Using the iG4 as a DCI Network Rover

Date: Wednesday, November 13, 2019

Thesis

The iG4 receiver is marketed as a static receiver, however it is fully enabled for RTK use. This FAQ shows step-by-step instructions for configuring the iG4 in Carlson SurvCE (Version 6.xx).

Disclaimer

Please note that the iG4 is not sold or supported as a network rover. Other than this FAQ, iGage will not directly support use of the iG4 as a network receiver, base or rover.

Why doesn't iGage market the iG4 as an RTK receiver? While the internal OEM engine has excellent RTK qualities, the fixed solutions have higher uncertainty than the devices which we target at the RTK market segment. That said, the iG4 will outperform most commercial RTK receivers in Time-to-First-Fix, FIX reliability (bad fix avoidance) and FIX stability.

Because the iG4 does not have an internal cellular modem or an internal UHF radio it must be used with DCI (Data Collector Internet) methods.

Prerequisites

You will need a data collector, with Bluetooth, with SurvCE 6.xx or higher. A network source of corrections is also required. Corrections in these formats: RTCM2, RTCM3, RTCM32, CMR and CMR+ are supported.

You will need a source of internet for the data collector, this might be a celluar data connection for the data collector, or the data collector might be connected by Wi-Fi to an internet hotspot:

 =>  =>  =>  < Wi-Fi >  < Bluetooth > 

Configuring the iG4 as a Network Rover

1. Verify that your Data Collector has Internet

Make sure your data collector has a valid internet connection. From the main screen of your data collector, click on 'Start', 'Internet Explorer', enter a non-https web address, then click the site:

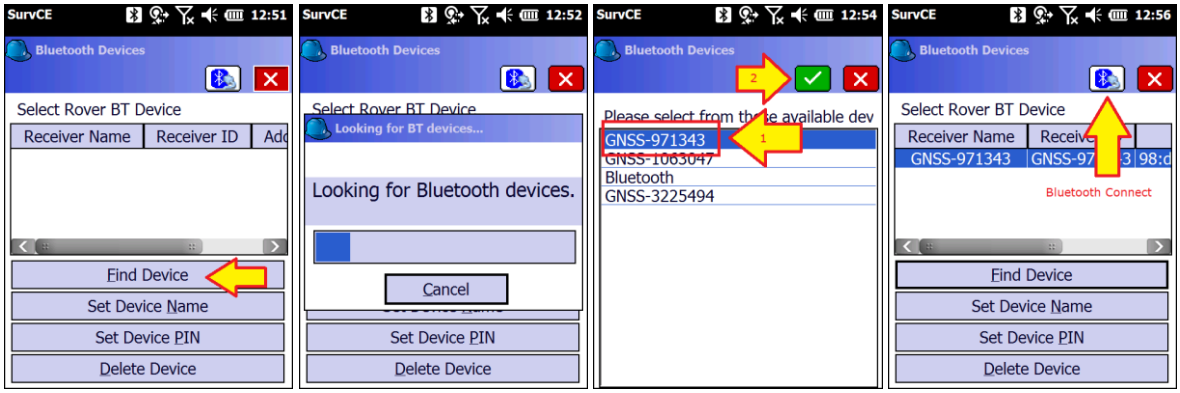
If your data collector has internet, the correct web page will be displayed:

If successful, click on the X in the lower right corner to return to the main window screen. A bad or sketchy internet connection is the number 1 cause of DCI failure.

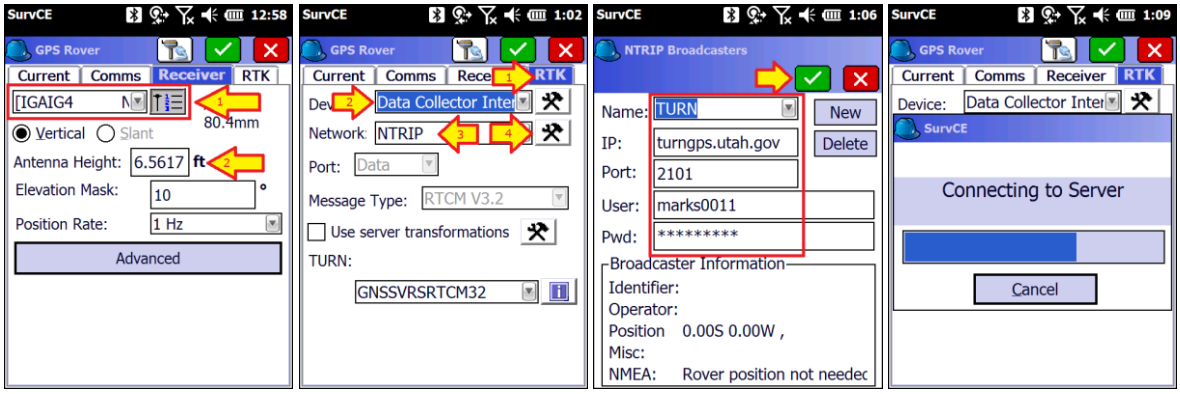
2. Configure the Rover

Start Carlson SurvCE (or SurvPC if on a tablet); create a new job or reopen an existing job; then select the 'Equip' tab, click on 'GPS Rover'; set the Manufacturer to 'iGage', set the Model to 'IG3s'; switch to the 'Comms' tab, then click the settings button to the right of 'BT Type:':

