SXPro Series

GENEQ inc.

USING GENEQ FIELDGENIUS ON SXPRO

Geneq FieldGenius
Quick Start Guide for
SXPro Handheld Data Collectors

Using FieldDenius on SXPro Handheld Data Collector

Introduction

This guide describes how to use Geneq FieldGenius software on SXPro Handheld Data Collector models: GPS, GNSS and RTK.

After creating this profile, you will be able to connect to your Internet GNSS data correction service, achieve a solution, and start measuring.

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

Current Version

This guide was written using FieldGenius Version 8.2 installed on a SXPro with Windows Mobile 6.5 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 SXPro RTK or SXPro GNSS Receiver, data collector with FieldGenius installed, and a SIM card close by for RTK model. You will need them to complete this guide.
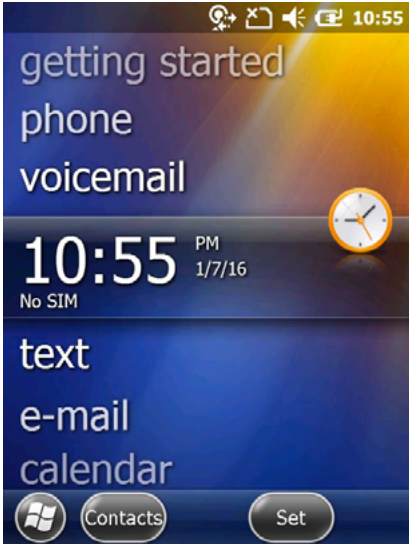
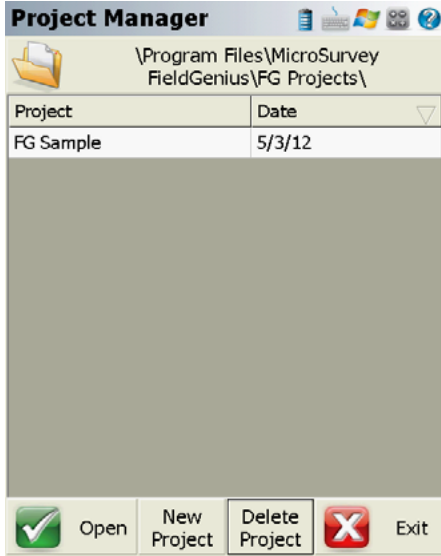**For the complete SXPro manual**
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April 28th 2016
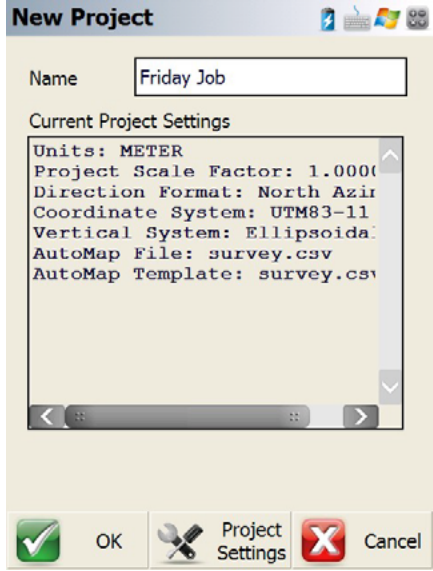
Using FieldDenius on SXPro Handheld Data Collector

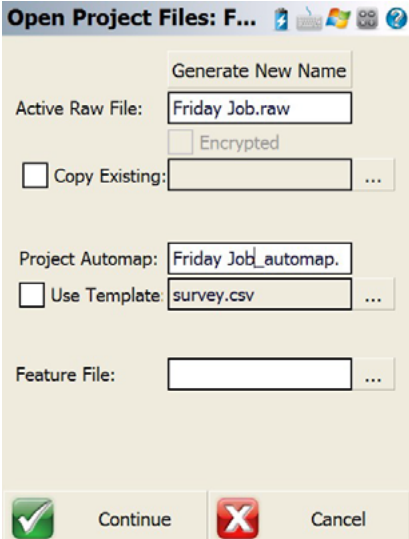| Step	Action	Display
1	• Turn on your **SXPro**. This starts up the Windows Mobile 6.5 Operating system. **Note**: Don't be alarmed if your display is slightly different from the image on the right. We may have configured our display differently to yours. • Tap on the [ ] button. From within the context menu: • Tap on the **Geneq FieldGenius** menu selection. **Note**: If you do not see FieldGenius in your menu then you must use File Explorer to go to **Programs** and find the **FieldGenius** icon and tap on it. The next time you open this Start menu you will see FieldGenius in the list. This takes you to the Device ID screen.	

