MicroSurvey STAR*NET 8

Features and Benefits

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STAR*NET 8: Features & Benefits

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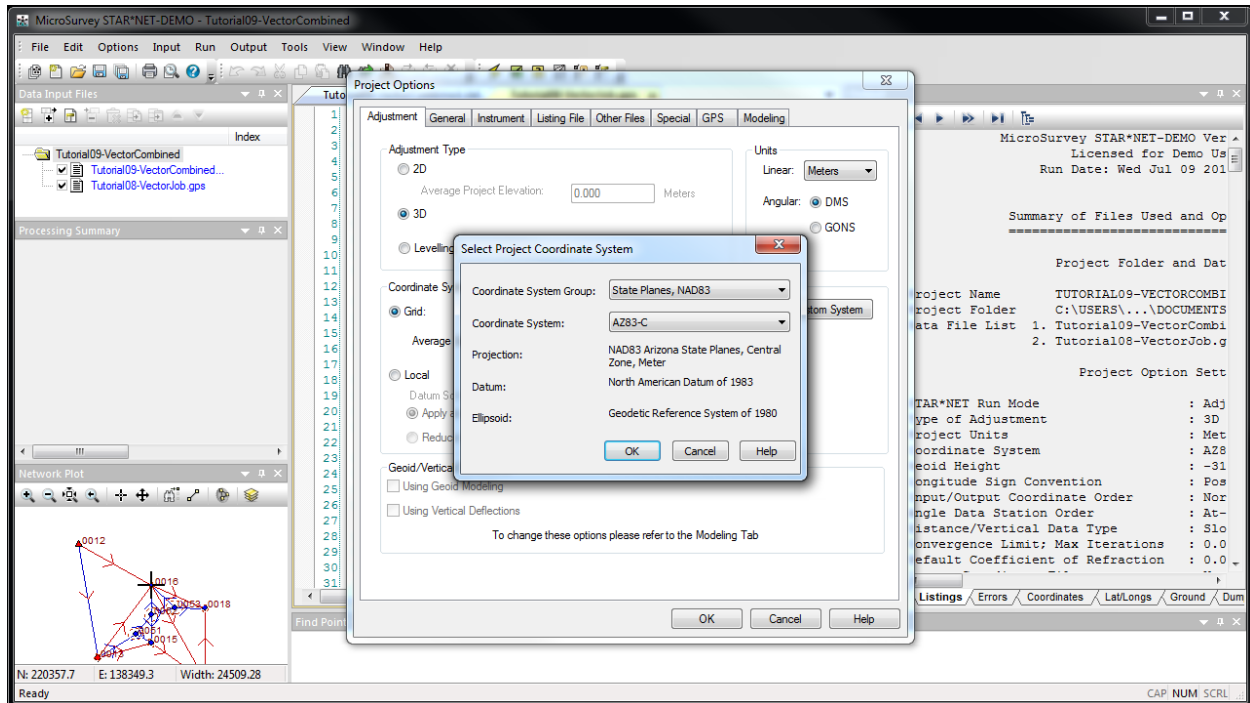## STAR*NET 8

Release Date: May 9, 2014

CS-Map Coordinate System Engine

Upgrade Tour Movie: click here

Feature	Benefit
CS-Map coordinate system engine	100% cross-compatibility between all MicroSurvey products including STAR*NET, FieldGenius, MSCAD, inCAD, embeddedCAD, etc.
Over 3800 predefined coordinate systems, worldwide, are now available to select from	Greatly expands the usability of STAR*NET especially outside of North America, as only UTM and SPCS zones were previously available.
Custom Coordinate System Editor supports more datum and projection types	The old text-based coordinate system definition file "starnet.cus" was very limited in the systems that could be defined because it only supported a few projection types.

Geoid Modeling (.bin/.byn files)

