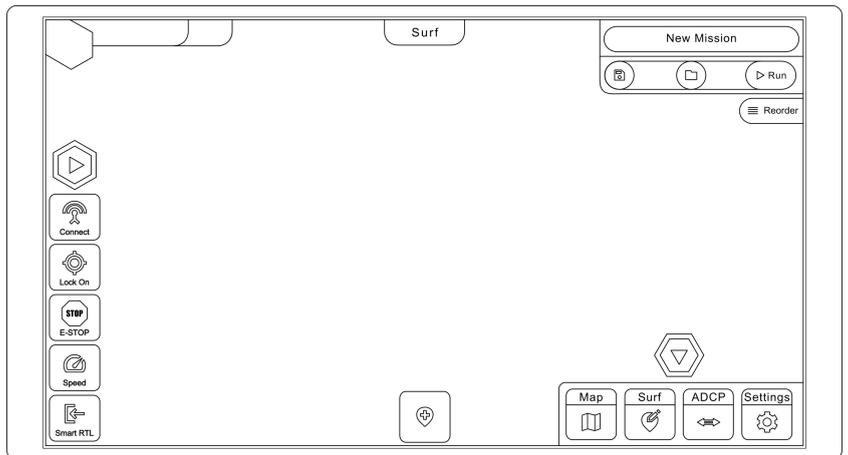


Closed

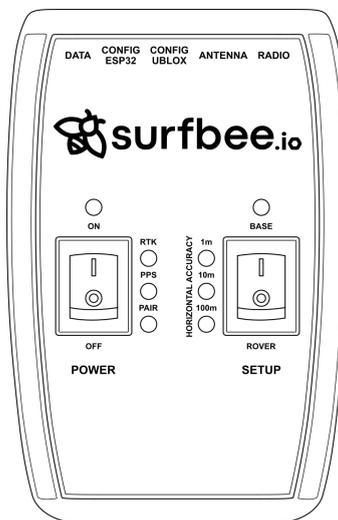


Open

App



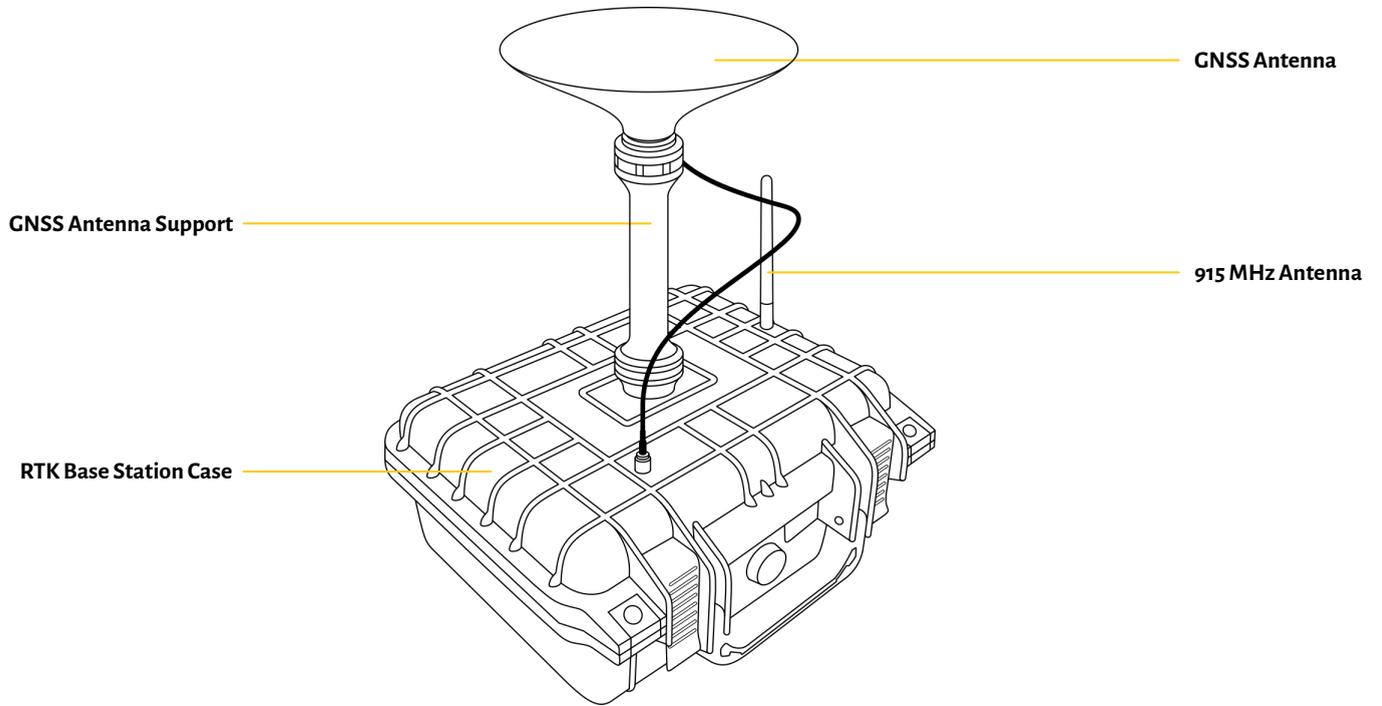
Controller



# RTK Base Station Layout

## RTK Base Station

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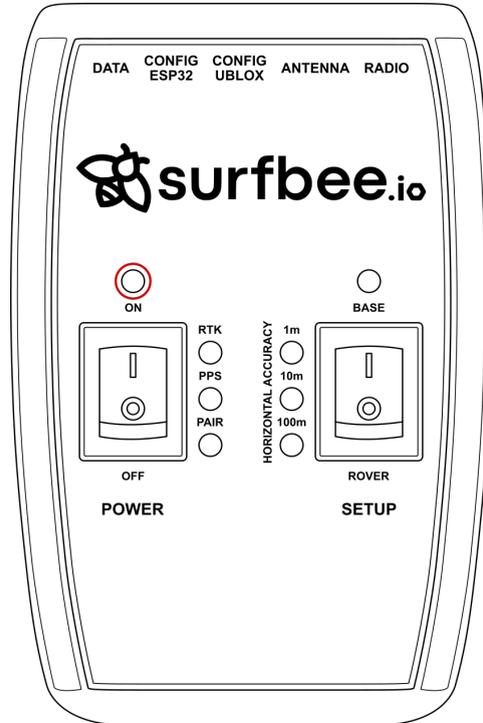
# Understanding the LEDs

WHAT?

HOW?

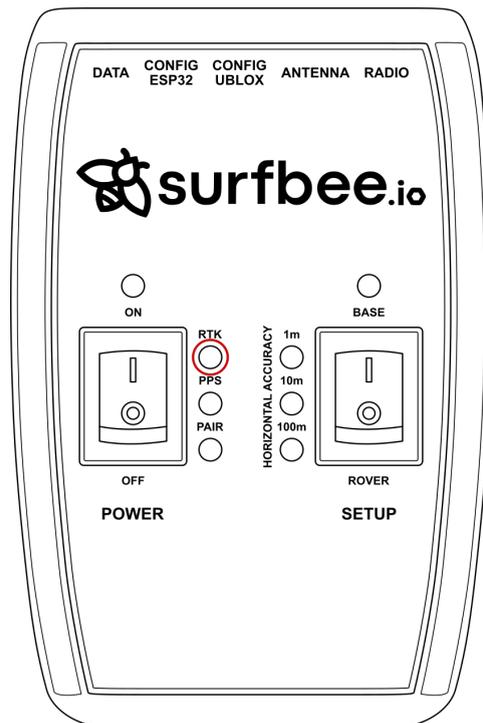
## POWER

Blue when attached to power and charging/  
off when fully charged. Green/Yellow/Red  
when the Power switch is turned on indicating  
the state of charge of the internal battery.



## RTK

This white LED will be off when no RTCM  
correction data is received. Blinking indicates  
RTK Float is achieved. Solid when RTK Fix is  
achieved.