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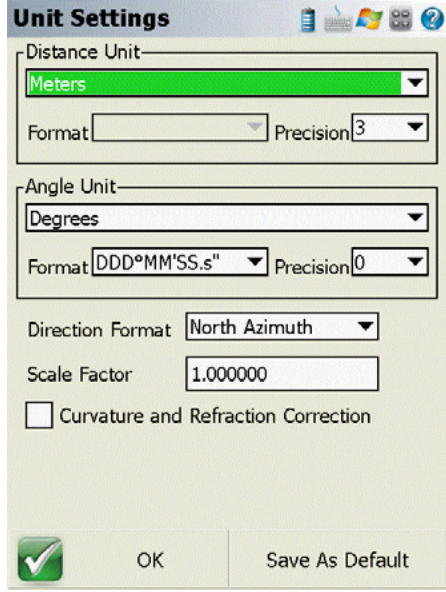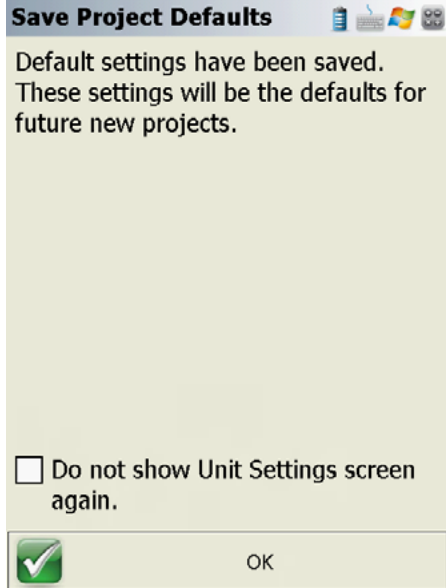| Step	Action	Display
2	In the Device ID screen: • Enter your License Key in the **Key** field. • Press the **Apply Key** button when finished. **Important Note**: FieldGenius will remember your key, therefore, you will only have to enter your key once. Once a correct key is entered, you will not see this screen again. This takes us to the Project Manager screen after we accept the tip of the day.	**About Geneq FieldGe…** MicroSurvey Software Inc. Copyright © 2001-2016 MicroSurvey Software, Version 8.2.16.2 (2016-01-26) Device ID F010-0220-2744-0141 Key [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] Apply Key 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 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 FieldGenius. We will create a new project. • Tap on the **New Project** button. This takes us to the Create New Project screen.	**Project Manager** \Program Files\MicroSurvey FieldGenius\FG Projects\ Project Date FG Sample 5/3/12 Open New Project Delete Project Exit

Using FieldDenius on SXPro Handheld Data Collector

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.	**New Project** Name: Friday Job Current Project Settings Units: METER Project Scale Factor: 1.0000 Direction Format: North Azir Coordinate System: UTM83-11 Vertical System: Ellipsoida AutoMap File: survey.csv AutoMap Template: survey.csv OK · Project Settings · Cancel
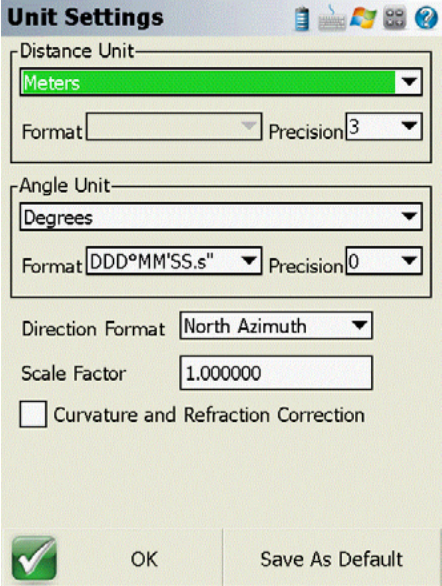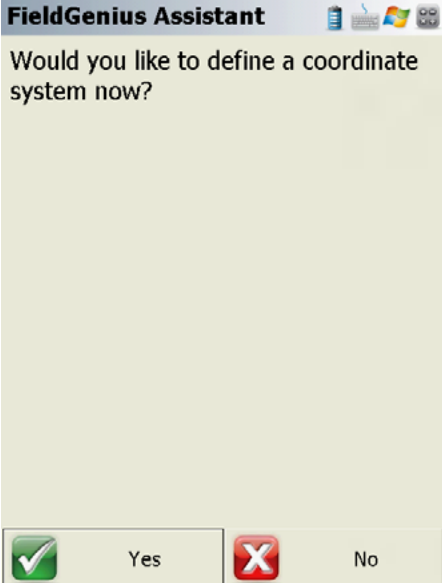
Using FieldDenius on SXPro Handheld Data Collector

