Newsletter

Our partner New River Kinematics continuously develops and enhances SA to further meet customer needs and goals. With this newsletter, we inform you about the latest software customizations.

New SpatialAnalyzer Version: SA 2013.03.22

1. Closest Points between Two Surfaces

This command finds the closest points between two surfaces, which is particularly useful for determining clearance/interference for virtual fit-up and other alignment applications. From the menu, select **Construct>Points>Closest Points between 2 Surfaces**. Pick two surfaces and this creates two points, one on each surface, minimizing the distance between the two.
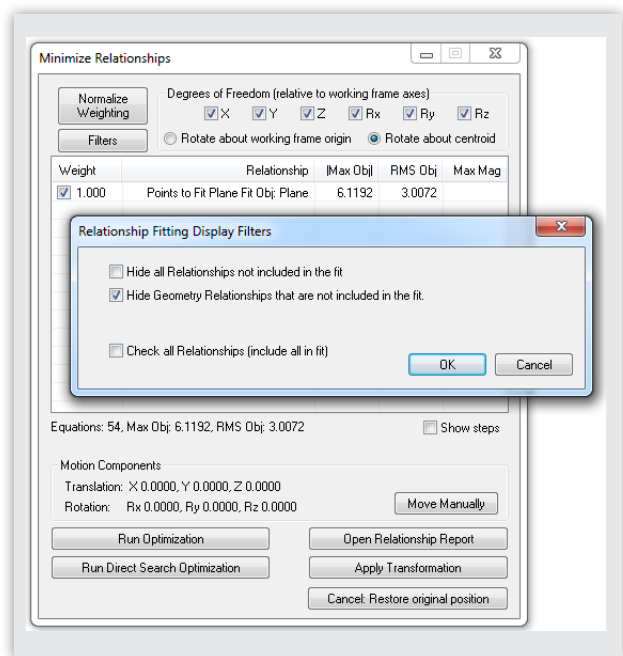
2. Geometry Relationship Storage

The results of geometry relationships are now stored in the SA file instead of being recalculated on open. This avoids potentially lengthy file open commands in certain cases which required a large number of geometry relationships to be recalculated.

3. Relationship Fit Filters

A series of filters have been added to the **Minimize Relationships dialog** (see image below). This filter provides three options:

> **Hide all Relationships not included in the fit.** This will remove any unchecked (excluded) relationships from the Minimize Relationships dialog.

> **Hide Geometry Relationships that are not included in the fit.** Only geometry relationships that are unchecked (excluded) will be filtered out of the Minimize Relationships dialog.

> **Check all Relationships (include all in fit).** Selects (checks) all relationships in the collection for inclusion in the Minimize Relationships dialog.

Minimize Relationships dialog

4. Relationship Trapping by Selection

You can now trap points to a relationship by selection. For example, with a circle geometry relationship, if you want to add points to the circle fit, you can individually click points to add to the fit without having to reselect all of the points.

To trap additional points by selection, right-click a relationship in the tree and select Trap Selections from the context menu. Then click points to add to the relationship. When finished, press ESC or Enter.

5. SA Remote

You now have the ability to browse for available tracker interfaces, removing the need to manually key in an IP address.

6. Jump To Views

You can now jump back and forth through previous views using View>View Control>Go to Prev View and >Go to Next View or using the Ctrl+Alt+← and Ctrl+Alt+ → keyboard shortcuts. This allows you to jump to a previous (or next) view on which you remained for at least 1 second.

7. Direct CAD Access Settings: Reset to Defaults

In the Direct CAD Access Settings dialog, a new Reset to Defaults button restores the settings to factory defaults.

8. F2 Selection by Object Type

In object selection commands (such as Delete Object), you can now F2- select objects by type. For instance, you can quickly select all circles in the Object Selection dialog by clicking the new By Object Type button. When the By Object Types window appears, select one or more object types from your job, then click OK. All objects of that type will be selected.

