

Configuring APIS on a iG8 Base / Rover Pair

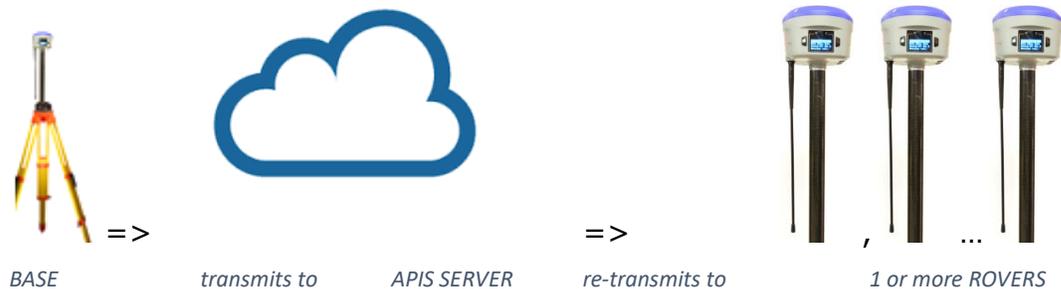
Date: 5 December, 2017; Rev: C

By: Mark Silver, ms@igage.com, +1-801-412-0011

APIS is a built-in cloud service that allows you to automatically broadcast corrections from a base to one or more rovers via GSM (Cellular) data. The service is free.

Using APIS requires provisioning GSM SIM cards in **both** the base and rover receivers.

Here is how APIS works:



The base transmits corrections to an APIS server (in the cloud) which then distributes the message to one or more rovers. (Base and Rover need not match, APIS is compatible with most CHC and iGage receivers.)

The base can be configured to automatically do a 'Read GPS' for the broadcast position and then connect to the APIS Server automatically every time it is turned on.

Or the base can be configured as a UHF Base & simultaneously broadcast APIS corrections both to the UHF Radio and the Internet Cloud.

The rover can be configured to automatically connect to the APIS server and get corrections when it is turned on. So once configured, a base and rover will automatically connect and the rover will get a fixed position when turned on.

The serial number of the Base Receiver is used to tie the rover to the correct base.

There are many ways to configure APIS on the iG8:

You setup from the front panel interface

You can use the Web interface

You can use the Android 'GNSS Tools' app via BlueTooth

You can use HcConfig on a PC or on a Windows Mobile Data Collector

The simplest method is to use the Front Panel which is described in this document.

Base Configuration: from Front Panel

From the Front Panel

```
SV:14 Auto 100%
Mode Base UHF
Static Off Not Recording
Receiver Info
```

Click on the  Next button to highlight the 'Mode' line, click on the  Enter key:

```
Base Cable
Base Int. UHF
Base APIS
Base APIS & Cable
Rover APIS
Rover NTRIP/IP
Rover UHF
Cancel
```

Click on the  Next button to highlight the 'Base APIS' line, then click on the  Enter key:

```
Mode Base APIS
Format RTCMv3.2
IP 101.132.227.1
Port 9915
OK
Cancel
```

Verify the IP address and port, change if needed; click on the  Next button to highlight the 'OK' line, then click on the  Enter key to select.

The head will average a few position measurements, configure as a Base with the average position and connect to the APIS server and begin transmitting corrections to the APIS cloud.

If the process is successful, the right-hand LED will blink yellow:



Note: you do NOT need the UHF antenna installed if you are using APIS alone. The cellular antenna is under the blue band, just above the metal case.

Note: when you use the front panel to configure an APIS base, the receiver ALWAYS does a 'Read GPS' to get a base position. You can retrieve the base position by selecting the top 'SV' line from the main menu, then click Next until you reach the 'Base Info' screen and click on the Enter button:

```
B:N 40:44:10.4649
L:W 111:51:33.7438
H:1257.9847m
Cancel
```

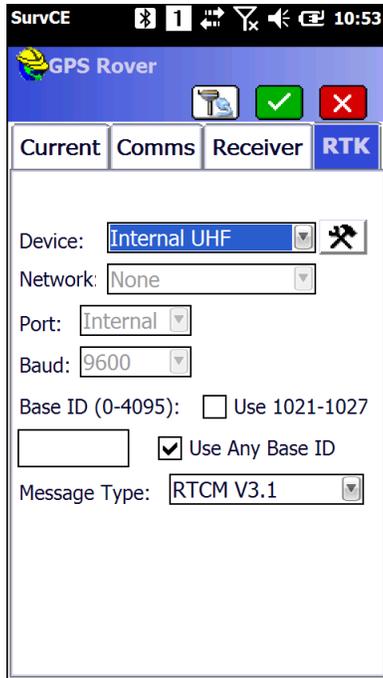
'B:' is the Latitude. H is the ellipsoid height of the L1 phase center of the receiver's GNSS antenna.

Select 'Cancel' to return to the previous menu. The base position can also be retrieved in SurvCE from the 'Ref' tab of Monitor Skyplot and stored in the current job.

Note: If you would like to manually configure the base position, use the Wi-Fi interface via your cell phone browser.

Rover Configuration from Front Panel

First configure the rover as a 'UHF Rover' in SurvCE, on the "Equip: GPS Rover: RTK (tab)" select:



Click on the green check mark to connect.

Next, from the Front Panel

```
SV:14 Auto 100%
Mode Rover UHF
Static Off Not Recording
Receiver Info
```

Click on the  Next button to highlight the 'Mode' line, click on the  Enter key to select:

```
Base Cable
Base Int. UHF
Base APIS
Base APIS & Cable
Rover APIS
Rover NTRIP/IP
Rover UHF
Cancel
```

Click on the  Next button to highlight the 'Rover APIS' line, then click on the  Enter key to select:

```
Mode Rover APIS
Current Base SN
IP 101.132.227.1
Port 9915
OK
Cancel
```

If the 'Current Base SN' is missing or incorrect, highlight the Current Base SN, then click Enter:

```
Base SN Setting
*****
IP 101.132.227.1
Port 9915
OK
Cancel
```

Highlight the SN line (2nd line) and the first digit will be selected. Use the enter key to enter the serial number of the base you want to connect to. Click the left button to move to each digit, click the right button to cycle through the numbers:

```
Base SN Setting
1013101
IP 101.132.227.1
Port 9915
OK
Cancel
```

Highlight to the OK line, then click Enter.

```
Mode Rover APIS
Current Base SN 1013101
IP 101.132.227.1
Port 9915
OK
Cancel
```

Verify that the IP address and port exactly match those selected on the base and change if needed.

When the SN, IP and Port are correct, click on the  Next button to highlight the 'OK' line, then click on the  Enter key to select.

The head will turn on the GSM cellular modem (if needed), connect to the internet and connect to the APIS server.

If the process is successful, and the base is sending corrections, the right-hand LED will blink yellow once each second while floating:



and change to green when the receiver fixes.

Note: you do NOT need the UHF antenna installed if you are using APIS.