Upgrade Tour Movie: click here
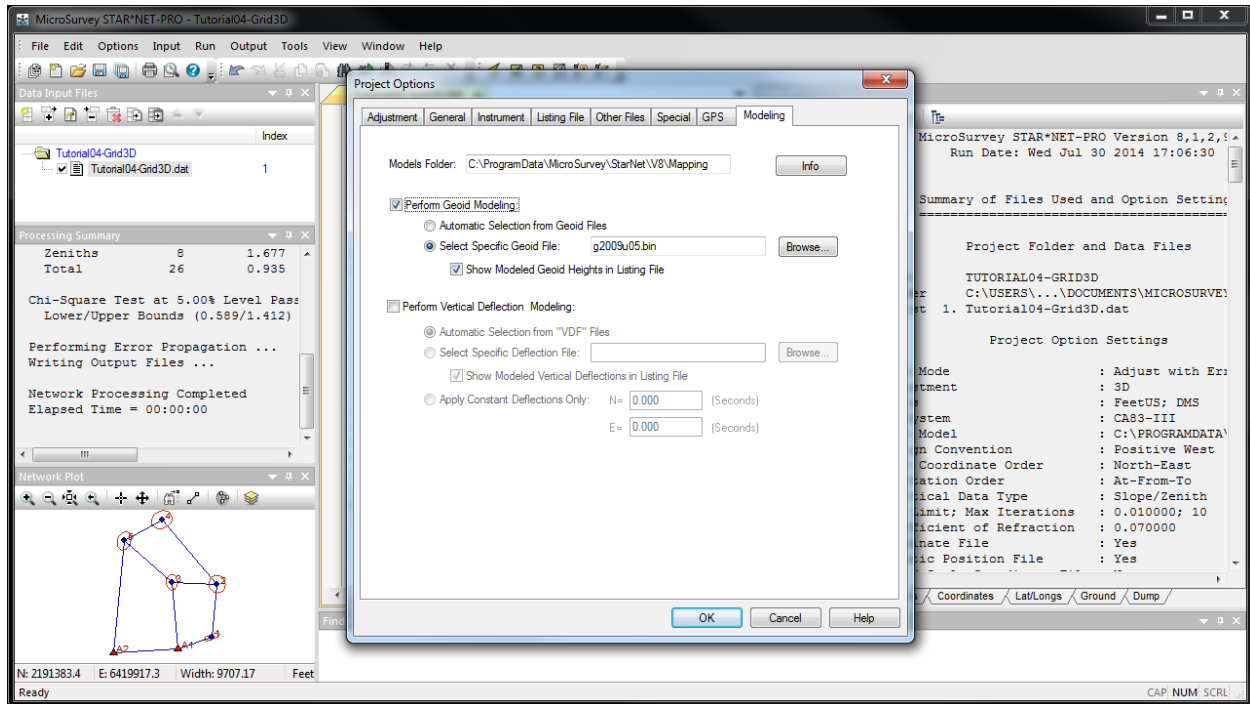
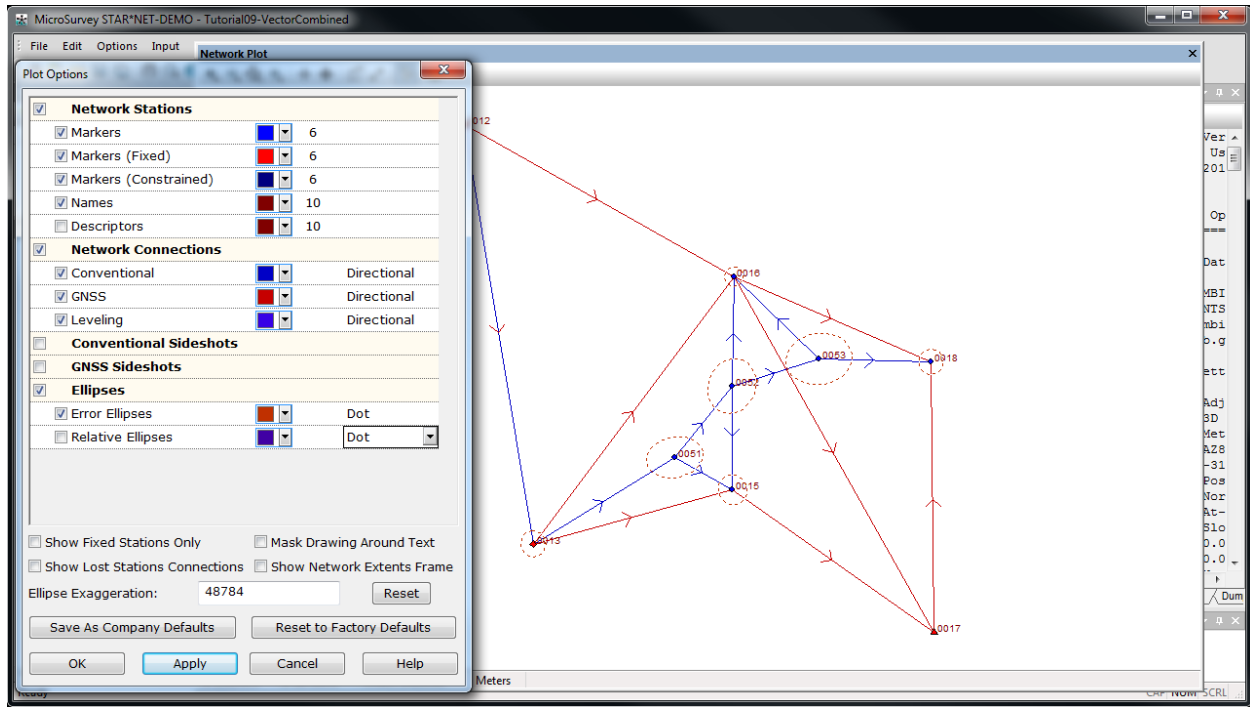| Feature	Benefit
Direct support of NGS and NRCan geoid files (.bin/.byn) for geoid modeling	Conversion to .ght format (using the STAR*Geoid utility) is no longer necessary. This improves user confidence by using officially distributed geoid files from NGS/NRCan. Further, STAR*Geoid did not support NRCan's newer .byn format (like HT2_0.byn).
Hundreds of worldwide geoid models are available for download via the MicroSurvey Helpdesk.	Easy and free access to geoid models.

STAR*NET 8.1

Release Date: August 1, 2014

Network Plot

Upgrade Tour Movie: [click here]

Feature	Benefit
New Plot Options dialog	All network plot display options are now customizable (for example: no hard-coded colors) in an intuitive but powerful dialog.
Specify the color, size, and linetype of each network element	Graphically differentiate Conventional, GPS, and Leveling observations by color or linetype, etc. More control for the user.
Directional Linetypes	Directional arrowheads provide an immediate indication of both the direction and number of observations between two stations. Users can quickly notice regions with low redundancy without having to analyze the listing.
Zoom and Pan mouse controls	Intuitive CAD-like mouse control makes manipulating the network plot view fast and easy.

