Configuring NTRIP Output Driver Over Network

By Trevor Hamlett

While in the field, there will be times when you will need to send corrections to your GPS for more accurate positioning. HYPACK® has its very own NTRIP driver. There are two ways to send the corrections, serial or network. In this document, I will describe the steps to configure via a network connection (ethernet cable). Please note that you can use UDP or TCP when configuring via the network. In the examples below, both UDP and TCP connections are used.

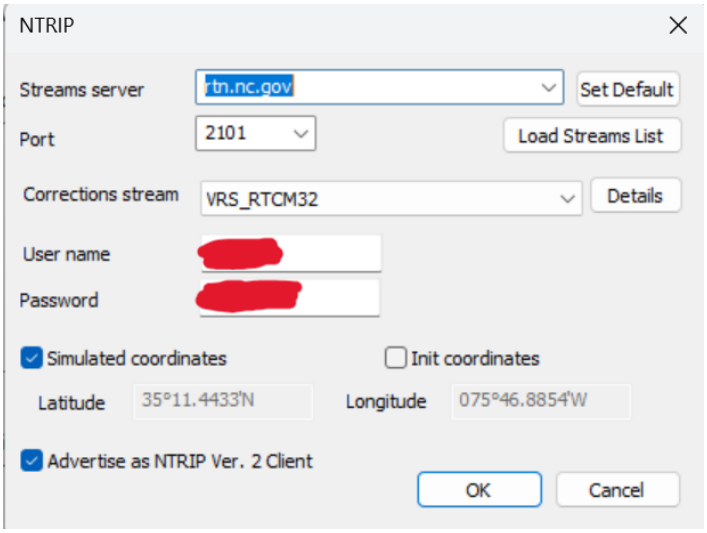
NOTE: Your computer will need an internet connection to receive these corrections!

Setup for HYPACK®:

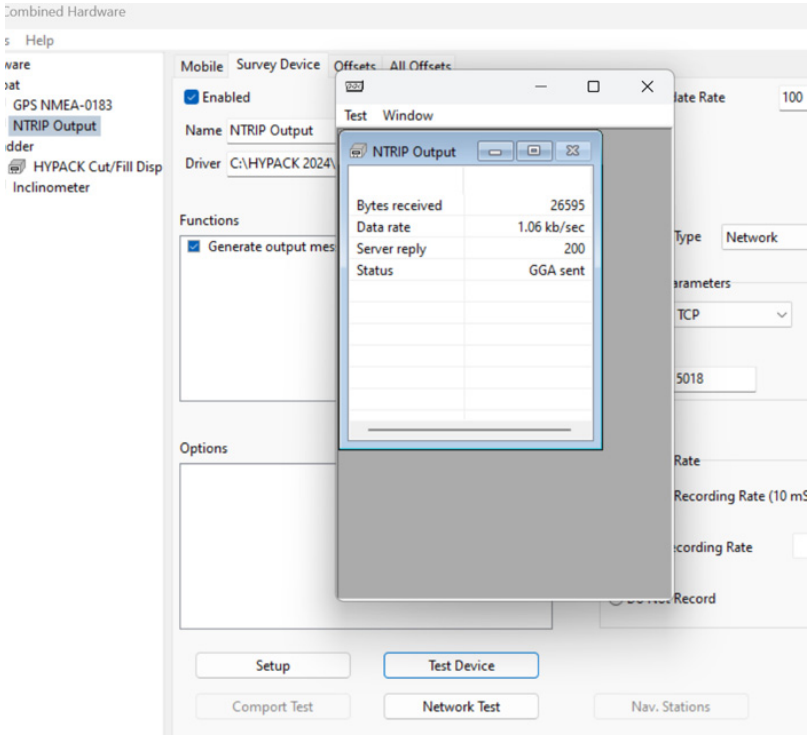
1: Open your HYPACK Combined Hardware and add the NTRIP Output Driver (ntrip.dll).

2: Navigate to the “Setup” button under the Survey Device tab and input your login credentials. (You should have received these credentials from the provider you purchased the NTRIP service from).

