

## Altus NR2 – Configure Rover for GSM modem or Data Collector Internet RTK Link

You must be using FieldGenius 8.2 or newer.  
This document was written using FieldGenius 8.2

**Before we begin, please ensure that you have:**

Battery fully charged for your receiver and controller

*From your caster service:*

IP address  
Port  
(for NTRIP casters)  
User name  
Password

*From your internet service provider (if using a sim card)*

PIN (if required)  
Internet APN  
Username  
Password

For GSM Module connection: insert a micro sim card in the GSM module slot:



For Data Collector Internet connection (*often required for CDMA internet service providers*):

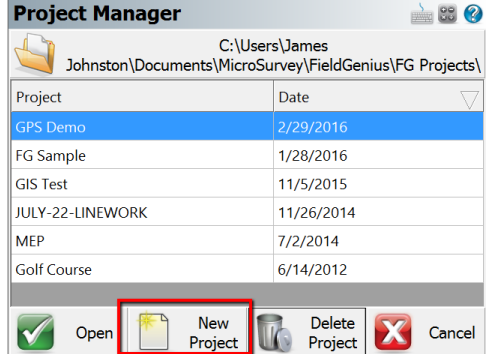
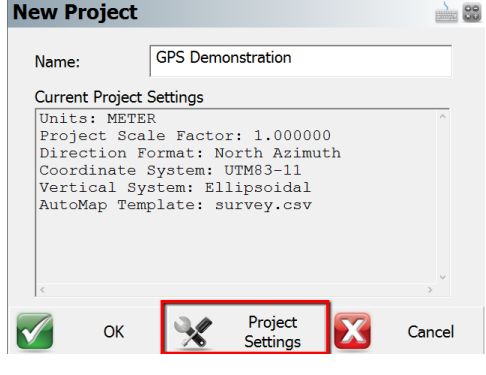
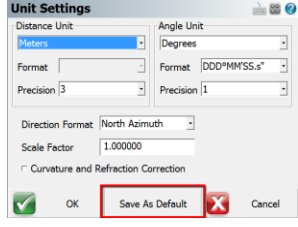
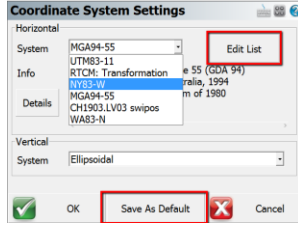
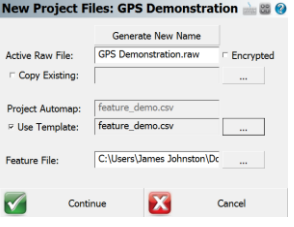
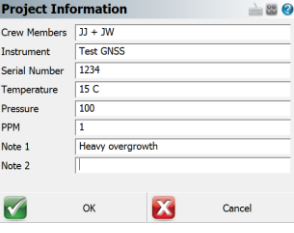
- Option 1: insert the sim card in the controller GSM module



- Option 2: turn on your wifi antenna and configure your controller to access the wifi signal
- test that you have internet access on the controller before starting FieldGenius

# Starting a Project

## Project Manager

	<ul style="list-style-type: none"> <li>• When you launch the program you will see the Project Manager.</li> <li>• Choose “New Project”</li> </ul>
	<ul style="list-style-type: none"> <li>• Give your project a name and select “Project Settings” if this is your first time running FieldGenius.</li> </ul> <div data-bbox="852 903 1323 1186"> <ul style="list-style-type: none"> <li>Units and Scale</li> <li>Coordinate System</li> <li>Project Files</li> <li>Project Information</li> </ul> </div>
 <p data-bbox="544 1218 834 1312">Set your preferred units and “Save as Default”</p>  <p data-bbox="544 1459 834 1617">Add your preferred Vertical and Horizontal Datums to the “Quick Pick” list and “Save as Default”</p>	 <p data-bbox="1161 1192 1403 1438">Select any desired Automap codelists, raw files and feature files. These choices will become the defaults.</p>  <p data-bbox="1161 1459 1403 1564">Add additional notes in “Project Information”</p>

## Instrument Selection Settings

### Naming a Profile

**Instrument Selection**

Instrument Type

- Total Station
- Total Station Demo
- GNSS Rover
- GNSS Reference
- GNSS Demo
- None

Always Auto-Reconnect

Instrument Profile: Altus NR2

Add Delete **Edit**

Profiles contain equipment settings and measurement tolerances.