.PRISM Command

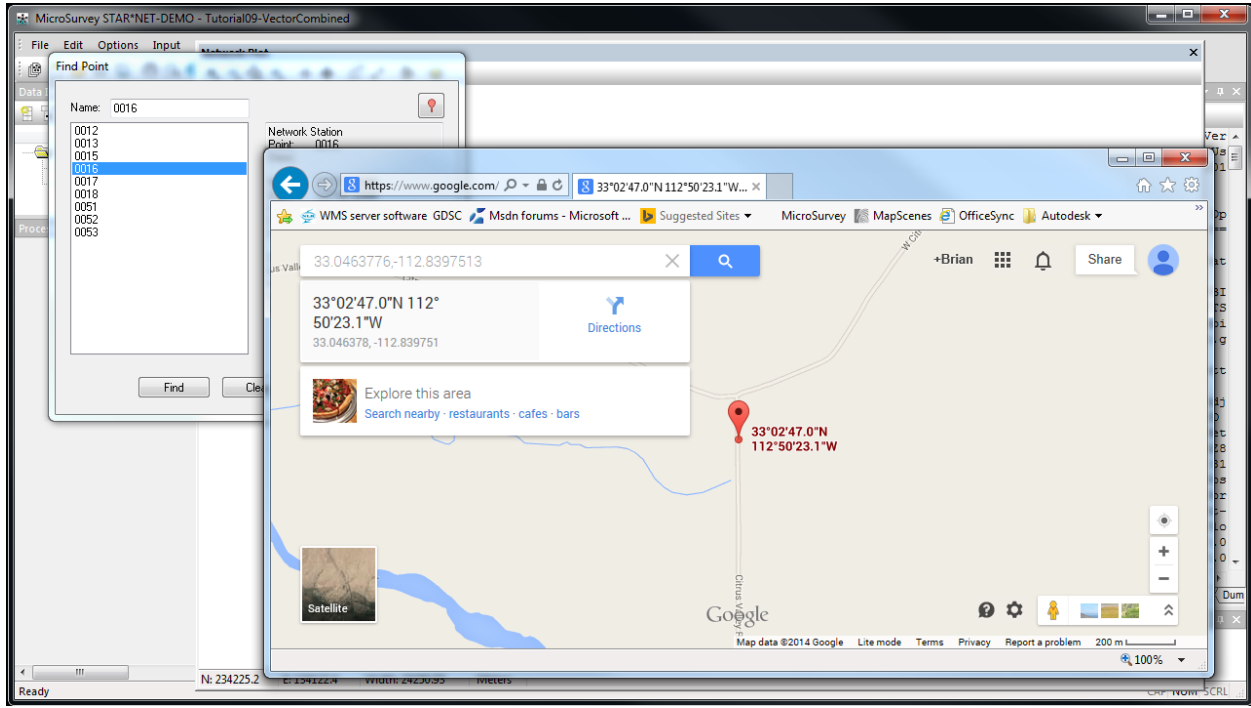Upgrade Tour Movie: click here

Feature	Benefit
Specify an prism offset correction to add to all following distances	Very easy to correct a fairly common field mistake: using a prism with the wrong prism offset setting. Previous solution required calculating and hand-modifying every incorrect distance value (potentially thousands of manual edits), which is time consuming and very prone to error. This will absolutely save users time and money!
.PRISM value	You can specify one offset value (in millimeters), and STAR*NET will scale it to the appropriate unit and add it to the distance values that follow.
.PRISM value1 value2	You can specify two offset values (both in millimeters), and STAR*NET will subtract them (value1-value2), scale the difference to the appropriate unit and add it to the distance values that follow. This allows you to specify the correct prism offset value and the incorrect prism offset value that was used for the measurements, rather than just a correction value.
.PRISM OFF|ON|CLEAR	Stop, start, and reset the prism correction. If the mistake was realized and corrected halfway through the survey, just add a .PRISM OFF or .PRISM CLEAR command after the last incorrect observation to stop applying the correction value.

Google Maps™ Support

Upgrade Tour Movie: [click here](#)

Feature	Benefit
View Point in Google Maps	Users can view their adjusted network stations (2D/3D Grid projects only) in a free online service that everyone is already familiar with.

Google Earth™ Support

Upgrade Tour Movie: click here
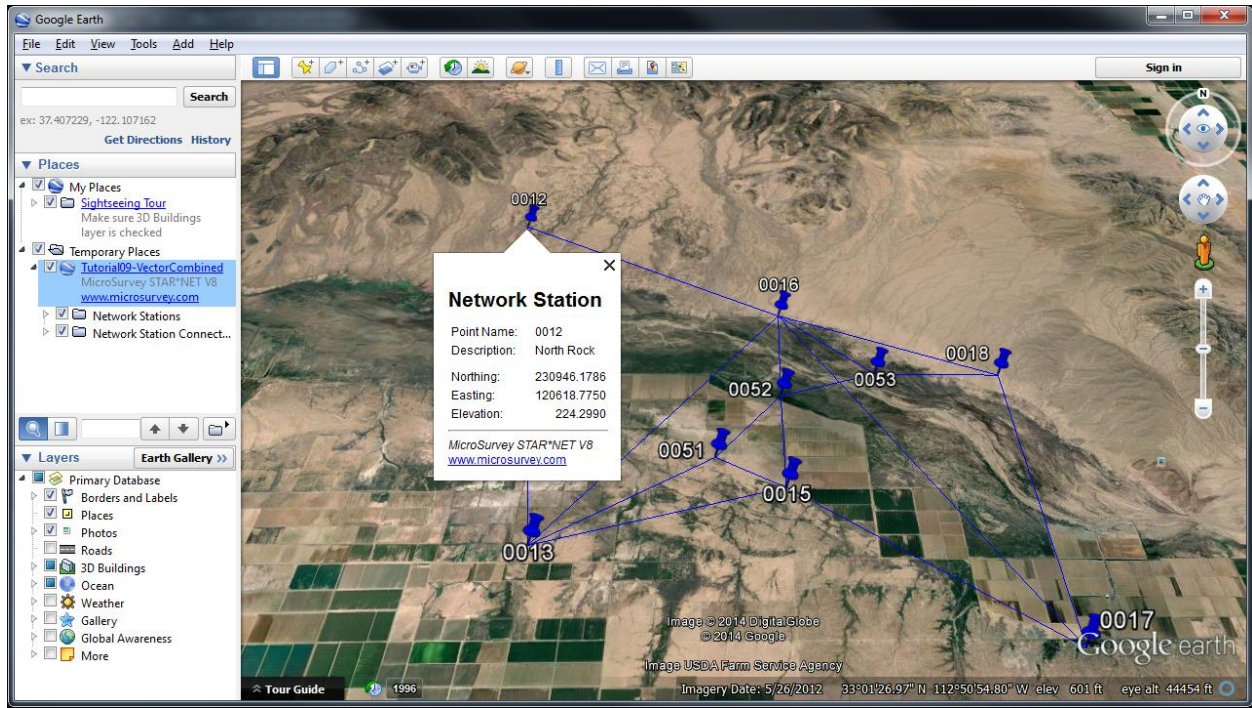
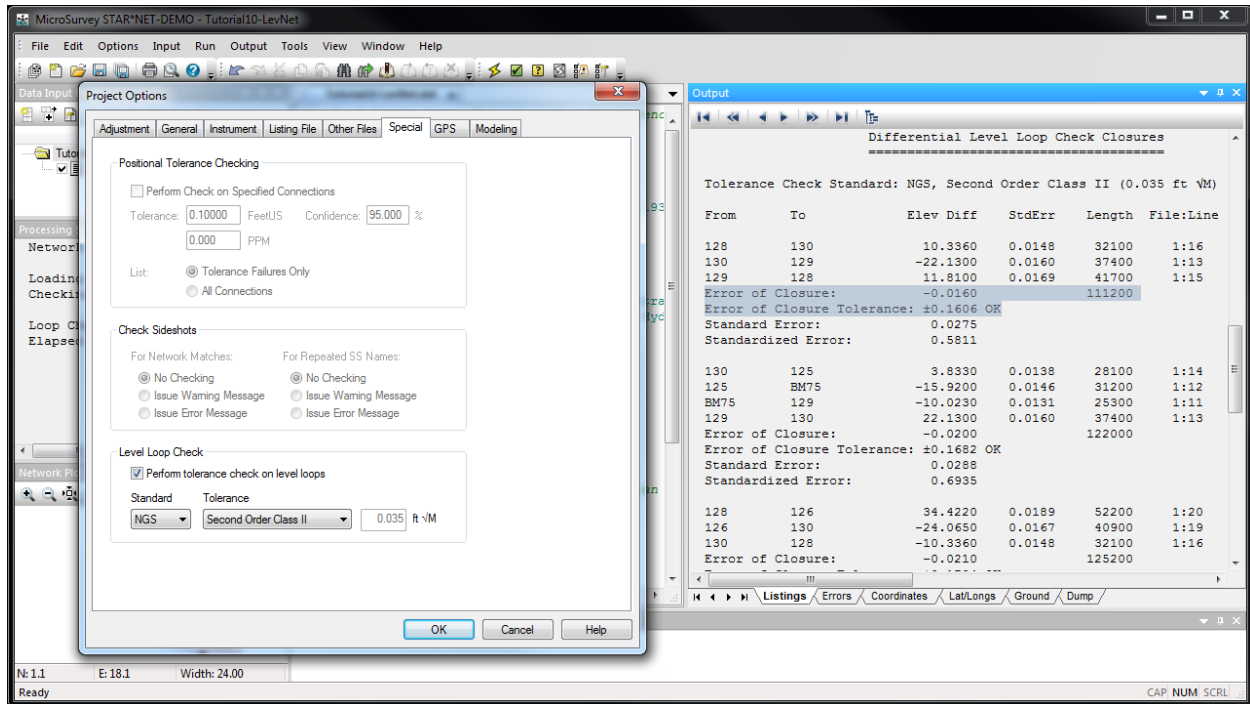| Feature	Benefit
View Network in Google Earth	Users can view their adjusted network stations and connections (2D/3D Grid projects only) in a free* program that everyone is already familiar with.
Export .kml/.kmz File	The .kml or .kmz file is another deliverable that our users can provide as a value-add to their clients.

