Creating a South S82-V GPS GSM Network Rover Profile and Connecting to a GPS Network Data Correction Service Using South FieldGenius

May 4, 2012

Creating a South S82-V GPS GSM Network Rover Profile

Introduction

This guide describes how to create a GPS GSM network rover profile for your South S82V GNSS receiver.

Although this guide describes using a South S82V GPS receiver, the procedure in this guide can also be followed for connecting to other South receivers such as the S82-T and the S86-T.

Important Note: You only need to create a particular profile once. After that South FieldGenius will preserve and use this already-created profile. You are also welcome to create more profiles such as for a UHF radio GPS profile, but in this guide we explain how to create a GSM Network GPS profile.

Current Version

This guide was written using South FieldGenius Version 6.0.1 installed on a Getac PS236 with Windows Mobile 6.1 installed. If you are using a different version, your screens may look differently than what is displayed in this guide.

Before you begin

Have your South Receiver, data collector with South FieldGenius installed, and a SIM card close by. You will need them to complete this guide.

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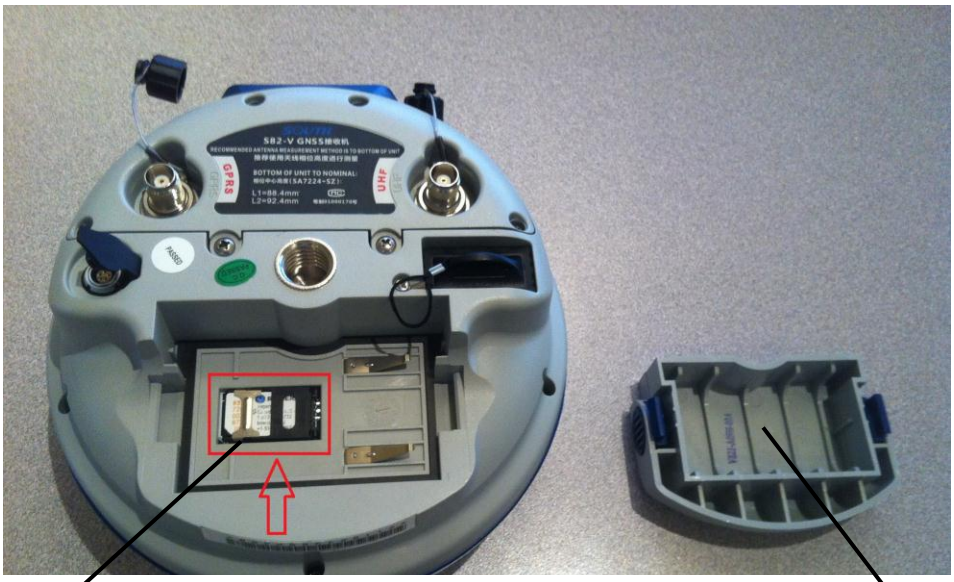
SIM Card

Your South S82-V has a slot to insert a SIM card into it. You will need this card to access the Internet. You will have to remove the battery door to access the SIM card slot.

Insert your SIM card into your S82-V, power on the receiver and your data collector. Then continue to the following page. Make sure the card has been installed correctly.



SIM Card Holder

Battery Compartment Door

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Creating a South S82-V GPS GSM Network Rover Profile,
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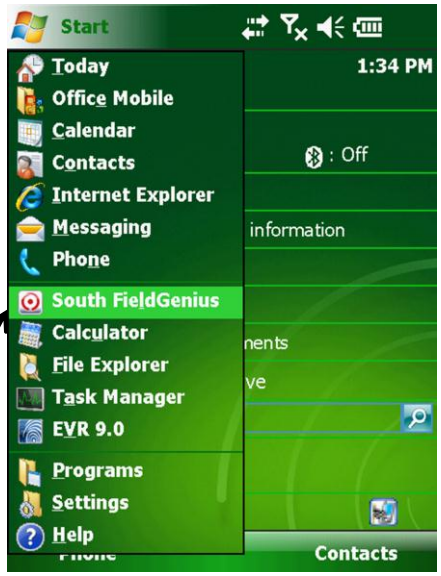
Step	Action	Display
1	• Turn on your **Getac PS236**. This starts up the Windows Mobile 6.1 Operating system. **Note**: Don't be alarmed if your display is slightly different from the image on the right. We may have set up our display differently to yours. • Tap on the Start button. From within the context menu: • Tap on the **South FieldGenius** menu selection. **Note**: If you do not see South FieldGenius in your menu then you must use File Explorer to go to **Programs** and find the **South FieldGenius** icon and tap on it. The next time you open this Start menu you will see South FieldGenius in the list. This takes you to the Device ID screen.	 

