



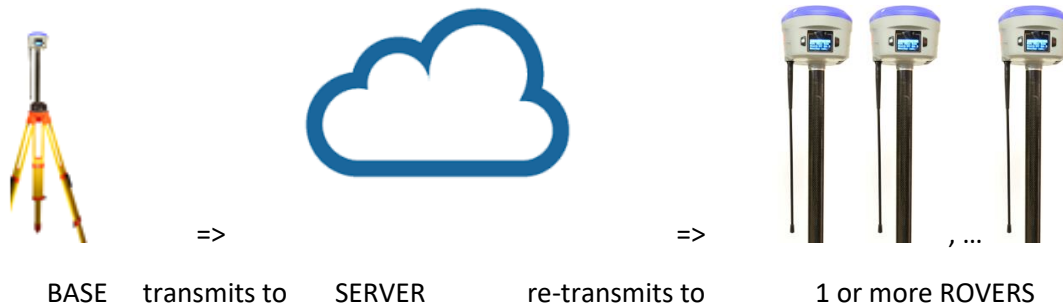
iG8 as Network Base

Date: 21 December 2017

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Synopsys

You can put a GSM Sim card in the iG8 base and send corrections to a remote server which then forwards the corrections to rovers:



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Typically the iG8 will not have a static IP address and in fact the iG8 base will typically have an inside NAT translated address which prevents all other devices from connecting to the iG8.

The BASE to SERVER connection can be TCP/IP or NTRIP depending on the configuration of the server.

Important Notes

If you configure a iG8 with Carlson SurvCE as a UHF Rover, UHF Base or a Data Collector Internet rover; SurvCE will disconnect the cellular modem and disable 'Auto Connect'. If you are using the head for other purposes, you should check the modem configuration before attempting to start corrections.

#0

Make Sure the iG8 is connected to the Cellular Network

From the web interface 'Network Setting', 'Mobile Network Setting' turn on the GPRS modem, set 'Auto Start' to Yes, set 'Auto Connect' to Yes, make sure the APN is correct:

Mobile Network Setting

GPRS Model Status: ON ON OFF

Auto Start: Yes No

Network Mode: 2G Only 3G Only 2G/3G Auto

Dialing Status: Connected Dial Break

Auto Connect: Yes No

GSM:

APN: broadband

Dialing String: *99#

User Name:

Password:

Typically leaving the APN, User Name and Password blank will work great. For most ATT connections using the 'broadband' APN will also work.

You can click on the Dial button to connect to the cellular data network.

Once the 'Dialing Status' says Connected you should be ready. You can also debug the cellular connection using the 'Network Setting' + 'Description' screen:

Network Info

Mobile Network Information:

Power Status: ON

Network Mode: 2G/3G Auto

Connection Protocol: AT&T

Signal Strength: -85(dBm)

SIM Status: SIM Card Ok

Dialing Status: Connected


IMEI: 356136075369530


IP: 10.92.131.26


If there is an IP address listed, then the iG8 should be connected to the cellular network.

[Set the Receiver to be a Base](#)

Go to 'Receiver Configuration' then click on 'Reference Station Settings':


Status 

Satellites 

Receiver Configuration 

- Description
- Antenna Configuration
- Reference Station Settings
- Receiver Reset
- Language
- User Management
- USB Function Switch
- HCPPP Settings
- 1PPS Settings

Reference Station Settings

Reference Station Mode: 

Base Station Name:

Base Station ID:

Reference Latitude: ° ' * N S

Reference Longitude: ° ' * E W

Reference Height:

Use Current Position

Sample for Average:

Positioning Constraint: Single Solution Coordinates Fixed Solution Coordinates

Sampling Amount: Start Stop

Set the mode to 'Manual Base'.

Either click on 'User Current Position' to use the current position, perform an average (typically no benefit) or hand enter a Lat/Lon/Height. Hint: if hand entering a position, click on 'Use Current Position' first and you won't need to edit very many digits.