Connect Close

Next you will see “Instrument Selection”

- Add a New GNSS Rover Profile
- Enter a name for the profile
- Edit the Profile

### GNSS Profile

**GNSS Profile**

	Model and Communication		Active Tolerance: [Autonomous]
	Tolerance Setting: [Autonomous]		Antenna Height
	Tolerance Setting: [RTK Float]		Auto Recording
	Tolerance Setting: [RTK Fixed]		

GNSS Profile Settings

- In the following menu you will be able to configure your Model and Communication settings, the three various Tolerance Setting Modes, your Antenna Height and the Auto recording feature.

### Tolerance Settings 1-3

**Tolerance 3**

Description: RTK Fixed

Real Time

Post Process

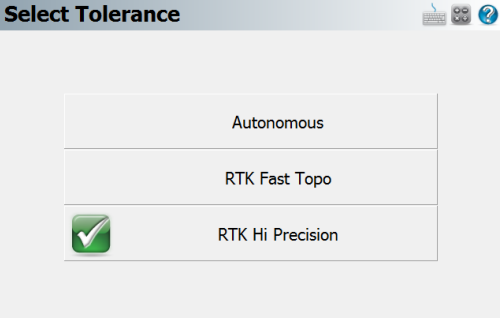
Actions

OK


- There are three different tolerance modes that can be set.
- These can filter for poor conditions, can set allowable tolerances for position accuracy, and can control when and under what conditions raw data is collected for post processing purposes.

*Configure the three tolerance modes based on your needs.*

### Active Tolerance



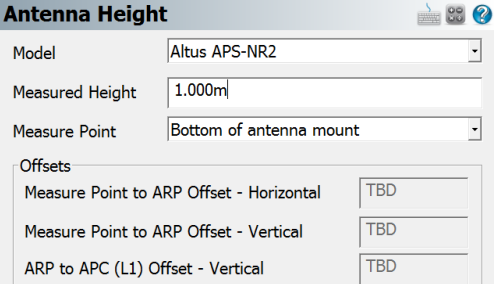
- The Active Tolerance will be applied when you connect to the instrument.



**Active Tolerance:  
[RTK Hi Precision]**

*Once connected you can switch between them on the GPS Control menu.*

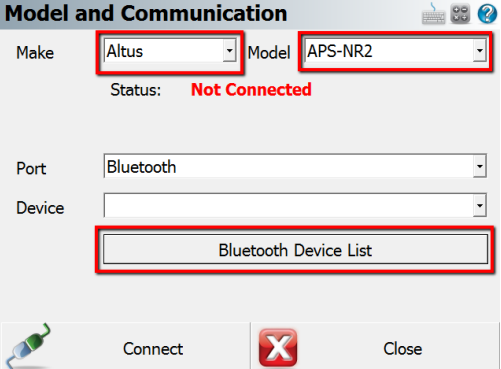
### Antenna Height



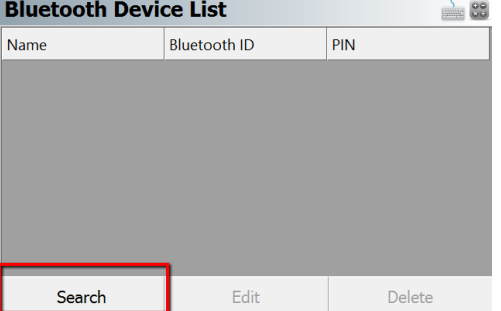
- Select the correct antenna model from the list.