The By Object Types window allows toggle selection, so that multiple types can be selected simultaneously. Simply click a row to toggle its selection state.
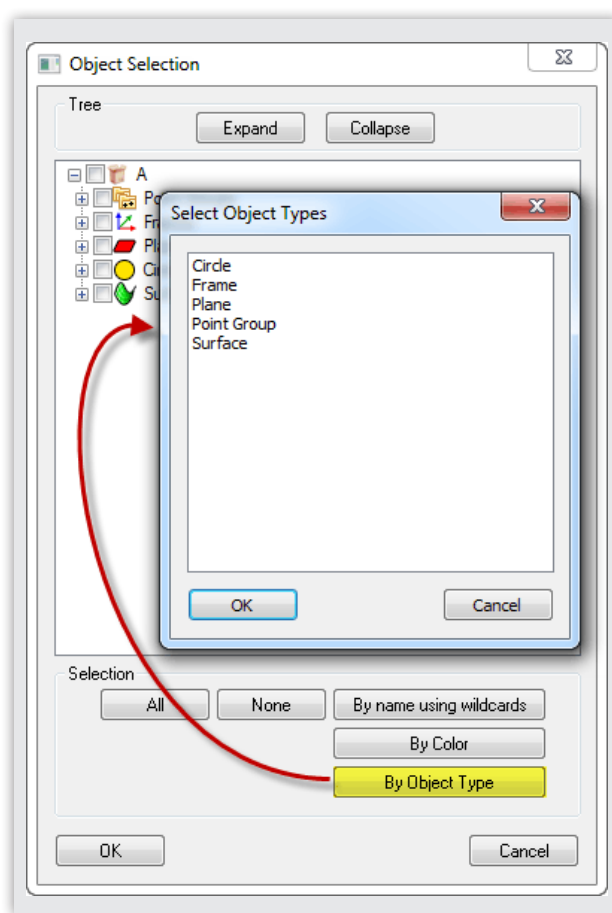
Object types dialog