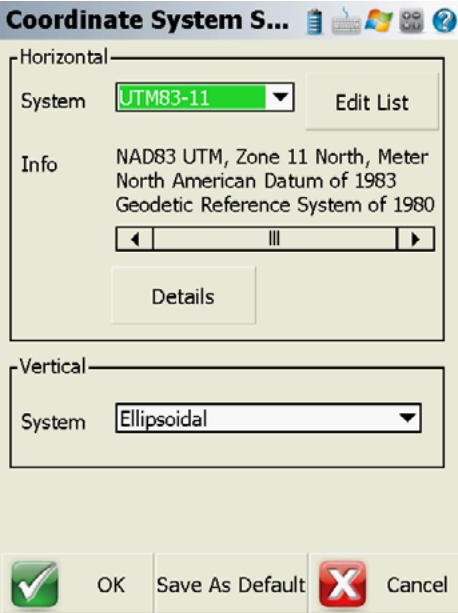| Step	Action	Display
5	In the Open Project Files screen: **Automap files** contain pre-defined descriptions that can be used in FieldGenius. The template library that you select will be copied into the project's folder with a name of ***yourprojectname***_automap.csv, and any changes that you make to 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. • Press the **Continue** button. This takes us to the Unit Settings screen.	

Using FieldDenius on SXPro Handheld Data Collector

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: • Place a check mark in the **Do not show Unit Settings screen again.** check box if you typically always use the same units. This will save you a button press for future new projects. In this example we will not put a check mark in this box. • Press the **OK** button. This returns us to the Unit Settings screen.	

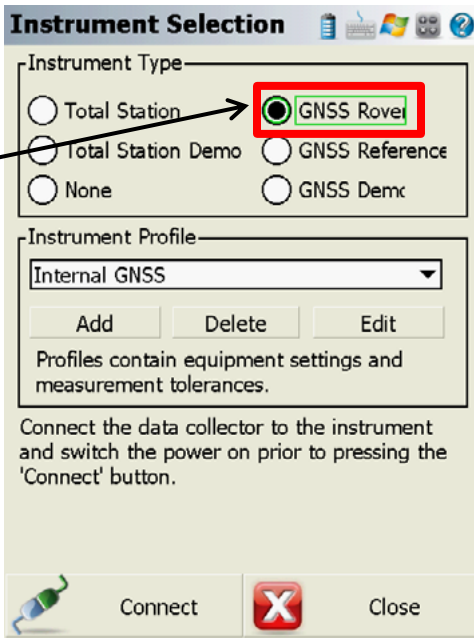# Using FieldDenius on SXPro Handheld Data Collector

Step	Action	Display
8	In the Unit Settings screen: • Press the **OK** button. This takes us to the FieldGenius Assistant screen.	
9	In the 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.	