Level Loop Tolerance Check

Upgrade Tour Movie: click here

Feature	Benefit
Loop Lengths given in Listing	Analysis of listing file is easier/faster because all relevant information is displayed together in the same section. No need to jump back and forth between different sections to determine the segment lengths, and no need to manually sum them to compute the total loop lengths.
Tolerance Check (optional)	Automatically analyze whether differential leveling loops meet specific classification requirements. Written with pre-configured standards of accuracy from United States National Geodetic Survey and Natural Resources Canada, but it also allows for using a custom classification formula.

Online Updater

Upgrade Tour Movie: click here
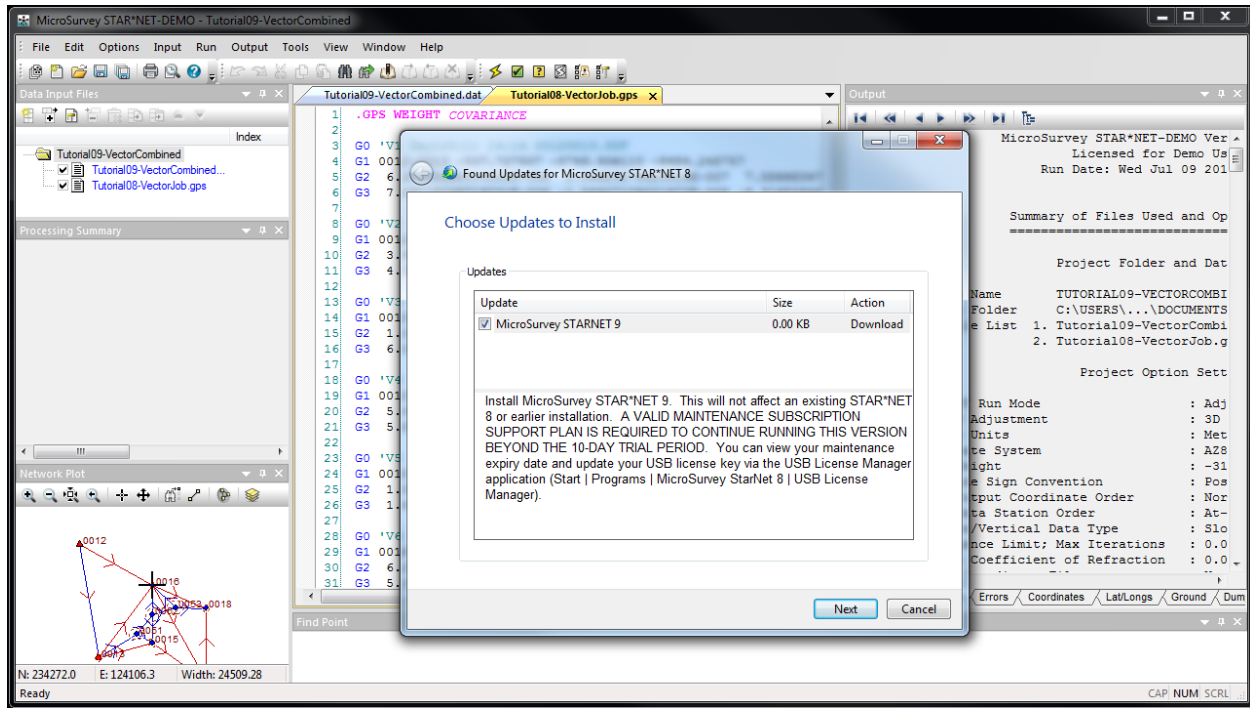
Feature	Benefit
Check For Updates	Users can quickly check online to see if there are any updates available to download and install. This makes it easy for users to ensure they are using the latest version so they can get the most out of their maintenance subscription and support plan and maximize their return on investment.
Auto Update	Users can be informed automatically, without having to do a check. Again, this helps users maximize their ROI.
Auto Update Preferences	Users can change the automatic update check frequency, or disable it completely if they do not intend on renewing their maintenance in order to continue getting the latest updates.

