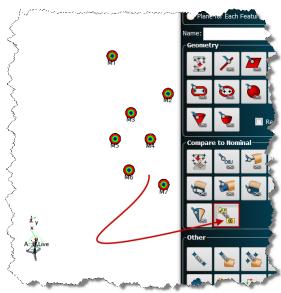
What's New In SA

SA 2015.02.25

Relationship Enhancements

New Relationship

A *Compare Group to Nominal Group* relationship has been added which may be used to create guided inspection sequences. When a point is measured, it will automatically be renamed to the closest nominal point.



Trapping Measurements

When trapping measurements to a geometry relationship with nominal geometry, the nominal geometry will now be highlighted.

Callouts

Callouts may now be assigned to relationships. They then will be available for display from the Toolkit Inspection tab with sequencing through steps.

Remove Relationship Only

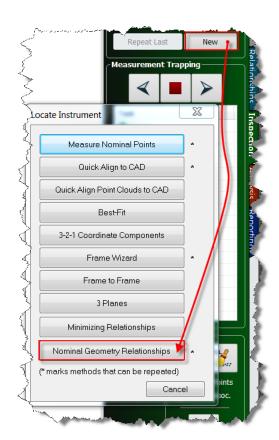
You now have the ability to right-click on an individual relationship and remove it, leaving the valid actual geometry intact.

Task Order

The order of tasks listed in the Inspection Tab may now be changed by right-clicking on the task and selecting **Change Order in List**.

Nominal Geometry

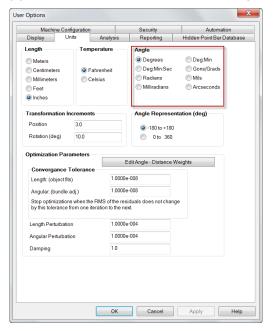
You may now locate an instrument by measuring actual geometry points and fitting to nominal geometry.



Reporting Enhancements

Angular Units

Angular unit support has been added to the *User Options* dialog.

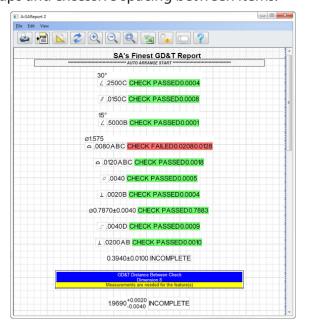


C:\Users\Jeremv\Desktop\PtOut.txt Group Point CVlindrical (R/T/Z) Spherical (R/T/P) ASCII Import O None Data to Include Formatting File: C-\Users\Jeremy\Desktop\Randon Tolerance // SpatialAnalyzer SA 2015.01.19, 2738 [x84]
// Points Relative to Coordinate Frame 'A::WORLD'
// AXES = CARTESIAN: X, Y, Z [in]
// FORMAT: Point, X, Y, Z Coordinate Uncertainties Decimal Precision Timestamps Fixed at 6 1 48.61245, 58.347209, 0.410810 1 80.349132, 30.164495, 0.653442, 2 101.646955, 15.27108, 0.309510 2 7.98342, 15.787228, 0.75597 4 0.343331, 72.246467, 0.882870 45.3856168, 54.425898, 0.979389, 30.721498, 1.421514, 0.645314 7, 8.794753, 38.875515, 0.22238 8.113340855, 0.92238, 0.592373 6, 1100.257881, 33.127842, 0.553148 Full (scientific notation) Point Notes ✓ Include SA Version and Frame In ▼ Include Axis/Units Info ✓ Include Export Format Info OK. Cancel Select ASCII Import Format File I Inits Planes Points Vectors Filter by Field Name: All fields ■ Number of Fields: Any Deg:Min:Sec Radio XYZ XYZ Offset [Offset2] XYZ [Notes] Radians Milliradians Gons/Grad Mils Arcseconds XYZ [Notes] Radius Theta Phi (polar or spheric) Radius Theta Z (cylindric) Make Point Cloud Comment character(s) #/\\$!<>?"[]& Import Cancel

Angular units may also be imported and exported.

Remove Overlaps and Excessive Spacing

An option has been added to the report view popup menu that will allow the user to automatically rearrange the report options to remove overlaps and excessive spacing between items.



