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Introduction	This guide describes how to collect Stop and Go data using your GeoMax Zenith 25 GNSS receiver and MicroSurvey FieldGenius.
	The goal will be to import this data into GeoMax Geo Office for later post processing.
	Important Note: This guide does not explain how to use GGO. We assume that you are already familiar with this software. If you require assistance using GGO, please contact your local GeoMax dealer for help. We also assume you have some basic knowledge of FieldGenius such how to create an instrument profile and you have the ability to connect to your receiver. If you require additional assistance, please visit MicroSurvey's Helpdesk:
	http://www.microsurvey.com/helpdesk2/
	or contact your local GeoMax representative.
Current Version	This guide was written using FieldGenius Version 6.0.6.6. If you are using a different version, your screens may look differently than what is displayed in this guide.
Before you begin	Have your GeoMax Zenith 25 Receiver, and a data collector with FieldGenius installed nearby. You will need them to complete this guide.
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Step	Action	Display
1	• Start FieldGenius.	Project Manager C:\Users\John drick,MICROSURVEY\Documents\MicroSurvey\Field Projects\
	When at the Project Manager screen:	Project     Date       FG Sample     20/08/2013
	We will create a new project.	
	• Tap on the <b>New Project</b> button.	
	This takes us to the Create New Project screen.	Open New Delete Cancel
2	In the Create New Project screen:	Create New Project
	<ul> <li>Enter a name for your new project. In this example we will call it <i>Stop And Go</i>.</li> <li>Press the <b>OK</b> button when finished.</li> </ul>	Enter project name: Stop And Go
	This takes you to the Project View screen.	OK Cancel

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Step	Action	Display
3	In the Project Review screen:	Project Review: Stop An 📄 😂 😵
	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 <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.	Feature List File         Raw Data File       Stop And Go.raw         Encrypted         Modify Project Information
	Use the <b>Feature List</b> field to select a feature list that you want to use with the project, for collecting GIS point attributes.	Continue Cancel
	The <b>Raw Data File</b> 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 <b>Modify Project Information</b> button will take you directly to the Project Information screen. There you can enter notes about the project.	
	<ul> <li>Leave these fields as they are.</li> <li>Press the <b>Continue</b> button.</li> </ul>	
	This takes us to the Unit Settings screen.	

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Step	Action	Display
4	In the Unit Settings screen:	Unit Settings
	<ul> <li>Select which units you wish to use.</li> <li>Important Note: Once this has been set, you cannot change this project's units again. In this example, we will use the settings displayed on the right.</li> </ul>	Format       Precision 3         Angle Unit         Degrees         Format       DDD°MM'SS.s"         Precision 0         Direction Format         North Azimuth         Scale Factor         1.000000         Curvature and Refraction Correction
	Press the <b>OK</b> button when finished.	OK Save As Default
	Assistant screen.	
5	In the FieldGenius Assistant screen:	FieldGenius Assistant 🛁 😂 Would you like to define a coordinate system now?
	We are prompted to define a coordinate system.	
	<b>Important Note</b> : You <b>must</b> have a coordinate system selected if you wish to work with GPS/GNSS receivers.	
	• Tap on the <b>Yes</b> button.	
	This takes us to the Coordinate System Settings screen.	Yes No

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Step	Action	Display
6	In the Coordinate System Settings screen:	Coordinate System Setti   Coordinate System Setti  Horizontal  System UTM83-11  Code List
	• Select the coordinate system you wish to work in.	Info NAD83 UTM, Zone 11 North, Meter North American Datum of 1983 Geodetic Reference System of 198
	<b>Note:</b> FieldGenius now comes with a new <b>Coordinate System Editor</b> . This was introduced in version 6.0.0. To learn more about the new coordinate system editor, please review the MicroSurvey Technical Guide titled <i>MicroSurvey</i> <i>FieldGenius' New Coordinate</i> <i>System Editor</i> .	Vertical System Ellipsoidal • OK Save As Default Cancel
	In this example we will be selecting the <b>UTM83-11 North</b> zone coordinate system with <i>no geoid</i> model (ellipsoidal).	
	• Press the <b>OK</b> button.	
	This takes us to the Instrument Selection screen.	

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Step	Action	Display
7	In the Instrument Selection screen:	Instrument Selection
	• Select your Z25 receiver instrument profile.	Total Station Demo     GNSS Reference     None     GNSS Demo Instrument Profile CooMay 725
	For more information on creating a Z25 instument profile, go to the MicroSurvey HelpDesk web site and search for the term <i>GeoMax</i> Z25	Add     Delete     Edit       Profiles contain equipment settings and measurement tolerances.     Connect the data collector to the instrument
	• Press the <b>Connect</b> button.	and switch the power on prior to pressing the 'Connect' button.
	This takes us to the GNSS Setup screen.	Connect Close
8	In the GNSS Setup screen:	GNSS Setup 🚵 Initialize raw data logging of GNSS data?
	Since we intend to collect raw data that will be post processed later in the office, so yes, we will initialize data logging.	
	• Press the <b>Yes</b> button.	
	This takes us to the GNSS Raw Data Logging screen.	Yes No