Using FieldDenius on SXPro Handheld Data Collector

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.	
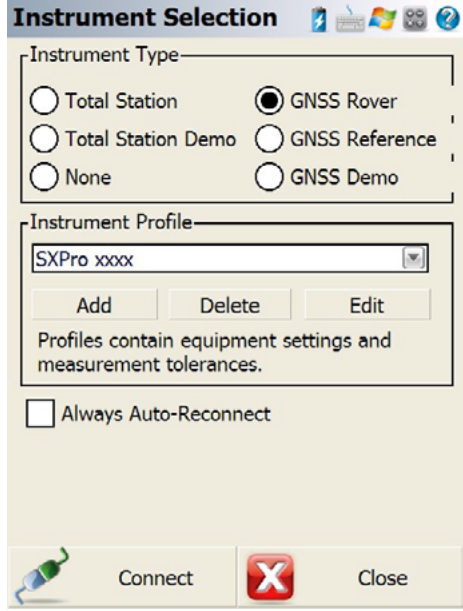
Using FieldDenius on SXPro Handheld Data Collector

Step	Action	Display
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
12	In the Instrument Selection screen: • Tap on the **GNSS Rover** radio button. **Note**: This is the screen where you can create new instrument profiles, delete existing profiles, or select previously created profiles. This step continues in the Instrument Selection screen.	**Instrument Selection** Instrument Type ○ Total Station ◉ GNSS Rover ○ Total Station Demo ○ GNSS Reference ○ None ○ GNSS Demo Instrument Profile Internal GNSS ▼ Add Delete Edit Profiles contain equipment settings and measurement tolerances. Connect the data collector to the instrument and switch the power on prior to pressing the 'Connect' button. Connect ✗ Close

Using FieldDenius on SXPro Handheld Data Collector

Step	Action	Display
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.	**New Instrument Profile** Profile Name: SXPro xxxx ✓ Save ✗ Cancel
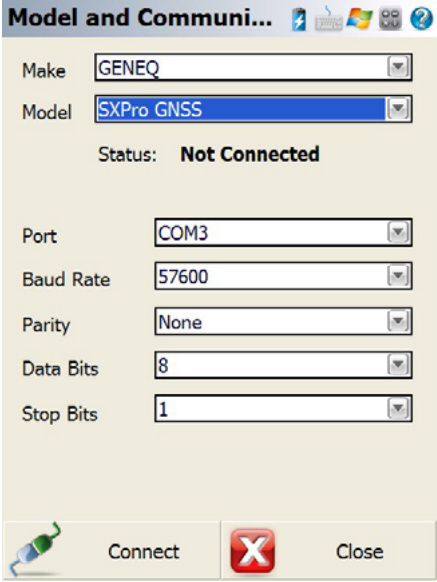
Using FieldDenius on SXPro Handheld Data Collector

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 **SXPro xxxx** 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.	

Using FieldDenius on SXPro Handheld Data Collector

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 GNSS Profile screen.	
16	In the GNSS Profile screen: • Tap on the **Model and Communication** button. • Ensure that your receiver is turned on. This takes us to the Model and Communication screen.	
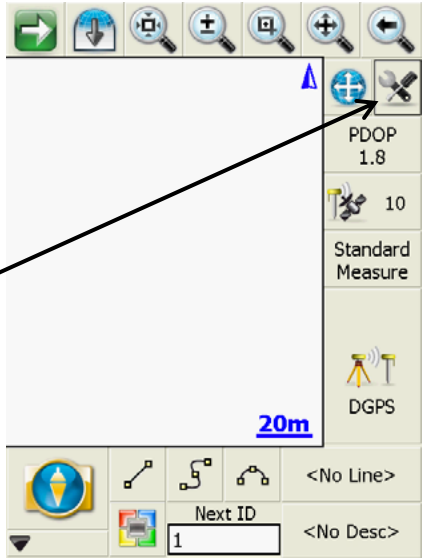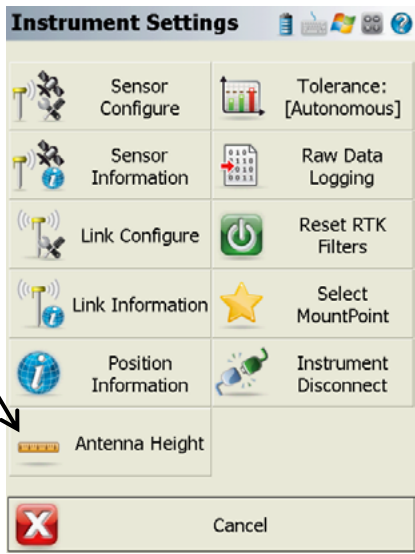
Using FieldDenius on SXPro Handheld Data Collector