Viewing a Point List

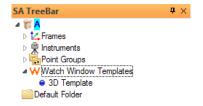
By right-clicking on a point group in the treebar and selecting **View Point List**, you will notice that the display has been expanded to now

X ■ Survey::Flange OD Refresh Copy to Clipboard Export to Text File Planar HighTol⋅x LowTol-x HighTol-y HighT ol-z LowTol-z 00000 0.1250 Configure Display 5.1121 4.6031 00000 4.7867 4.7641 4.5782 4.3882 4.1820 3.9643 3.7607 1003 1004 1005 1006 1007 1008 1009 5.1392 5.3055 5.4678 5.6257 5.7720 Point Name Coordinate System Collection Group Point Cartesian (X/Y/Z) Group Point Cylindrical (R/T/Z) 3.5459 1010 1011 1012 1013 1014 1015 1016 1017 1018 1020 1021 1022 1023 1024 1025 1026 1027 3.3269 6.0304 1.4892 Point Spherical (R/T/P) 3.0993 6.1473 None 2.8648 Data to Include 6.4532 6.5362 6.6136 6.6782 6.7352 ▼ Coordinate Uncertainties ▼ Timestamps Point Offsets Point Notes 0.9203 1.000000 0.6679 1.000000 ✓ Measurement Details 1.4892 1.4888 1.4891 1.4902 1.4910 0.4140 6.8732 6.8848 1.000000 ✓ Weights 0.1570 -0.0967 -0.3596 -0.6109 Observations OK Cancel -0.8650

include offsets, tolerances and weights.

New Measurement Plan Commands

- Import File as Picture. Imports a picture file.
- Set Robot Calibration Tool Frame. Selects the frame to be used for calibrating the robot.
- Set Robot Calibration Measurement Offset in Tool Frame.
 Sets the measurement offset used for robot calibration.
- Construct Surface by Offsetting a Surface. Copies a selected surface and offsets it to your specifications.
- Relationship Watch Window Template. Provides MP configuration options for relationship watch windows.



- Watch Window Template 3D. Provides MP configuration options for watch windows.
- Deactivate Instrument Toolbar. Deactivates the instrument toolbar if it is active and restores the standard instrument interface.
- Get Object Color. Retrieves an object's color.
- Get Relationship Fit Constraints (Scalar Type). Gets relationship fit tolerance limits.

Geometry Fit Profiles

A new MP command category called **Geometry Fit Profiles** has been added under **Analysis Operations**. It includes the following new MP commands:

- Make Plane Fit Profile.
- Make Circle Fit Profile.
- Make Ellipse Fit Profile.
- Make Slot Fit Profile.
- Make Sphere Fit Profile.
- Make Cylinder Fit Profile.
- Make Paraboloid Fit Profile.
- Make Cone Fit Profile.

These commands allow you to set your profile parameters for each geometry type.

Instrument Interface Enhancements

Leica AT401/AT402

The *Instrument History* now shows Level Compensator at startup. This includes *ON/OFF*, and also any issues that may be present if *ON*.

Surphaser

The SDK has been updated to v.2.50.14 from v.2.30.19 (2011). This version is built for .NET 4.0, and allows SA to support the 100HSX and 50HSX scanners as well as continue support for the 25HSX, all in the same interface.

Leica T-Scan

This interface now supports the AT960. *T-Scan Collect v. 10.3* is required for use. Contact your Leica representative for more information.

GSI VStars

Ability has been added to average probe points. In the *Select Data to Send to SA* section in the main interface, there is now an *Avg* check box, and a *Pts.* edit box. If the box is checked, then the number of points indicated will be acquired before a point is sent to SA. That point will be averaged, and its metadata will include the number of points used and the RMS.

API Device Interface (DI) and OmniTrac II (OT II)

All IProbe temporal scan point acquisitions now use a different method called *IPInspect*.

The *I-Probe Scan Pts. to SA* meaurement profile has been replaced with the following:

- I-Probe Inspection Pts to SA. This runs IPInspect as the acquisition, and the operation will send points to SA.
- I-Probe Inspection Updates to SA. Runs IPInspect as the acquisition, and the operation will send updates to SA. This is for updating Watch Windows and other inspection-only routines.

Leica Automation Interface Driver

The interface has been updated for the T-Scan Collect v.10.2 and above. Three new scanner parameters for the T-Scan 5 can be set via the [Settings...] button in the main dialog, or the following MP Op Check string commands:

- Set Scan Exposure Time []. [] represents the exposure time in ms. 0.25-20.0ms for Collect version 10 and higher, 0.01-9.98 ms for PROBEscan.
- **Set Scan Width Iteration** []. [] represents the Width of the Scan Line. 0-12, 0=100% 12=40% (iterates by 5%).
- Set Scan Reflection Filter []. [] represents the Reflection Filter Type. 1 = Standard, 2 = Low, 3 = Medium, 4 = High.

[] is not part of the command string. These additions *require* T-Scan Collect v.10.2 or higher, and are for the T-Scan 5 *only*. T-Scan Collect versions 10 are for the T-Scan 5 only. If you have a T-Scan 50 or other model older than the 5, stay with Collect v.9. T-Scan Collect v.10.1 is a *no automation* release. In this version, system status events are disabled. The SA AIC interface depends on these events. T-Scan Collect v.10.2 has these critical system status events re-enabled, and works with SA. Version 10.1 is not recommended for use with SA or the AIC Driver.

The weather station status is now posted to the interface's status window, and to the *Instrument History* in SA.

PCMM Arms: Hexagon RDS

Support has been added for Touch Probes. A touch will result in a single probed point sent to SA.