9. USMN Dialog

A number of minor improvements have been made to the USMN dialog. You can now right-click any instrument in the instrument list of the USMN dialog to access its properties or to check/uncheck all instruments. The point list has checkboxes for easily removing points from the USMN solution, and you can right-click any point in the point list to access its properties or to check/uncheck all points from the solution. Right click menu support has been added to the properties for the instrument list as well as the point list. Simply right click and you now have the option to select/unselect all. Check boxes have also been added to the properties for the instrument list as well as the point list. Simply right click and you now have the option to select/unselect all. Check boxes have also been added to determine active points.
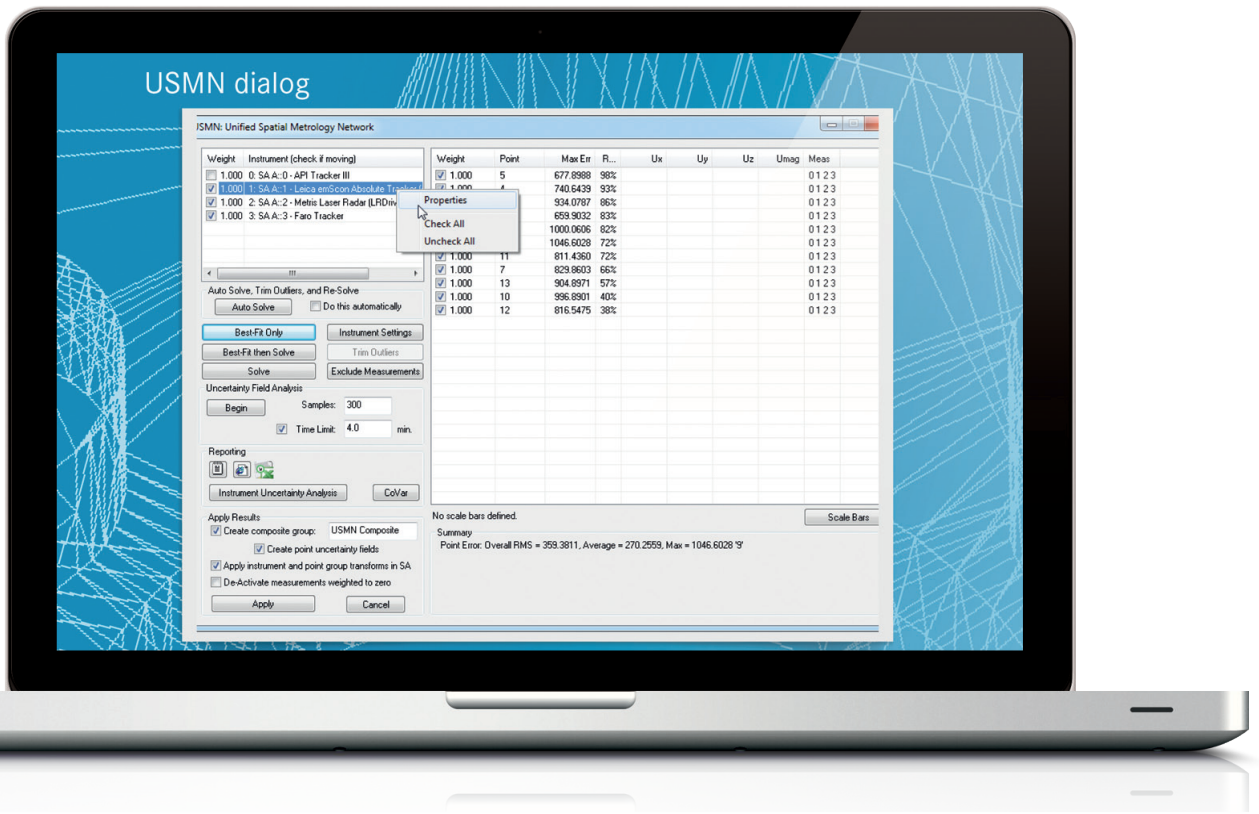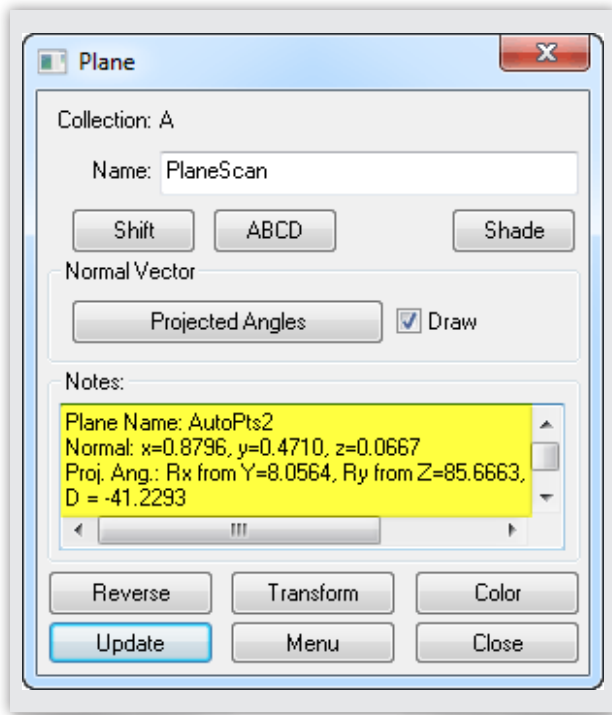

USMN dialog
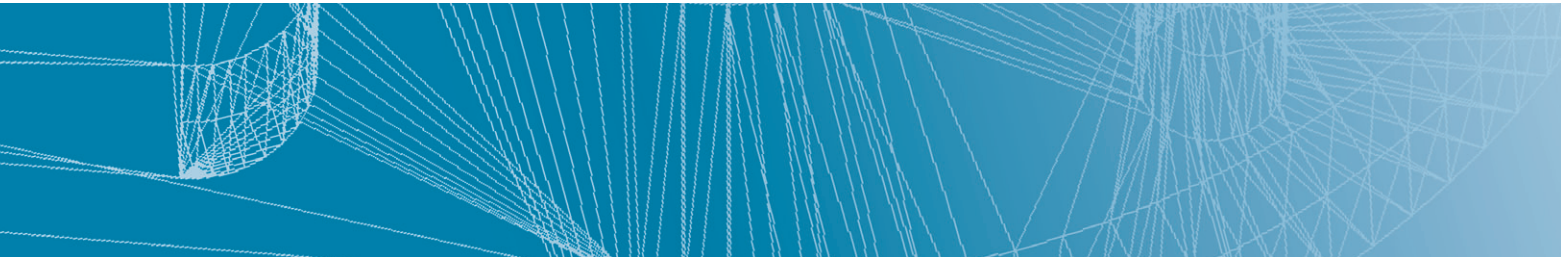
10. Fit Results from Instrument Interface