File References

Upgrade Tour Movie: click here
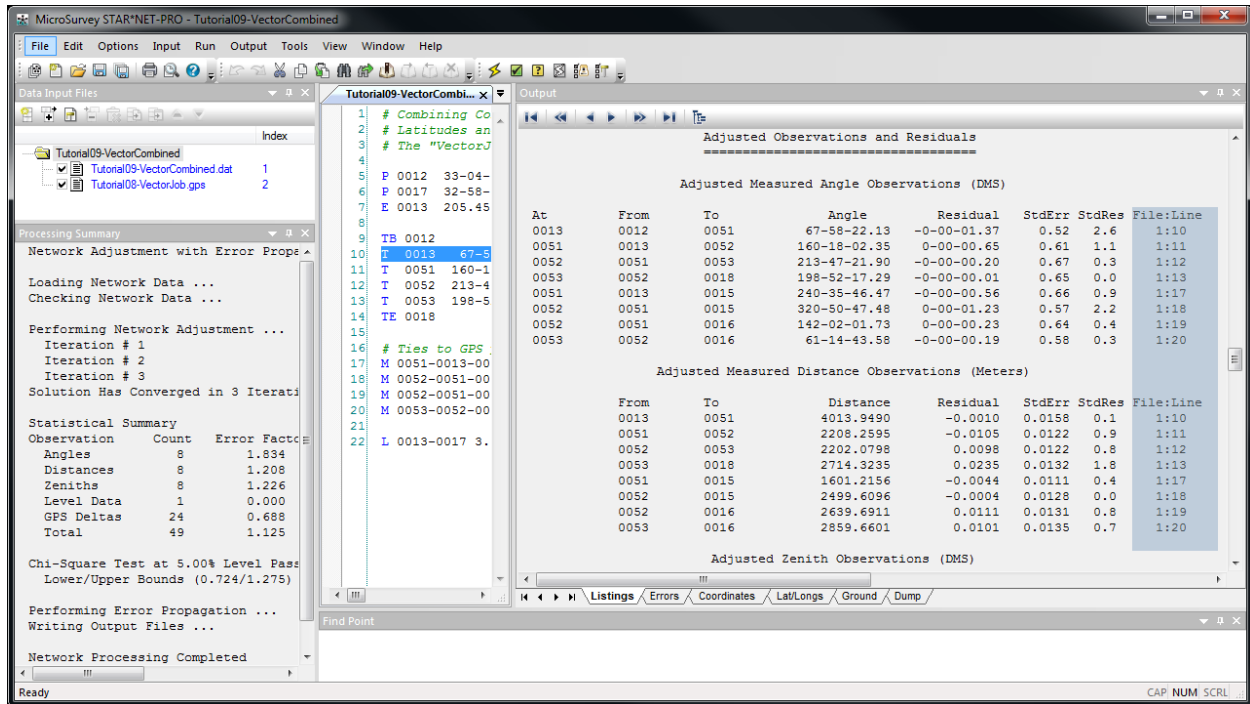
Feature	Benefit
Index column in Data Input Files panel	File References (like 1:10 for File 1, Line 10) correspond to the new Index shown beside each data file. For projects containing many data files, this makes it easy to identify the appropriate file.
Double-click File:Line in Listing	Double-clicking on a : character (like in 1:10) immediately jumps to the appropriate file and highlights the appropriate line.

Data File Monitor

Upgrade Tour Movie: click here
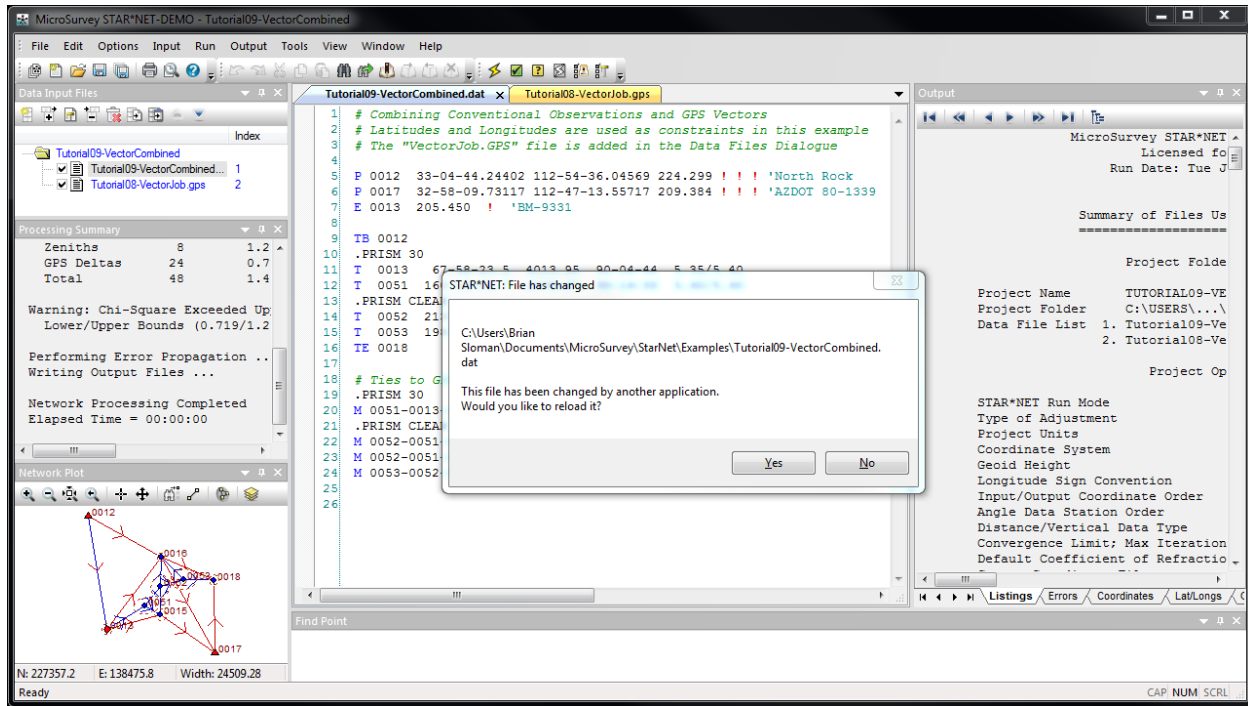
Feature	Benefit
Data editor will automatically refresh any open data files that are overwritten or appended to by the GPS Import command	Previously, users had to close and reopen the data file in order to refresh the file – this could result in confusion with not seeing the new data, accidentally re-saving the old data and losing the new data, and other similar problems. The new refresh is instant and automatic.
Data editor will prompt to refresh any open data files that are modified outside of STAR*NET	A data file might be modified outside of STAR*NET in several scenarios, like: - The "Edit External" button is used to open up the data file in some other text editor - Somebody on another computer is editing the file - A file is updated by re-exporting it from one of the conversion utilities or other survey software The new behavior helps ensure that the editor always displays the expected data. It is automatic and intuitive, and STAR*NET now behaves like other modern text editors in this sense.