Finally click on 'Save' to configure the head as a base.

#1 TCIP: Pushing Data from iG8 to TCIP Server Port

In this configuration:

iG8 is a TCP Client (transmitting data to server)

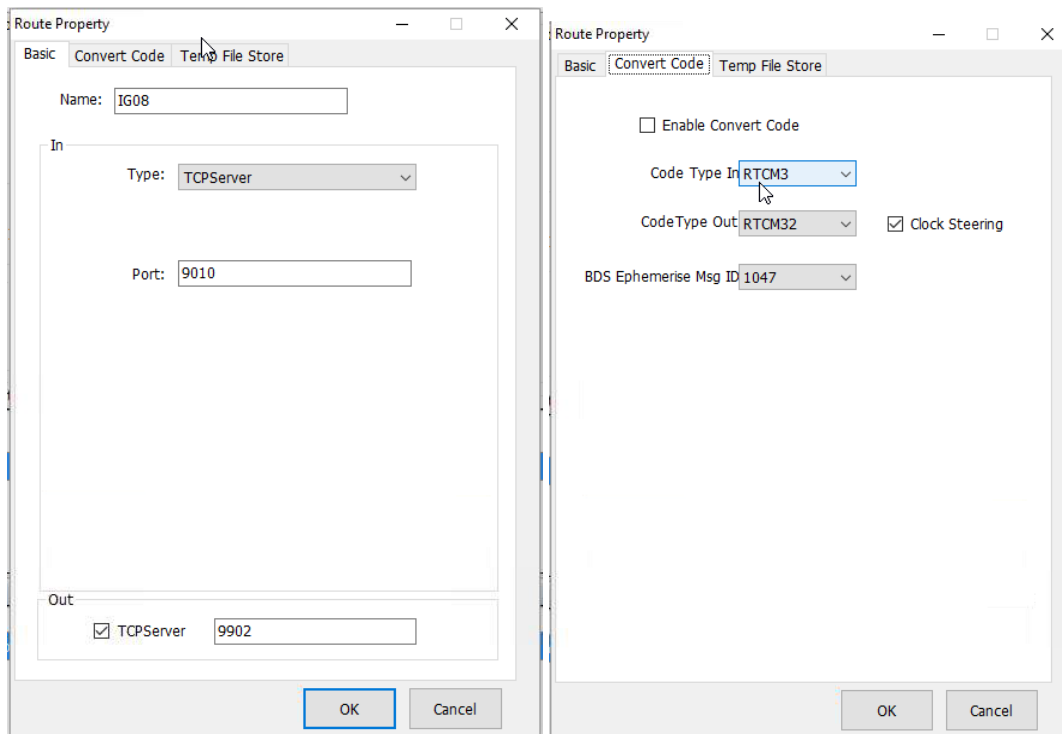
CHCStream is TCP Server (receiving data from client)

Rovers can connect to the port number associated with the CHCStream group.

