

FieldGenius 2008 – 4.0.1 Release Notes

Released on: October 24, 2008

FieldGenius 2008 4.0.1 is a free update for existing FieldGenius 2007 and FieldGenius 2008 users. This version uses the same license file as the 2007 and 2008 versions so there is no need to get a new activation.

Important Notes for GPS Users:

This version of FieldGenius has a new GPS engine and because of the numerous changes, you will be required to create new GPS profiles. Before installing this update, please make notes recording your existing GPS settings for your reference and rover receivers.

Because we've introduced a new GPS engine in this version of FieldGenius we stress the importance of testing FieldGenius 2008 4.0.1 with you equipment before you head out to do some work.

Important Notes for Thales, Javad and AOA Users:

In this release of FieldGenius there is no longer any support for Thales, Javad and the AOA Rascal. These receivers will be added back into FieldGenius in a future update.

New Features

Leica RX-1250 – a version of FieldGenius is now available for the Leica RX-1250 controller.

Leica Smart Rover – This receiver is now supported.

Leica TPS 1200 Plus – This total station is fully tested and supported by FieldGenius.

Leica 1200 GPS - Added NTRIP, GPRS and Direct Dial support for receiving GPS corrections.

Leica Documents and Movies – An [extensive collection of movies](#) and documents are now included in the helpdesk.

Topcon Hiper Ga & Gb – These receivers are now supported.

Topcon GR3 – This receiver is now supported.

Topcon FC-2200 – This data collector is now fully supported by FieldGenius, including the built in SS Wireless radios.

Topcon 9000 Series – This total station is fully tested and supported by FieldGenius.

Topcon RC-3R – FieldGenius now fully supports RC3 Fast Track system, with cable or Bluetooth connection.

Sokkia 2700 ISX – Added NTRIP, GPRS and Direct Dial support for receiving GPS corrections. Watch the following [movies](#) to learn more.

Re-Designed GPS Engine – The GPS engine in FieldGenius was completely re-designed for this service pack release. The new engine provides faster connections, faster data throughput, more reliable connections and more responsive processing. Furthermore, the new engine now allows us to support new technologies like NTRIP and GPRS.

GPS Receiver Port – On some models of GPS receivers you no longer have to specify what port you are connecting FieldGenius into on the receiver. FieldGenius will determine what port is currently being used.

Raw File, EDM Mode – The current EDM mode being used is now recorded as a comment in the raw file any time it is changed.

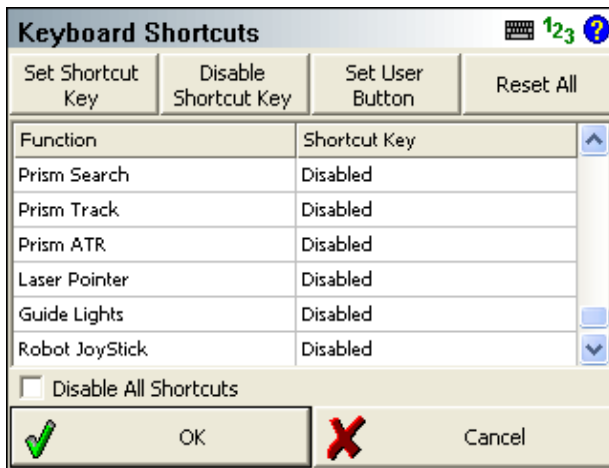
-- RL Fine

Raw File, Instrument – When you connect to an instrument, the instrument make and model are now recorded as a comment in the raw file.

-- Leica TPS Series (GeoCOM)

OEM 4 / 5 Log Markings – When the raw data logging feature is turned on in FieldGenius, if the user presses the measure button a mark is made in the data log file containing point is and description.

Keyboard Shortcuts – New keyboard shortcuts are now available for the following instrument controls: Prism Search, Prism Track, Prism ATR, Laser Pointer, Guide Lights, Robot Joystick. All of these are currently disabled by default but can be assigned to any shortcut key.



GPS Antenna Height - Antenna height can now be modified by pressing the 'control' button on the GPS toolbar and selecting the 'antenna height' option from the menu (only applicable for rover mode).

Select GPS Task 123 ?

Sensor Information	Antenna Height
Correction Information	Configure
Coordinate Information	Disconnect
Active Tolerance Mode (2)	

Cancel

Raw File Time Stamp – FieldGenius now includes an optional time stamp feature that will stamp the raw file with a JB (Job) record before measurement. Job records include the project name, date and time.

```
--Instrument Selected: Total Station Demo
LS,HI5.000,HR6.562
JB,NMHouse 2,DT08-28-2008,TM20:56:32
SS,OP1,FP20,AR45.00000,ZE90.00000,SD99.0000,--
```

This feature is off by default. It can be turned on in the Point Settings in the Options Menu.