When geometry is created via a measurement profile, the results of the fit (residuals, weighting, etc.) are now stored in both the geometry's notes and the instrument history. Data is stored for up to 500 points to control file size.
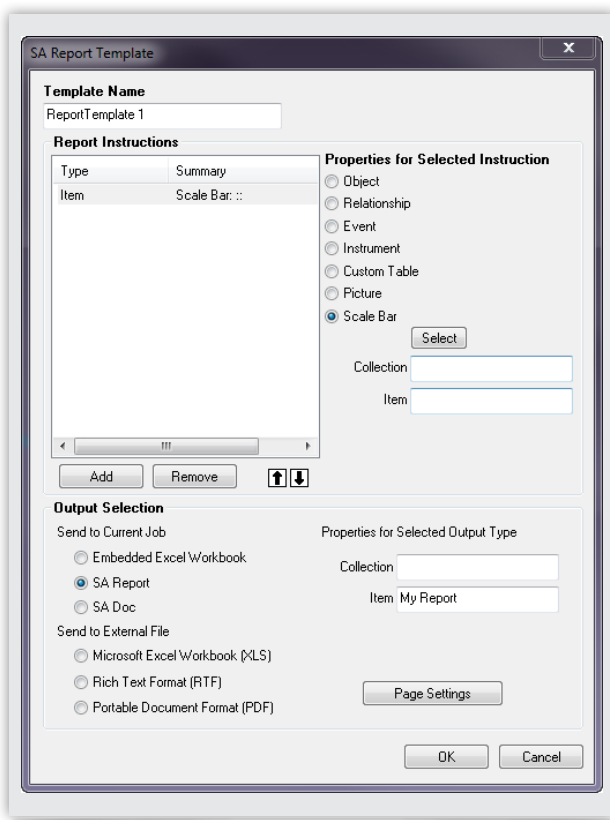

Best Fit History

11. Reporting Improvements

❯ Pictures

Pictures within reports may now be rotated clockwise in 90 degree increments. Simply right-click an image and select Rotate 90 from the context menu.

❯ Templates

Report templates now support scale bars, so they can be added to a template (see below).


ScaleBars at Report Templates

❯ Movement Constraints

Object movement in a report can be constrained to the horizontal or vertical direction by holding the SHIFT key down while dragging an object. This permits more precise alignment and positioning on reports.

❯ Copy/Paste

Report items can be copied/pasted using the new Copy and Paste context menu items (see below).
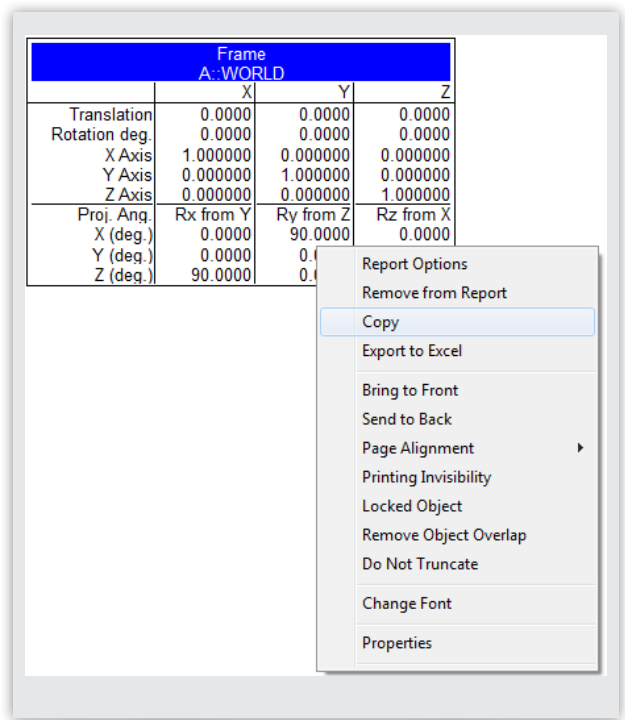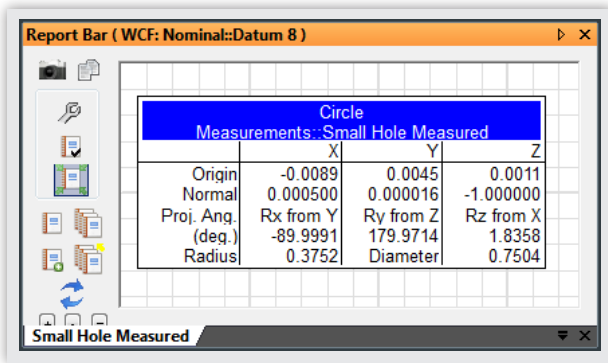