Click on ‘Find Device’; wait about 20-seconds for the Bluetooth search to complete; then select your iG4 from the list (the device will match the serial number of the iG4); click the Bluetooth Connect button:

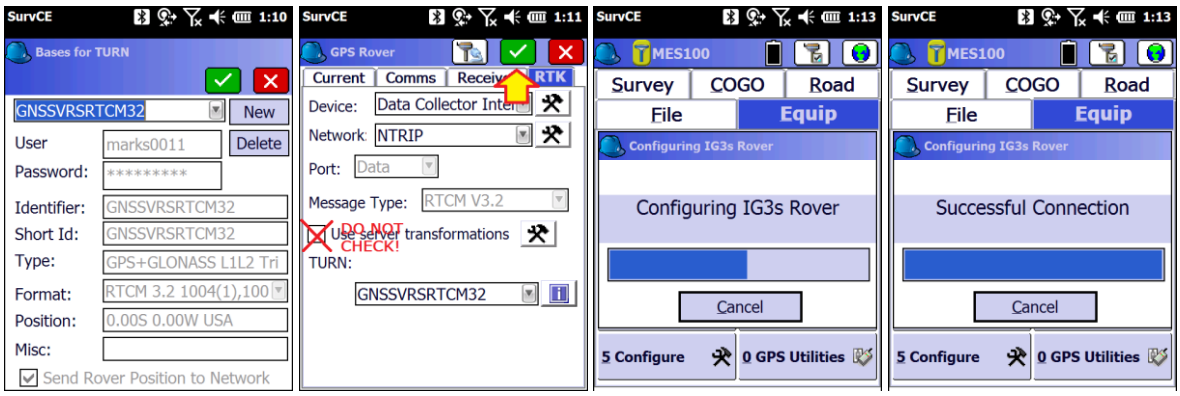


Select the ‘Receiver’ tab; then choose ‘IGAIG4 .. NONE’ as the antenna type, enter the correct antenna height; click the ‘RTK’ tab, select ‘Data Collector Internet’, then choose Network: ‘NTRIP’, then click the ‘settings’ button to the right of Network; on the ‘NTRIP Broadcasters’ tab, click ‘New’ to make a new broadcaster then enter a ‘Name’, with the IP address (might be a dotted ip address like 196.22.45.9), the Port and your unique Username and Password. Double-check all these values, then click the green checkmark; wait while the data collector connects to the server and downloads the mount table list:

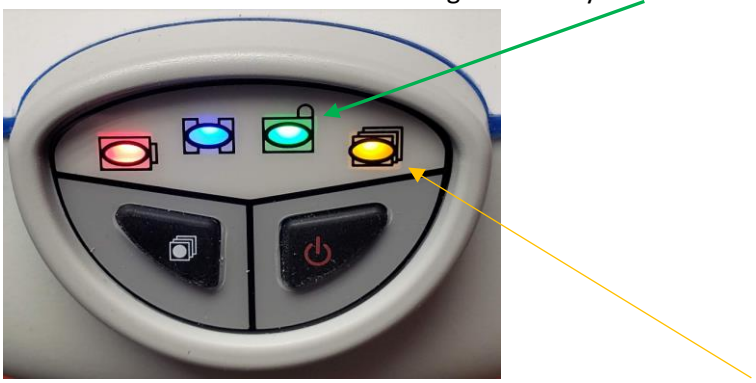


In the ‘Bases for xxx’ menu select the correct mount point for your area; then click the green check mark; DO NOT CHECK the ‘Use server transformations’ box (unless you know what you are doing), click the green check mark; wait for SurvCE to configure the head. After 10 to 30 seconds you will be

connected to the server:

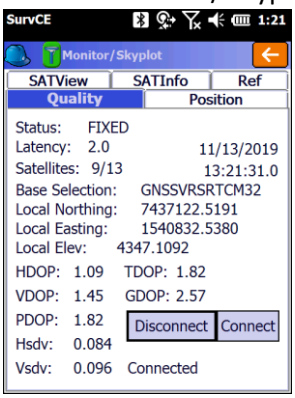


After a few moments the GREEN LED will start blinking once every second:



When the receiver gets a FLOAT solution (resolves integer ambiguities) the YELLOW LED will start to flash. When the receiver is fixed the YELLOW LED will continuously lite.

If you enter the 'Monitor / Skyplot' menu from the 'Equip' tab:



The status will be:

FIXED	Verified FIX
FIXED*	UnVerified FIX
FLOAT	receiving corrections, but not FIXED
AUTONOMOUS	not receiving corrections or waiting for base position

The 'Latency' should be 4 seconds or less.

Hsdv is a measure (in the job units) of the estimated horizontal error

Vsdv is a measure (in the job units) of the estimated vertical error