Step	Action	Display
17	In the Model and Communication screen: • Ensure that the **Make** field has **Geneq** selected. • Ensure that the **Model** field has **SXPro RTK** selected. • Ensure that the **Port** field is set to **COM3** and **Baud Rate** to **57600**. • Press the **Bluetooth Search** button.	
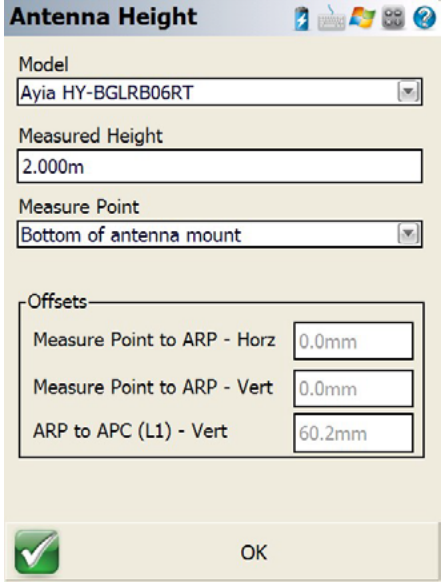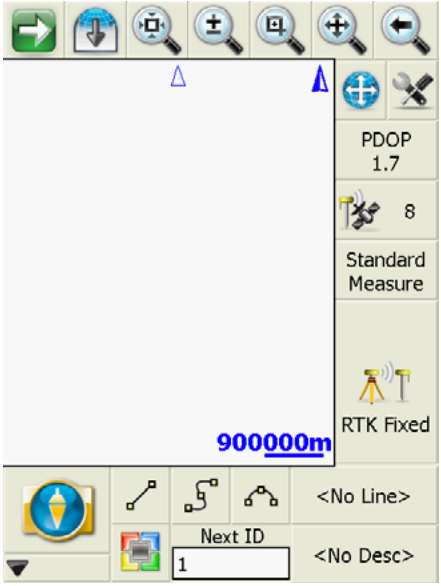
Using FieldDenius on SXPro Handheld Data Collector
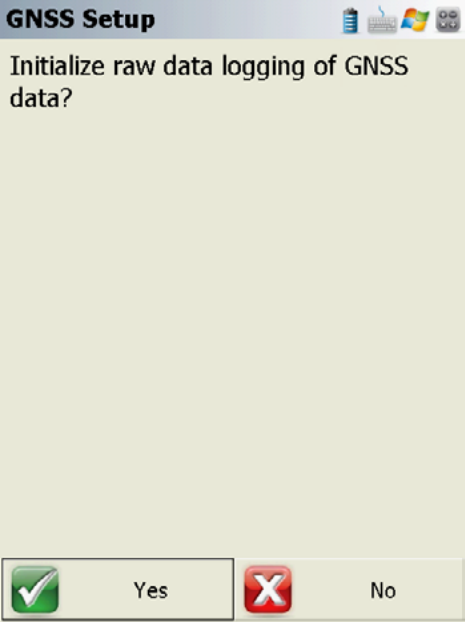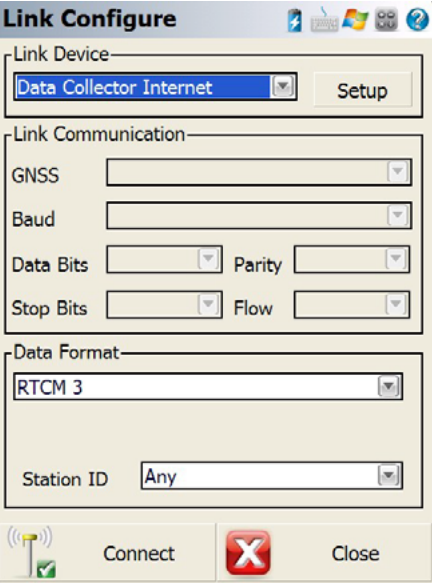
Step	Action	Display
18	In the MapView screen: In this example we will enter a height of *2 metres* since we are using a fixed 2-metre pole. • Tap on the **Instrument Settings** button. This takes us to the Instrument Settings screen.	
19	In the Instrument Settings screen: • Tap on the **Antenna Height** button. This takes us to the Antenna Height dialog.	