Configuration of CHCStream

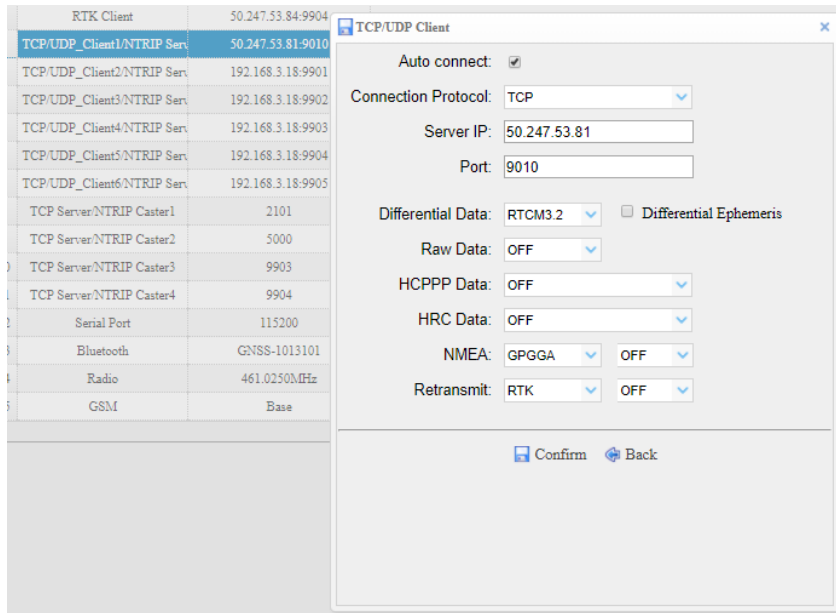


Group:



Configuration of iG8 I/O Settings:

Choose the 2nd line 'TCP/UDP_Client1/NTRIP Server'. Disconnect if it is connected or connecting, then click on Connect.



The server IP address can be a dotted IP address (like shown above) or it can be a URL like ‘alltopo.com’ which will evaluate to an IP address.

The port should be the service address for the TCP Server.

Choose an appropriate data stream type. sCMRx is great if all receivers will be iGage or CHC based devices. Otherwise, RTCM3.2 will probably be the best choice.

Check ‘Auto Connect’ if you would like the iG8 to automatically connect every time the receiver starts.

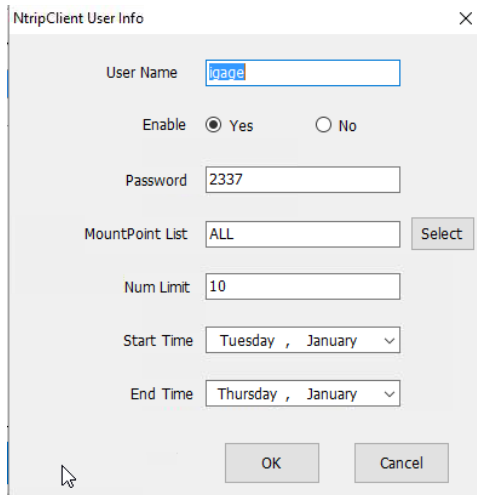
Click on Confirm to save the settings and initiate the data session.

After the menu closes, you can click on the ‘I/O Settings’ item on the left menu to re-display the grid. If the connection is active, the line will be green:

1	RTK Client	50.247.53.84:9904	---	Unconnected	Connect Disconnecting Detail
2	TCP/UDP_Client1/NTRIP Server	alltopo.com:9021	Differential Data:RTCM3.2	Logged In	Connect Disconnecting Detail
3	TCP/UDP_Client2/NTRIP Server	192.168.3.18:9901	---	Unconnected	Connect Disconnecting Detail

Setup a NTRIP Client User

From CHCStream main menu, select ‘NtripClient User Manager’, click on add then:

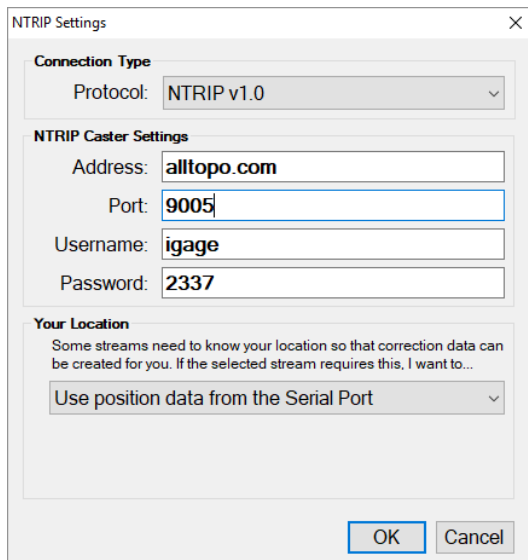


The dialog box titled "NtripClient User Info" contains the following fields and controls:

- User Name:
- Enable: Yes No
- Password:
- MountPoint List:
- Num Limit:
- Start Time:
- End Time:
- Buttons:

Make a new user.