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Creating a South S82-V GPS GSM Network Rover Profile,
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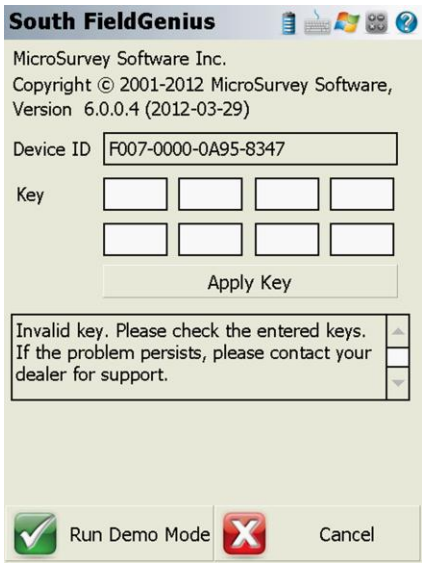
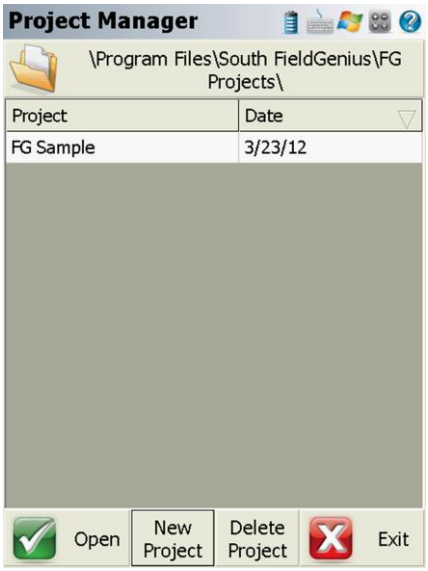
Step	Action	Display
2	In the Device ID screen: • Enter your License Key in the **Key** field. • Press the **Apply Key** button when finished. **Important Notes**: South FieldGenius will remember your key, therefore, you will only have to enter your key once. Once a correct key is entered, you will not see this screen again. This takes us to the Project Manager screen after we accept the tip of the day.	 ***License Keys** are provided by the internet registration portal or your dealer.* *Please contact your dealer for information on **License Keys** and how to register your new software.*
3	In the Project Manager screen: Since this is a new installation, we only see the sample project that comes included with South FieldGenius. We will create a new project. • Tap on the **New Project** button. This takes us to the Create New Project screen.	

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Creating a South S82-V GPS GSM Network Rover Profile,
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Step	Action	Display
4	In the Create New Project screen: • Enter a name for your new project. In this example, we are calling the project "*Friday Job*". You should enter a more appropriate name. • Press the **OK** button when finished. This opens the Project Review screen.	

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Creating a South S82-V GPS GSM Network Rover Profile,
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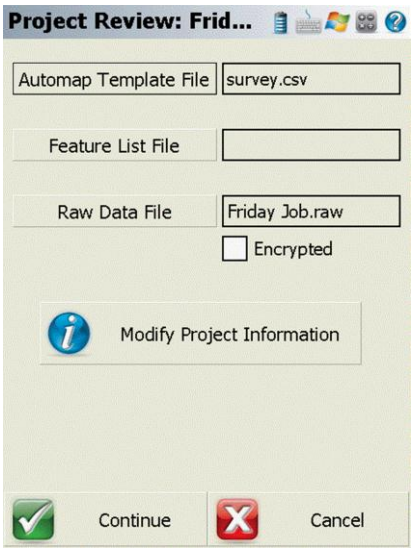
Step	Action	Display
5	In the Project Review screen: **Automap files** contain pre-defined descriptions that can be used in South FieldGenius. The template library that you select will be copied into the project's folder with a name of ***yourprojectname***_automap.csv, and any changes that you make to the Automap Library will affect only the project library, not the template library. Use the **Feature List** field to select a feature list that you want to use with the project, for collecting GIS point attributes. The **Raw Data File** field indicates the name of the raw file that is going to be recorded. You can select a different one by pressing the button and either creating a new raw file or choosing an existing one to open. The **Modify Project Information** button will take you directly to the Project Information screen. There you can enter notes about the project. • Leave these fields as they are. • Press the **Continue** button. This takes us to the Unit Settings screen.	

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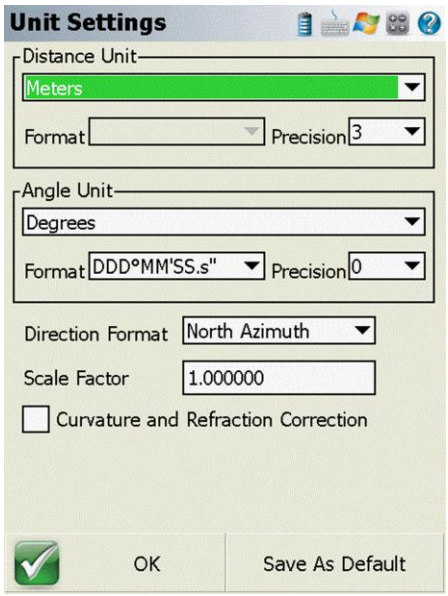
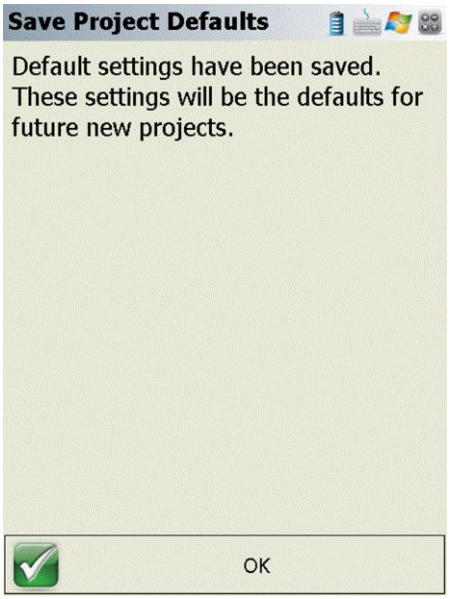
Creating a South S82-V GPS GSM Network Rover Profile,
continued