GPS Antenna Height - Antenna height can be entered as true or measured in the points edit/store dialog after a measurement.

Store Point 123 ?

Point ID:

Description: List

Northing: Review Measurement

Easting: GIS Attributes

Elevation: Advanced

Note:

Antenna Hgt: True ▼

Store Pnt Cancel

GPS Measurement Dialog - Status text on GPS measurement dialog now shows color depending on state. Also organized the dialog so frequently used options are at the top.

GPS Measurement

Position Status: **Accepted**

Horizontal RMS: 0.04'

Vertical RMS: 0.06'

Use for Local Transformation

Auto Record Points

Offset Measurement

Direction: N0°00'00"E

Horizontal Distance: 0.00'

Vertical Distance: 0.00'

Store Pnt Cancel

GPS Reference Setup – Antenna height can now be changed from the Reference Measurement screen.

Reference Position

Geodetic Cartesian

Latitude: N 49° 50' 17.02827"

Longitude: W 119° 36' 37.71004"

Ellipsoidal Hgt: 394.772m

Northing: 5523894.954m

Easting: 312298.101m

Orthometric Hgt: 394.772m

Select Position From Database

Modify Antenna Height

Set Position Cancel

Reference Position

Average Geodetic Position

Latitude: N 49° 49' 52.26753"

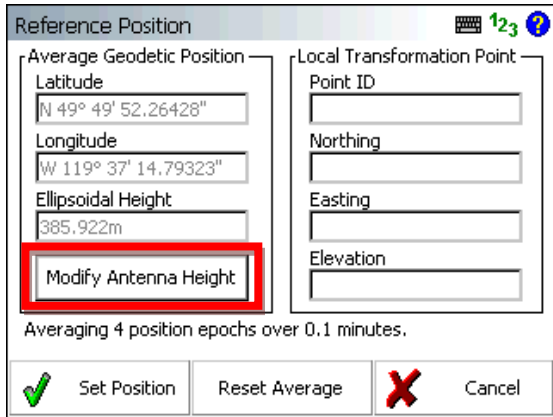
Longitude: W 119° 37' 14.79095"

Ellipsoidal Height: 386.043m

Modify Antenna Height

Averaging 4 position epochs over 0.1 minutes.

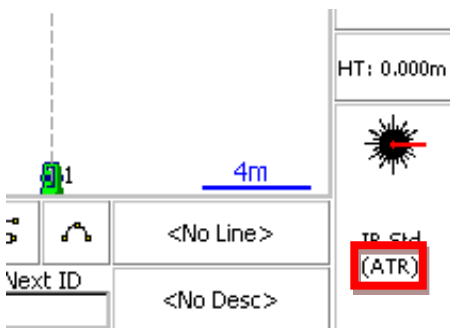
Set Position Reset Average Cancel



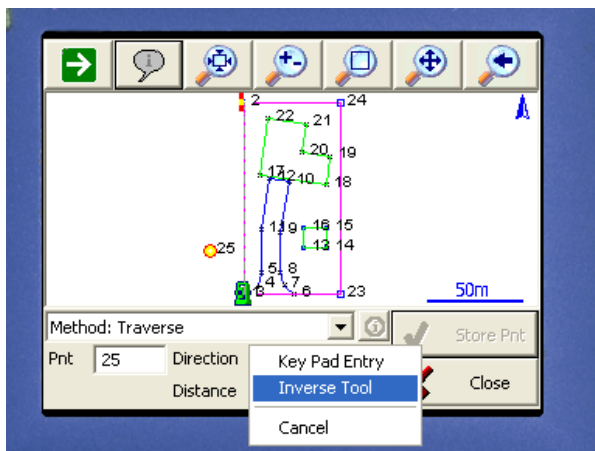
OSGB36(02) Geoid Support – Support for the UK OSGB36(02) geoid is now supported in FieldGenius.

EDM Modes – Current instrument EDM mode is now displayed on the Measure Button.

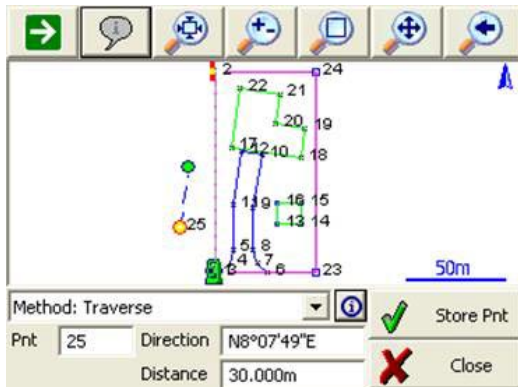
ATR Mode – When ATR mode is enabled for robotic total station, ATR will be displayed on the measure button.