Configuration of NTRIP Client



The dialog box titled "NTRIP Settings" contains the following sections and fields:

- Connection Type: Protocol:
- NTRIP Caster Settings:
 - Address:
 - Port:
 - Username:
 - Password:
- Your Location:
 - Some streams need to know your location so that correction data can be created for you. If the selected stream requires this, I want to...
 -
- Buttons:

Set the address to the CHCStream address, the port should match the group port, user name and password need to be authorized for the server.

In this example, a TCP/IP DIP (Direct IP) connection is made by the base to the server and then rovers connect to the server by NTRIP protocol.

TCIP Notes

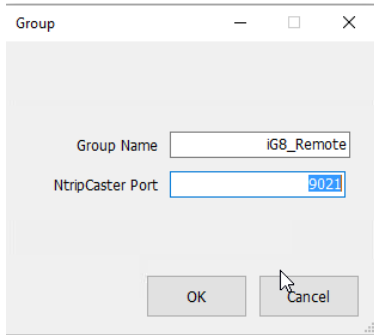
Advantage: easier to setup because there are no passwords.

Disadvantage: easy to disrupt as all malicious individual needs is the address and port.

#2 NTRIP: Pushing Data from iG8 NTRIP Server to Remote NTRIP Caster

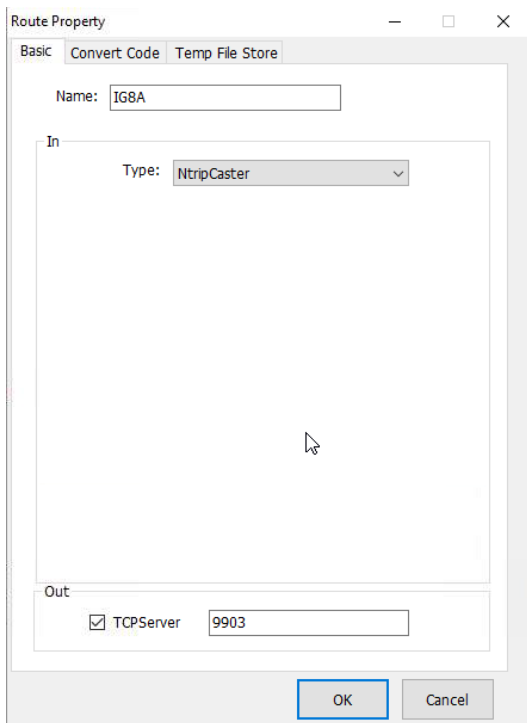
CHCStream Caster Configuration

Add a group:



The NtripCaster Port is the port that the iG8 will push corrections to and the port that rovers will connect to.

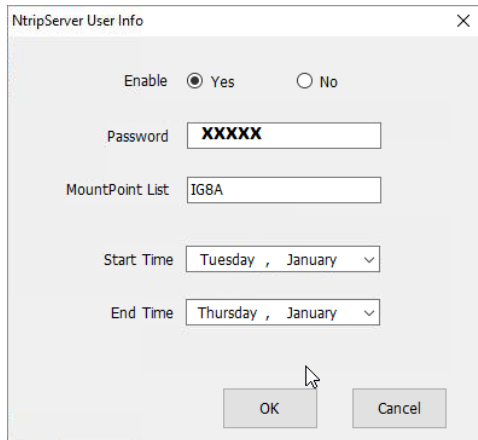
Next add a route to the group:



CHCStream will look like this:



Next add a Server Password. In CHCStream select 'Run: NTRIP Server User Manage'; then click Add:

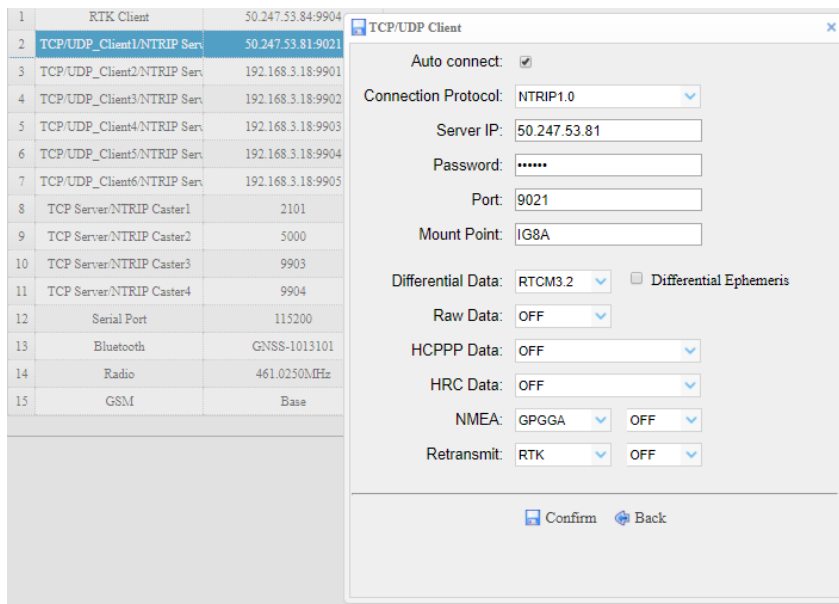


This is the password that the iG8 uses to connect to the caster.

The MountPoint List is the allowable streams that the device will be allowed to connect and source data to.

iG8 Base Configuration

Connect to the head by Wi-Fi and navigate to the IO Settings screen.



Set the server IP to the caster IP address. Set the port to the NTRIP port number, enter the password and the mount point. Choose an appropriate message to send, RTCM3.2 is a good choice.

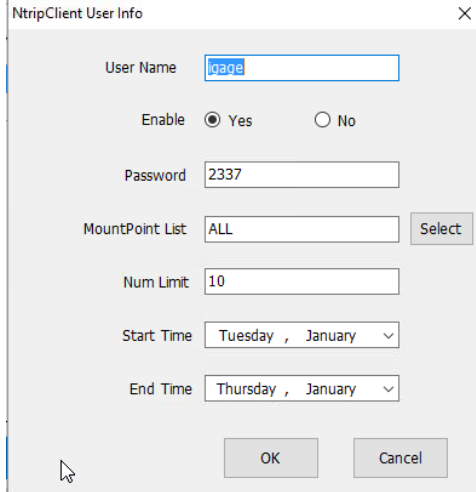
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Setup a NTRIP Client User

From CHCStream main menu, select 'NtripClient User Manager', click on add then:



NtripClient User Info

User Name:

Enable: Yes No

Password:

MountPoint List:

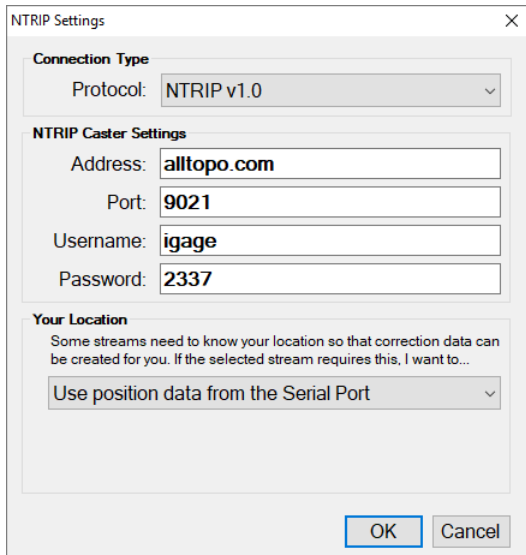
Num Limit:

Start Time:

End Time:

Make a new user.

Configuration of NTRIP Client



NTRIP Settings

Connection Type
Protocol:

NTRIP Caster Settings
Address:
Port:
Username:
Password:

Your Location
Some streams need to know your location so that correction data can be created for you. If the selected stream requires this, I want to...

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