Step	Action	Display
6	In the Unit Settings screen: • Select which units you wish to use. **Important Note**: Once this has been set, you cannot change this project's units again. Since we typically prefer to work in these same units, we will press the **Save As Default** button. This will make whatever we select here the future default unit setting. • Press the **Save As Default** button. This takes us to the Save Project Defaults screen.	
7	In the Save Project Defaults screen: • Press the **OK** button. This returns us to the Unit Settings screen.	

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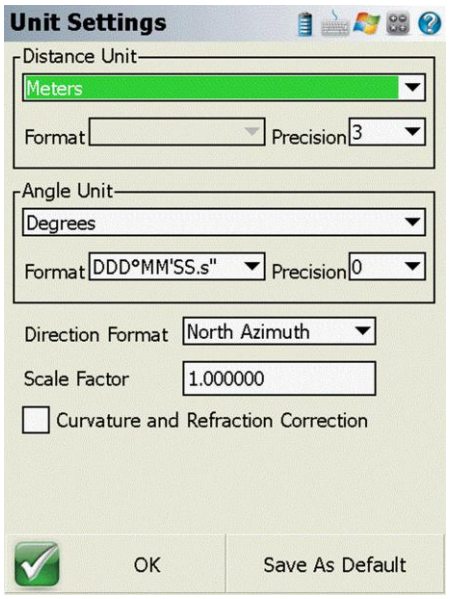
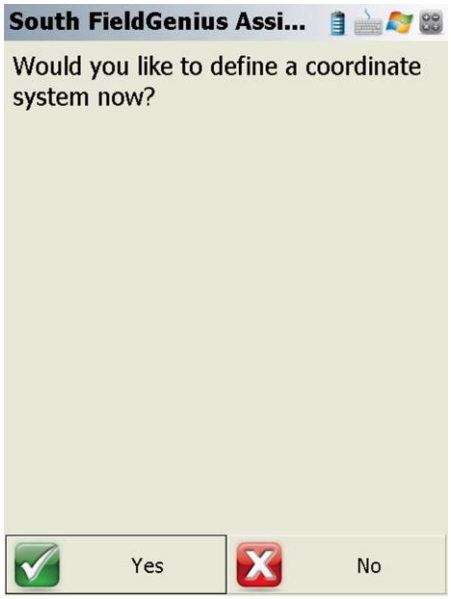
Creating a South S82-V GPS GSM Network Rover Profile,
continued

Step	Action	Display
8	In the Unit Settings screen: • Press the **OK** button. This takes us to the South FieldGenius Assistant screen.	
9	In the South FieldGenius Assistant screen: We are prompted to select a coordinate system. **Important Note**: You **must** have a coordinate system selected if you wish to work with GPS. • Tap on the **Yes** button**.** This takes us to the Coordinate System Settings screen.	

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Creating a South S82-V GPS GSM Network Rover Profile,
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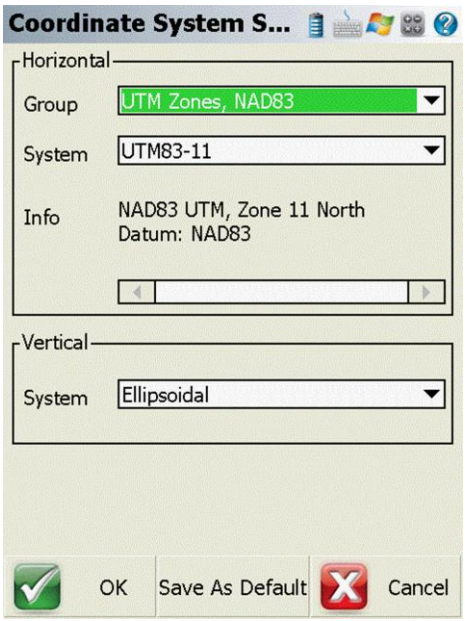
Step	Action	Display
10	In the Coordinate System Settings screen: • Select the coordinate system you wish to work in. In this example we will be selecting the **UTM83-11 North** zone coordinate system with ***no geoid*** model. Since we will be typically working in this coordinate system, we will save it as a default. • Press the **Save As Default** button. This takes us to the Coordinate System Settings screen.	
11	In the Coordinate System Settings screen: • Tap on the **OK** button. This takes us to the Instrument Selection screen.	