Step	Action	Display
9	In the GNSS Raw Data Logging	GNSS Raw Data Logging 🛛 🚵 🕲 🔮
-	screen:	Logging Name StopNGo
		Logging Rate 1 Sec 🔹
	• Enter a name for the raw data file name in the <b>Logging</b>	Memory Total 979808 kB Memory Free 940896 kB
	<b>Name</b> field. In this example we are calling it <i>StopNGo</i> .	Start Logging
	• Select a logging rate using the pull down menu in the <b>Logging Rate</b> field. In this	View Files
	<ul> <li>Press the Start Logging button</li> </ul>	Close
	button.	GNSS Raw Data Logging 🛛 🚵 🔀 🚱
		Logging Name StopNGo
	You will see the <b>Start Logging</b> ' button change to <b>Stop Logging</b> . It	Logging Rate 1 Sec
	is the best indicator to know you are logging data. You will also see the	Memory Total 979808 kB Memory Free 940896 kB
	as data logging continues.	
		Stop Logging
	• Press the <b>Close</b> button.	View Files
	This takes you to the Link Configure screen.	Close

Step	Action	Display
10	In the Link Configure screen:	Link Configure Link Device Other Device Setup
	Since this is an exercise in collecting Stop and Go data, we will ignore any RTK connection details. You could be also using RTK data but in this example we will only be working in autonomouse mode.	Link Communication GNSS Port 1 Baud 38400 Data Bits 8 Parity None Stop Bits 1 Flow None Data Format CMR/CMR+
	• Ignore these settings and press the <b>Close</b> button.	(((T))) Connect Close
	This takes us to the Mapview within FieldGenius.	
11	In the Mapview of FieldGenius:	
	In this example we see we are tracking 8 satellites. We now want to configure FieldGenius to collect Stop and Go data.	PDOP 1.9
	• Press the <b>Instrument</b> <b>Settings</b> button.	900000m
	This takes you to the Instrument Settings screen.	✓     ✓     ✓ <no line="">       ✓     ✓     Next ID       1     <no desc=""></no></no>

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Step	Action	Display
		Instrument Settings 📄 😂 🔮
12	In the Instrument Settings screen:	Sensor Configure [Autonomous]
	• Press the <b>Sensor Configure</b> button.	Sensor Information
		Link Configure Reset RTK Filters
		Link Information Command Console
		Position Instrument Disconnect
		Antenna Height
	This takes us to the GNSS Profile screen.	Cancel
13	In the GNSS Profile screen:	GNSS Profile
		Tolerance Setting: [Autonomous]
	In this screen we can select our tolerance settings for 3 separate	Tolerance Setting: [RTK Float]
	tolerance values. Since this example is only measuring autonomous (non RTK	Tolerance Setting: [RTK Fixed]
	or DGPS positions) we will edit the <b>Autonomous</b> tolerance setting.	Active Tolerance: [Autonomous]
		Antenna Height
	• Press the <b>Tolerance Setting:</b> <b>Autonomous</b> button.	Auto Recording
		Close
	This takes us to the Tolerance 1 screen.	

Step	Action		Display		
			То	lerance 1	<u>∖</u> :: ⊘
14	In the Tolerance 1 screen:		Description Autonomous		
				Real Time	·
	In this screen we can set how many			Observations	1
	measurement. Since we are not			Solution	Autonomous
	collecting any RTK or DGPS Data, one			Elevation	10°
	measurement for our points will be			PDOP	4.00
	adequate. Also, we are not concerned at all to be within any observation			Satellites Computed	5
	tolerance so we will increase the			StdDev Horizontal	25.000m
	StdDev Horizontal and StdDev		_	StdDev Vertical	50.000m
	<b>Vertical</b> fields to a value that will never		١,	Post Process	✓
	1a11.		[	Usage	Always
	• Set the <b>Observations</b> field to <b>1</b> .			Time - Less than 5 SVs	3min
					ОК
	• Set the StdDev Horizontal field to 25 metros and StdDev	/ [			
	Vertical field to 50 metres.				
			Тс	plerance 1	à 🕄 📀
			De	scription Autonomous	
	collect Stop and Go data, you must				1.00
	place a check mark in the <b>Post Process</b>				4.00
	check box. You can also adjust the time			Satellites Computed	5
	values related to the number of			StdDev Horizontal	25.000m
	will change these values all to 3 minutes	[		Bost Process	50.000m
	to seed up the process. Normally care -				Always
	should be used when determining how			Time - Less than 5 SVs	15
	long your observation time will be.			Time - Less than 6 SVs	10
				Time - Less than 7 SVs	10
	• <b>Press the OK</b> button when			Time - Less than 8 SVs	10
	finished.			Time - 8 or more SVs	10
	This returns us to the GNSS Profile		V		JK
	screen.				