STAR*FieldGenius Enhancements

Upgrade Tour Movie: n/a

Feature	Benefit
Convert OB (Observation) records from the .raw file to BM (Bearing Measurement) records in the .dat or .gps data file	Some users handled point offsets by performing a COGO calculation to create a new point relative to another measured point. These calculations now carry over into the converted STAR*NET data.
Convert GO (GPS Offset) records from the .raw file to G4 records in the .gps data file	GPS Offset measurements, when imported to STAR*NET, used to ignore the offset and create the resulting point at the measured position instead of offsetting it as specified. The offset is now imported to the new "G4" record. This defines the offset direction and distance, resulting in the "to" point being created in the correctly offset position.
New G4 Data Record can be added to any vector group in a STAR*NET data file (not just FieldGenius)	The new G4 records are currently only created by the FieldGenius GPS importer, but it is a generic solution that can be manually added to any vector, and in the future we can add this to other GPS import formats as necessary.
Fixed other issues importing FieldGenius GPS data	Overall robustness has been improved by fixing problems with various "odd" scenarios that have been reported.

STAR*Carlson Enhancements

Upgrade Tour Movie: n/a

Feature	Benefit
Import Resection Observations	Resections used to be ignored, so you lost some potentially important observation data. It now creates Direction Set with a DM record for every shot.
Average Shots in Multiple Sets (option)	This is an option that Starplus removed from STAR*Carlson several years ago, and SurvCE users asked us to bring it back. If you do a Set (say, backsighting point 1 and foresighting point 2), then do another, and another, etc… the Converter will average the sets together and write a reduced observation.
Import GPS Descriptions (option)	The option to Import Descriptions did not work, now it does. Self-explanatory.

STAR*Leica DBX Enhancements

Upgrade Tour Movie: n/a

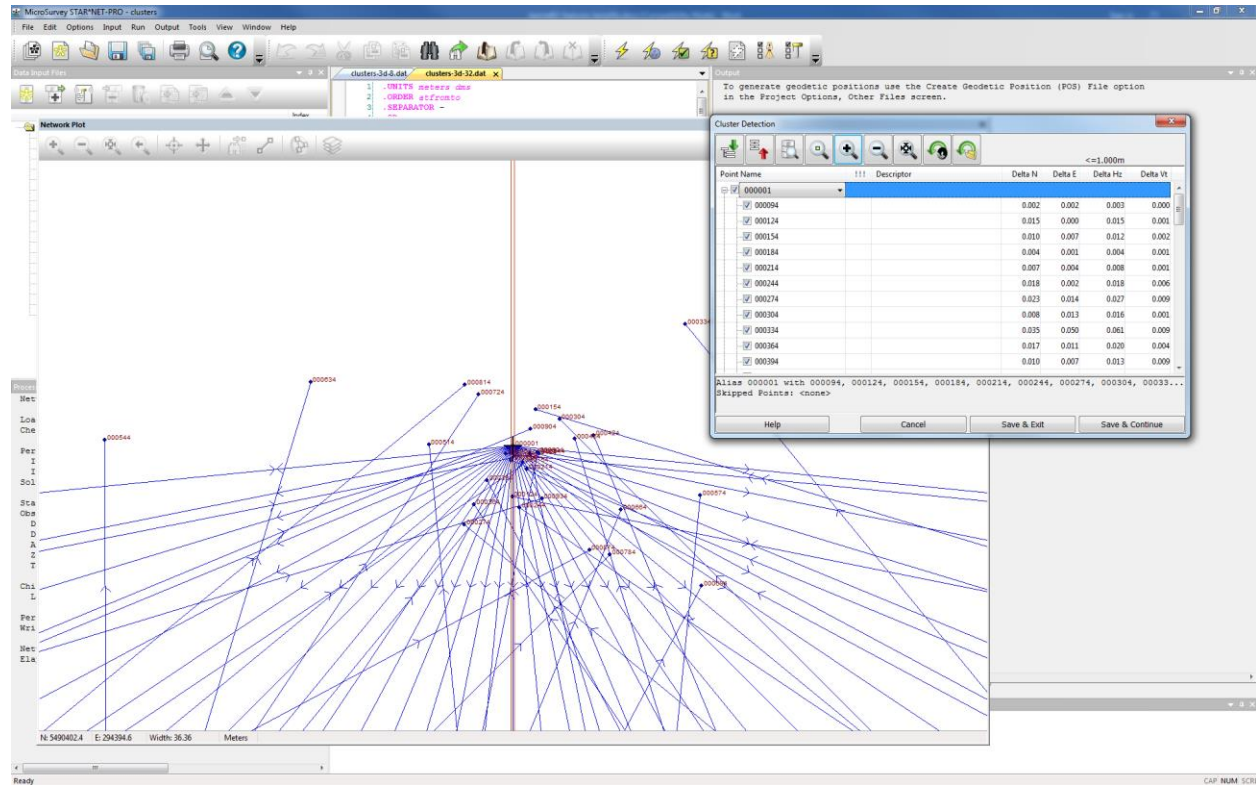| Feature	Benefit
Use All Set Observations (option)	This option, added in 8.0, only applied to sets collected with the "Sets of Angles" application; it now also applies to sets collected with the "Traverse" application.
DMS Angular Precision (option)	The Angular Precision setting now controls the number of decimal places for the seconds value (like 2 for DDD-MM-SS.ss) instead of the degrees value (like 6 for DDD-MM-SS.ss). This is more intuitive.
Staking Observations (option)	Staking observations can now be converted as Measurement records.
Checkshot Deltas	Checkshot deltas will now be converted as comment records.

Miscellaneous Enhancements

Upgrade Tour Movie: n/a

Feature	Benefit
Project Manager, Template Data File (option)	In STAR*NET 6 new projects were always created with a blank data file. In STAR*NET 7 we added a template mechanism, and new projects were always created with a copy of that template data file. Most users didn't take advantage of the ability to customize the template file (for example by adding their commonly used control points, etc) so in STAR*NET 8.1 we added an option
Listing Index Tree	When using the Listing Index Tree, clicking on a section may jump the selected heading to the bottom of the Listing view. This was probably the #1 bug report since STAR*NET 7.
2D DXF Files	When exporting a DXF file, a defect with the option to "Export as 2D DXF File" has been fixed. This was a very common bug report.
Custom Coordinate System Editor	Several issues present in STAR*NET 8.0 have been fixed, making the Custom Coordinate System Editor easier to use and more flexible in 8.1. For example, custom systems can now be edited or deleted.