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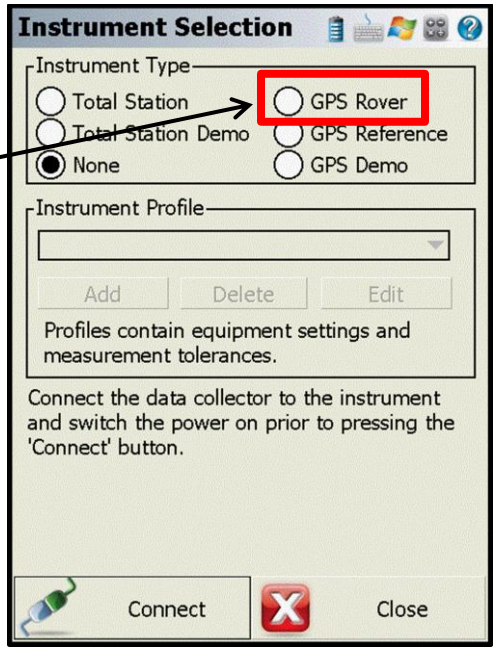
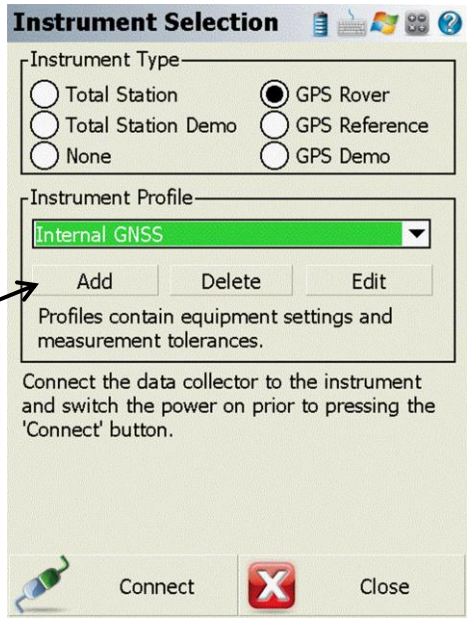
Step	Action	Display
12	In the Instrument Selection screen: • Tap on the **GPS Rover** radio button. **Note**: This is the screen where you can create new instrument profiles, delete existing profiels, or select previously created profiles. This step continues in the Instrument Selection screen.	
13	Continuing in the Instrument Selection screen: Notice the **Instrument Profile** field is now active. • Press the **Add** button. This takes us to the New Instrument Profile screen.	

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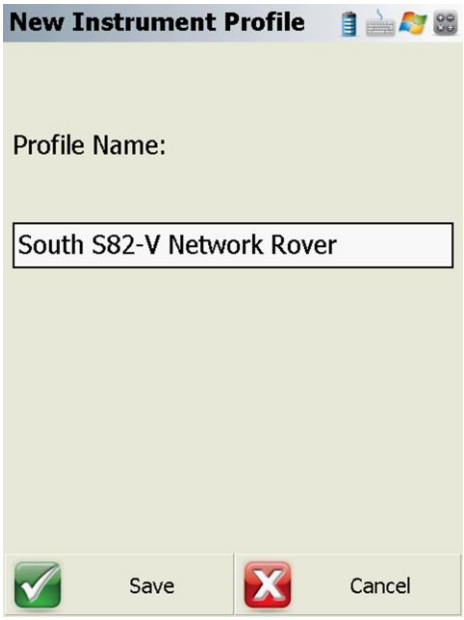
Step	Action	Display
14	In the New Instrument Profile screen: • Enter a name for your instrument profile in the **Profile Name** field. In this example, we will call it *South S82-VNetwork Rover*. Instrument profiles are used to save your particular instrument's settings so that you don't have to remember them or have to set them each time you create a new project or select an instrument to use. • Press the **Save** button. This saves the profile name and returns us to the Instrument Selection screen.	

