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## **Features and Benefits**

STAR\*NET 10.0



8 July 2020

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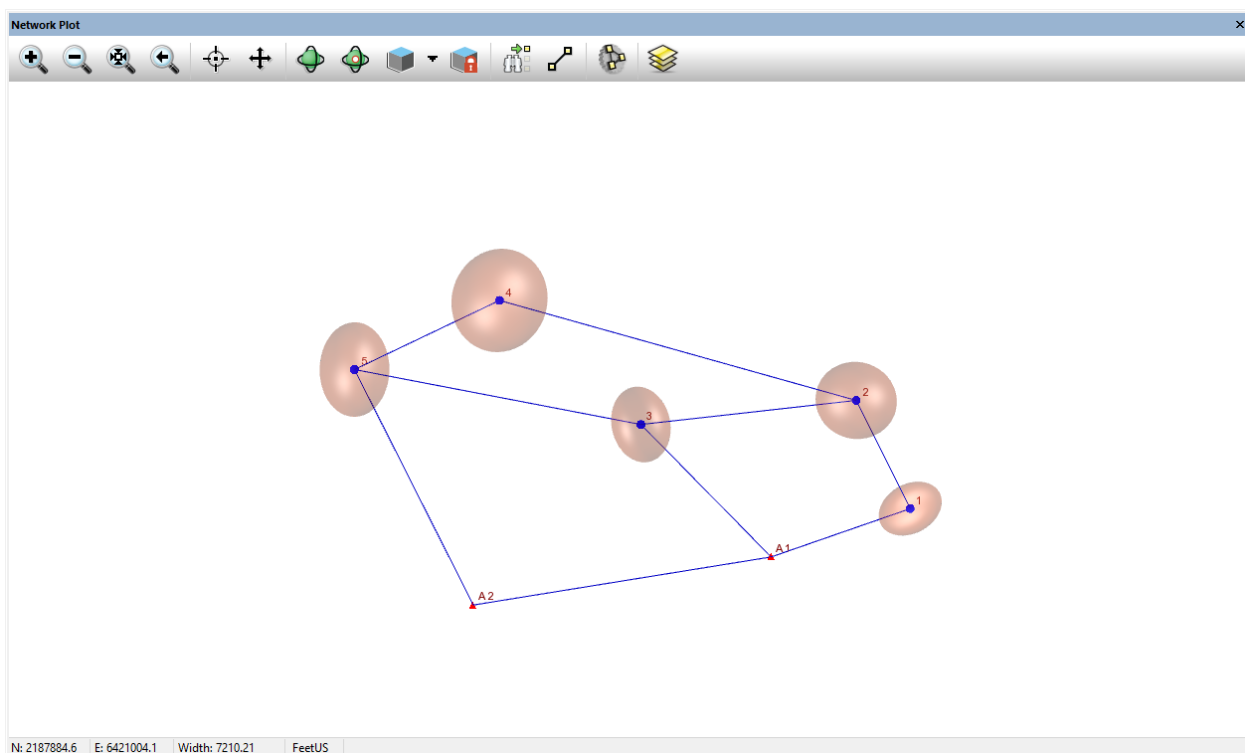
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# MicroSurvey STAR\*NET 10.0

Release Date: July 8, 2020

STAR\*NET 10.0 is a major release that provides new features like a 3D network plot, 3D error ellipsoids, an automatic adjustment process, automatic sideshot recognition, and a new online licensing system.

## New: 3D Network Plot



Feature	Benefit
3D Network Plot	The network plot has been updated to utilize a 3D engine to display 3D objects.
Error Ellipsoids	Error ellipses are now shown as error ellipsoids, with 3D views displaying estimated error in both the horizontal and vertical planes.
3D View Controls	Users can now use preset views to set specific camera angles to view the network, set a rotation point, and use a free orbit to rotate the network plot. The free orbit can be used by clicking the button or by holding shift and the center mouse wheel down. The lock top view button can be used to ensure the network plot remains in 2D view.