STAR*NET 8.2
Release Date: July 29, 2016

## Adjust Network with Cluster Detection
Upgrade Tour Movie: click here

Feature	Benefit
Run > Adjust Network with Cluster Detection	New adjustment method that automatically detects multiple points with different IDs that are within a specified 2D or 3D proximity of each other and treat them as one point during the adjustment. A dual-pass adjustment will be performed, whereby a complete adjustment will first be run with all iterations, then its results analyzed to determine which points to combine, and a second adjustment will be run with those points aliased together.
Cluster Detection Dialog	After the first adjustment, you will have full control to approve or override any aliasing decisions prior to running the second adjustment, including the ability to control which point ID to use for each cluster.
Special Options	Specify a 2D or 3D distance tolerance, and choose whether or not to include or exclude points that are beyond tolerance of the true point in the cluster but within tolerance of any other point(s) in the cluster.
Listing Options	After the final adjustment, the listing file will report which points were aliased together in each cluster and will display their deltas from the true point.

Adjusted Observations and Residuals

Upgrade Tour Movie: click here
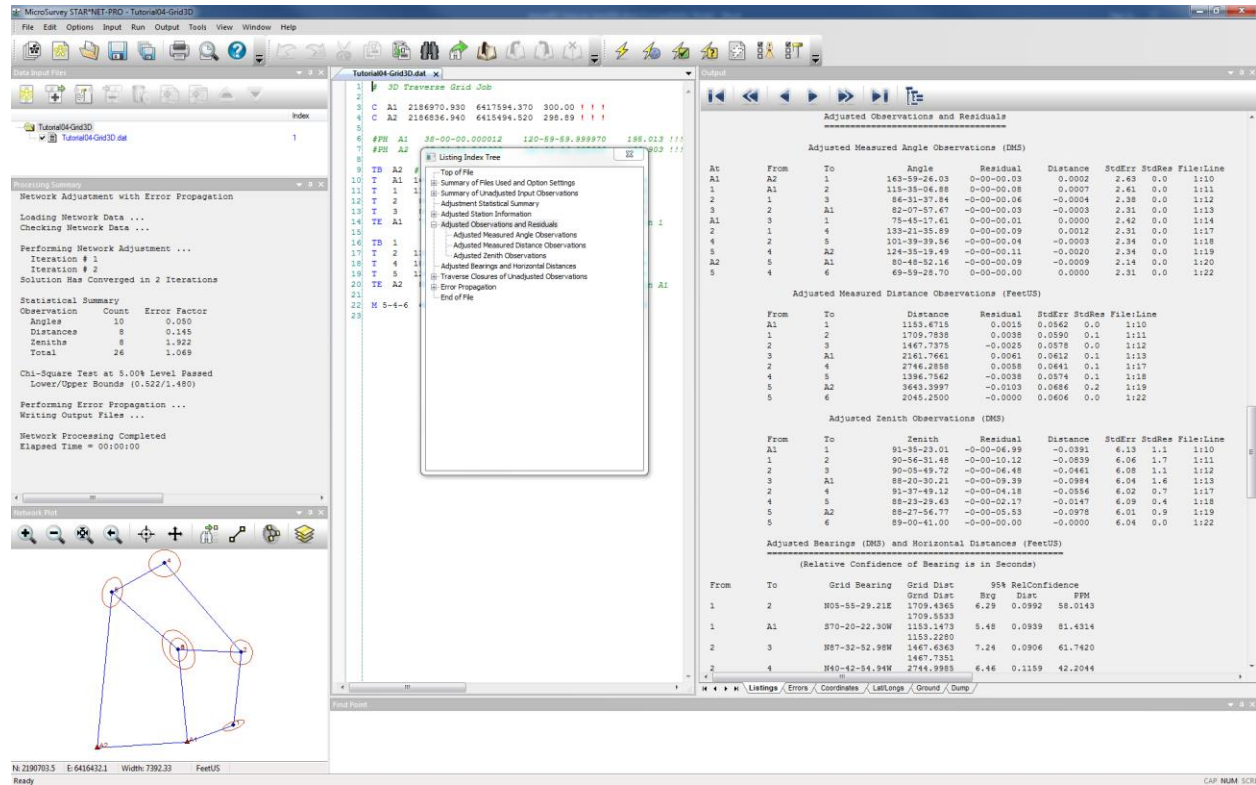
Feature	Benefit
The Listing file now reports an effective distance value along with any angular residuals in the "Adjusted Observations and Residuals" section, including Angles, Zeniths, Directions.	This makes it easier to interpret the angular residuals without having to cross-reference it against the slope distance of the measurement. More easily identify possible issues like an incorrect target height.

Adjustment Speed Improvement

Upgrade Tour Movie: n/a

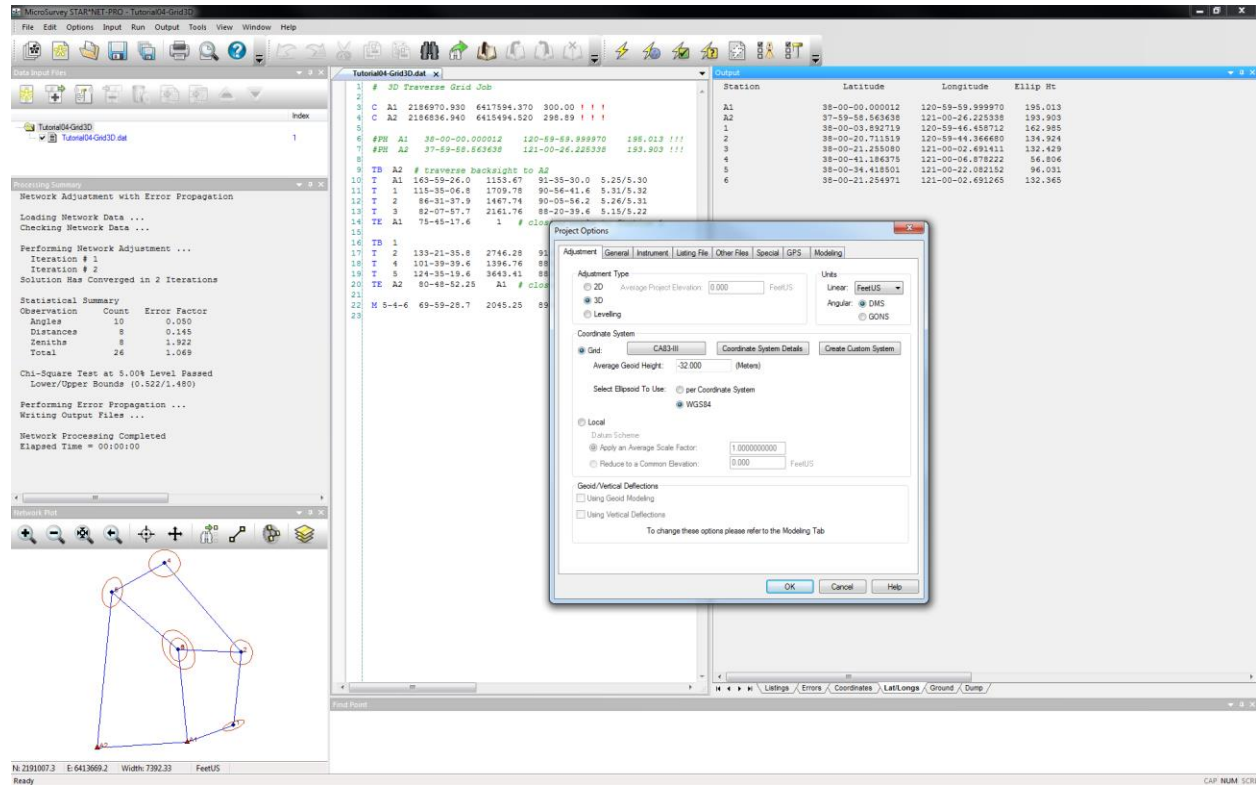| Feature	Benefit
A major slowdown when adjusting projects in STAR*NET 8.0/8.1 has been fixed.	Network adjustments run much faster than previous versions, saving time.