Once you have entered your Streams server, Port, Username, and Password, click [Load Streams List]. Then select the recommended correction stream from your provider. I recommend you enable “Simulated coordinates” and input the Latitude and Longitude of your equipment. Doing this will ensure that the service provider uses the correct towers to provide corrections. If you have a GPS and the NTRIP driver under the same mobile in HYPACK Combined Hardware, HYPACK® should receive your position automatically, and typing in your coordinates is not necessary. The [Details] button gives you a list of information about the server you are using, and is a good place to verify what parameters the server is using.



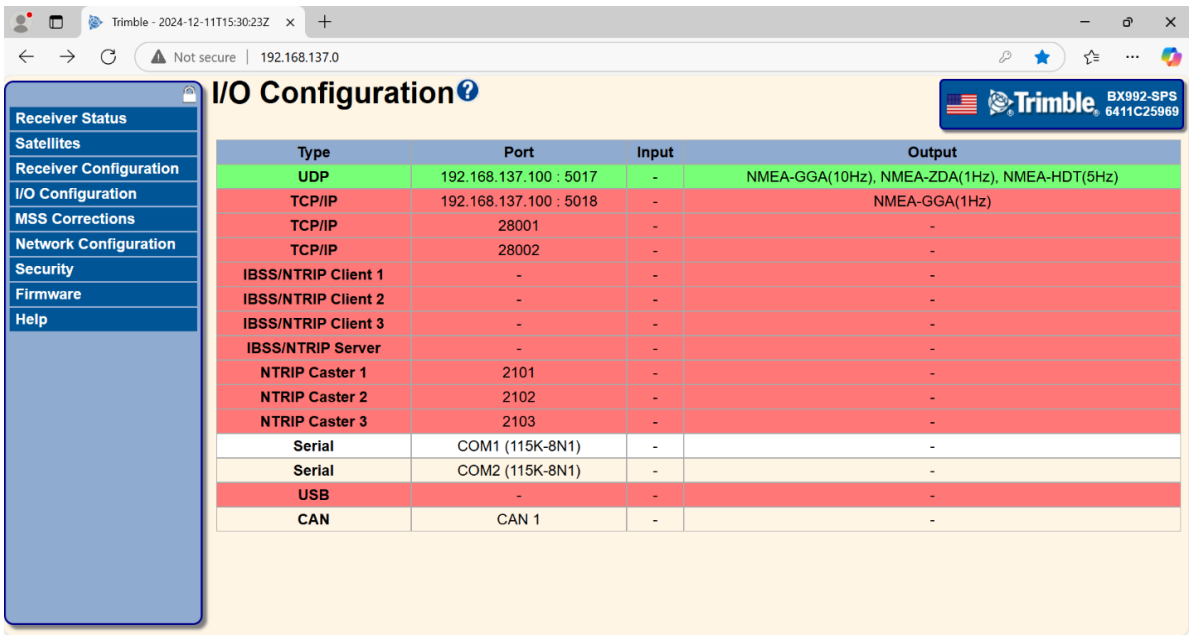
3: Click the [Test Device] button to open the Test Device window to verify communication has been established. The Bytes received value should increase, indicating that the server is responding. The Data rate will fluctuate, which shows the speed/rate at which the data is being received. If you see a connection closed for the Status, then the connection could not be made.



Configure the GPS:

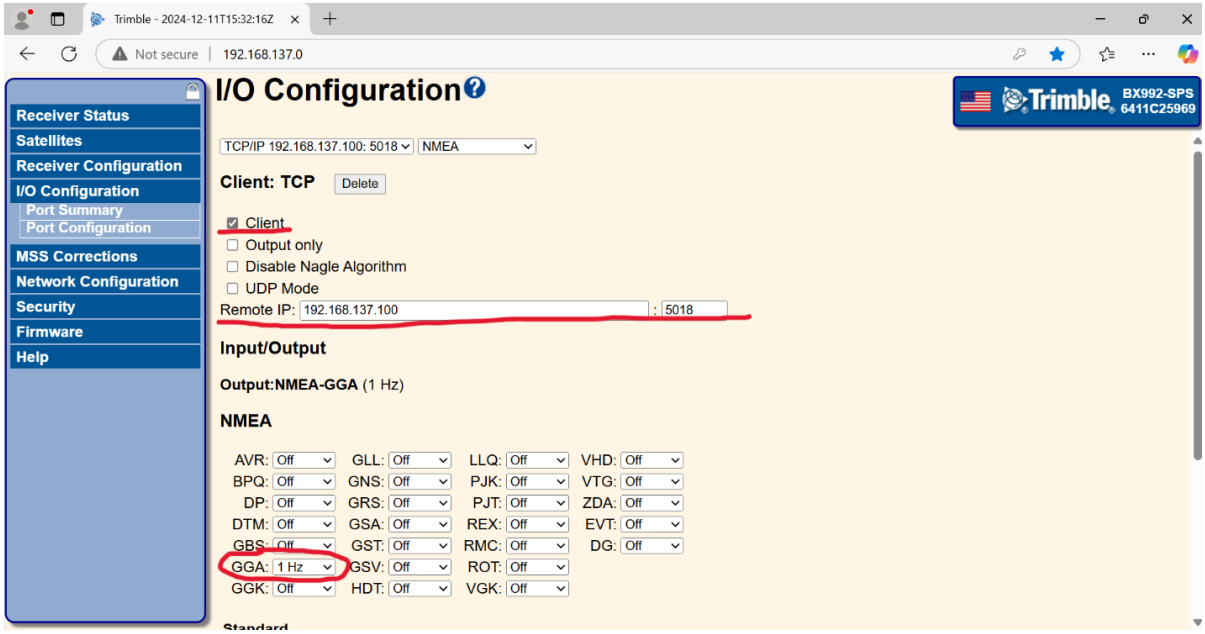
4: Next, we must configure the GPS to receive these corrections from HYPACK®.

In my example, the first connection (network port 5017) was already established with HYPACK®, giving positioning but no corrections. We need to set up another network connection so the data from the HYPACK® NTRIP driver is sent to the GPS.