*You should always confirm the antenna offsets to those published for your receiver.*

### Model and Communication



- Select your instrument "Make"
- Select your Instrument "Model"
- Pick "Bluetooth Device List"



- Power on your NR2
- Search

APS-NR2-3007530  
(8833145DD7C8)

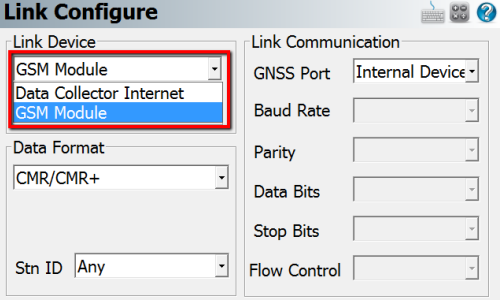
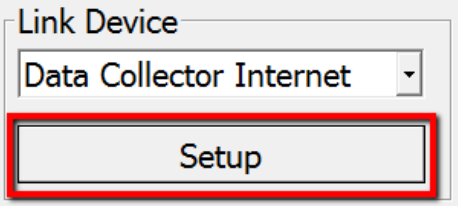
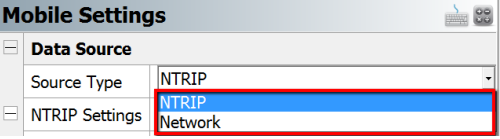
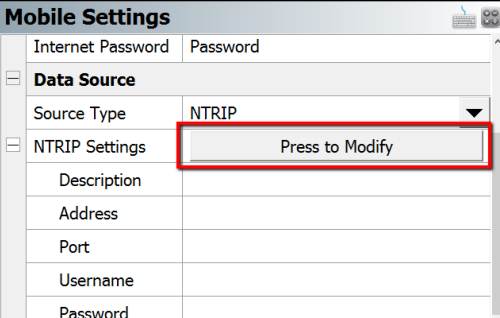
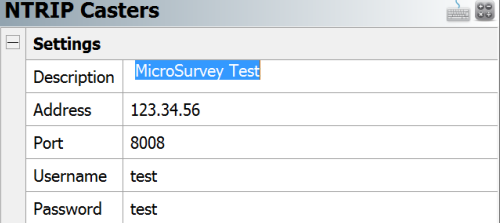
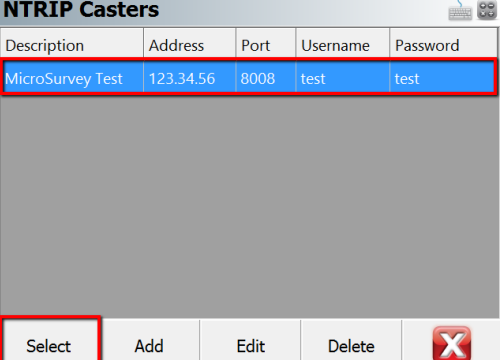
- Select the device from the list:  
*If you don't see your device the first time pick "Refresh List"*

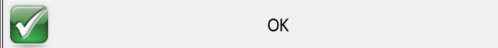
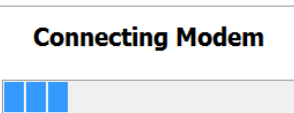
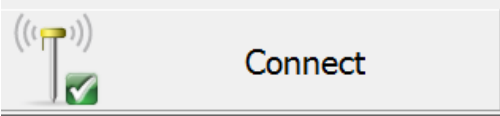
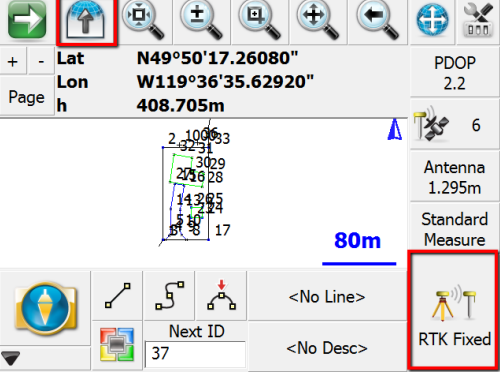