Select Ellipsoid

Upgrade Tour Movie: click here

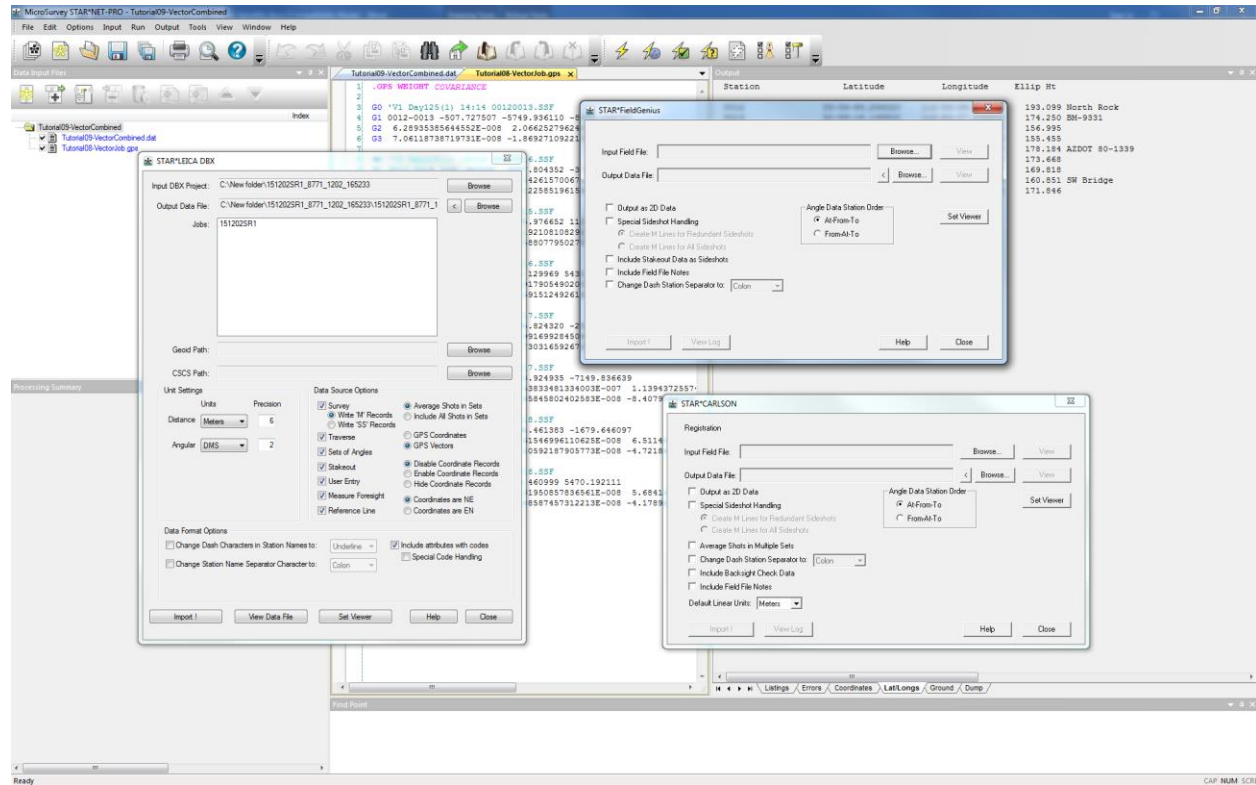| Feature	Benefit
Specify whether to use the local ellipsoid per the selected coordinate system or WGS84	STAR*NET V6/V7 always used the local ellipsoid (for example: NAD27 systems use Clarke 1866 and NAD83 systems use GRS80), and STAR*NET 8.0/8.1 always used the WGS84 reference ellipsoid. STAR*NET 8.2 gives you the flexibility to choose depending on your needs. This affects all geodetic input and output values, including latitude/longitude positions and ellipsoid heights such as P/PH/CH/EH records, the Geodetic Position (.pos) file, and the Listing (.lst) file.

Data Conversion and GPS Vector Import Improvements

Upgrade Tour Movie: click here

Feature	Benefit
Many improvements to several of the data conversion utilities and GPS vector importers	Improved compatibility with FieldGenius, Leica, Carlson, Trimble, TDS, and other data collectors.
Improved FieldGenius compatibility	Several improvements to support importing GPS vectors from MicroSurvey FieldGenius raw data files.
Improved Leica compatibility	Many improvements to support importing Sets of Angles data, Resection data, Reference Line data, Measure Foresight data, Survey data, append attribute data to your point codes, specify a NE or EN coordinate order, and more.
Improved Carlson compatibility	Various improvements to support importing resections and GPS vectors from Carlson raw files.
Improved Trimble compatibility	Various improvements to support importing Trimble JobXML (.jxl) and Trimble DiNi (.dat) files, and importing GPS vectors from Trimble TSC (.dc) files.
Improved TDS compatibility	Various improvements to support importing GPS vectors and leveling data from TDS raw (.rw5) files.
And much more…	Please see the STAR*NET 8.2 Release Notes for a detailed list of all data conversion issues that have been resolved.