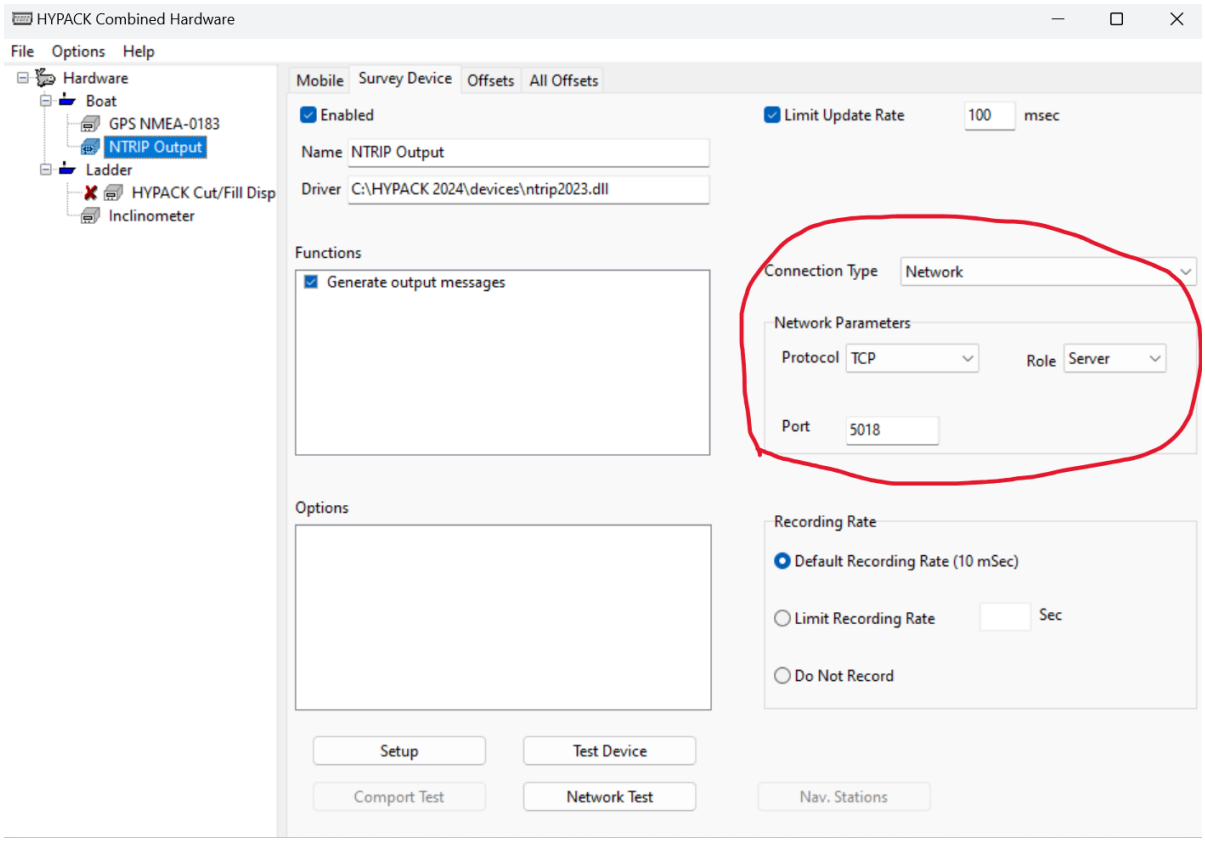
Type	Port	Input	Output
UDP	192.168.137.100 : 5017	-	NMEA-GGA(10Hz), NMEA-ZDA(1Hz), NMEA-HDT(5Hz)
TCP/IP	192.168.137.100 : 5018	-	NMEA-GGA(1Hz)
TCP/IP	28001	-	-
TCP/IP	28002	-	-
IBSS/NTRIP Client 1	-	-	-
IBSS/NTRIP Client 2	-	-	-
IBSS/NTRIP Client 3	-	-	-
IBSS/NTRIP Server	-	-	-
NTRIP Caster 1	2101	-	-
NTRIP Caster 2	2102	-	-
NTRIP Caster 3	2103	-	-
Serial	COM1 (115K-8N1)	-	-
Serial	COM2 (115K-8N1)	-	-
USB	-	-	-
CAN	CAN 1	-	-

Click on the TCP/IP port and configure your device to output a GGA string at 1 Hz.