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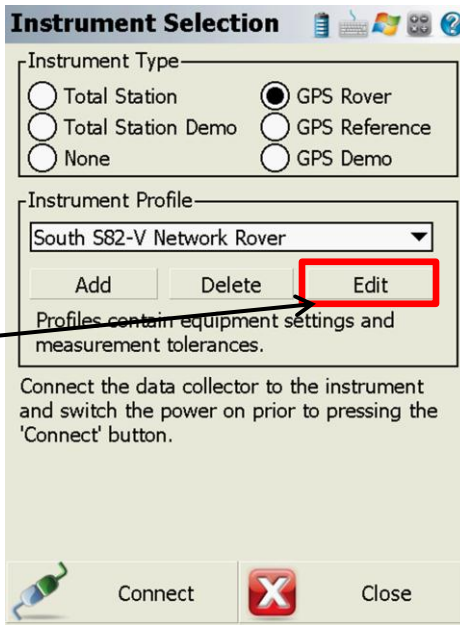
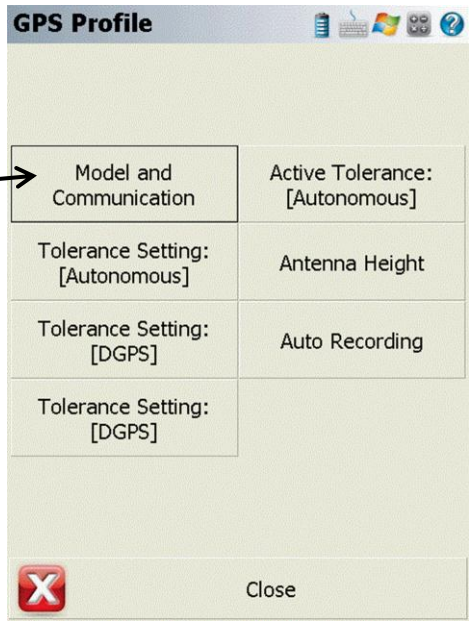
continued

Step	Action	Display
15	In the Instrument Selection screen: With your newly created instrument profile name in the **Instrument Profile** field, • Press the **Edit** button. This takes us to the GPS Profile screen.	
16	In the GPS Profile screen: • Tap on the **Model and Communication** button. • Ensure that your South receiver is turned on. This takes us to the Model and Communication screen.	

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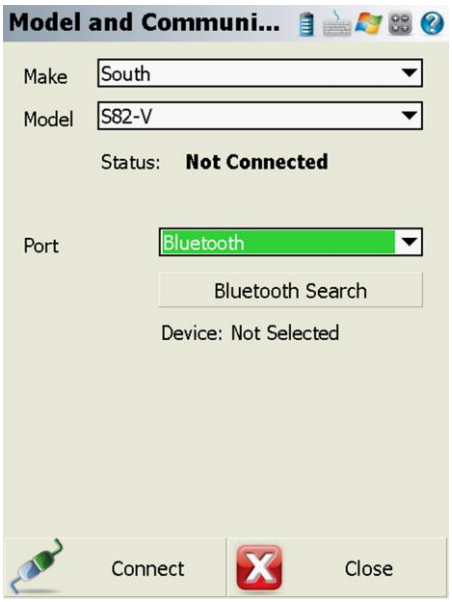
Step	Action	Display
17	In the Model and Communication screen: • Ensure that the **Make** field has **South** selected. • Ensure that the **Model** field has **S82-V** selected. • Ensure that the **Port** field is set to *Bluetooth*. • Press the **Bluetooth Search** button. This takes us to the Select Bluetooth Device screen.	 **Note**: Although we are using Bluetooth to communicate between our data collector and receiver, you could also use a serial cable. Typically COM1 is the port to select when using a cable. But in this example, we will use Bluetooth. Bluetooth is convenient as there are no cables to deal with.

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Step	Action	Display
18	In the Select Bluetooth Device screen: We see in this screen all of the Bluetooth devices that your data collector has found. If you do not see your GPS receiver, press the **Refresh List** button and another search will be performed. • Tap on your GPS receiver's button. In this example, our receiver is named *V1082720918* (the receiver's serial number). This takes us to the Bluetooth screen.	 **Note**: Don't be alarmed if your screen does not have the same devices listed as in the image above.

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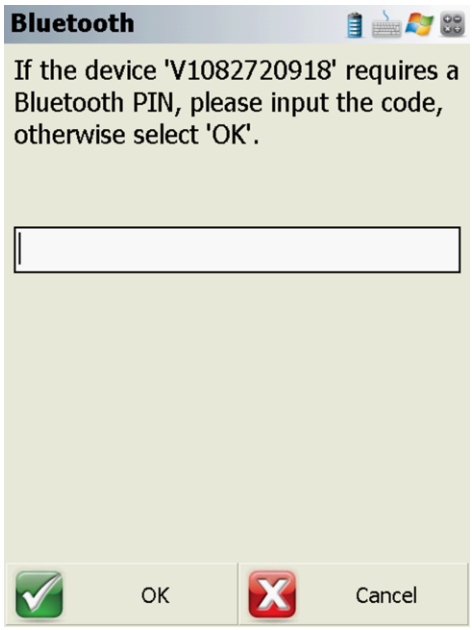
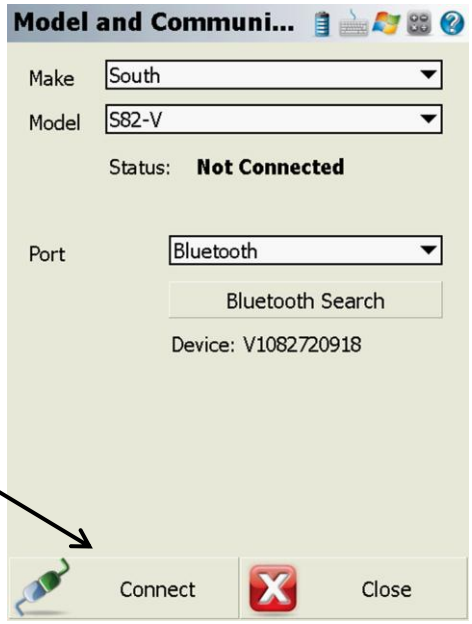
continued

