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

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.



Step	Action	Display
1	• Turn on your Getac PS236 .	🏭 Start 🗹 🛱 🏹 ◀< 🗭 → Wednesday 2:53 PM March 16, 2011
	This starts up the Windows Mobile 6.1 Operating system.	Rogers Wireless Wi-Fi: Off (2): Off Tap here to set owner information Device unlocked
	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.	
		Start Image: Calendar
	From within the context menu:	Internet Explorer Messaging information Phone
	• Tap on the South FieldGenius menu selection.	South FieldGenius South FieldGenius Calculator File Explorer Ve Task Manager
	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	EVR 9.0
	FieldGenius icon and tap on it. The next time you open this Start menu you will see South FieldGenius in the list.	Contacts
	This takes you to the Device ID screen.	

Continued on the following page

Step	Action	Display
2	In the Device ID screen:	South FieldGenius 🔋 🕍 🍣 🐯 🔇 MicroSurvey Software Inc. Copyright © 2001-2012 MicroSurvey Software,
	• Enter your License Key in the Key field.	Version 6.0.0.4 (2012-03-29) Device ID F007-0000-0A95-8347
	• Press the Apply Key button when finished.	Key
	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.	Invalid key. Please check the entered keys. If the problem persists, please contact your dealer for support.
		Run Demo Mode Cancel
		License Keys are provided by the internet registration portal or your dealer. Please contact your dealer for information on License Keys and
	This takes us to the Project Manager screen after we accept the tip of the day.	how to register your new software.
3	In the Project Manager screen:	Project Manager Image: Image
	Since this is a new installation, we only see the sample project that comes included with South FieldGenius. We will create a new project.	FG Sample 3/23/12
	• Tap on the New Project button.	
	This takes us to the Create New Project screen.	Open New Project Delete Exit

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Step	Action	Display
4	In the Create New Project screen:	Create New Project 👔 🚵 🌌 😂
	 Enter a name for your new project. In this example, we are calling the project "<i>Friday Job</i>". You should enter a more appropriate name. Press the OK button when finished. 	Enter project name: Friday Job
	This opens the Project Review screen.	

Step	Action	Display
5	In the Project Review screen:	Project Review: Frid 🔋 🛁 🍣 😂 ⊘ Automap Template File Survey.csv
	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 <i>yourprojectname</i> _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.	Feature List File Raw Data File Friday Job.raw Encrypted Image: Continue Modify Project Information
	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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Step	Action	Display
6	In the Unit Settings screen:	Unit Settings
	 Select which units you wish to use. Important Note: Once this has 	Format Precision 3 Angle Unit Degrees
	been set, you cannot change this project's units again.	Format DDD°MM'SS.s" Precision Image: Comparison of the sector of the sec
	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.	Curvature and Refraction Correction
	• Press the Save As Default button.	
	This takes us to the Save Project Defaults screen.	
7	In the Save Project Defaults screen:	Save Project Defaults and the settings have been saved. These settings will be the defaults for future new projects.
	• Press the OK button.	
	This returns us to the Unit Settings screen.	ОК

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Step	Action	Display
8	In the Unit Settings screen:	Unit Settings
	• Press the OK button.	Angle Unit Degrees Format DDD°MM'SS.s" Precision Direction Format North Azimuth Scale Factor 1.00000 Curvature and Refraction Correction
	This takes us to the South FieldGenius Assistant screen.	OK Save As Default
9	In the South FieldGenius Assistant screen:	South FieldGenius Assi 🔋 🛁 🍣 😂 Would you like to define a coordinate system now?
	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.	Yes 🔀 No

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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 <i>no geoid</i> 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 	Coordinate System S Horizontal Group UTM Zones, NAD83 System UTM83-11 Info NAD83 UTM, Zone 11 North Datum: NAD83 Vertical Vertical System Ellipsoidal Vertical System Cancel
11	In the Coordinate System Settings screen: • Tap on the OK button. This takes us to the Instrument Selection screen	Coordinate System Sett Default settings have been saved. These settings will be the defaults for future new projects. OK

Continued on the following page

Step	Action	Display
12	In the Instrument Selection screen:	Instrument Selection
	• Tap on the GPS Rover radio button.	Iotal Station Demo GPS Reference Ore GPS Demo Instrument Profile
	Note : This is the screen where you can create new instrument profiles, delete existing profiels, or select previously created profiles.	Add Delete Edit Profiles contain equipment settings and measurement tolerances. Second S
	This step continues in the Instrument Selection screen.	Connect Close
13	Continuing in the Instrument Selection screen:	Instrument Selection
	 Notice the Instrument Profile field is now active. Press the Add button. 	None O GPS Neierence None O GPS Demo Instrument Profile Internal GNSS Add Delete Edit Profiles contain equipment settings and measurement tolerances. Internal GNS
	This takes us to the New Instrument	Connect the data collector to the instrument and switch the power on prior to pressing the 'Connect' button.
	Profile screen.	

Continued on the following page

Step	Action	Display
14	In the New Instrument Profile screen:	New Instrument Profile 🛛 📋 🎥 😂 🔀
	• Enter a name for your instrument profile in the Profile Name field. In this example, we will call it <i>South S82-VNetwork Rover</i> .	Profile Name: South S82-V Network 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.	Save Cancel
	• Press the Save button.	
	This saves the profile name and returns us to the Instrument Selection screen.	