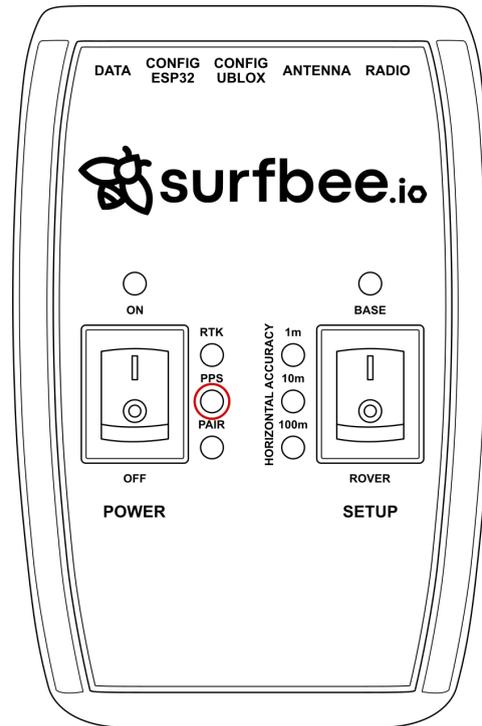


## WHAT?

## HOW?

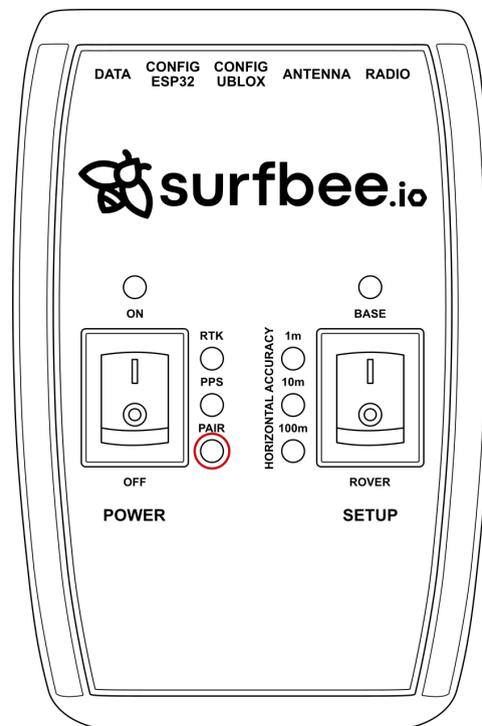
### PPS

Pulse per second. This yellow LED will blink at 1Hz when GNSS fix is achieved. You'll see this LED begin blinking anytime the receiver detects enough satellites to obtain a rough location.



### PAIR

Blinks blue when waiting to be paired with over Bluetooth. Solid when a connection is active.

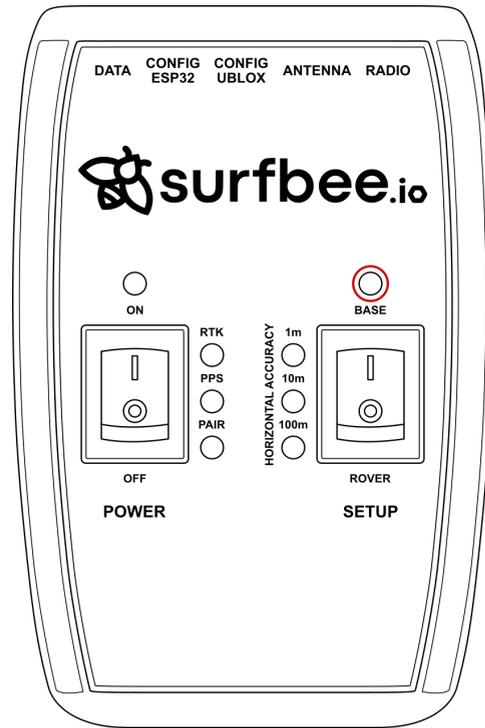


## WHAT?

## HOW?

### BASE

This LED will blink red when the SETUP switch is set to Base and a survey is being conducted. It will turn solid red once the survey is complete and the unit begins broadcasting RTCM correction data.



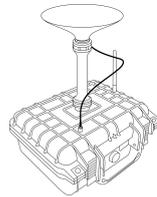
# Mounting the RTK Base Station

## WHAT?

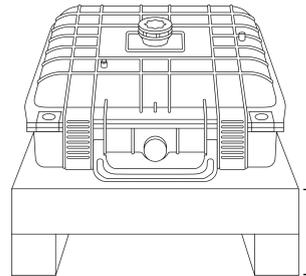
## WHERE?