Step	Action	Display
19	In takes us to the Bluetooth screen: • Enter your receiver's Bluetooth PIN. • Press the **OK** button when done. **Note**: Your receiver may not have a Bluetooth PIN. You may want to leave this field blank and press the **OK** button. If you connect then you know a PIN was not required. This returns us to the Model and Communication screen.	
20	In the Model and Communication screen: We see the correct settings for our receiver. • Tap on the **Connect** button This takes us to the Link Configure screen.	

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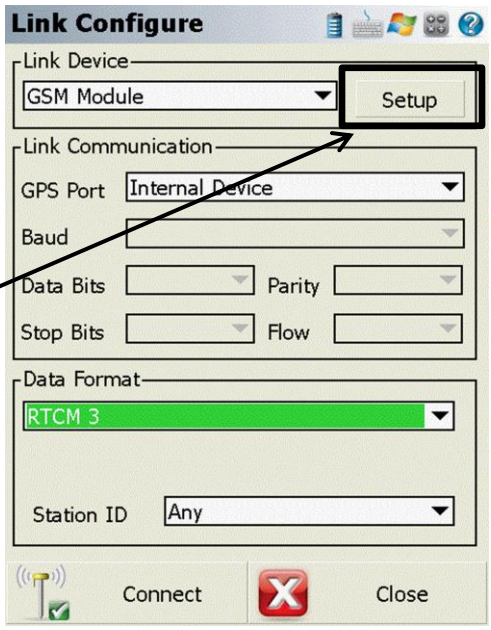
Creating a South S82-V GPS GSM Network Rover Profile,
continued

Step	Action	Display
21	In the Link Configure screen: • Ensure that *GSM Module* has been selected in the **Link Device** field. • Press the **Setup** button. At this time don't worry about the remaining fields, we will set them later. This takes us to the Mobile Settings screen.	

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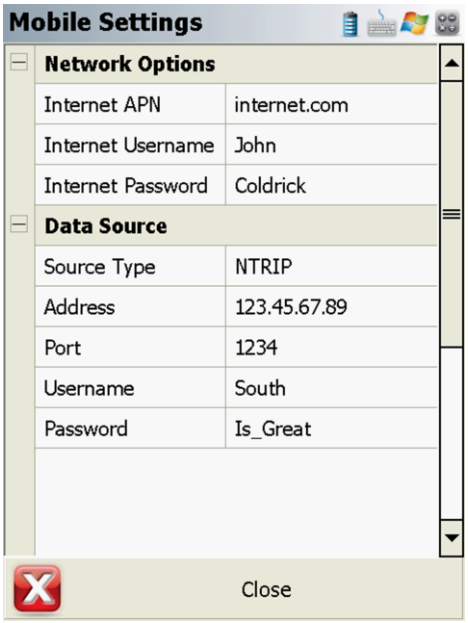
Network vs. NTRIP

In the **Source Type** field, you have a choice of ***NTRIP*** or ***Network***. [**Note**: You must tap on the field to activate the context menu to see the choices.]
When using a data provider that uses an NTRIP connection, select **NTRIP**. If the data provider does not use NTRIP, then select **Network**.

Step	Action	Display
22	In the Mobile Settings screen: • Enter your PIN code (if required by ISP). • Enter your Internet provider's Access Point Name in the **Internet APN** field. In this example it is called *internet.com*. • Enter your **Internet Username** and **Password** in their respective fields. • Use the **Source Type** field to select your data source type. In this example we will be using an **NTRIP** connetion. • Enter your IP address, TCP/IP port, user name, and password in the appropriate fields. • Press the **Close** button when finished. This returns us to the Link Configure screen.	 **Important Note**: The above settings will not work with any Internet provider.

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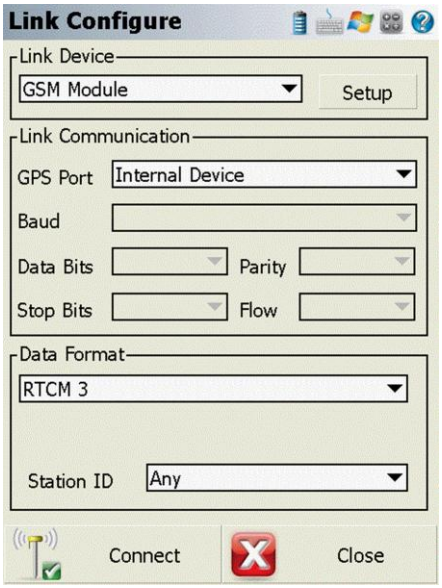
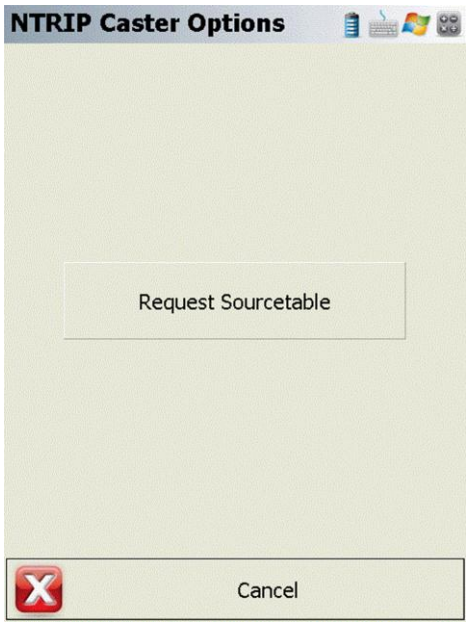
Creating a South S82-V GPS GSM Network Rover Profile,
continued

