iG8: Verifying/Restoring Satellite Tracking

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Introduction

By default, the iG8 receiver is set to track all satellite constellations and all satellites are enabled. We (iGage) believe that it is best to allow the GNSS OEM Engine in the receiver to make automatic satellite selections. When heads are shipped, all tracking and all SV's are enabled.

You may have a personal preference for disabling SV's, signal tracking (for example you may want to disable L5 tracking), or constellations. Please consider that we believe the best performance is always obtained when all constellations, all signals and all Satellites (SVs) are enabled.

Prior to SurvCE/SurvPC version 6.06 it was only possible to change the satellite tracking via the web interface on the receiver. The procedure for setting tracking is included in this document in the section "Configuring Tracking via the Web Interface" on page 2. Note that SurvCE / SurvPC does not allow individual satellites to be enabled and disabled. Only entire constellations can be controlled in SurvCE / SurvPC.

With SurvCE/SurvPC version 6.06 and higher (we currently, July 2020, recommend using only 6.05.6.06.7 and higher!) it is possible to control GPS/GLONASS/BeiDou/Galileo Satellite tracking when configuring as a Base (Equip: GPS Base) or as a Rover (Equip: GPS Rover).

*IMPORTANT: Because of a SurvCE / SurvPC upgrading issue, **when you update from SurvCE / SurvPC version 6.05 (or earlier) to 6.06 you will need to configure your data collector to ENABLE constellations.** The process is described in this document in the section "Using SurvCE / SurvPC to Controlling Tracking" on page2.*

We believe, however have been unable to duplicate, that early 6.06 versions of SurvCE / SurvPC (between 6.06 and 6.06.6) when updated from version 5; leaves SV's disabled. If you have recently updated SurvCE / SurvPC and are having tracking issues, please read the rest of this document.

Additional Recommendations

In addition to leaving all constellations, all signals and all satellites enabled, if you want to maximize tracking and performance you MUST select '**SCMR**' or '**RTCM3.2**' as the '**Message Type**' on the **Base**:

 or

Any other '**Message Type**' will result in reduced tracking performance on the Rover. We strongly recommend using '**SCMR**'.

If you are using a repeater, you **_MUST_** use **SCMR**. Note that '**SCMR**' is equivalent to '**SCMRX**', however it is NOT equivalent to 'CMR' or 'CMR+'!

To put a fine point on this:

**Any of these 'Message Types': CMR, CMR+, RTCMV2.3, RTCMV3.0 or RTCMV3.1
will result in reduced tracking and are BAD!**

Using SurvCE / SurvPC to Controlling Tracking

When configuring a Base or Rover from the Equip menu, on the 'Receiver' tab (1) click on the 'Advanced' button (2); next click on the 'Configure Constellations' button; then insure that all constellations are enabled (checked as shown); finally click the green check mark twice to return to the 'Receiver' tab:
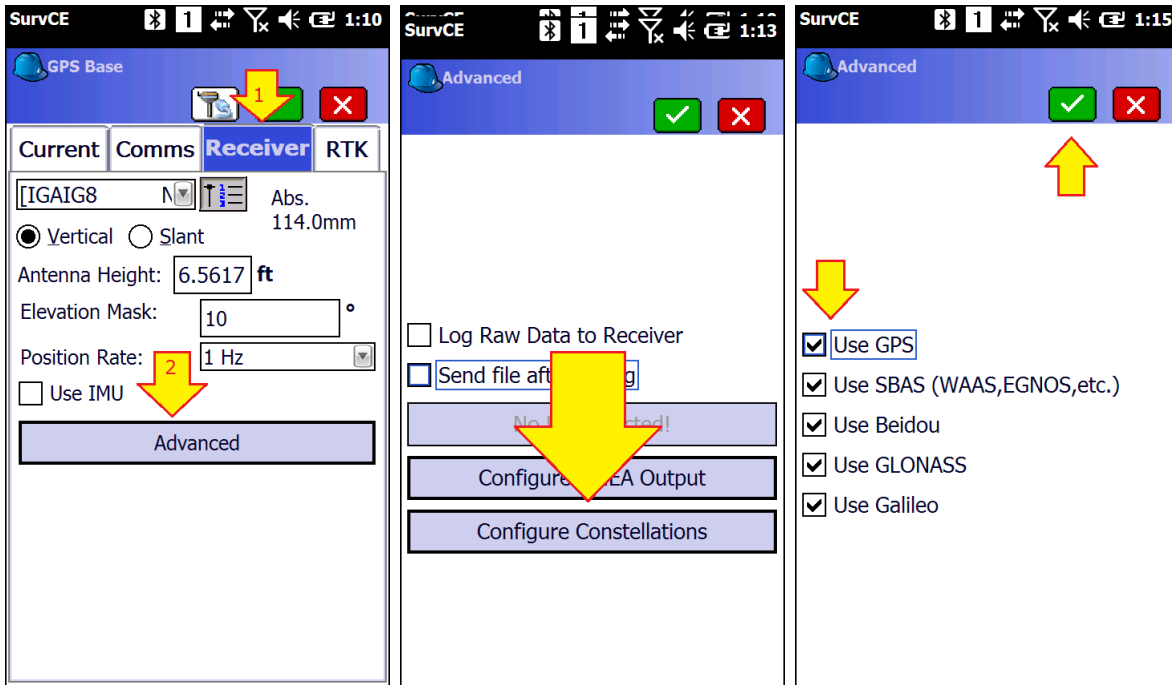
If you upgrade from a SurvCE / SurvPC version prior to 6.06 you will need to change the defaults once. This setting is stored in the data collector, not the receiver.