## HOW?

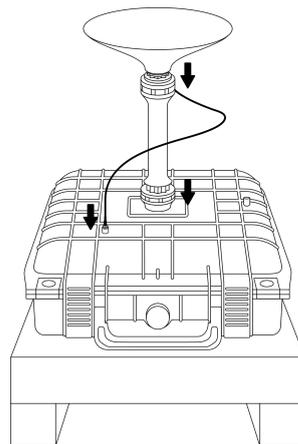
Setting Up the GNSS Antenna



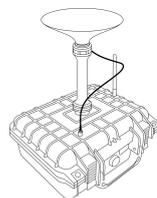
Find a suitable location for the base station where it has a clear line of sight to the sky. Mount it on a stable and elevated platform to minimize obstructions.



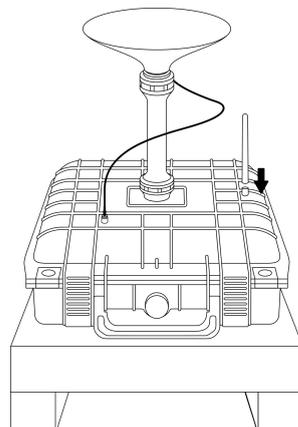
Attach the GNSS Antenna securely to its support and insert it into the central slot. Then, connect the GNSS cable to the inferior port.



Setting Up the 915 MHz Antenna



Attach the 915 MHz antenna to the port situated on the upper right-hand section of the case. Make sure the antenna has an unobstructed view of the sky.

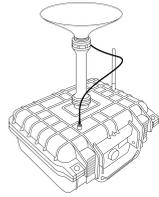


**WHAT?**

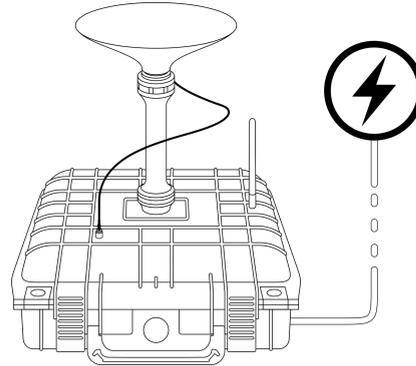
**WHERE?**

**HOW?**

Setting up the RTK Base Station



Ensure the base station is charged or connected to a stable power source.

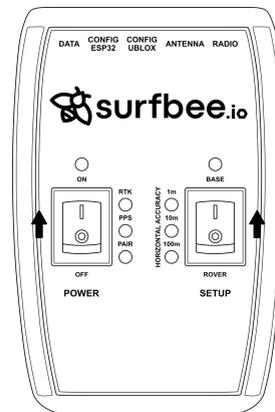


Turning on the RTK Base Station

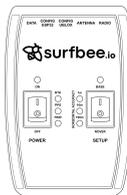


Flip the power switch to "ON" position, and make sure the setup switch is flipped to "BASE" position.

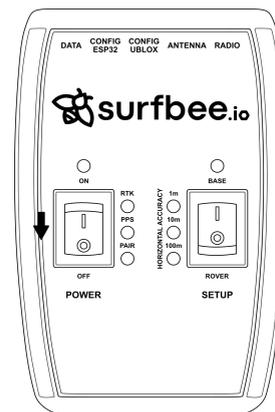
The RTK will initiate a survey. After 60 to 120 seconds the survey will be completed and the RTK Surveyor will begin transmitting RTCM correction data out the radio port. A base is used in conjunction with your USV and Controller to obtain up to 14mm (about 0.55 in) accuracy.



Turning off the RTK Base Station



Flip the power switch to "OFF" position.