Step	Action	Display
23	In the Link Configure screen: It is not necessary to select a data format in this screen because South FieldGenius will always use whatever format that is associated with the mount point. • Set the **Station ID** field to **Any**. • Press the **Connect** button. Once South FieldGenius has connected with your Network GPS data service, you will be taken to the NTRIP Caster Options screen.	
24	In the NTRIP Caster Options screen: Since this is the first time we have connected to this service, we are only presented with a **Request Sourcetable** button. If we had done this before then the last mount point that we had selected would also be available in this list. • Tap on the **Request Sourcetable** button. This takes us to the NTRIP Sourcetable screen.	

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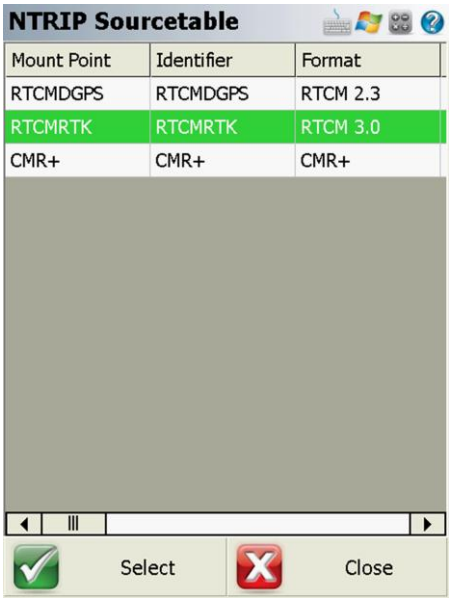
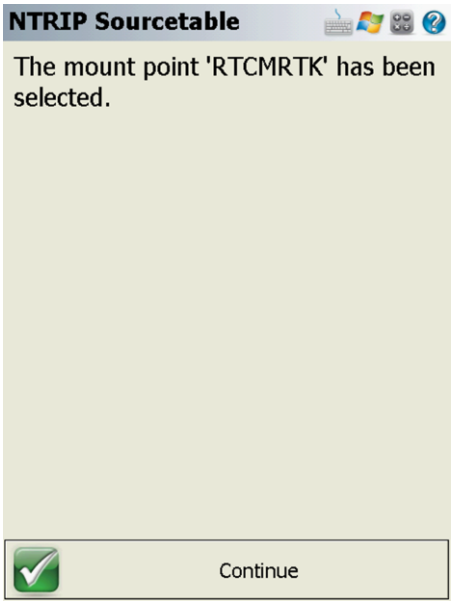
Creating a South S82-V GPS GSM Network Rover Profile,
continued

Step	Action	Display
25	In the NTRIP Sourcetable screen: Here we are presented with a list of all of the mountpoints our GPS network data provider is offering. **Note**: Don't be alarmed if your mount point list does not match the screen on the right. Your provider probably offers different services. • Select the mount point you wish to use by tapping on it. In this example we are selecting the ***RTCM 3.0 RTK*** mountpoint. • Press the **Select** button. You are then taken to the NTRIP Sourcetable acknowlegement screen. • Press the **Continue** button. You are now taken to the MapView screen.	 