Copy objects and Export to Excel

❯ Export to Excel

Single and multiple items can be exported from an SA report to an Excel spreadsheet using the new Export to Excel context menu (see above).

> **Working Frame in Report Bar**

The report bar now displays the name and collection of the working coordinate frame (see below).

Report Bar dialog

> **Header and Footer**

The SA **Report Page Settings** dialog has new header and footer settings. A new **Hide First Page Header and Footer** option will prevent the header and footer from displaying on the first page so that you can include a customized first page such as a title page.
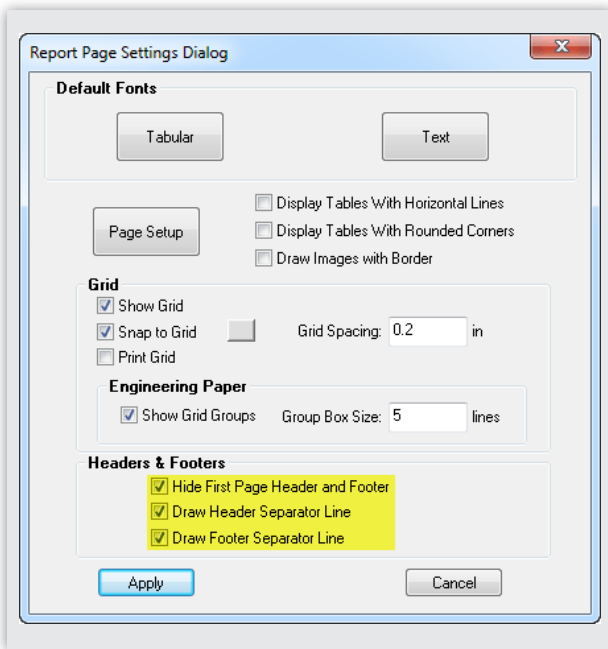

SA Report Page Settings dialog

There are also two new options which, when enabled, will draw the separator line below the header or above the footer: **Draw Header Separator Line** and **Draw Footer Separator Line**.

12. Geometry Triggers: Concentric Cylinders

Concentric cylinders can now be used as geometry triggers in laser tracker, portable arm, and NDI OptoTrak instrument interfaces. Set **Closest Point** or **Interpolate** at the time of concentric cylinder creation.
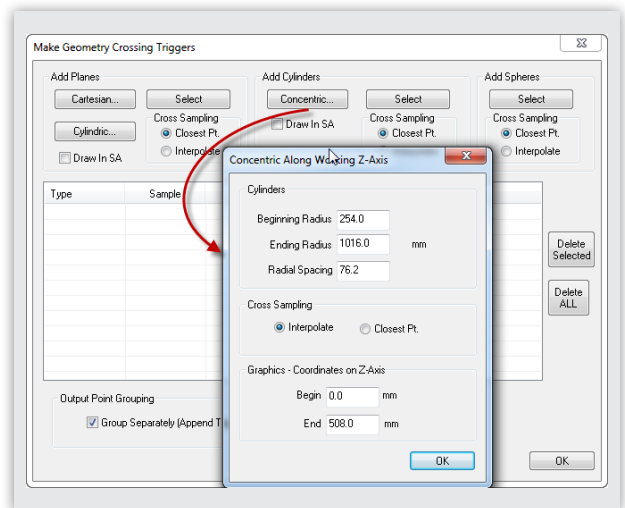
Geometry Triggers dialog

13. Multi-Pass Auto-Measure File Export

While performing automatic measurement using the **Instrument>Automatic Measurement>Auto Measure command,** a new Append All Passes to File option allows you to specify a file for export. SA will then append each pass of automatic measurement to a file.