Distance / Bearing Recall by Map Pick Points - FieldGenius now supports inversing (Pick Map Points) in all distance and direction fields. For example, if you are using the Traverse/Intersect command, you can now double tap either the distance or direction fields which will open a small menu. If you select "Inverse", you will be able to pick two points in the map and when you exit the inverse toolbar the inverse value will be copied.

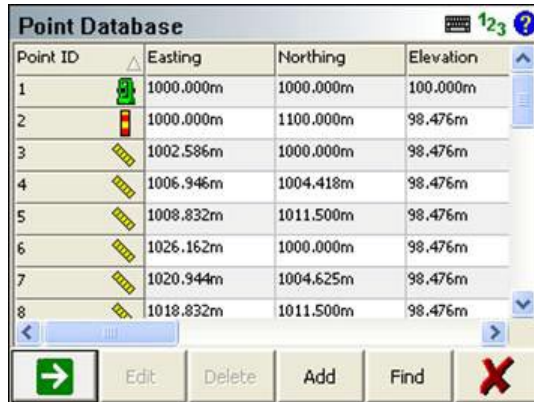
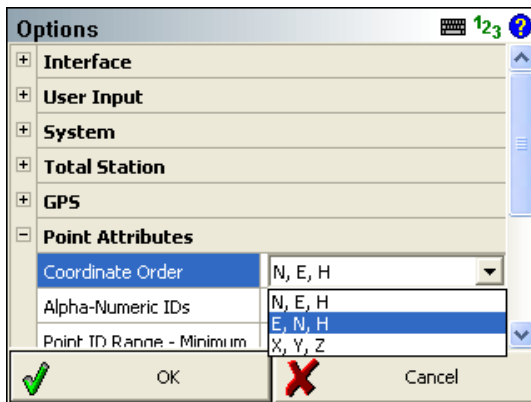


Info button on Traverse / Intersect Toolbar - Also added was an info button on the traverse/intersect toolbar. If you press this it will display the results so you can confirm your calculation before storing it.



SDR Export – A new export SDR raw file is available in the Export Menu.

Coordinate Order – A new option is available for controlling the display of coordinate values in FieldGenius. Options are NEH, ENH, XYZ and will affect any area of the program where coordinates are displayed. An important thing to note is that this only affects display of the coordinates, internally in the point database, or raw file we store information as N,E,Z.



Improved/Updated Features

Traverse/Intersect – If you specify a start point that doesn't exist, you now get a message allowing you to store it as a new point.



Inverse – If you specify a start point that doesn't exist, you now get a message allowing you to store it as a new point.

Robotic Instruments – A new info message now comes up after measuring a backsight, to indicate that the prism lock has been turned off. Previously, the lock was turned off without a message to the user.


Survey Roles – Calculated Points are now stored with their survey role set to "Calculated" which allows you to edit the coordinates if desired.

Staking – When staking with a "User Point" reference mode, the reference point being used can now be changed at any time.



Vertical Angle Offset – When measuring a vertical angle offset, the height difference between the two points (the ground point and the offset point) is now displayed.

Vertical Angle Offset  123 		
	Angle (Height)	Distance
HA	0°00'00"	0°00'00"
VA	90°00'00"	90°00'00"
SD	--	22.00'
HR	--	6.56'
HI	5.00'	5.00'


Vertical Distance: 6.56'

Observe Angle Observe Distance Store Point  Cancel

Horizontal Angle Offset – When measuring a horizontal angle offset, the horizontal difference between the two points is now displayed.

Horizontal Angle Offset  123 		
	Angle (Center)	Distance
HA	0°20'00"	0°00'00"
VA	90°00'00"	90°00'00"
SD	--	22.00'
HR	--	6.56'
HI	5.00'	5.00'

Horizontal Distance: 0.13'

Observe Angle Observe Distance Store Point  Cancel

Feature List Attributes – The drop down box has been made larger so that more attributes are visible at once without having to scroll through as many.

Staking – When storing staked points, you can now specify a default description from the description button on the main interface.