Using FieldDenius on SXPro Handheld Data Collector

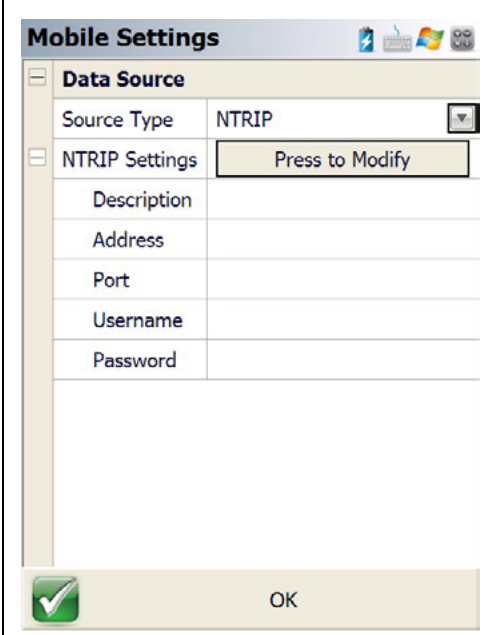| Step	Action	Display
20	In the Antenna Height dialog: • Select the antenna you wish to use in the **Model** field. In this example we are using an **Ayia HY-BGLR06RT** receiver with an integrated antenna. • Enter the height of instrument in the **Measured Height** field. In this example we are using a fixed 2-metre pole. • Press the **OK** button when finished. You are now returned to the MapView screen.	
21	In the MapView screen: You are ready to start measuring.	

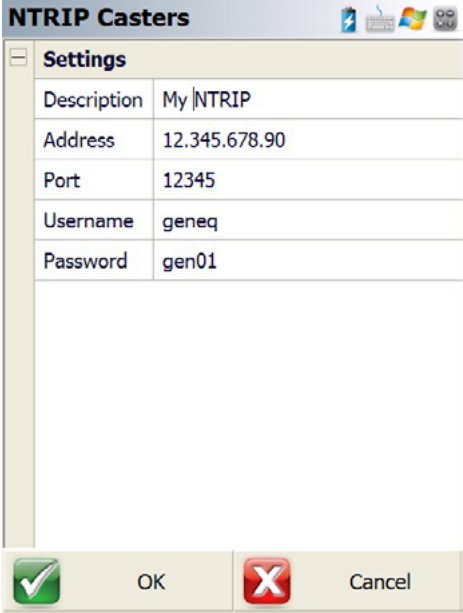# Using FieldGenius to connect to GSM Network Data Correction Service — Only for SXPro RTK

Step	Action	Display
1	In the GNSS Setup screen: If you wish to log GNSS data while collecting RTK data, press the **Yes** button here. Often you may want to post-process this data to strengthen your RTK-collected data. In this example we will not be logging raw GNSS data. • Press the **No** button. This takes us to the Link Configure screen.	
2	In the Link Configure screen: • Press the **Setup** button. This takes you to the Mobile Settings screen.	