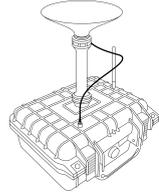


**WHAT?**

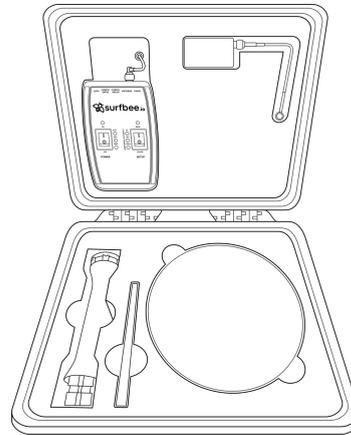
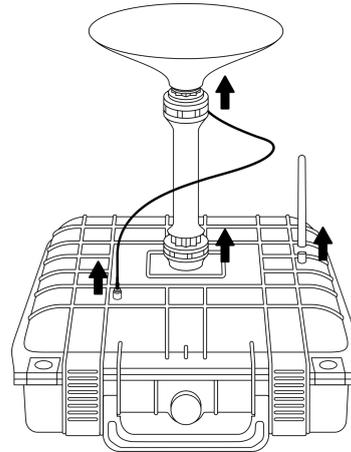
**WHERE?**

**HOW?**

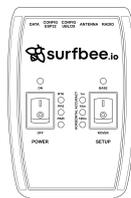
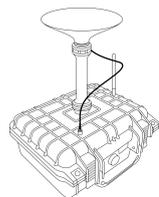
Disassembling the RTK Base Station



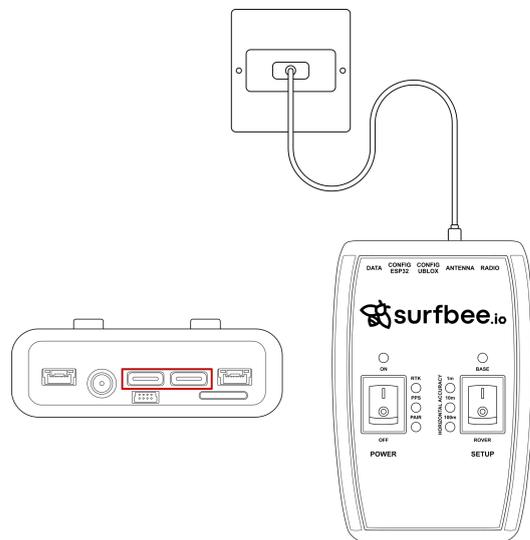
Disconnect all the antennas and place them inside the case.



Charging the RTK Base Station



The RTK Surveyor has a built-in 1200mAh lithium polymer battery that will enable up to 5 hours of field use between charging. If more time is needed, a common USB power bank can be attached boosting the field time to 40 hours. To charge, simply connect to one of the USB and plug into the power supply.



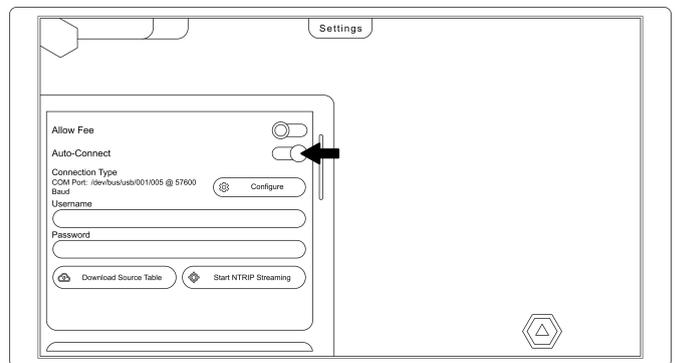
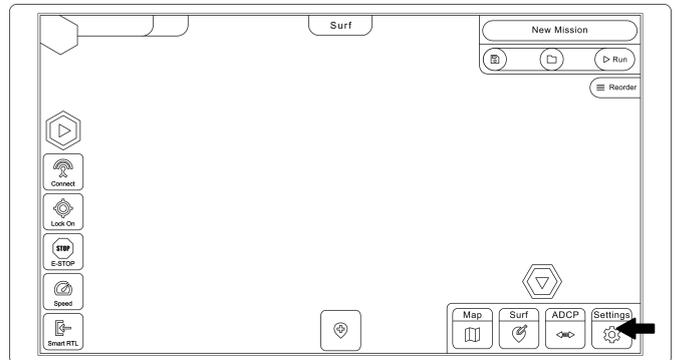
# Software Configuration