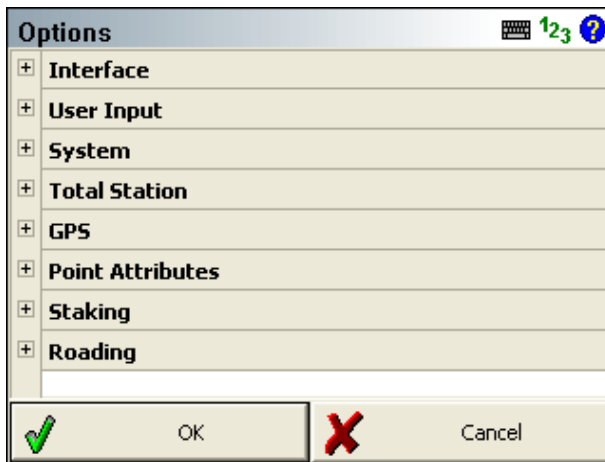
Staking – When you go into the staking screen, the design point ID field now automatically has focus so you don't have to tap into it first before typing the point ID you want to stake.

DXF Export – DXF Files exported now have the PDMODE variable set to 3 so points will appear as a small X instead of a dot when opened in CAD programs.

GPS Antenna Height - Moved the antenna height field from the GPS measurement dialog to the points edit/store dialog.



Settings – Improved the Settings screen layout so it is easier to use.



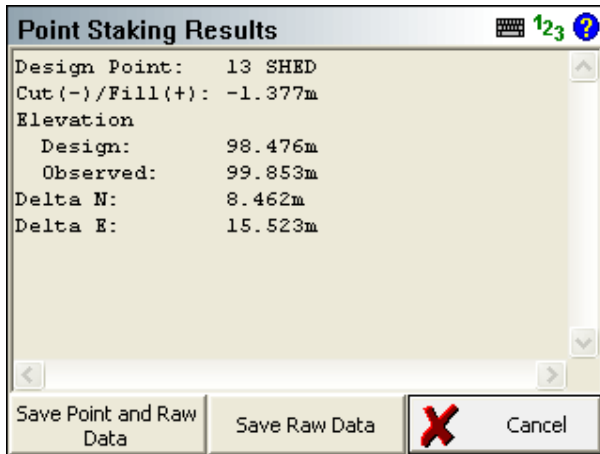
Store and Edit Dialog - Layout of points edit/store dialog modified.

DBF Time Stamp – Time stamp in DBF points file now stores time in the 24 Hour format.

Backsight Target Height – When storing the backsight point, the user is now able to change the backsight target height.

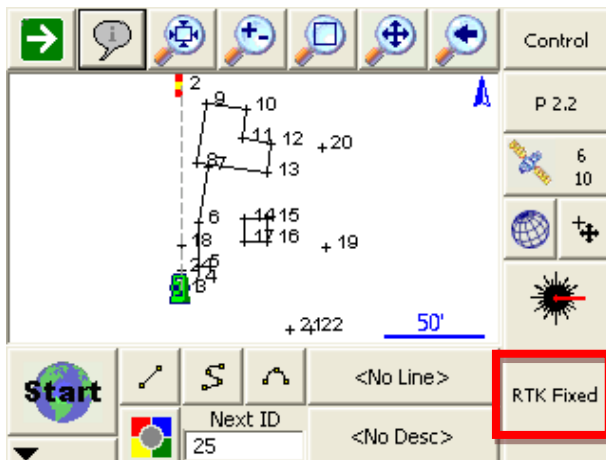
Robotic Backsight Measurement – improved work flow so that the Lock isn't turned off when settings the backsight instrument plate reading.

Staking Workflow – Improved the workflow of storing staking records. During stake out, after you press Store Point, FieldGenius will display the staking results, plus give you the choice of storing a raw file record and a new point, or just a raw record.



This new functionality is available in all staking routines including: points, lines, alignments, surfaces and slopes.

GPS Status – GPS status is now displayed on the Measure Key. Status will Either be Autonomous, DGPS, RTK Float, RTK Fixed, No Data or No Link. Previously, this was displayed on the top of the GPS toolbar.



Radio channel - Setup is now aligned for portrait devices.

GPS Data Format - Simplified data format selection for rover mode.

NTRIP Mount Point - Selecting NTRIP mount point now confirms data format selected in FieldGenius matches that of the selected mount point. If they don't match, FieldGenius will automatically change the format for the user.

Map Projection - Warnings and errors are now shown in a prompt dialog rather than the information toolbar.

Fixed

QSB Surfaces – When loading QSB Surface File, if a surface name contained any dashes or spaces, then loading it would cause Error 45P-P98 and the surface would not load.

Points Database, Deleting Points – When deleting all points from a project, this resulted in a crash for some projects.