Continued on the following page

Step	Action	Display
15	In the Instrument Selection screen:	Instrument Selection
	 With your newly created instrument profile name in the Instrument Profile field, Press the Edit button. 	Total Station Demo GPS Reference None GPS Demo Instrument Profile South S82-V Network Rover Add Delete Edit Profiles contain equipment settings and measurement tolerances. Connect the data collector to the instrument red quick the acuer or prior to measing the
	This takes us to the GPS Profile screen.	Connect Connect Close
16	In the GPS Profile screen:	GPS Profile 🔋 🕍 🈂 🕲
	• Tap on the Model and Communication button.	Model and Communication Active Tolerance: [Autonomous] Tolerance Setting: [Autonomous] Antenna Height
	• Ensure that your South receiver is turned on.	Tolerance Setting: Auto Recording [DGPS] Tolerance Setting: [DGPS] DGPS]
	This takes us to the Model and Communication screen.	Close

Continued on the following page

Step	Action	Display
Step 17	ActionIn 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 	Model and Communi Make South Make South Model S82-V Status: Not Connected Port Bluetooth Search Device: Not Selected
	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.

Step	Action	Display
18	In the Select Bluetooth Device screen:	Select Bluetooth Device 📑 🖮 ಶ 😂
	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	COMPUTER187 (00107A5D1AE5)
	Refresh List button and another search will be performed.	V1082720918 (008025A01588)
		BlackBerry 9360 (A06CEC6ABA66)
	• Tap on your GPS receiver's button. In this example, our receiver is named <i>V1082720918</i> (the receiver's	
	serial number).	Refresh List Cancel
		Note : Don't be alarmed if your screen does not have the same devices listed as in the image above.
	This takes us to the Bluetooth screen.	

Step	Action	Display
Step 19	 Action 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. 	Display Bluetooth Image: Comparison of the code of the cod
	This returns us to the Model and Communication screen.	OK X Cancel
20	In the Model and Communication screen: We see the correct settings for our	Model and Communi Image: Communitient of the second
	Tap on the Connect button	Port Bluetooth Bluetooth Search Device: V1082720918
	This takes us to the Link Configure screen.	Connect Close

Continued on the following page

Step	Action	Display
21	In the Link Configure screen:	Link Configure
	 Ensure that <i>GSM Module</i> has been selected in the Link Device field. Press the Setup button. 	Link Communication GPS Port Internal Device Baud Data Bits Parity Stop Bits Flow
	At this time don't worry about the remaining fields, we will set them later.	Data Format
	This takes us to the Mobile Settings screen.	

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Network vs.In the Source Type field, you have a choice of NTRIP or Network.NTRIP[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, selectNTRIP. If the data provider does not use NTRIP, then selectNetwork.

Step	Action	Display			
			Mo	bile Settings	1 📄 🚵 🎤 😂
22	In the Mobile Settings screen:	[=	Network Options	▲
	• Enter your PIN code (if			Internet APN	internet.com
	required by ISP).			Internet Username	John
	1 5 7			Internet Password	Coldrick
	• Enter your Internet provider's	E	3	Data Source	=
	Access Point Name in the			Source Type	NTRIP
	example it is called			Address	123.45.67.89
	internet.com.			Port	1234
				Username	South
	• Enter your Internet Username			Password	Is_Great
	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. 		2	< Comparison of the second sec	Close
			I	nportant Note : The above	
			So It	Internet provider.	
	• Press the Close button when finished.				
	This returns us to the Link Configure screen.				

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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.	Link Configure
	• Set the Station ID field to Any .	Data Format
	• Press the Connect button.	Station ID Any
	Once South FieldGenius has connected with your Network GPS data service, you will be taken to the NTRIP Caster Options screen.	Connect Close
24	In the NTRIP Caster Options screen:	NTRIP Caster Options 🔋 🚔 🌌 😂
	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.	Request Sourcetable
	• Tap on the Request Sourcetable button.	
	This takes us to the NTRIP Sourcetable screen.	Cancel

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Step	Action	Display
25	ActionIn 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	Display NTRIP Sourcetable Image: Constraint of the second of t
	 selecting the <i>RTCM 3.0 RTK</i> mountpoint. Press the Select button. You are then taken to the NTRIP Sourcetable acknowlegement screen. Press the Continue button. 	NTRIP Sourcetable

continued

CorrectIt is wise to ensure that you have the correct antenna height entered andAntennaproper 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 <i>metres</i> since we are using a fixed 2-metre pole.	PDOP 1.8 10 Standard Measure
	Tap on the Instrument Settings button.	20m
	This takes us to the Instrument Settings screen.	✓ S S <no line=""> Next ID 1</no>
27	In the Instrument Settings screen:	Instrument Settings 📑 🚵 ಶ 🐯 🚱
	• Tap on the Antenna Height	Sensor Configure Antenna Height
		Sensor Tolerance: [Autonomous]
		Link Configure Select MountPoint
		Link Information
		Position Information
	This takes us to the Antenna Height dialog.	Cancel

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Step	Action	Display
Step 28	 Action 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 	Antenna Height Model Measured Height 2.000m Measure Point Bottom of antenna mount Offsets Measure Point to ARP - Horz Measure Point to ARP - Vert Measure Point to ARP - Vert
	 A regit 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. 	Close



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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