Auto-Measure dialog
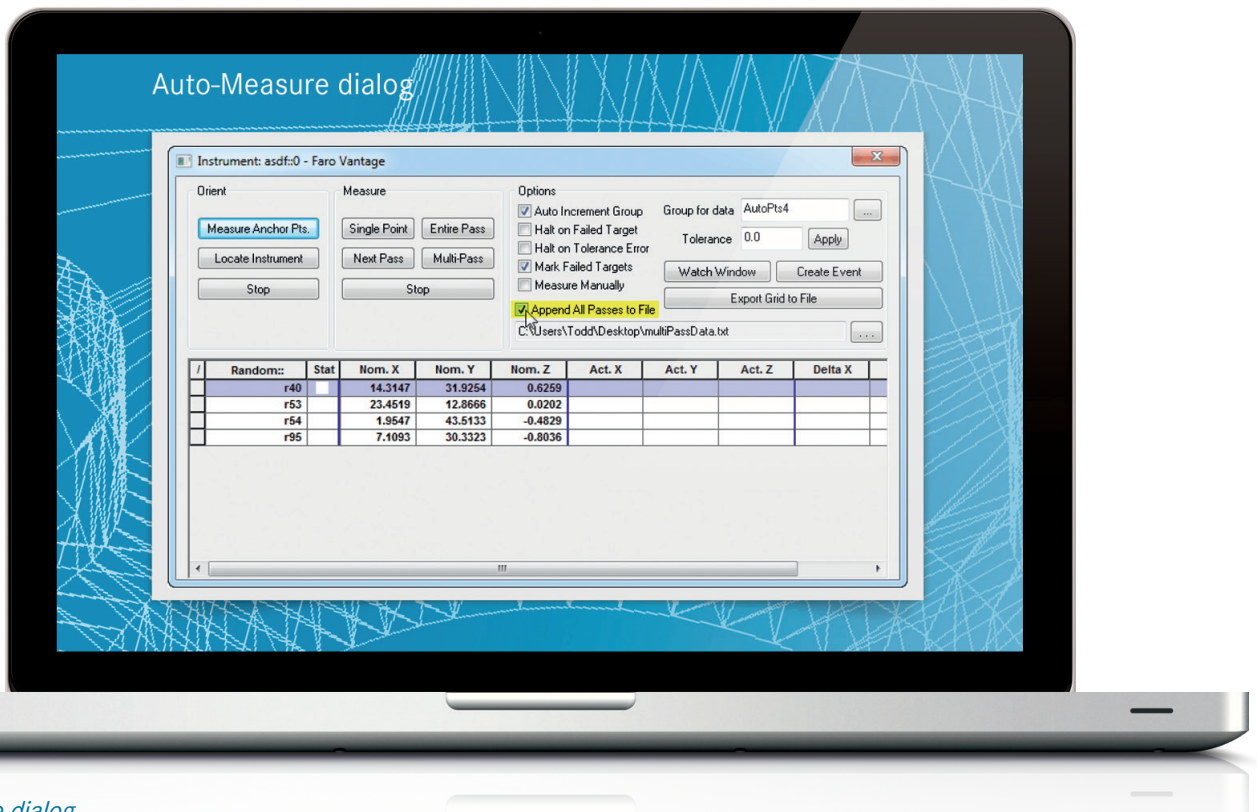
14. Relocating Pictures to Another Collection

Pictures can now be moved to different collections. You can move the whole collection's pictures by right-clicking the **Pictures** category in the tree and selecting **Move all to another Collection,** or an individual picture by right-clicking the picture and selecting **Move to another Collection** from the context menu.