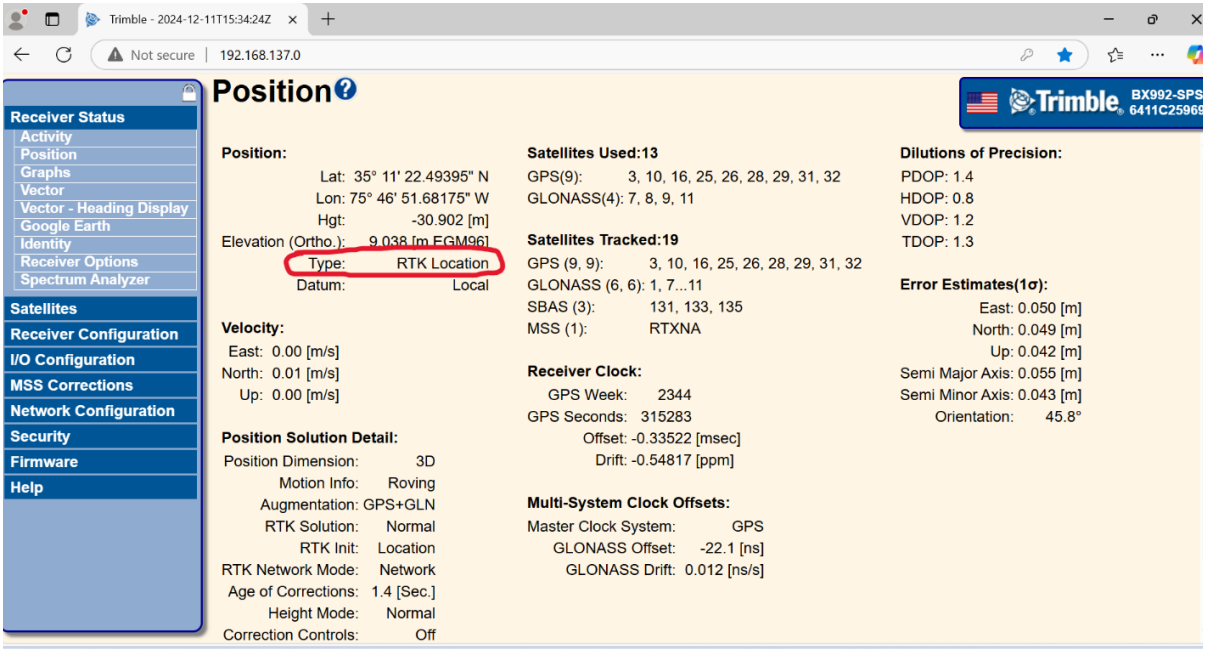


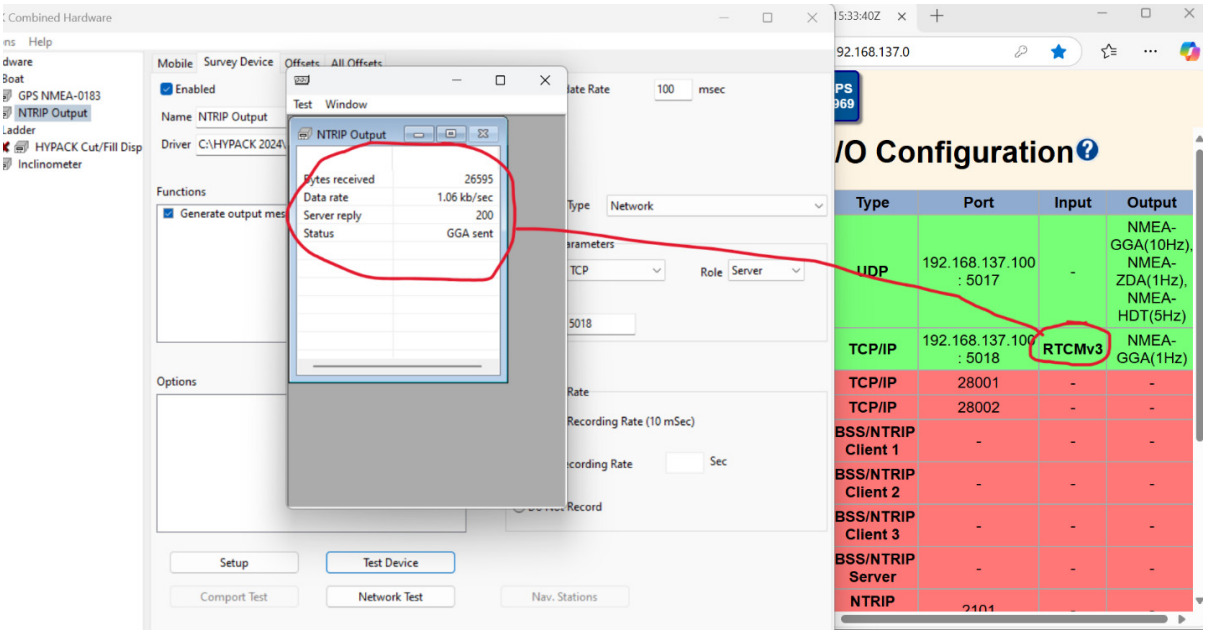
The Remote IP address is the same as your computer's IP, but you will use a different port for communication (for example, Port 5018).

Don't forget to go back into HYPACK Combined Hardware and set or confirm the IP address and Port number match the GPS settings.



5: Everything should be connected and ready to test. To see if your GPS is receiving corrections, click [Test Device] in HYPACK Combined Hardware and then head back to your GPS configuration screen. You should see that both connections are green, and you are now getting RTCM or CMR corrections. Even though you receive these corrections, it does not necessarily mean it will work properly. You will need to check the accuracy of your GPS, and if it's not what you would expect, then your base may be too far, or you are using the incorrect correction stream!





The GPS positions will now be more accurate. You will also see the GPS Status code change in HYPACK® to RTK Fixed or RTK Float.