## WHAT?

## HOW?

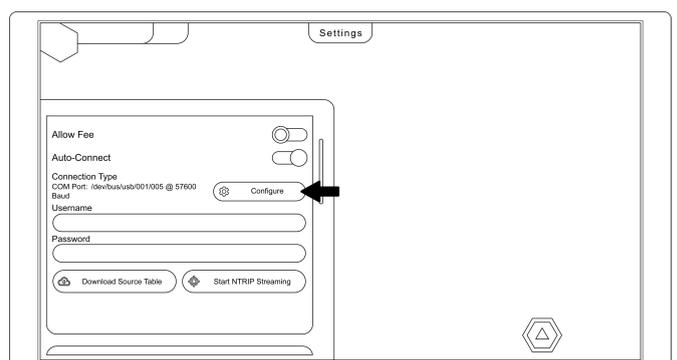
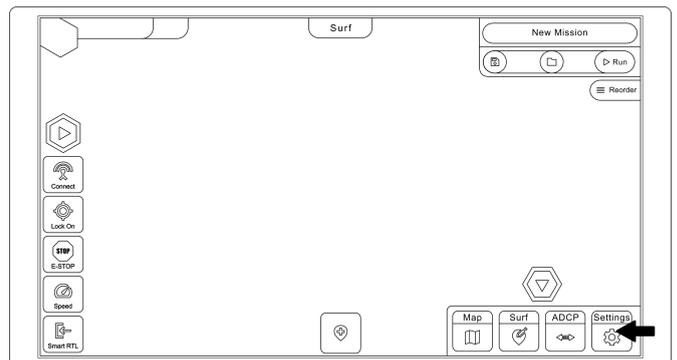
### Auto-connect

With your Surfbee's Controller already connected to your USV, click Settings and look for NTRIP Options, selecting Auto-Connect. The system is going to look for your RTK base automatically.



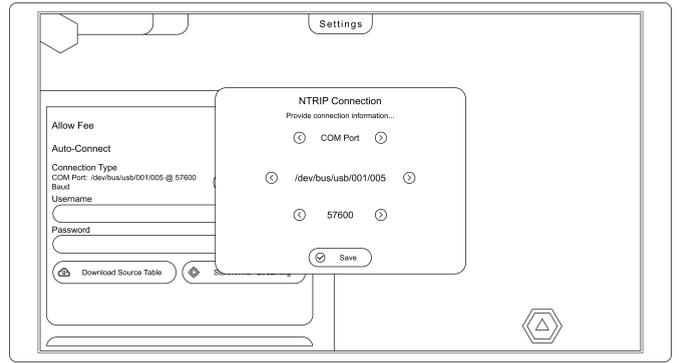
### Manual Connect

Go to Settings and on NTRIP Options click on Configure. Click on the arrow to select (/dev/bus/usb/001/005) and save the changes.



## WHAT?

## HOW?



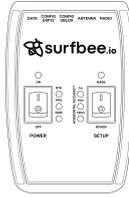
# Troubleshooting

WHAT?

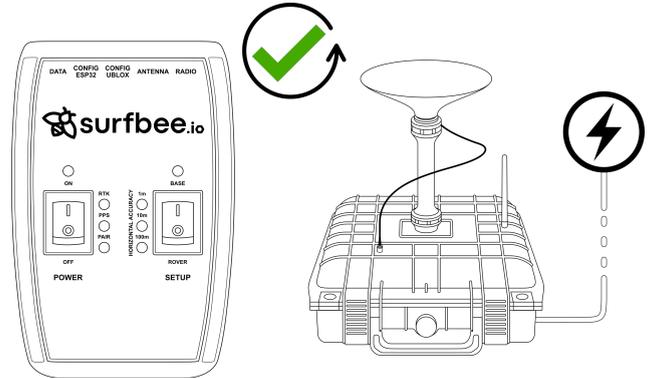
WHERE?

HOW?