Points Database, RTS Points – When using RTS in the TabletPC Edition, a crash could occur.

Points Database, Add Points – When points are added into the database, the list was not being refreshed so the new points did not immediately appear in the list – they now appear immediately.

GPS, NMEA SVs Count – The number of Satellites in View shown was inconsistent when using a NMEA connection.

Off Level – Some Sokkia SRX instruments would not notify FieldGenius when they went off level, causing invalid data to be recorded. FieldGenius now notifies the user when this condition occurs.

Feature List Editor – It was previously possible to create an attribute named “Name” which conflicted with other data in the feature file. This is now prevented.

Curvature and Refraction – The option to correct for curvature and refraction (previously located in the Units and Scale Settings screen) was not functioning, so it has been removed. If necessary, correction for C&R should be handled by your instrument.

Descriptions Not Persistent – if you set the current description on the main interface, then store a point either manually or with a sideshot, the description isn't displayed in the store screen forcing you to pick it again.

Export DXF – When exporting a DXF file, FieldGenius would crash if a figure referenced a point which had been deleted.

Export DXF – When exporting a DXF file, layer names could contain invalid characters such as dots or spaces (as specified in the AutoMap Library), and opening the DXF file in AutoCAD would generate errors. Only valid layer names are now written into the DXF file.

DXF, LandXML, Image Fail To Load Error – FieldGenius used to store the explicit path to the file loaded which would cause an error to appear when the FieldGenius was moved to different data collectors. If the file isn't found a message will be displayed notifying the user where the file is supposed to be.

DXF, LandXML, Image Paths – FieldGenius will now only store the full path to the files if they are not in the FieldGenius project folder. If the file is in the FieldGenius project, only the name of the file will be saved. This prevents path errors when moving projects back and forth between different data collectors.

DXF Blocks and Attributes – Certain DXF blocks and attributes could cause display problems in FieldGenius when a zoom extents was issued. These types of entities are now ignored by FieldGenius.

DXF Layer State – This wasn't always saved to the ini file when the project was closed.

Stake Point ID – After a user stored a stake point and the program automatically returned to the Stake Point screen, if the user manually entered a new point to stake and kept focus in the point id field and pressed stake point, the Map Screen text would display the last point id staked. This was a display bug, the correct point location was staked.

Slope Staking – The slope staking routine could be started when no setup position was established. This is now not allowed.

Stake Road Button – Sometimes in the desktop version of FieldGenius, this button would stop functioning properly.

Next Point ID – Sometimes going to the Raw File Viewer could reset the next point id.

Trimble 5600 – FieldGenius could get unstable when the calibration routine was executed upon instrument connection.

OSGB02 Errors – FieldGenius would display an incorrect error message about the “GPS is outside the grid” when surveying with this projection. This has now been corrected.

Resection Keypad Problems – During a resection you could not open the keypad by tapping in the point number field.

Stake Point / Check Point Prism Offset – After checking the backsight, immediately staking a point with FieldGenius would use the backsight prism offset constant for the first stake shot instead of the foresight prism offset. This only appeared if you were using different prism offsets for the backsight and foresight prism offsets.

Leica RL Mode Error – Sometimes after turning Prism Lock off, if you immediately tried to take a reflectorless measurement, FieldGenius could display a Measurement Error message.

Leica 1200 – Trying to setup a search window would display error message when defining the extents.

Raw File Viewer – Horizontal scroll bars didn’t work correctly.

Negative Feet and Inch Coordinates – Entering negative feet and inch distances could cause incorrect coordinates to get computed.

Reciprocate Traverse (Multiple TR) – If the user accidentally stored multiple TR (Traverse) shots for a setup, FieldGenius would use the first TR shot for the reciprocal calculation. It will now use the last TR shot to reciprocate.

Reciprocate Traverse – Once used in a project, it would remain active for all setups even if the reciprocate traverse toggle was turned off.

Keypad – Problems could occur when using the full screen keypad to enter elevations for vertical profiles.

Desktop Version Network Browsing – The desktop version of FieldGenius now allows the user to browse mapped network drives.

Local Transform Points - Linework not refreshed and no occupy point warning after execution.

Zoom to Extents - Problem in Robotic Tracking Mode Pocket PC build would not always zoom extents properly.

FBK Export – FieldGenius FBK files used to store coordinate points as “NEZ” records which was incorrect. FieldGenius will now export them as “NE SS”.

Project Names – Spaces entered at the end of a project name would cause issues when moved to a desktop computer. Spaces are now not allowed at the end of project names.