Configuring Tracking via the Web Interface

To configure tracking via the web interface you need to:

1. Connect to the head via Wi-Fi from a PC or tablet
2. Check and edit the current configuration

The next two sections cover these steps.

Connecting the iG8 to a PC or Smartphone via Wi-Fi

The iG8 receiver has an internal Wi-Fi Access Point which can be used in conjunction with a PC or smartphone to setup and control every feature of the receiver.

First make sure that the Wi-Fi hotspot in the iG8 is turned on.

From the Front Panel

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

Highlight the top line, then click on the **Enter** key

Use the **Next** button to move to the third line, highlighting WiFi Status

```
18=G08 R05 C00
Pwr: A 90% B 90%
WiFi Status Off WiFi Mode Hotspot
3G Status Online
```

If the WiFi Status is **Off**, then click on **Enter**

```
Open WiFi ?

Cancel          OK
```

Then click on **Enter** again to Open (turn on) Wi-Fi.

After you know that Wi-Fi is enabled, you can connect by Wi-Fi to a Tablet or PC. The Important Wi-Fi Facts are:

SSID	GNSS-unitserialnumber		
Wi-Fi Key	12345678		
Address	192.168.1.1	port	80 (http)
User Name	admin	password	password

Once Wi-Fi is enabled you can connect with a PC, tablet or smartphone. (If you choose to use a Tablet or Smartphone, it is best to 'Request Desktop Site' in the viewer.)

To connect the iG8, on your PC:

Click on the Network icon in the System Tray

1. Find the iG8 receiver which will be named 'GNSS-' followed by the full serial number of your device:

2. Click on 'Connect':
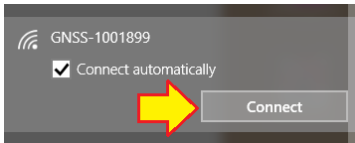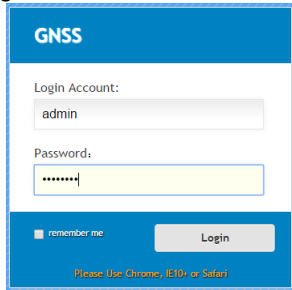
3. If requested enter the Wi-Fi password "12345678"
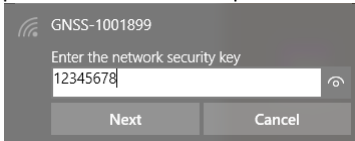
4. Click on 'Next' to connect by Wi-Fi to the GPS head.