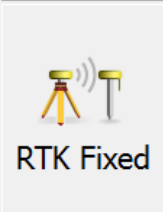
<p>Name: <input type="text" value="APS-NR2-3007530"/></p> <p>Bluetooth ID: <input type="text" value="APS-NR2-3007530"/></p> <p>PIN Code: <input type="text"/></p> <p>Leave PIN Code blank if not required</p>	<ul style="list-style-type: none"> <li>• Add a PIN if required</li> </ul>						
<p><b>Bluetooth Device List</b></p> <table border="1"> <thead> <tr> <th>Name</th> <th>Bluetooth ID</th> <th>PIN</th> </tr> </thead> <tbody> <tr> <td>APS-NR2-3007530</td> <td>APS-NR2-3007530</td> <td></td> </tr> </tbody> </table> <p>Search Edit Delete</p> <p> Close</p>	Name	Bluetooth ID	PIN	APS-NR2-3007530	APS-NR2-3007530		<ul style="list-style-type: none"> <li>• Close the Device list</li> <li>• Close the GNSS Profile Screen</li> </ul>
Name	Bluetooth ID	PIN					
APS-NR2-3007530	APS-NR2-3007530						
<p><b>Instrument Selection</b></p> <p>Instrument Type</p> <ul style="list-style-type: none"> <li><input type="radio"/> Total Station</li> <li><input type="radio"/> Total Station Demo</li> <li><input checked="" type="radio"/> GNSS Rover</li> <li><input type="radio"/> GNSS Reference</li> <li><input type="radio"/> GNSS Demo</li> <li><input type="radio"/> None</li> </ul> <p><input type="checkbox"/> Always Auto-Reconnect</p> <p>Instrument Profile</p> <p>Altus NR2</p> <p>Add Delete Edit</p> <p>Profiles contain equipment settings and measurement tolerances.</p> <p> Connect  Close</p>	<ul style="list-style-type: none"> <li>• Connect</li> </ul>						

**Data Collector Internet or GSM Module**

<p><b>Link Configure</b></p> <p>Link Device</p> <ul style="list-style-type: none"> <li>GSM Module</li> <li>Data Collector Internet</li> <li>GSM Module</li> </ul> <p>Data Format</p> <p>CMR/CMR+</p> <p>Stn ID Any</p> <p>Link Communication</p> <p>GNSS Port Internal Device</p> <p>Baud Rate</p> <p>Parity</p> <p>Data Bits</p> <p>Stop Bits</p> <p>Flow Control</p> <p><i>NOTE: if you cancel at this stage you can access the Link Configure option by touching the instrument Settings button:</i></p>	<p>Next, you are prompted to configure your RTK link</p> <ul style="list-style-type: none"> <li>• You can choose “GSM Module” if the sim card is in the receiver</li> <li>• You can choose “Data Collector Internet” if the sim card is in the controller or if internet is accessed via wifi link.</li> <li>• See the instructions below for configuration steps:</li> </ul>
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## Link Configure

	<ul style="list-style-type: none"> <li>• Select GSM Module or Data Collector Internet</li> <li>• Pick "Setup"</li> </ul> 										
	<ul style="list-style-type: none"> <li>• Select NTRIP or GPRS, depending on the type of caster service you will use</li> </ul> <p><i>NTRIP is the most common type.</i></p>										
	<ul style="list-style-type: none"> <li>• Edit your Data Source settings</li> <li>• Press to modify</li> </ul>										
	<p>Enter the credentials for your caster service:</p> <ul style="list-style-type: none"> <li>• Enter a useful description</li> <li>• Address must be the IP address of the NTRIP Server page or GPRS Server</li> <li>• Enter Port</li> <li>• NTRIP Casters will require a username</li> <li>• NTRIP Casters will require a password</li> </ul>										
 <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th>Description</th> <th>Address</th> <th>Port</th> <th>Username</th> <th>Password</th> </tr> </thead> <tbody> <tr style="background-color: #e0e0e0;"> <td>MicroSurvey Test</td> <td>123.34.56</td> <td>8008</td> <td>test</td> <td>test</td> </tr> </tbody> </table>	Description	Address	Port	Username	Password	MicroSurvey Test	123.34.56	8008	test	test	<ul style="list-style-type: none"> <li>• Highlight your new Caster</li> <li>• Select</li> </ul> <p><i>You can add to this list later to make it easy to switch between caster services.</i></p>
Description	Address	Port	Username	Password							
MicroSurvey Test	123.34.56	8008	test	test							