Step	Action	Display
15	In the GNSS Profile screen:	GNSS Profile 📄 😂 😵
	While we are here, we should also ensure that we are using the correct antenna and antenna height.	Tolerance Setting: [RTK Float] Tolerance Setting:
		[RTK Fixed] Active Tolerance: [Autonomous]
	• Press the Antenna Height — button.	Antenna Height Auto Recording
	This takes us to the Antenna Height screen.	Close
16	In the Antenna Height screen:	Antenna Height Model Zenith25
	Use the drop down arrrow in the <b>Model</b> field to select <b>Zenith25</b> .	Measured Height 2.000m Measure Point Bottom of antenna mount
	<ul> <li>Measure and enter the height of your antenna in the Measured Height field. In this example we are using a 2</li> </ul>	Offsets Measure Point to ARP - Horz 0.0mm Measure Point to ARP - Vert 0.0mm ARP to APC (L1) - Vert 86.0mm
	<ul> <li>metre tripod.</li> <li>Press the OK button when finished. This returns you to the CNSS Profile screen</li> </ul>	ОК
	<ul> <li>Press the Close button.</li> </ul>	
	This returns us to the Mapview.	

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**So Far** We have configured FieldGenius to record Stop and Go data while measuring points in real-time mode even though we have no real-time corrections coming in (that is, we are in autonomous mode).

We then set the correct antenna type and entered a height of antenna.

We are now ready to record data. Set up your receiver over the point you wish to measure. Since the receiver's antenna should not move during this occupation, a tripod or bi-pod should be used to steady the antenna.

Step	Action	Display
17	In the MapView screen:	
	We are now ready to measure our first stop and go point.	PDOP 1.9 7 8
	• Tap on the <b>Measure</b> button.	Standard Measure
		900000m Auton
		Next ID
	This takes us to the GNSS	No Desc>
	Measurement screen.	

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Step	Action	Display
18	In the GNSS Measurement screen:	GNSS Measurement Solution: Autonomous Satellites: 7
	We can see that our initial one epoch measurement was done as the <b>Real-</b> <b>Time Status</b> field says <i>Accepted</i> .	PDOP:     1.89       Real Time       Status:     Accepted       Horz StdDev:     2.710m       Vert StdDev:     5.989m
	But in the <b>Post Process</b> section, we see that we still have 3 minutes of data to collect. (Remember in <i>Step</i> 14 I set all the times to be 3 minutes.).	Post Process Status: <b>3 min Remain</b> Total Time: <b>7 sec</b>
	• Do not move the receiver during this time.	Store Position Cancel
	After the 3 minutes is up, we now see an <b>Accepted</b> value in the <b>Status</b> field.	GNSS Measurement       Image: Solution:       Autonomous         Satellites:       7         PDOP:       1.75         Real Time         Status:       Accepted         Horz StdDev:       2.710m         Vert StdDev:       5.989m
	We now want to store this data with a specific point ID.	Post Process Status: Accepted Total Time: 3 min
	• Press the <b>Store Position</b> button.	Store Position Cancel
	This takes us to the Store Point screen.	

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Step	Action	Display
19	In the Store Point screen:	Store Point ID 1 S S
	<ul> <li>We see the local UTM11 coordinates (set in <i>Step 6</i>) in the <b>Northing, Easting</b>, and <b>Elevation</b> fields. We can enter a description for the point here, but in this example we will leave it empty.</li> <li>Tap on the <b>Store Pnt.</b> button.</li> </ul>	DescriptionListNorthing5523911.211mEasting312341.143mElevation402.027mNoteTap to enter noteAntenna2.000mReview MeasurementAdvancedGIS Attributes
	This stores the point and returns us to the MapView screen. We will move the receiver and measure another point. Repeats <i>steps 17</i> through <i>19</i> .	Store Pnt Cancel
20	In the MapView screen:	
	We see our 2 measured points.	PDOP 1.7
	We will now go to GGO and see the imported data.	+ <sup>1</sup> Standard Measure
		+ <sup>2</sup> <u>Auton</u>
		Image: Weight of the sector of the secto

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GGO Remember: This guide assumes you know how to use GGO (GeoMax Geo Office), and providing user guidance on this software is beyond the purview of this training guide.

Step	Action	Display
21	• Start GGO.	Extra to South Rest Not South Rest Not
	• Create a new project.	
	• Import your collected data.	
	Under the GPS-Proc tab, you will see the stop and go data that was collected with each observation.	and Annu State ( State ( State ) State ) State ( State ) State ( State ) State ( State ) State ) State ( State ) State ( State ) State ( State ) State ) State ( State ) State ( State ) State ) State ( State ) State ( State ) State ) State ( State ) State ( State ) State ) State ( State ) State ( State ) State ) State ) State ( State ) State ) State ) State ( State ) State ) State ) State ) State ( State ) Stat
	You can now select this data as a rover and post process this data with another GNSS receiver's data	

Congratulations	You have successfully configured FieldGenius to collect Stop and Go data.	
	You then entered the correct antenna height and selected the correct antenna model and were ready to start measuring.	
	You measured 2 points while collecting Stop and Go data.	
	You then imported the data and were ready to post process it against other GNSS data.	
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	