## New: Auto-Adjust

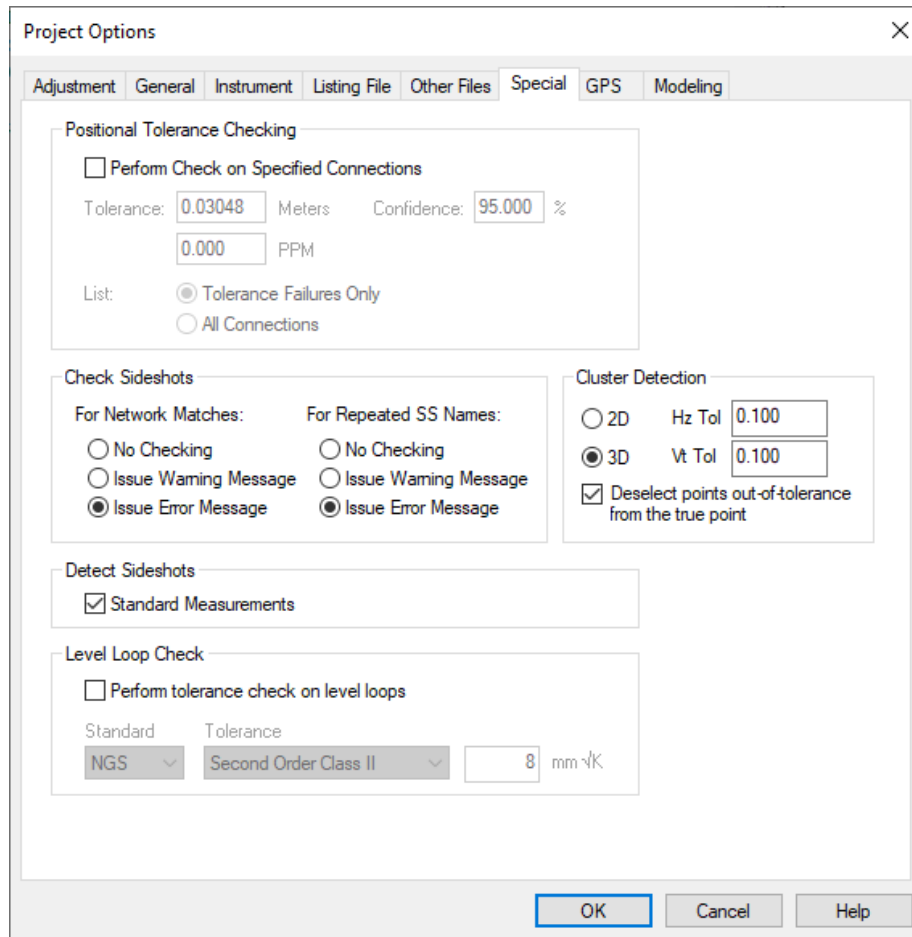
Auto-Adjust
✕

Max. Std. Res.	<input type="text" value="3"/>	<p><b>WARNING</b> This adjustment will remove the top outliers, re-adjust, and continue until all values fall below the max. std. res. or the maximum adjustments are reached.</p> <p>Check adjusted values thoroughly.</p>
Outliers Removed per Adjustment	<input type="text" value="1"/>	
Max. Adjustments	<input type="text" value="20"/>	

Adjustment Not started

Feature	Benefit
Auto-Adjust	A new automatic iterative adjustment allows a user to set maximum standardized residual values allowed in the project, a number of outliers to remove per adjustment, and a maximum number of adjustments. Clicking "START" will adjust the project, remove the set number of outliers, sorted by top standardized residual, and readjust until all standardized residuals fall below the maximum value, or the maximum number of iterations is reached. A progress indicator is displayed per adjustment and clicking the "Stop" button will stop the iterative process.
Maximum Standardized Residual	This is the threshold for standardized residuals allowed in the auto-adjust process. Any measurements with standardized residuals greater than this value will be removed from the adjustment by the iterative adjustment.
Outliers Removed per Adjustment	This is the number of measurements removed per iterative adjustment when sorted by highest standardized residual value.
Maximum Adjustments	This is the maximum number of iterations in the auto-adjust process. This value prevents the adjustment from running on (potentially) endlessly when settings and measurements allow for it.
Listing File Section	A new section in the listing file called "Auto-Adjustment Observations Removed" has been added to display outliers removed by the auto-adjust process. A file:line indicator has been added to allow for easy location of outliers in the project, and only the measurement removed is displayed to more easily identify the potentially erroneous measurement.

## New: Sideshot Detection



The screenshot shows the 'Project Options' dialog box with the 'Special' tab selected. The 'Positional Tolerance Checking' section has a checkbox for 'Perform Check on Specified Connections' which is unchecked. Below it, 'Tolerance' is set to 0.03048 Meters and 'Confidence' is 95.000 %. There is also a '0.000 PPM' field. The 'List' section has 'Tolerance Failures Only' selected. The 'Check Sideshots' section has three columns of options: 'For Network Matches' (Issue Error Message selected), 'For Repeated SS Names' (Issue Error Message selected), and 'Cluster Detection' (3D selected, Deselect points out-of-tolerance from the true point checked). The 'Detect Sideshots' section has 'Standard Measurements' checked. The 'Level Loop Check' section has 'Perform tolerance check on level loops' unchecked, with 'Standard' set to 'NGS' and 'Tolerance' set to 'Second Order Class II' and '8 mm √K'.

Feature	Benefit
Automatic Sideshot Detection	A new checkbox in the “Special” tab in Project and Company options will automatically detect M records (measurements) that create a point with no redundancy and treat them as sideshots in the network when adjustments are performed. This reduces the number of measurements displayed in the Chi-Square test, providing a more accurate test. The measurements are displayed in the network plot as sideshots and can be shown/hidden as such. This feature complements users who don’t typically set sideshot types in their field work, or importers that don’t recognize and create sideshot data types.

## New: Online License Activation

Activate License
✕

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Phone: 2507070000  
 MicroSurvey STAR\*NET  
 10 Day Demo Period

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<
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License ID

Password

Deactivate

Activate

Help

Cancel

Feature	Benefit
Online License Activation	A new licensing system has been added to STAR*NET, which provides more secure demo licensing and the ability to work without a USB key. USB keys will continue to work with STAR*NET 10, and will continue to be the primary method of licensing. In order to activate your demo license, you must visit <a href="http://microsurvey.com">microsurvey.com</a> and request a demo. Your sales representative will contact you to provide you with a License ID and Password to activate the program.