15. Standard CAD Import: Match Point Color

When importing a standard CAD file via **File>Import> Standard CAD Formats,** a new **Use Point Color Information if available (1 group per color)** option will set the group of an imported point to match the same color as the source CAD file's point, if that color is available. Of course, since a point group can only have one color, this option will create a new point group for each color, and organize the points into different groups by color.
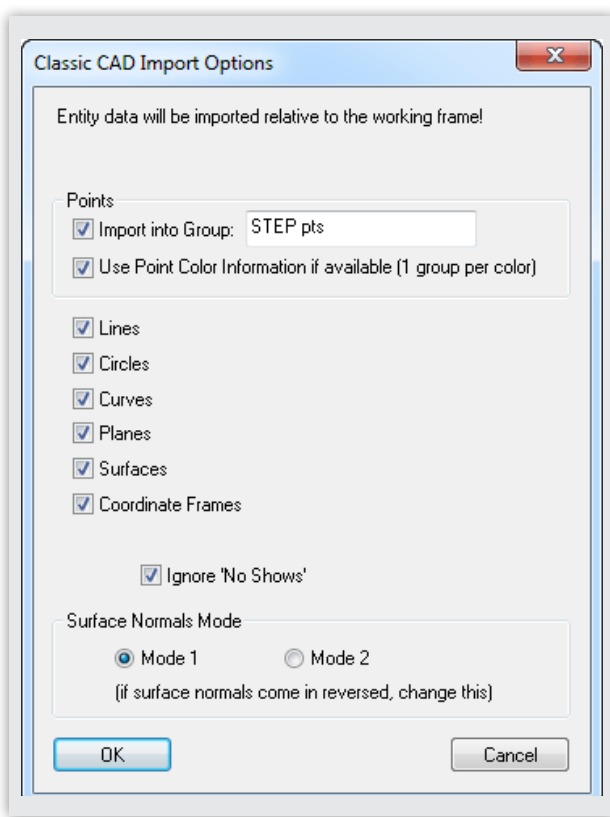
CAD Import Options dialog

16. Remove Last Point Assignment

Remove Last Point can now be assigned to a function key in the instrument interface. This also means that this function can be assigned to a programmable remote, such as a T-Probe or RF Remote.

17. API Device Interface Upgrade

The API Device Interface has been updated to version 4.6.1.0. This version provides support for new Innovo camera functions, namely the ability to enable/disable the camera in single or multi-SMR mode.

TTL triggered data can also now be buffered as well. The buffer size can be set in the DI settings dialog.

18. All emScon Trackers

Updated the TPWizard SDK to v.2.0.0.4978 for AT-401 and AT-901 trackers. Results from all checks/compensations will be added to the instrument History in SA (right-click on the instrument in the tree, and select **History** from the context menu).

Deeper support for external triggering has been incorporated into the instrument interface, such as the ability to set the Minimal Time Delay, Clock Transition (positive or negative edge), and Trigger Start Signal (high or low active). For faster triggering (External Source and Event Trigger Mode), you need to run a measurement profile with a Temporal Scan acquisition, and be sure to note what the operation is sending to SA. For more information on external triggering, see the Laser Tracker notes in the Readme file for SA 2011.12.22

19. Leica AT-401

Automeasure now uses a routine that improves speed of an automeasure operation.

A new outdoor measurement mode is supported, and can be toggled from the **Settings>Leica 4xx** menu. When on, this measurement mode overrides the FAST, STANDARD, and PRECISE modes, no matter which is set. This mode is used for all measurements until toggled off. (The Power Lock Mode settings—Indoor, Outdoor <80m, and Outdoor >80m—have been deprecated by this new Outdoor Measure Mode.)

DOWNLOAD THE LATEST SpatialAnalyzer VERSION

Please note: You download the actual full version of SpatialAnalyzer, but you can use only the full functionality if you have an actual software license key. In other cases you can only work with the SA Viewer.
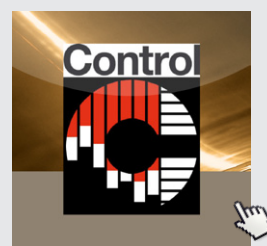
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