<p><b>Network Options</b></p> <table border="1"> <tr><td>PIN Code</td><td></td></tr> <tr><td>Internet APN</td><td>Internet.com</td></tr> <tr><td>Internet Username</td><td>User</td></tr> <tr><td>Internet Password</td><td>Password</td></tr> </table>	PIN Code		Internet APN	Internet.com	Internet Username	User	Internet Password	Password	<p><b>Required for GSM Module Option Only</b></p> <ul style="list-style-type: none"> <li>Configure your internet service provider credentials in the Network Options</li> </ul> 																
PIN Code																									
Internet APN	Internet.com																								
Internet Username	User																								
Internet Password	Password																								
<p><b>Link Device</b></p> <p>Data Collector Internet</p>	<p><b>Required for Data Collector Internet Only:</b></p> <ul style="list-style-type: none"> <li>Ensure your mobile device has access to the internet by configuring the wifi antenna or GSM module.</li> <li>Refer to the manufacturer's documentation for instructions.</li> </ul>																								
<p><b>Connecting Modem</b></p>  <p>Complete</p>	<ul style="list-style-type: none"> <li>Connect</li> </ul> 																								
<p>Request Sourcetable</p> <p><b>NTRIP Sourcetable</b></p> <table border="1"> <thead> <tr> <th>Mount Point</th> <th>Identifier</th> <th>Format</th> <th>Format Details</th> </tr> </thead> <tbody> <tr> <td>1101-RTCM3</td> <td>1101-RTCM3</td> <td>RTCM 3</td> <td>Data(1),Coord(...</td> </tr> <tr> <td>1101-CMR</td> <td>1101-CMR</td> <td>CMR</td> <td>Data(1),Coord(...</td> </tr> <tr> <td>1101-CMR+</td> <td>1101-CMR+</td> <td>CMR+</td> <td>Data(1)</td> </tr> <tr> <td>1101-Leica</td> <td>1101-Leica</td> <td>Leica</td> <td>Data(1),Coord(...</td> </tr> <tr> <td>1101-Leica4G</td> <td>1101-Leica4G</td> <td>Leica 4G</td> <td>Data(1),Coord(...</td> </tr> </tbody> </table>	Mount Point	Identifier	Format	Format Details	1101-RTCM3	1101-RTCM3	RTCM 3	Data(1),Coord(...	1101-CMR	1101-CMR	CMR	Data(1),Coord(...	1101-CMR+	1101-CMR+	CMR+	Data(1)	1101-Leica	1101-Leica	Leica	Data(1),Coord(...	1101-Leica4G	1101-Leica4G	Leica 4G	Data(1),Coord(...	<p><b>For NTRIP Casters Only</b></p> <ul style="list-style-type: none"> <li>Request Sourcetable</li> <li>Select from available mountpoints</li> </ul> <p><i>GPRS servers will not require this step</i></p>
Mount Point	Identifier	Format	Format Details																						
1101-RTCM3	1101-RTCM3	RTCM 3	Data(1),Coord(...																						
1101-CMR	1101-CMR	CMR	Data(1),Coord(...																						
1101-CMR+	1101-CMR+	CMR+	Data(1)																						
1101-Leica	1101-Leica	Leica	Data(1),Coord(...																						
1101-Leica4G	1101-Leica4G	Leica 4G	Data(1),Coord(...																						
 <p>Lat <b>N49°50'17.26080"</b> PDOP 2.2          Lon <b>W119°36'35.62920"</b>          Page h <b>408.705m</b></p> <p>Antenna 1.295m          Standard Measure</p> <p>Next ID 37          &lt;No Desc&gt;</p> <p>RTK Fixed</p>	<p><b>Mapscreen</b></p> <ul style="list-style-type: none"> <li>Next you will see the Mapscreen</li> <li>Select the Observations toolbar button to see your current position:</li> </ul>  <ul style="list-style-type: none"> <li>View the Measure button for your current solution:</li> </ul> 																								

These settings are retained in: Program Files\MicroSurvey Fieldgenius\Programs msurvey.ini and settings.xml and can be copied between devices.