5. Open a browser window on your PC and type in the GPS IP address:
   http://192.168.1.1
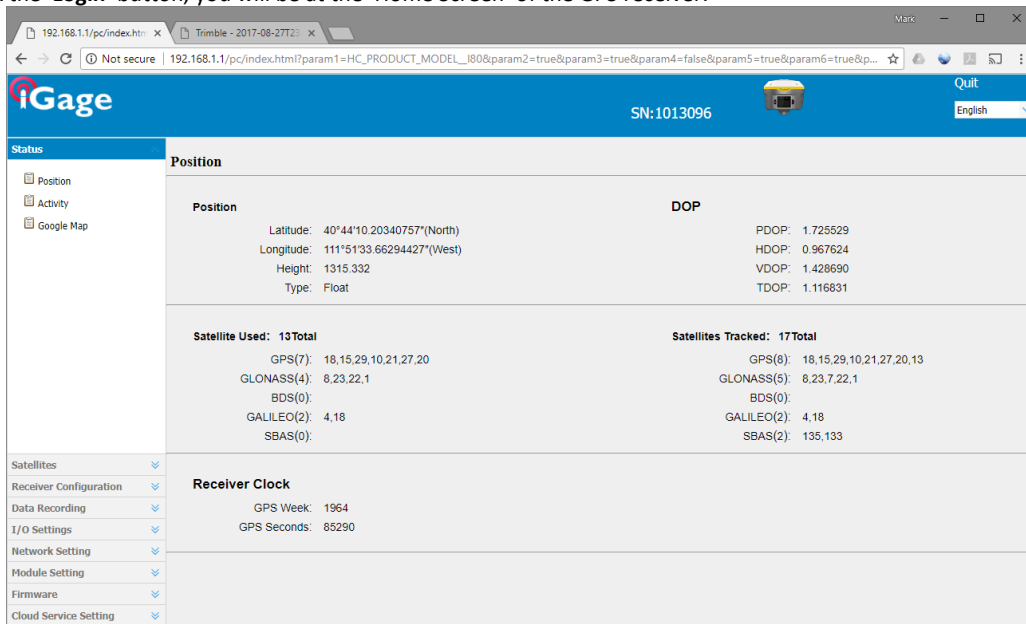
6. A Login screen will be shown:

The **Login Account** is '**admin**' and the **Password** is '**password**'.

7. Click the '**Login**' button, you will be at the 'Home Screen' of the GPS receiver:

From the Wi-Fi interface, you can configure nearly every aspect of the receiver's operation.

8. To enable tracking:
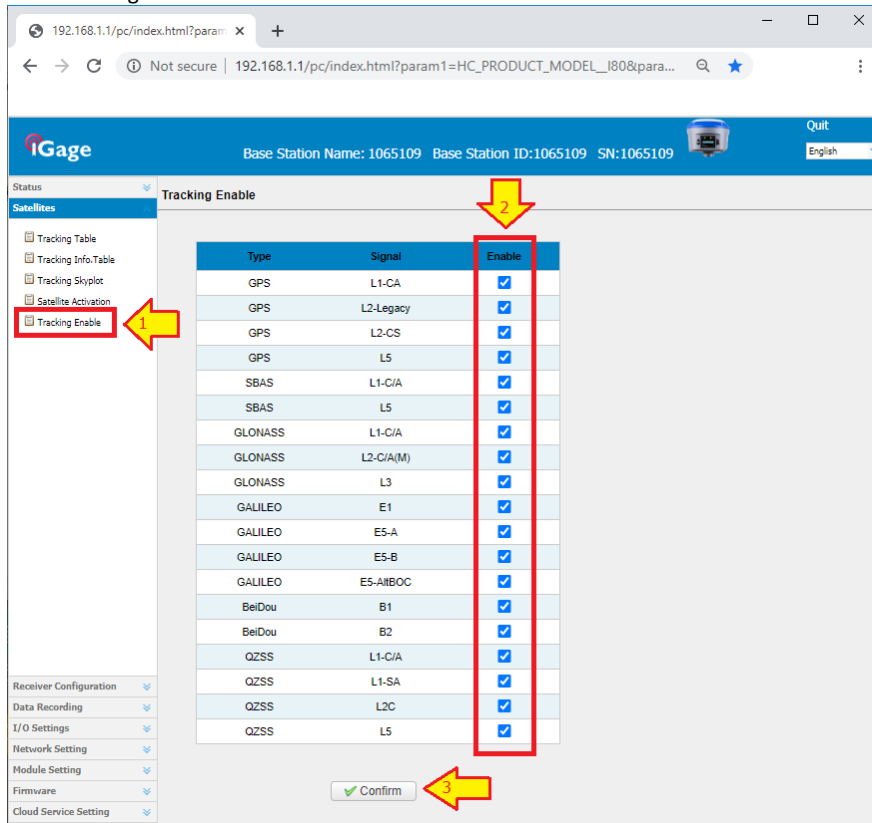
Click on 'Satellites: Tracking Enable' (1), then insure that all constellations are enabled (default) or choose the constellations and signals that you want to enable (2), finally click on 'Confirm' to save any changes.