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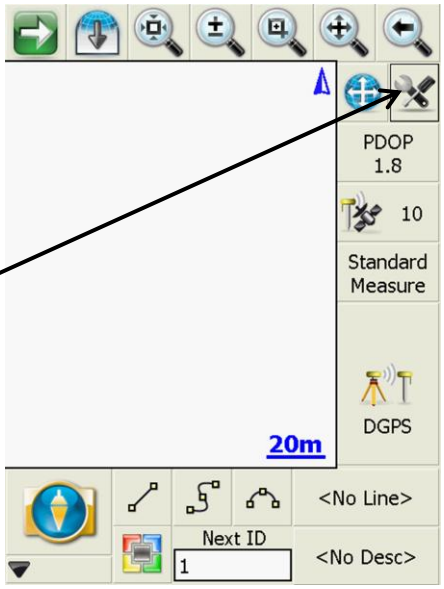
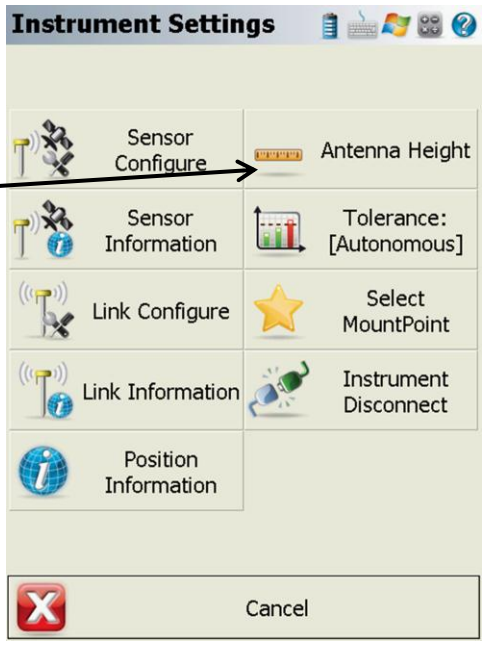
continued

Correct Antenna

It is wise to ensure that you have the correct antenna height entered and proper antenna model selected before measuring with GPS.

Step	Action	Display
26	In the MapView screen: In this example we will enter a height of *2 metres* since we are using a fixed 2-metre pole. • Tap on the **Instrument Settings** button. This takes us to the Instrument Settings screen.	
27	In the Instrument Settings screen: • Tap on the **Antenna Height** button. This takes us to the Antenna Height dialog.	

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Creating a South S82-V GPS GSM Network Rover Profile,
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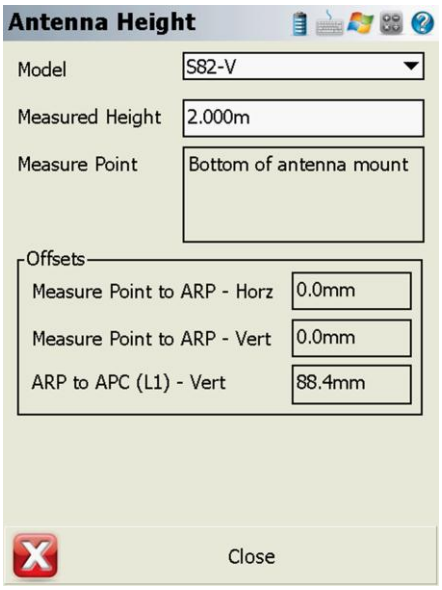
Step	Action	Display
28	In the Antenna Height dialog: • Select the antenna you wish to use in the **Model** field. In this example we are using an S82-V receiver with an integrated antenna. • Enter the height of instrument in the **Measured Height** field. In this example we are using a fixed 2-metre pole. • Press the **Close** button when finished. You are now returned to the MapView screen.	

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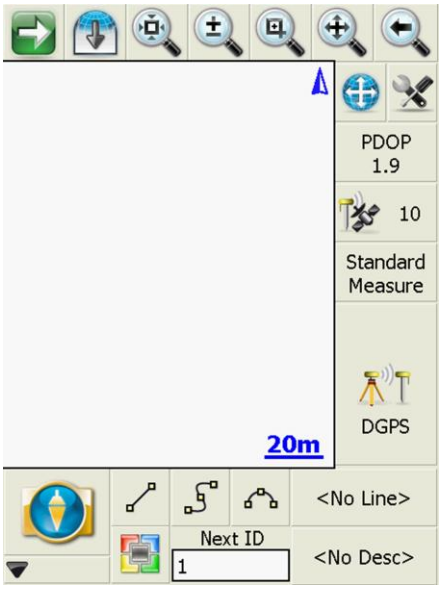
continued

Step	Action	Display
29	In the MapView screen: You are ready to start measuring.	

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Creating a South S82-V GPS GSM Network Rover Profile,
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Congratulations

You have successfully created a South GPS network rover profile.

You then made a connection to your GPS receiver via Bluetooth.

From there you connected to your GPS network correction provider and started receiving network data.

You then entered the correct antenna height and selected the correct antenna model and are ready to start measuring.

Remember, South FieldGenius will preserve these settings in your instrument profile. You only have to create this profile once. In other words, you don't have to follow these steps each and every time you want to survey using the GPS receiver and the Internet.

This steps in this guide will also work with S82-T and S86-T receivers.

Glossary

GPS – Global Positioning System
ISP – Internet Service Provider
PIN – Personal Identification Number
GSM – Global System for Mobile Communications
CDMA – Code Division Multiple Access
ISP - Internet Service Provider
NTRIP – Networked Transport of RTCM via Internet Protocol
NTRIP Caster – an HTTP server that accepts request-messages on a single port and then decides where there is streaming data to receive or to send. The caster offers a list of mountpoints that is called a source list or source table.
HTTP: Hypertext Transfer Protocol
SIM - Subscriber Identity Module
RTCM - Radio Technical Commision for Martitime
RTK – Real Time Kinematic

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