Reset and Power Check



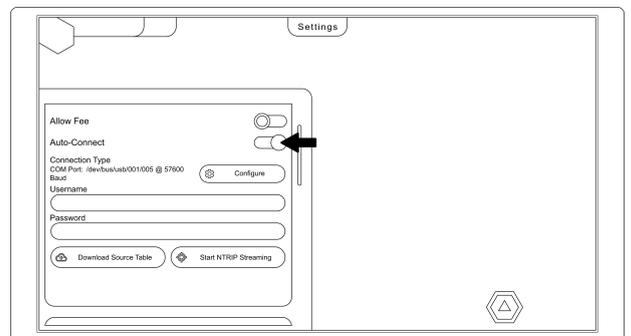
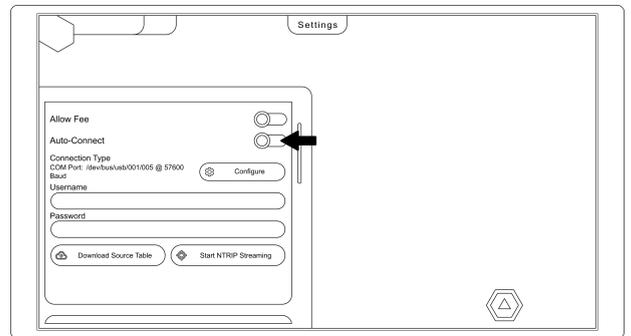
Start by resetting the system and double-checking the power supply.



Auto Connect Reset



If the problem lingers, reset the auto connect feature. Just turn it off and then on again. This often resolves connectivity hiccups.

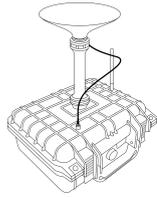


**WHAT?**

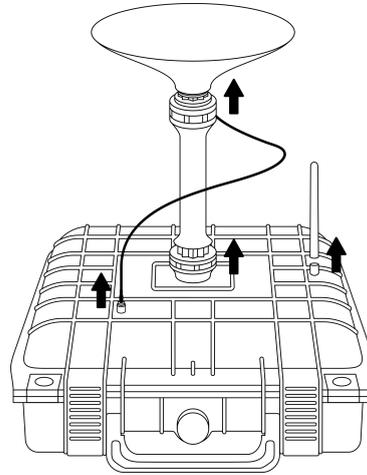
**WHERE?**

**HOW?**

Cables and Antennas



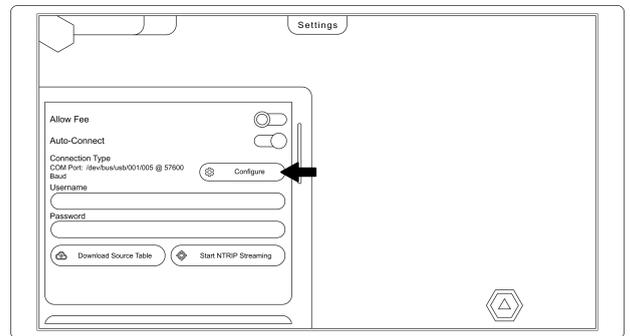
Still facing trouble? Disconnect all cables and antennas. Then, move on to manual software configuration.



Manual Software Configuration



If the issue persists, it's time to manually configure the software settings. Follow the instructions in the manual to ensure correct setup.



# Warranty Information

## Warranty

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- a. **Manufacturer's Warranty:** Electronic Hardware.
- b. **Duration:** The warranty coverage for the Electronic Hardware is valid for a period of 6 months from the date of purchase.
- c. **Coverage:** This warranty covers defects in materials and workmanship under normal use and service. If a product is found to be defective in material or workmanship during the warranty period, it will be repaired or replaced at the manufacturer's discretion.
- d. **Exclusions:** Misuse by Customer: The warranty does not cover damages or defects arising from: Improper use or installation, Use of the product for purposes other than its intended function, Impact damages, such as dropping or colliding the product with another object, Using the product in a manner inconsistent with its specifications, Environmental Factors: Damage caused by exposure to extreme temperatures, corrosive environments, water ingress, or UV damage is not covered, Unauthorised Repairs/Modifications: Any alterations, modifications, or repairs not authorized by the manufacturer will void the warranty.
- e. **Normal Wear and Tear:** The warranty does not cover cosmetic damages or damages resulting from normal wear and tear.