9. Next click on 'Satellites' then 'Satellite Activation'. For each constellation: 'GPS, BDS, GALILEO, SBAS, QZSS' enable all of the satellites. Be sure to click on 'Confirm' after changing each constellation tab.
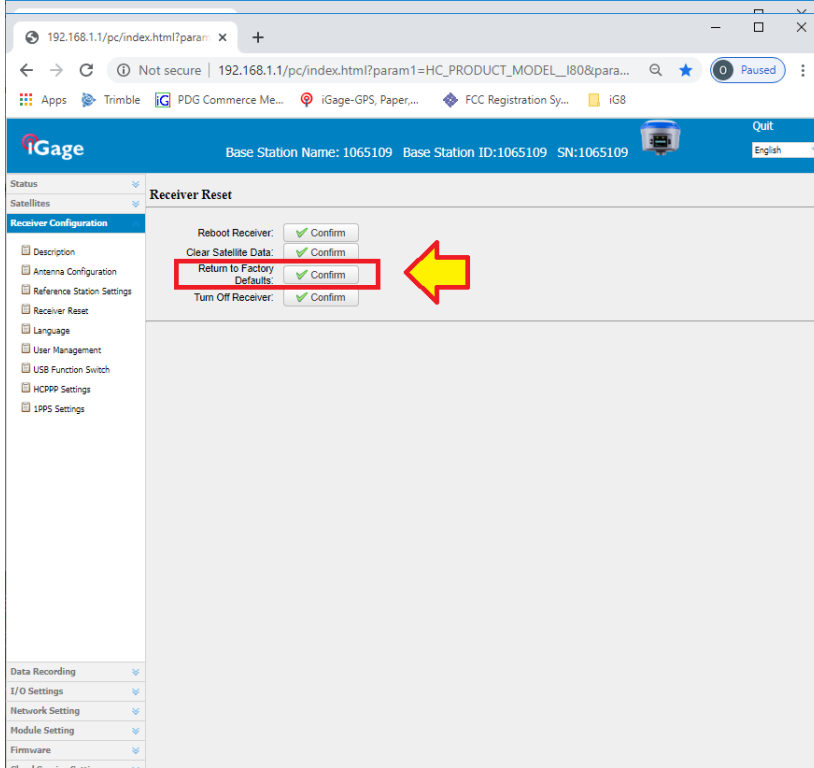
GPS:

GLONASS:

BeiDou:

GALILEO:

SBAS (WAAS in the USA), also select 'SBAS+ mode':
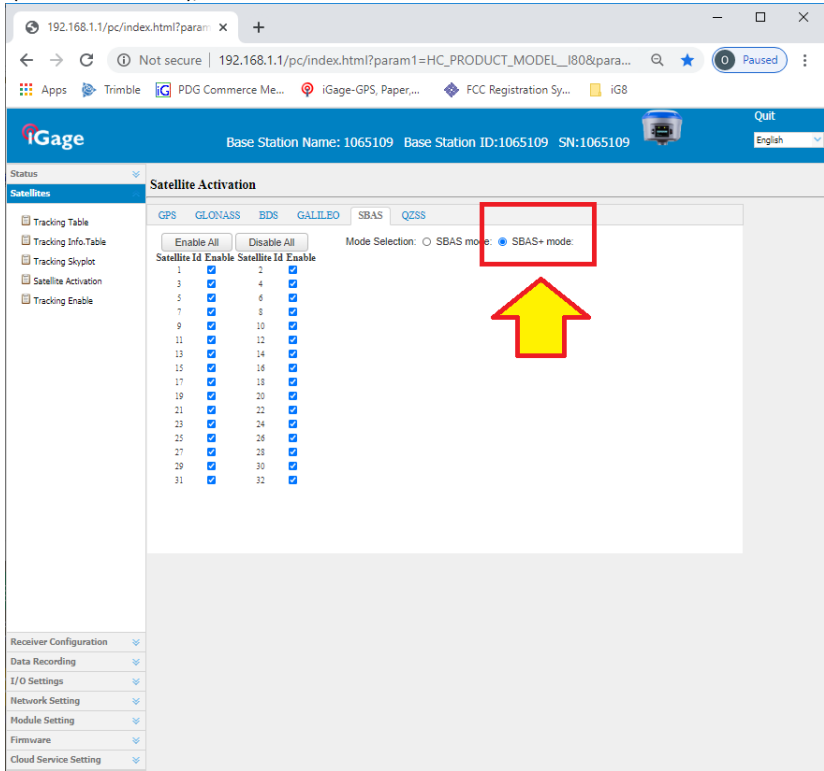
Resetting the Head to Factory Defaults:

If you do a 'Return to Factory Defaults' from the 'Receiver Configuration', 'Receiver Reset' menu:

Every setting except for 'SBAS+ Enable' will automatically be made.