Using FieldGenius to connect to GSM Network
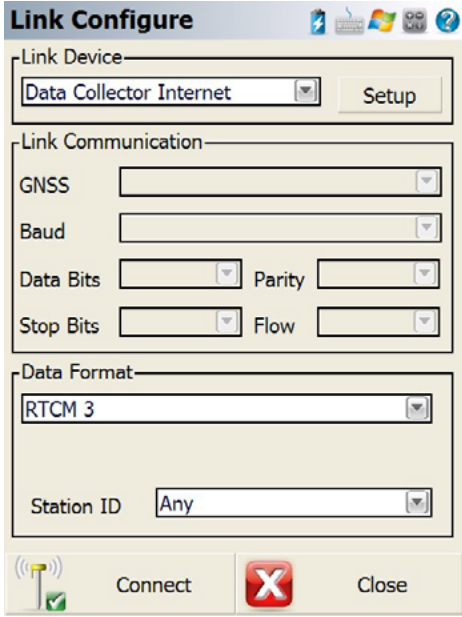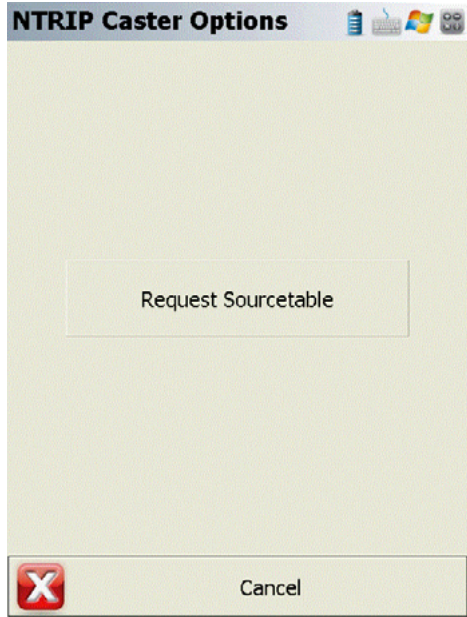# Data Correction Service — Only for SXPro RTK

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**. You should ask your data provider if they are using NTRIP or not.

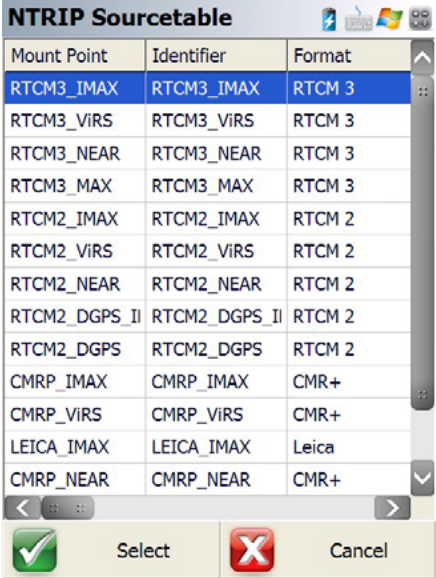| Step	Action	Display
3	In the Mobile Settings screen: • Use the **Source Type** field to select your data source type. In this example we will be using an **NTRIP** connetion. • Select the correct network type that you are connecting to in the **NTRIP Settings** field. Your date provider can tell you what network type they are using. • Press the **Press to Modify** button This step continues on the following page.	

Using FieldGenius to connect to GSM Network
Data Correction Service — Only for SXPro RTK

Step	Action	Display
4	This step continues from the previous page: - Press on **Add to create a NTRIP client** - Enter the IP address of your GNSS data correction source, TCP/IP port, user name, and password in the appropriate fields. - Press the **OK** button when finished. - Press **Select** button to choose your NTRIP client This returns us to the Link Configure screen.	**NTRIP Casters** **Settings** Description: My NTRIP Address: 12.345.678.90 Port: 12345 Username: geneq Password: gen01 OK Cancel **Important Note**: The above settings are space fillers and will not work with any Internet provider.

Using FieldGenius to connect to GSM Network
Data Correction Service — Only for SXPro RTK

Step	Action	Display
6	In the Link Configure screen: It is not necessary to select a data format in this screen because FieldGenius will always use whatever format that is associated with the selected mount point. • Set the **Station ID** field to **Any**. • Press the **Connect** button. Once FieldGenius has connected with your Network GNSS data service, you will be taken to the NTRIP Caster Options screen.	
7	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.	

Using FieldGenius to connect to GSM Network Data Correction Service — Only for SXPro RTK

Step	Action	Display
8	In the NTRIP Sourcetable screen: Here we are presented with a list of all of the mountpoints our GNSS 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 now taken to the MapView screen.	

Using FieldGenius to connect to GSM Network
Data Correction Service — Only for SXPro RTK

Congratulations   You have successfully created a GNSS network rover profile.

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

From there you connected to your GNSS 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, 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 GNSS receiver and the Internet.

Glossary   GNSS – Global Positioning System
ISP – Internet Service Provider
PIN – Personal Identification Number
PUK – PIN Unlocked Key
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